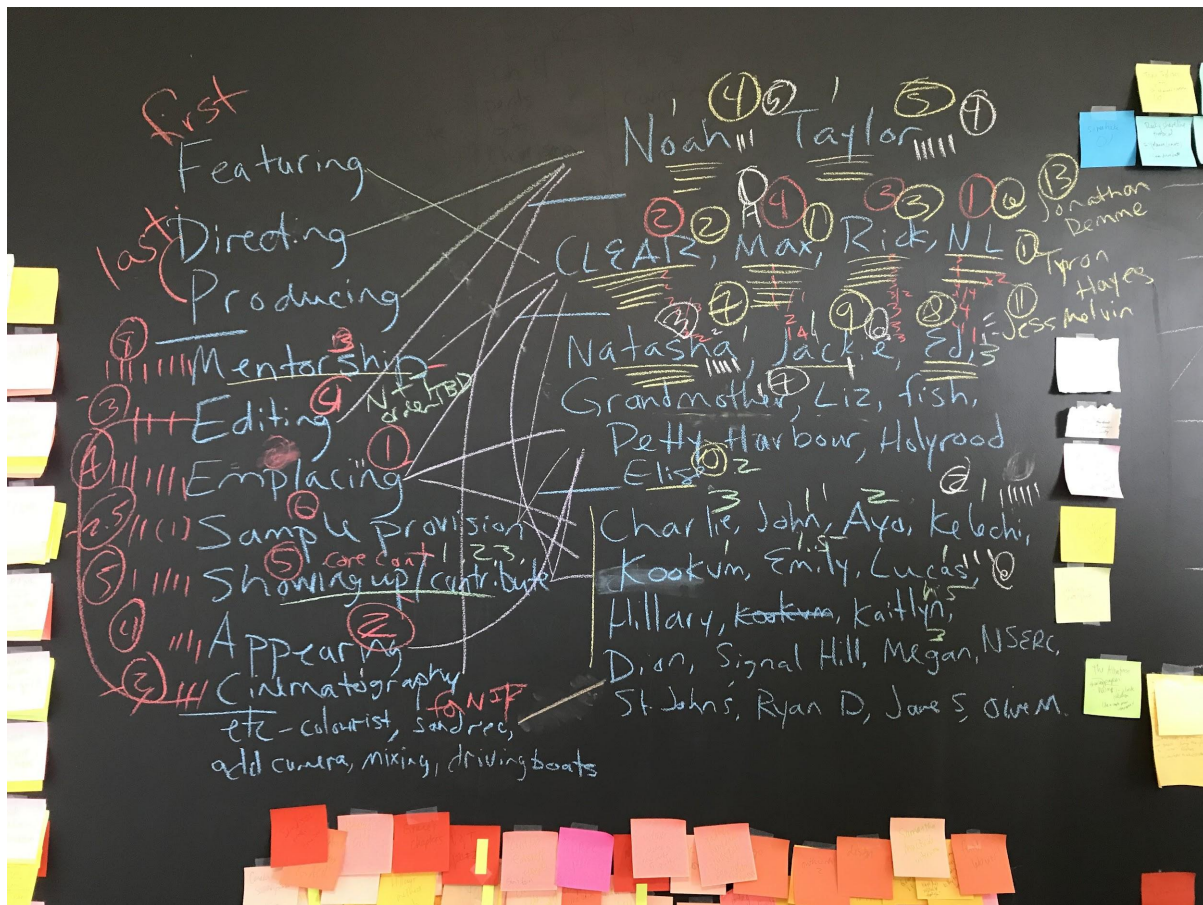# CLEAR Lab Book

a living manual of our values, guidelines, and protocols

Civic Laboratory for Environmental Action Research
Version 3.0, updated Summer 2021. Public Version.
Original (V1.0) started sometime in 2015, probably

CLEAR

Cite as: **CLEAR. (2021). *CLEAR Lab Book: A living manual of our values, guidelines, and protocols, V.03.* St. John's, NL: Civic Laboratory for Environmental Action Research, Memorial University of Newfoundland and Labrador.**

CLEAR is based in the Department of Geography at Memorial University of Newfoundland and Labrador, St. John's campus. We respectfully acknowledge the territory in which we gather as the ancestral homelands of the Beothuk, and the island of Newfoundland as the ancestral homelands of the Mi'kmaq and Beothuk. We would also like to recognize the Inuit of Nunatsiavut and NunatuKavut and the Innu of Nitassinan, and their ancestors, as the original people of Labrador. We strive for respectful relationships with all the peoples of this province as we search for collective healing and true reconciliation and honour this beautiful land together.

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CLEAR

Hello, (outside) Reader!

Welcome to the public version of CLEAR's lab book! We are happy that you are here! The lab book guides our unique lab collective like scafolding for our specific feminist and anticolonial flavour. Our public lab book has been downloaded thousands of times (!!! wow-- thank you!!!), and we hope that it is useful to you. That is our goal as a methods lab, after all!

If you dig this lab book and want more, we recommend that you go deeper by following the onboarding protocol that a regular CLEAR lab member would go through, and/or by reading *Pollution is Colonialism* (especially the intro and chapter 3, which covers our main values and ethics as well as stories about how the lab runs). We've also made some [short films with Couple3 Films](#) that bring parts of our lab book to life!

Accountability is a huge part of our ethic. This public lab book is a research product-- a publication. If you use it, please cite it. We have had many instances where we find entire sections--pages and pages--of our lab book in other lab books, mission statements, and protocols, sometimes with a hat tip to CLEAR in general, and sometimes not. Since this lab book is a collective effort based on extended and collaborative consensus-based decision making, this hits us in the gut. Please use normal academic citation practices when you benefit from our labour and intellectual property. Thank you!

Cite as: CLEAR. (2021). *CLEAR Lab Book: A living manual of our values, guidelines, and protocols, V.03.* St. John's, NL: Civic Laboratory for Environmental Action Research, Memorial University of Newfoundland and Labrador.

Most of this public lab book is what we use in CLEAR, with some notable exceptions, including:
- this introduction, which is for users of the public lab book who are not labbers;
- The absence of marginalia, aka comments. In our internal book, labbers leave comments in the margins of our main document and have conversations there, working things out. This is why it's called a "living" lab book. These in-progress conversations aren't for public consumption;
- Links that go to our internal lab documents have been deactivated, so there will be some dead links.

Part one: Orientations

Dear Future Labbers,
If you read this, just know that you have chosen a wonderful place to work at that has amazing, super friendly, and encouraging members! I hope you will learn a lot through your position, just like I did, and be able to contribute to the research that goes on at CLEAR. Things can seem overwhelming at first but be patient and take it one thing at a time! I love this lab and I hope you will too!
Xoxo - An alum[1]

How to lab book

At CLEAR, one of our primary goals is to change how research is done. We are equal parts plastics pollution lab and methods incubator. Rather than assuming we are value-neutral or that the product of research is more important than the process, we work towards humility, accountability, collectivity, and good land relations (anticolonialism) in everything we do, from how we run a lab meeting to how we take out the trash. This lab book is part of that work, outlining both the principles of our work (in part 1: orientations) and the concrete ways we enact those principles (in part 2: protocols).

CLEAR is a collective, rather than a collection of people. That means we have some shared goals and values and an intentional (rather than incidental) laboratory culture. If you're reading this as a new CLEAR member, you're coming into this community and its accountabilities. They require some documentation: that's the lab book! It's imperative that all lab members are fluent in part one of this book, as it outlines the foundations of our values and commitments.

The lab book's second section (protocols) is all about *how* to do things, step by step. How do you enter your work hours? Use a Google doc? Process seal guts? Use this section to guide your work, moment by moment. Read the sections that pertain to you. You will likely have to return to this section many times during your work here.

This lab book is mainly authored by Max Liboiron (especially Part 1) and Kaitlyn Hawkins (especially Part 2), but is made through collaborations and discussions with many generations of CLEAR members. That's why if you're reading this as a labber, you should leave your questions and ideas using the comments function--you're part of CLEAR now, so we need you to help build up a useful, accessible, and accountable lab book.[2] You're paid for this work. If you

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[1] All stories and sections written by lab members are **shared here with permission**. If you're a labber and would like to write some stories to add to the lab book or to other projects, talk to the lab manager and/or Max and we'll get you set up!
This alumni isn't named because the note was submitted anonymously.
[2] "Last meeting, I was encouraged to leave comments, and this week I did! I commented in the morning on Marissa's story, and really resonated with their feelings of falling behind (COVID be hard).

make a criticism, please offer suggestions for how to change, improve, or clarify. Do not edit directly (use Google doc's suggestion feature). This helps with accountability.

CLEAR Values

Our core value, humility (understanding we are always connected to others, both human and non-human, in different and uneven ways) requires accountability (the actions that enact gratitude and responsibilities for and to those connections). Collectively is manifested in how we approach our interactions with others, both in how we stand with others on their own terms, and how we refuse certain types of relations.

Marine biologist Mary O'Brien says that, "once you're a scientist, which means as soon as you systematically ask questions about the universe, you take a political side" (1993: 706). These politics happen in ways that seem harmless, but have far reaching effects: you ask some questions and not others (e.g. "how much plastics do cod eat, and how does this affect their health?" versus "how much plastic can a cod ingest before mortality occurs?"); Max and the lab as a whole choose to work with some kinds of people and not others (e..g we tend to work with. students, community justice or food groups, and Indigenous governments); we choose how we work with them (e.g. collaboratively,[3] on contract, in solidarity); even the types of measurements we use are political (e.g. fish as "biomass", which we don't use, versus counts of food, relatives, etc. O'Brien 1999). In short, **creating knowledge is an act based on values where some interests are reproduced and others are not**. **There is no way around this. We can only be more or less intentional in these choices.**

CLEAR aims to make these decisions carefully, collaboratively, and based on our values and ethics. We've gone through a lengthy, inspiring, collective, consensus-based process as a

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However, that night I went back in a panic to the doc, thinking "these comments aren't good enough/ aren't valuable/ can I delete them?" Those self deprecating habits can be hard to break. It was a really meta experience, in that I was worrying about a post, where in that very post I said this was a space not to worry about "not being good enough". So I laughed today when you said, "can we keep the comments forever?", because once again, my first reaction was "yikes!". BUT then a bunch of you also connected with my comment, and then I realized that those comments were valuable. <3" - Janine O'Rielly, 2021

[3] Not all of these are inherently good. Collaboration, for example, can reproduce power structures (see our Equity in AUthor Order protocol and Jones, A., & Jenkins, K. (2008). Rethinking collaboration: Working the indigene-colonizer hyphen. *Handbook of critical and indigenous methodologies*, 471-486.

collective to agree on these values (see Appendix 1 for the full list of values from those sessions, and the protocol for *How we choose our lab values* for details). If you're a lab member, you're here because we think you already exhibit some of these values (that's what the job interview was for! Not skills, but values). All lab members are expected to and supported in embodying and enacting these values at every point in our work, from how/when you log your hours to how you speak in lab meetings to how you enter data into spreadsheets and everything in between. Foregrounding and practicing values of humility, accountability, and openness to others requires both learning and unlearning, since they aren't the values that most of university training and dominant science prioritize.

> *One of the memories that stays with me about the lab was a day during my master's coursework. I had arrived at the lab meeting immediately following a class in which a professor was having students present their work to the class. The environment in the classroom had been uncomfortable and tense, nobody seemed to feel comfortable to address the power dynamic in the room in which a professor was laughing at students' work and making backhanded comments about their interpretation/understanding of their own work. Needless to say, it was not a pleasant experience.*
> *I arrived at that week's lab meeting feeling weary and discouraged. At that particular meeting, we were attempting to map out what we saw as the values of the lab, by writing key words on paper and the meaning of the value word on the back. We were asked to share stories of our experiences in the lab which embodied the values we were suggesting. The whole process felt inviting and open, we listened to one another's contributions, and learned along the way. It was a teaching through process moment, one of many that I've had in the lab. The contrast between the class I'd attended and the lab meeting was not only stark, it also felt revealing of how the environments we create, the attitudes and values that we have, and how we learn and teach can help nurture and support us and others around us.*
> - *Kate Windsor, likely 2018*

> *"Efficiency is not one of our values," I heard Max say during a meeting one day last semester. I paused for a second, as this contradicted everything I'd ever learned in academia, as well as my own personal values. I maximized the hours I could spend doing school work, while balancing my academic life, personal life and two part time jobs - all on about three hours of sleep a night. I still came out with my 4.0. Congratulations to me, because I sacrificed health to efficiency, and I believed that this is what made me a hardworking and intelligent undergraduate student.*
> *On this day in particular, I was feeling behind and lost in some of the projects I had been doing with CLEAR. I was feeling a bit like a failure. In that way, Max's words relieved me, but in another, they confused me. How can efficiency be unimportant? Don't we have to get things done, so that other things can be started? Is efficiency worth the grief I experience to achieve it? I had always thought so. I began to ponder on this, and on my lifestyle.*
> *Shortly after, I came across a statement in the CLEAR lab book that evoked a similar response: "If you are sick, heartbroken, or exhausted, go home. This job*

is not more important than your well being". The permission this statement gave me was one I'd never received before. When facing life's challenges, I had always heard: work harder, work harder, worker harder. *If you don't, you are lazy and you are selfish and you don't care about anything.[4] These experiences with CLEAR built on a lesson I had already begun learning: that perhaps nothing is worth sacrificing my mental health and well being for. Perhaps there is value in slowing things down. What CLEAR built on was that my work will be of better quality if I am not cramming it in with what else I had to do that day, just so that I could check it off my list. The following semester, I took huge steps to slow down in my life, and I'm thankful that CLEAR honours that so much.*
- Marissa Elyse Van Harmelen, no date

The lab manager and I look for the reason we've just lost reliable data for 20 animals in a sample of 30, and find that almost all missed plastics are from one lab member. Did we not train them well? Have they been sick? The lab manager recalls that they would log doing four samples in two hours— an impossibility. That's too fast. Animal guts are tricky and slow; one from this study takes about three hours. The lab manager had told them to take their time when they saw that on the timesheet, calling them into slower relations, taking care. The lab member agreed. We checked the log sheet. No change.
I (Max) believe that it's nearly impossible to change people's values.[5] That's why we try to hire people with similar values to ours. And while the lab member certainly held some of the same values of accountability, humility, and care, they valued efficiency more. It's likely they were constantly rewarded for efficiency, likely drew their worth as a worker from their efficiency. But it cost us half our

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[4] "This is a great story, because it actively displays the unlearning required (for some) to practice CLEAR's values. I can KNOW CLEAR's values front to back, but living them can still be a challenge when some other areas of my life are pushing a whole other narrative. What CLEAR does (for me) is it gave me a space to actually practice not having those "work work work or fail" values at the forefront of my life. It doesn't always work. I like how in this story, Marissa says they were falling behind on CLEAR projects and felt lost. In this way it shows that we bring our other values into the lab too (like efficiency), maybe unknowingly, and that the lab offers a space to recognize those other values and shift them. Very relatable." - Janine O'Rielly, 2021

[5] Transcript of a conversation in the comments Arril 2021:
Rui Liu: I see what this story is getting at, and the piece against efficiency is important, but this statement seems like too big of a foreclosure? Why bother cultivating a different kind of culture if people's values can't be shifted? Perhaps I'm misinterpreting you Max?
Max Liboiron: CLEAR isn't a universal project. It is not about changing the values of dominant-whatever. It's about making change with people whose values and goals already align with ours. This is a particular type of activism-- the idea that "good activism" is about changing hearts and minds and awareness is a dominant one, but the theory of activism that I subscribe to is about working with those that are already on side to change **infrastructure**. None of that touches on individual values.
Rui: this is an important distinction and I'm grateful you took the time to explain it - I appreciate your situating of the "I" as well as another move that moves away from universalizing statements.
Max: I think this exchange, exactly as it is, would make a great footnote to this line. Can I do that, with attribution?
Rui: yes that sounds great.

samples.
- Max Liboiron, n.d.

Humility

In dominant modes of doing research, values of individualism, heroism, machismo, rescue, paternalism, debate, individual genius, and exceptionalism are dominant. Humility counteracts these tendencies.

Humility comes from the understanding that our **world is interconnected**. Being humble means that we—as members of larger groups of humans and others[6]—recognize that we are not singular nor superior in our knowledge, perspective, experience, or social position, and that we are connected to others (whether we want to be or not). We can be humble by being ready to change our minds and actions, being responsive to context, stepping back and listening instead of taking up space, and being mindful of our surroundings so we might adapt to it rather than force it to adapt to us. It is about recognizing that one still has much to learn regardless of age, education, or lived experience and about remaining teachable, no matter how much we already know. A humble person understands that there are many ways to know things, many different forms of knowledge, and recognizes the limits of a single way to know things (e.g.: strictly via the scientific method is not superior to lived experience, but is a different kind of knowledge, or even that your own good intentions are better than the other good intentions in the lab). This all sounds super serious, but a good sense of humour helps humility.

> *Anyway, when I got to the panel event (running just on time as always) where I was going to hear them present on CLEAR, Max and Emily were already onstage. While I was doing my best to sneak my way into the back row, I hear Max ask the organizer if there is another chair available because 'hold up, I just noticed another lab member in attendance'. Clearly needing to work on my sneak skills, I joined Max and Emily onstage, for what was a seriously fun, impromptu and (I think) really smart (!) conversation that emphasized some of the subtle ways that CLEAR 1.0 was so subversive. Here, Max trusted her students and their experiences as a form of teaching—even in front of a public audience; Emily brought up the first time she ever received a 'thank you, your work is appreciated' from an academic advisor, and how cool it felt seeing her ideas be listened to (and getting paid for this!) by 'higher up' academics. Meanwhile, I brought up an ever so slightly cinematic anecdote about my prairie upbringing and not knowing the difference between a cod fish and a goldfish (so maybe let's listen to fishers rather than 'expert' scientists)—a line that became a mainstay in lab 1.0 presentations. And together we showed that, at least in part, the lab is built through our relations with each other.*
>   - *Alex Zahara, no date*

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[6] "Humans and others" is a less human-centric way to say the more common "humans and non-humans."

Humility is not modesty; modesty usually means not talking about or celebrating your achievements. If you are modest, then you are not acknowledging or celebrating the larger group of people and relationships you are part of and how they are crucial to those achievements; you do an injustice to yourself and those relations by practicing modesty (erasure of connections) rather than humility (being beholden to connections).

Humility is a verb, not a noun. It is not just discursive work (saying things in support, acknowledging others verbally in Land acknowledgements), but involves concrete actions that make material change on the ground. Here's how we do this at CLEAR:

In Research:
- We do not assume that we are entitled to be lab members, to be researching on this Land, or to have partnerships. These things must be **continually** earned, and even when we act in good faith they may come to an end. Thus, we check in at the end of every semester for lab members, and at the end of every project cycle with partners: are we still in good relations? Is it time to move on? This is not the same as evaluating employees for work performance, lates, sick days, speed, or prior knowledge; it's about being in good relation with the collective, our partners, our samples, the shared space, and CLEAR values and practices.
- We work on the species brought to us by fishers and hunters, since these represent their research questions
- All publications and presentations have a Land acknowledgement. We are always on Indigenous Land.
- No projects are done solo, ever, including theses and dissertations: we always help each other make our projects as feasible and rich as possible. That can't happen without humility.
- We are oriented to process, not to results. Relationships matter more than products. Put another way, we are devoted to *change*, and to flexible processes instead of fixed and rigid structures or rules for doing things. There are important differences between a rule-bound structure and a system of processes and practices. The former is authoritative and resists humility, and the later is situated-- responsive to what is happening, when, and with whom.
- The scientific protocols listed in this lab book are iterative and adaptive. They are updated every time we use them (< Rui just helped change this sentence!), sometimes in small ways, sometimes in large ways, but always in ways based on the experiences of the users and the sites in which the protocols are used.
- When we determine author order (see part 2), we work as a group to recognize the diverse and important work that others have done for a project, and consider stepping back or stepping forward to either take credit for work we've done that is not usually acknowledged (remember humility is not the same as modesty) or stepping back to credit the work of others.

In our collaborations:
- We do not use the terms "community outreach" or "public education" in our work because these terms assume something called the "deficit model," where publics/communities lack knowledge and need to be educated by academics. Instead, we collaborate with, work for, work with, pay, learn from, share skills with, and partner with other groups, all of which are different modes of reciprocal relation that allow value to flow in two directions and on shared terms. They are also more specific terms, which adds transparency to our relations. See the section below on *terms we do and do not use* for more.
- We ask questions before we make judgments.
- We listen to people who aren't scientists and relate to them as knowledge holders, including them as authors in our publications and paying them like experts when appropriate.
- We work on apologies for our mistakes and bad decisions, which are inevitable in a large, collaborative, diverse space like CLEAR. We work on being accountable to and correcting those mistakes. The only way to get fired from CLEAR is to not be accountable.
- We accept change as part of our *modus operandi*; the need for change may be discovered through careful reflection, reflexivity, and continuous learning.
- This lab book is *living*, meaning it can and will change as membership changes and our focus changes.

In lab meetings:
- We use round robins (where everyone speaks) and consensus based decision making to work as a collective. See *How to Run a Feminist Lab Meeting* in Part two.
- Lab meetings often include check ins or temperature checks, where we see how everyone is doing; we sometimes change what we were planning on doing in the lab based on what the check in tells us
- When we say new lab members and guests have unique knowledge to offer, we aren't being supportive just to be supportive: we mean new members can see things that have become normal to us, question things so we are accountable to them, and bring new ideas in. New members are invited to speak at first lab meetings.
- We acknowledge each other, both in greeting and for our achievements; whenever a member of CLEAR has an achievement, we congratulate them via the listserv and in person!
- At the end of each season, we write thank you cards to everyone who helps make our work possible, including other lab members, administrators, community members, and technical staff.
- We try not to take ourselves too seriously, teasing ourselves and others when it makes sense. Jokes!

Accountability[7]

Accountability is short-hand for "accountability to relationships." It names the **actions** that enact our beholdenness to our partners, collaborators, and other CLEAR members, both as individuals and as a collective, as well as relationships we don't choose, don't like, don't desire, and that are not successful. In the words of Cree researcher Shawn Wilson, "right or wrong; validity; statistically significant; worthy or unworthy; value judgements lose their meaning. What is more important and meaningful is fulfilling a role and obligations in the research relationship — that is, being accountable to your relations."[8] Accountability means that we do not focus on the intent of actions, but in the actions and their effects, acknowledging responsibility when there is a gap between intent and effect.

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[7] When we did our first list of values when the lab opened, our three values were humility, equity, and openness. My own (Max's) interpretation of the shift to swap out equity with accountability is that accountability to uneven social relations, systems of oppression and privilege, is what we really meant by equity. In the last five years, the meanings of terms like "equity," "diversity," and "inclusion" have been hollowed out in universities when they are used as value or vision statements, especially when we know from our experiences that those values are always secondary to prestige (of established professors and staff), efficiency, and not rocking the boat. I'm glad to see that we're evolving, shifting, and staying on track, all at the same time. What learning!

[8] Wilson, Research Is Ceremony, 77.
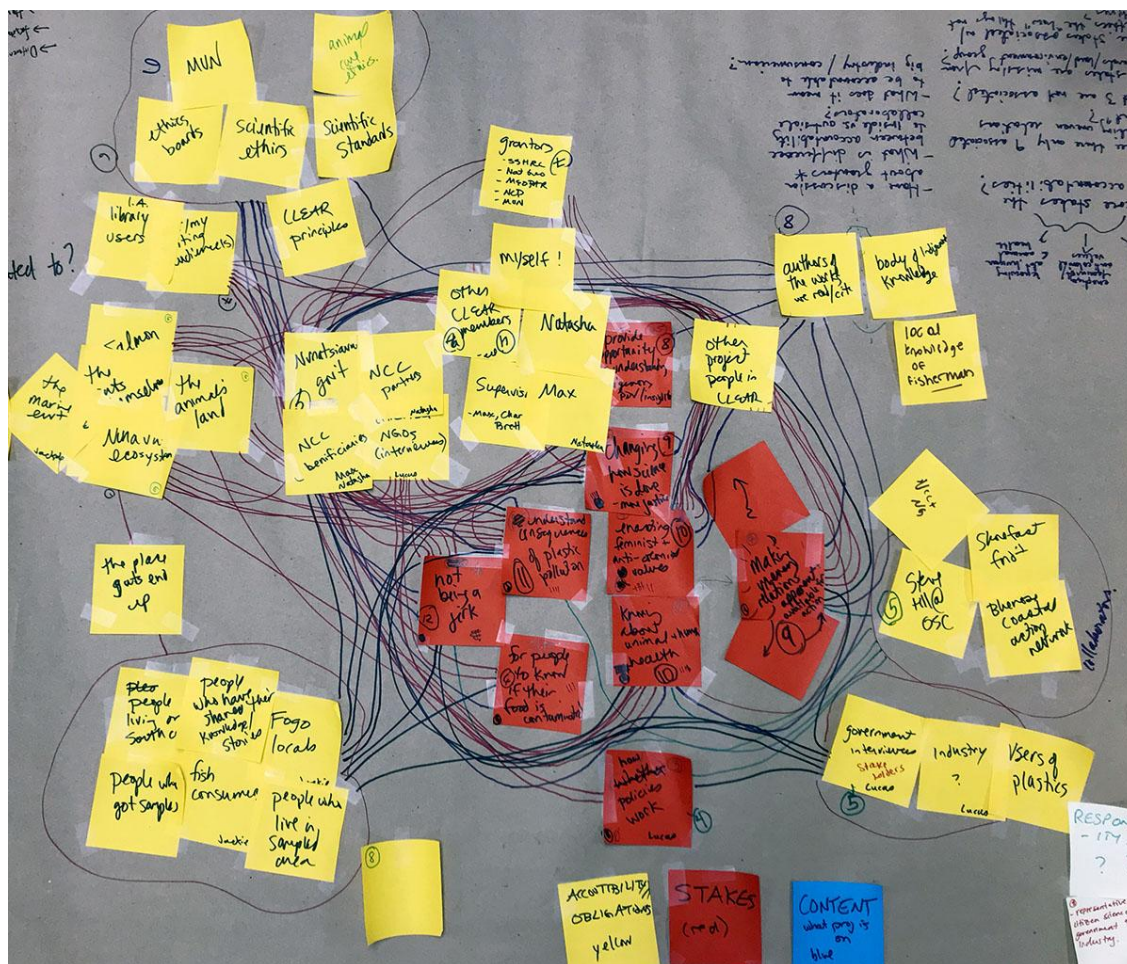
The above image shows an accountability map made during a lab meeting. We asked: "what are the stakes of our research" (why is it important?), which are noted on red notes, and then "given these stakes, who are we accountable to?".

A key lesson after listing and grouping our various relations during that meeting is that we are not accountable to everyone *equally* and in the *same way.* We have chosen to align ourselves with good land relations and against colonialism, for example. With intersectional feminism and against misogyny. This means our accountabilities take specific forms. Of course, we are still accountable to people and groups we don't like or agree with, but we are accountable to them on specific terms. Some of the listed groups we are accountable to are:

❖ Other CLEAR members
❖ Staff in Geography, animal care, research services, ethics boards, and janitorial services at Memorial University
❖ The place guts end up
❖ The people and land we get guts from
❖ The Nunatsiavut Government (our research partner)

- ❖ The authors we cite and read (and those we do not cite and read)
- ❖ Plastic users and producers
- ❖ Ourselves
- ❖ Animals in our studies and the environments they live in
- ❖ People who live in the areas we study
- ❖ Our granting agencies
- ❖ Future lab members
- ❖ Who else? Add them here.

You can think of accountability as the chores of humility. Here are some of our chores at CLEAR:

In Research
- ● We only collect data in places where we have been invited. For example, it took Dr. Liboiron three years to do work in Labrador, as it took that long to gain a good reputation and receive explicit invitations for doing work in/with different groups and Lands.
- ● We work on research questions and topics based on feedback from community meeting surveys-- currently, people have been asking for more biomonitoring surveys and education resources, and ask for shoreline and water studies less, so we have adjusted our research focus accordingly
- ● We have a mandatory community peer review process when we study contamination, where we report our findings back to the communities we sample from ***before*** we publish to ensure we are representing them in a way that is in alignment with their needs and goals so they have the opportunity to change, support, or refuse our work (see *Community peer review* in Part two of the lab book for details)
- ● We make all our data public upon publication, when allowed by community peer review
- ● We name our funders in all publications
- ● We cite all forms of knowledge from diverse knowers (as per our citational politics working group)
- ● We include metadata in our data sets to be accountable to those who follow us.
- ● Max does lots of reporting, administrative work, and documentation to be accountable to our research partners, our funders, the university, and CLEAR members (like the paperwork that gets you paid on time!)

When I read, "Citation Matters" by Mott and Cockayne, my eyes really started to open to the importance of citational politics. In this piece, I learned a lot more about just how important it is for anyone in academia to be cited for their career's sake, but also that who we choose to cite ultimately decides the diversity and richness of a discipline. Us being the deciders of the diversity of a discipline never really occurred to me before. If we keep choosing to cite the same 'famous', 'white male' papers, we're ultimately choosing to have the discipline revolve around those folks and their often anti-feminist and colonial practices and

views.
- Kaitlyn Hawkins, May 2020

Inside the lab:
- Our number one rule is: if you're tired, heartbroken, or sick, GO HOME.[9] This job is not more important than your health. We are accountable to you as a whole person. You are not a drone.
- We use "one diva, one mic" during lab meetings: only one person speaks at a time. Usually, white, male, senior people interrupt others, but we prefer that no one interrupt anyone.
- We use "round-robins" where everyone has a chance to speak during lab meetings with a "pass" option (where the person can choose not to accept the invitation to speak).
- We learn to *step up* to advocate for another person's work or ideas if they are quiet, modest, or absent, and to *step back* if we have taken up more space than others during a conversation. Sometimes we have to remind one another to step up or step back.
- When we introduce ourselves, we include our gender pronouns, being accountable to people who often have to labour to make space for this process.
- When we introduce ourselves, we include our land relations, being accountable to the very different ways we are implicated in (benefit from, suffer from, sometimes simultaneously) colonialism.
- We use consensus-based decision-making as described by Harnett (2011) that involves open discussion that identifies key concerns, creating proposals that address them, then amending the proposal until everyone agrees to move forward. This can take a few minutes or a few weeks. The aim of consensus is to redistribute power and advocacy. Tenured faculty do not have more say than undergraduate students, though we acknowledge that faculty still have greater power of persuasion and that unconscious biases are always at work. See *How to run a feminist lab meeting* in Part two for more.
- A crucial part of accountability in consent is refusal. Without an honest chance for refusal, there is no real consent.
- We have an equity in author order process that ensures everyone is being valued for and credited for their labour. See *Equity in Author Order* in Part two for more.
- We have an apology protocol for when we make mistakes.
- One lab rule is: what happens in Vegas, stays in Vegas. This means we don't share stories, information or memories from the lab that involve others without permission. This is crucial for an openness to others (see the next value).

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[9] This will look different for people with chronic illness and disability than it will for someone with the flu. In any case, dominant (capitalist) culture reinforces the idea that working through illness, pain, and discomfort is a moral thing to do, a sign of good character. But this sets up a sacrifice economy, where people sacrifice their own wellness (mental, physical, spiritual, relational) for work. CLEAR isn't a place where that kind of sacrifice is expected or rewarded.
If you have a disability, injury, ongoing issues with mental health, or chronic illness talk to Kaitlyn and/or Max about how to accommodate those issues while also accommodating your financial security and fulfilling lab responsibilities. And, we don't need documentation. Just talk to us and we'll believe you.

CLEAR

I had just started working in CLEAR about 4 hours per week. As with most times starting a new job, I was really concerned about doing good work. At the time, doing 'good work' for me meant making sure I did lab tasks on time and that when I did them, I did them to the best of my abilities. I did my work and would put my hours into the spreadsheet whenever I remembered to. I remember waking up one morning to an e-mail from Max about entering my lab hours. I only focused on part of the email, and in a panic, thought "Max thinks I haven't done any work and wants to cut my hours. No!" I sent off an email, which, in retrospect has a lot of explanation and in many places doesn't make sense. "I've been entering lab hours on time--- except where I haven't! Sorry for the confusion!" Sorry for the confusion!!? I'm the one who sounds confused. Overall, it was not a real apology because I was focused on explaining to Max that I, actually, was doing well, and basically hoping not to be fired (which wasn't even being brought up). When I went back to email from Max later in the day, I realized that it was telling me that my practices of entering hours were not in good relations with the lab. I responded focused on my own self-preservation, and in doing so, totally missed the mark of being called in. I start noticing that Max points out the very real harm being done caused by me not entering hours on time—for them but also Kaitlyn, and the lab more generally—and my answer addressed absolutely none of this, framing it instead as if they are confused ('actually I am in good relations with the lab! You just don't know it yet!). "Yikes" times two.

I take some breaths and think about what I should do next. I remember there's a new section in the lab book that talks about apologies, and honestly, I start feeling incredibly thankful that that part is in there. It means I have a path forward. I spend the next few hours reading about how to properly apologize. This includes [reading a blog post Max had written on the CLEAR website](#) and also a piece they linked to by Mia Mingus on ['how to give a genuine apology'](#).

I notice that one of the things the Mingus post talks about is time. With apologies, she suggests:

> ***Address it as soon as possible****. This is one of the most important things I have learned, especially for low-level harm and/or hurt. The sooner you can address it, the better. This is also why we practice, so that we can shorten our response time… This is not to say that there aren't times when you may need to take some time to respond. Preparation is important, but all too often people use preparation as an excuse and a shield…Practice with small apologies and practice the many mini skill sets needed: desiring the discomfort of growth, accountable sharing and active listening, humility, [building relationships](#) in your everyday life where you can have nuanced conversations about accountability and that can support you in your accountability.*

Based on the feedback given by Max, as well as the sources included in the lab book, I craft an apology email to Kaitlyn and send it to her, acknowledging the extra work I gave her by not entering hours on time and committing to entering hours better going forward. The next morning, I also sent one to Max. In crafting the apologies, I realize that committing to doing better is why CLEAR frames apology as a form of repair: It's not just about saying something but also about changing one's actions going forward. I would have missed this had Max not called me in.

I learned a bunch of lessons through this event: (1) pause, think, and don't act rashly when you get called in. Learn to identify when you get called in and focus on the harm you cause not on your own anxieties and fears. By focusing on the latter, I could have missed an important opportunity to grow and be a better lab member, RA, etc. I'm thankful for Max and Kaitlyn, the lab book and protocol, this was not the case; (2) entering lab hours is important because even when you're doing individual work, it's not actually individual—and this is a central tenet of CLEAR! You're part of a community, and entering lab hours is about humility and accountability; (3) that apologizing doesn't have to be a huge big deal and it doesn't have to only take place when something big or terrible happens. It is also "useful for everyday forms of consent and sociality" as Max later puts in their response to my email. Finally (4) I also was just super grateful that the lab had the infrastructure in place to have an apology protocol. Mistakes do happen (even though we should do our best and put in work to pre-empt them), and I am grateful the lab had something in place to go to when I got called in.
- *Alex Zahara, February 2021*

Collectivity (semi-permeable membrane)

In today's lab meeting, we are writing sticky notes of appreciation for one another. My friend Anxiety, as per usual, is here with me, holding me tightly as I sit quietly in my chair. Anxiety really loves that I'm a new lab member with just 40 hours of work to give this semester. Anxiety tells me I haven't had enough time to get to know all these people, no one should value what I say. I haven't really contributed much, it tells me, you don't deserve any sticky notes. And yet, I look around me, down at the stickies, brightly coloured and welcoming, then I look around again. I see warm smiles and shared laughs that have lightened my load on heavy days. I see lessons learned and mind-opening conversations. I see helping hands and collaborators. I also see listening ears and patient learners. I see gratitude and mutual respect. I see my hands on this table before me. Dear anxiety, you were mistaken.
Alex Hayward, no date

Collectivities are made, remade, and maintained--they are not born ready-made, and their continuity is a result of ongoing gratitude and reciprocity. We are inspired by what Kim TallBear calls "*standing with*:"[1] a methodology "towards faithful knowledges, towards co-constituting my own knowledge in concert with the acts and claims of those who I inquire among."[10] We think of this as *standing with* others on their own terms, being faithful to what others need and want rather than leading with our own desires or our ideas of what they should need or want. If you are a new lab member, you are here because we think you possess this capacity.

Full generosity and collectivity also requires boundaries. The value of collectivity should not be mistaken with a radical inclusiveness to everyone: there are no white supremacists allowed in CLEAR, nor people who are primarily accountable to themselves and their own desires who have work to do before they can be humble, accountable, and generous. This doesn't mean we do not accept people who make mistakes--making mistakes is a core aspect of the work we do (see the apology protocol for example)! But it means we do not accept people who cannot be accountable when they make mistakes, who cannot be humble enough to recognize when mistakes are made. We are cautious and deliberate in who we invite into our space, particularly seeking folks that hold similar values to our own to ensure those values are enacted in the everyday, mundane activities of CLEAR as well as in our fancy science. The collective lab community is achieved as much by bringing people in as it is through killjoy[11] and protective

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[10] TallBear, "Standing with and Speaking as Faith," 5.
[11] Sarah Ahmed coined the term "feminist killjoy" to name the act of stopping everyone's easy going, happy status quo to point out issues of inequity, bad relations, and oppression. No one loves to have that

activities** in response to pressures and desires outside the lab (Max and Kaitlyn do much of this work, but it is also a form of accountability for all lab members).

When we discussed this value in the lab, the idea of a semipermeable membrane came up several times (we are geeks, after all):

> "Semipermeable membrane is a type of biological or synthetic, polymeric membrane that will allow certain molecules or ions to pass through it by osmosis—or occasionally by more specialized processes of facilitated diffusion, passive transport or active transport. The rate of passage depends on the pressure, concentration, and temperature of the molecules or solutes on either side, as well as the permeability of the membrane to each solute. How the membrane is constructed to be selective in its permeability will determine the rate and the permeability. Many natural and synthetic materials which are rather thick are also semipermeable. One example of this is the thin film on the inside of the egg."[12]

We are a living, cooperating system that stays healthy by letting some things flow through, keeping other things out, and actively seeking out others. These activities make conditions inside the living system different from the conditions outside of it.

This does not mean we always agree with each other, but rather we aim to move through difference and disagreement while holding each other accountable, *calling in* to shared relations rather than *calling out* into ostracization (standing with, not kicking out) (see our protocol on calling in): *"*To choose the relational path is to opt for the historical project of being community... It means to endow relationality and the communal forms of happiness with a grammar of value and resistance capable of counteracting the powerful developmentalist, exploitative, and productivist rhetoric of things with its alleged meritocracy."[13]

How do we do this?
In research:
- Our core research questions, especially in the plastics component of our research, come from questions we've been asked by others to whom we are accountable, aligning with community priorities (where community can mean our partners in Nunatsiavut and/or Indigenous scientists in academia and/or the plastic pollution expert community).
- We publish papers open access when we can, and when we can't afford that we put them in open pre-print archives so their findings are always accessible.
- We put most of our datasets online after we publish so others can use them. But we also hold some details or entire datasets back when they are not fit for indiscriminate circulation (especially in the case of fishing spots, Indigenous knowledge, and any information covered under Indigenous data sovereignty contracts)

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stuff come up, especially when it is about something they are doing or are part of. Takes the joy right out of the room. See Ahmed's https://feministkilljoys.com/ or *Living a Feminist Life* (2017), which includes a Killjoy Manifesto.

[12] Wikipedia, "Semipermeable membrane," accessed June 29, 2021

[13] Segato, "La guerra contra las mujeres," 2016: 106.

- We write blog posts, make films, Tweet a lot, do interviews, give public talks and workshops, and share knowledge in as many forms and formats as possible that are not the main form or currency in academia
- When we write, either for public or academic audiences, we use **accessible, everyday, *local*[14] terms and language and ways of representing results** so you don't need a degree to understand them
- We prioritize collaborative work over individual work at all stages*, including graduate thesis and dissertation work (where other lab members pitch in)
- In our citational practices (who and how we reference and cite other knowledge), we give credit to forms of knowledge often unacknowledged or deprioritized in the academy such as local knowledge, kitchen table knowledge, knowledge from BIPOC scholars, Elders, and other knowers
- We design, build, validate, and publish the plans for open science hardware that we use to gather plastic pollution samples, and these tools are designed with accessible, inexpensive materials that can be repaired to broaden who is able to answer their research questions.

In the lab:
- One of our only rules is that if you are heartbroken, unwell, or exhausted, you go home and take care.[15] Your lab work/school work/job is not more important than your life (yes, this also overlaps with accountability).
- When we hire, we hire people that will not only flourish in the lab, but allow the lab and all its current members to flourish. This means we hire for values and ethics over skills and CVs.
- When you do take a break and need to leave the lab, whether it's for a shift or for a season, let Max or Kailtyn know, since you are part of a collective and existing collaborations and we need to make sure your obligations are taken care of.
- Accommodating and/or changing lab meetings to be more accountable and open wherever possible, bringing changes into the collective. For example, we do pronoun checks because it was communicated as a need by a lab member, and now we do them all the time for all lab members, not just those that need "accommodating".

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[14] Local means a lot of things: while we're based in St. John's, NL, we also have many remote lab members who have never been to St. John's. Local mainly refers to grounded audiences we are accountable to because of where we live, work, and eat, rather than an abstracted "public" that is universal and amorphous. There are often multiple locals and they don't always jive.

[15] As mentioned above: This will look different for people with chronic illness and disability than it will for someone with the flu. In any case, dominant (capitalist) culture reinforces the idea that working through illness, pain, and discomfort is a moral thing to do, a sign of good character. But this sets up a sacrifice economy, where people sacrifice their own wellness (mental, physical, spiritual, relational) for work. CLEAR isn't a place where that kind of sacrifice is expected or rewarded.

If you have a disability, injury, ongoing issues with mental health, or chronic illness talk to Kaitlyn and/or Max about how to accommodate those issues while also accommodating financial security. And, we don't need documentation. Just talk to us.

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- When we meet in person, we bring food for everyone, being sure to bring food *everyone* can eat.
- We mind our "trauma manners," meaning that when we talk about colonialism, racism, genocide, rape, etc, we speak knowing there are survivors in the room and we are accountable to them.
- Celebrating each other, including thank-yous for work done and milestones in our careers (see the protocol on thank you notes--it's a specific skill!)
- When guests join the lab as "guest members", they must read and (we hope!) follow the guest protocols we've written, which were designed to keep guests accountable to their actions as guest members and to ensure lab members are accountable in our roles to guests.
- When people make mistakes, we call them into relations and accountable (sometimes via discussions at lab meetings, and certainly through chats with Kaitlyn and sometimes Max), rather than calling them out and canning them (see the protocol on calling in)

"I tried an experiment in class today." Natasha announces as she walks back into the lab after her first 490A Geography in Action class. She decided to see how people would respond to her using her pronouns in her introduction. "Hi," she said, "my name is Natasha Healey and my pronouns are she and her". Her friend sitting next to her said, "My pronouns are she/her and/or they/them". It was an intimate class of 6 students. Out of the six, only Natasha and her friend stated their pronouns. After class, her friend, who had changed pronouns that summer, said, "Hey, thank you so much for saying your pronouns. I wasn't going to say mine, but after you did it, that really encouraged me. Thank you for enabling me to introduce myself properly." Natasha was surprised. She had just supported a friend of hers without even realising she was doing so by simply stating her pronouns- an introduction she had learned in the CLEAR lab. As Natasha told us the story around the table in the CLEAR lab, she explained, "I was feeling emotional after my friend told me that. I didn't know I was even going to try that experiment out. I was walking down the hallway thinking: why am I going to cry right now? It was really cool."
This is one example of what working in a feminist lab looks like. Protocols leak out.
- Natasha Healey's story, written by Lauren Watwood, 2019

An anticolonial lab

Humility, accountability, and collectivity are required for CLEAR's unifying framework: being in good land relations, which is what we mean when we say we are an anticolonial lab.

We could have started the lab book with our anticolonial framework, and then had the values framework afterwards. But we started with the values framework. Why do you think that is?

That's not a rhetorical question.
What is the relationship between values and action?
What does it take to do science and research differently than the status quo?
Take a moment and think about it before you read on.

We start with values because without humility, accountability, and 'standing *with'*, you end up with what we've all identified as bullshit at one time or another: a panel of all white experts espousing on decolonizing education; a message from the university saying they care about their underpaid, un-unionized cleaning staff during a pandemic that are still coming into work while others work from home; the (hopefully) ex-partner saying they love you as they ask you to help them become a less violent person. Terms like anti-colonialism, anti-racism, decolonization, and solidarity have become so appropriated by the power systems that they struggle against that frameworks without values are cheap, and often violent, discourses. So **we start with values, and keep them in front of us while we maneuver difficult terrain. They guide us.** That is why this section is called "orientations."

There's also a chronological logic to starting with values. If you are humble and accountable all the way down, you will end up doing anticolonial work, in whole or in part, even if you don't mean to. When we talk about humility and accountability, we just don't just mean to individual people. We also mean Indigenous groups, animals, plants, water, and Land: the whole of our relations, regardless of your heritage. **Being accountable to the Land relations (which we are always part of, whether you acknowledge that or not) is one of the mainstays of anticolonialism.**

CLEAR started as a feminist lab--that's what Max called it at first--and we developed into calling ourselves an anticolonial lab (even though we were doing anticolonial research

the whole time). One main reason we "Started" as a feminist lab is that there's an existing academic field called feminist science studies that had already clearly articulated critiques of dominant science, and Max was dedicated to addressing those critiques in their new lab: mastery over nature, the lack of accountability that flies under the banner of objectiveity, toxic masculinity, hyper-individualism, a lack of reflexivity of the social values (including mysogeny and colonialism) that permeat "common sense" and "brilliant work."

As we took up our first set of values (from 2015: equity, humility, openness to others, and dedication to process) we found that we had to be accountable to land, Indigenous peoples in Newfoundland and Labrador, and other land relations. Anticolonialism is one way to articulate these commitments and struggles.

> *I was pretty excited to be offered a tour to see the Albatross breeding grounds in Aotearoa (New Zealand), since Albatross are one of the most famous faces of plastic ingestion--they have one of the highest ingestion figures of any sea bird. Along with two other Indingeous representatives from Newfoundland and Labrador, I was being shown around by our Maori host and their iwi supported the Albatross conservation center out on a crop of cliffs near Dunedin. He took us to the visitor center where he introduced us to one of the Maori conservationists. I asked him lots and lots of scientific questions about ingestion rates, chick die off rates, and other sciencey things. I felt pretty fancy. A door past the conservationist led to a visitor trail up to a bluff where you could look down on the Albatross. We were not invited to go through that door.*
> *At first I was miffed that we didn't get to see the Albatross. I've never seen a live one. Only dead ones preserved in freezers. But I could tell it was normal to not go see them so I stayed quiet.*
> *On the drive back, our host laughed as he recounted that many of the white visitors he brought to the Center desperately wanted to go see the Albatross and how silly that was. "We know they're well taken care of," he said. "Why would we go see them, go bother them?"*
> *I realized that my desire to see the Albatross was rooted in colonization-- an assumed access to Indigenous land and non-humans for my own goals and desires, even if they seemed harmless, educated, or benevolent. Our host was right-- why did I need to see the birds, capture them with my eyes, have my own experience of them? Just to fulfill my own desires. It would do nothing for the birds and would likely bother them. And I can just trust that the iwi has it covered. I have tried to remember this whenever I get the urge to 'see for myself' when I can just trust someone else, or 'explore' when I can stay in my lane. During the car ride back, I thought about how much work I have to do to learn to be and stay in good relations and deal with my own colonization, since it creeps in ways that are hard to see.*

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Colonialism is a force of oppression whereby settlers and non-Indingeous people presume access to Indigenous land, life, and worlds for non-Indigenous goals, even when those goals are benevolent.[16] At the same time, there is no final, stable, single, coherent, English-definition of colonialism that will work in all contexts. There are many colonialisms that are shaped by the places they are from and the people resisting and benefiting from it. Yet, highlighting access to Indigenous land and life means that we can focus on anticolonialism. Too often, we have seen and heard "decolonization" mean inclusion, or anti-capitalism, or environmentalism. Those things are certainly not synonymous: inclusion of Indigenous people into empire was accomplished via residential schools and conservatism that removes Indigenous people from Land are all forms of colonization. As Eve Tuck and Wayne Yang say: Decolonization is not a Metaphor.[17] If your interventions do not change relations to Indigenous land and life, it's not decolonization. See Appendix for a Wee Primer on Colonialism (new labbers: please read it!).

A lot of research is colonial, and we work to change those relations. Colonial land relations in research include the type of knowledge that is valued (like dominant science), the type of knowledge that is extracted for that value (like Indigenous knowledge, or knowledge from Indigenous relatives like animals and rocks), the type of relationships with Land and the environment that are privileged (like resource management), the forms of settler laws and regulations that uphold these (like private property), what is taught in schools and how (such as the exclusion of Indigenous thinkers or teaching in English). And, of course, the entitlement of researchers to research on Indigenous land without permission or thought. The list is long. Colonialism is an ongoing force we must continually maneuver rather than a historical event. Colonialism is a set of specific, structured relations that allow these events to occur, make sense, and seem normal (to some).

Anti-colonialism is a way to describe land relations that are both directly opposed to these systems, practices, and values, as well as make new ones (or use old ones) that have different land relations. In research, it means working in a way that does not assume settler and colonial access to Indigenous land for settler and colonial goals, even when those goals are benevolent, well-intentioned, and/or environmental. We understand that dominant science and Western science are only one way to understand the world, and it is not the only way or the best way. All people, regardless of their heritage or disciplines or levels of expertise, can contribute to anticolonial research. We aim to identify and counter colonial values, concepts, and structures within science, research, and the university through how we do everyday science with the final goal of doing science differently.

There are many ways to do anti-colonial science. Some of our techniques include:

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[16] This is a paraphrase from Max's book, *Pollution is Colonialism*, 2021.
[17] Tuck, Eve, & Yang, K. Wayne. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, education & society*, *1*(1).

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- [Our guidelines for working with Indigenous groups](#)
- [Community peer review](#)
- Rematriating[18] samples back to land
- Co-creation and use of [Indigenous data sovereignty contracts](#)
- Ensuring our methods, equipment, knowledge, and grant money stays with the Indigenous groups we work with so we are not needed for future projects (though of course we can be invited back)

CLEAR Rules

There are only three rules:

1. **If you are unwell, heartbroken, or exhausted, go home**. This job is not more important than your well being. Illness is not a personal failing.[19]

2. **No fleece material in the lab**. Fleece is a fabric made of Polyethylene terephthalate (PET), a very common type of plastic found in our samples. Fleece sheds tiny microfibers constantly and contaminates samples. To reduce contamination, **wear a lab coat** when you're working or dancing near samples. Wear a lab coat whenever you wear clothes. Always wear clothes, so always wear a lab coat.

3. **Clean up** after yourself, and clean up after others. This should mean things are clean. Besides being rude, an unclean plastics lab is a contaminated plastics lab.

CLEAR Guidelines

These guidelines allow CLEAR to work as a large, diverse collective. Please follow them to the best of your ability, and when there are issues following them let Kaitlyn or Max know.

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[18] We say rematriating instead of repatriating to evoke matrilineal Indigenous cultures, but also matriarchal culture. This is not the opposite of patriarchal culture in terms of women-have-more-privilege rather than men, but that rather than values of individualism, paternalistic care as control, mastery over the world and earth (and women), machismo, and aggression, values are collectivity, kin, nurturance, emotional intelligence, and diplomacy.

[19] If you need some pep talk on this, read Jo Van Every's "[Yes You Should Take Sick Leave](#)." Log this reading as part of your hours. This will look different for people with chronic illness and disability than it will for someone with the flu. In any case, dominant (capitalist) culture reinforces the idea that working through illness, pain, and discomfort is a moral thing to do, a sign of good character. But this sets up a sacrifice economy, where people sacrifice their own wellness (mental, physical, spiritual, relational) for work. CLEAR isn't a place where that kind of sacrifice is expected or rewarded.

If you have a disability, injury, ongoing issues with mental health, or chronic illness talk to Kaitlyn and/or Max about how to accommodate those issues while also accommodating your own financial security. And, we don't need documentation. Just talk to us.

1. **Attend lab meetings.** Lab meetings are the main way that CLEAR operates as an entire lab, as a community. Meetings are where we discuss the values, concepts, and ideas that underlie all our work as a lab, and thus are where we work out *how* we work. Without the meetings, we are just some people working on some stuff. That is why we expect that lab members make meetings regularly so you are in the ongoing flow of conversation and know what is up. If you are not going to make a meeting, please email Max, Kaitlyn and/or the lab in advance.

2. **Work together, even when you're working alone**. When you need help, reach out to other lab members—*we expect that you are able to ask for help when you need it,* and to problem solve. Mistakes will be made. That's cool. Try to make them with as many other people as possible.

3. **Take breaks**! If you work for three hours or more, take a paid 15-minute break every 1.5-2 hours. If you work for six hours, take a paid 30 minute break in addition to the 15 minutes. If you work for 8 hours, take an additional 1-hour paid lunch break. Don't work more than 8 hours in a row. That's too much.
If you're doing intensive microscope, video, or counting work, rest your eyes every 20-30 minutes. Studies have shown that taking regular breaks makes you more accurate. It's also important to care for your vision.

4. **Resolve conflicts when they start**. There *will* be conflict. Conflict resolution is a major part of working together. If you're having some trouble (or even just an ugh feeling) with a rule, a process, a person, something someone said, please articulate the issue so we can address it. You can say things like, "I notice that X. It's effect on me is Y. How can we work on that?" Use the training you have in consensus-based decision making (see the protocol) and apology making (see the protocol) to figure out how to move forward together. If you need support in conflict resolution (or if your problem is with them!), let Kaitlyn or Max know.

5. **Take your ideas seriously**. We are always interested in new projects or new ways of doing ongoing projects. We're especially interested in ideas for how to make our work more accountable, anticolonial, humble, generous, accurate, fun... If you have an idea for something you want to explore or develop, let us know! For example, a few lab members wanted to start a queer science reading group within the lab—we made room in meetings to report what they're doing, found money in the budget to pay them for their time, and established ways to bring their new knowledge into lab work.

6. **Be on time**. No one is going to keep track of people being late. But lab meetings are structured with aims and goals at the start, and missing those impacts the process. When we are doing training or carpooling, being late means that others are waiting and Max is paying them to wait. If you're running late (which will happen!), just text or email ahead and let people know when you expect to arrive. Thank you!

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7. **Acknowledge the shoulders & Land you stand on**. When you write articles or do presentations from the work that has happened in the lab, always name the shoulders you stand on. This looks like a lot of different things: an acknowledgement page on your last slide in a presentation, citing CLEAR's work in other research (including use of our protocols: We're looking at you, person outside of CLEAR reading our lab book!); including land acknowledgements in all presentations and articles (see *Equity Protocol,* Land Acknowledgement for more).

8. **Log your hours *as you work them***. Either after each task or at the end of your shift, describe and log your hours in the shared Google drive. This ensures you're paid for all your work (and nothing falls through the cracks), that Kaitlyn doesn't do extra emotional and administrative labour tracking your hours down before pay period; and reviewing hours every two weeks is one key way Max and Kaitlyn keep an eye on the health of the lab as a whole. We consult these records every two weeks. Think of hour logging as one of our primary accountability and care documents.

9. **If you have to go, go. But tell us**! Sometimes the semester is overwhelming, life happens, and you either need to take a break for a meeting, a few weeks, or even leave the lab altogether for a bit. That's normal and we will support you in that. Just make sure you let Max or Kaitlyn know so they can ensure your project is cared for in your absence and any paperwork is done that needs to be done.

A glossary of terms and their politics

> *Before I came here, I used to think I knew what colonialism and what feminism meant. And I know the Merriam Webster definition, but it's like a whole different ball game for what it means here. So yeah, when I was walking through the lab book and I got words that we're not [invested in] like "empowerment" or "community outreach," I'm like, really? I think that's a good thing. Like, why was that bad? And then they explained why. Oh, yeah.*
> Lauren Watwood, 8/2019

Empowerment vs. participation in existing power structures

When someone says a program "empowers" a certain group of people, two things happen: First, it understands power as something that can be shifted by increasing skills, resources, or positions to that group without changing the underlying structures that make these things unevenly distributed in the first place (which is what power actually refers to). It makes it seem like power can be passed from one group to another, like a baton. Secondly, it enacts the

dominant power system by what Max and others have called "inclusion into empire," where groups who are defined by their difference from dominant groups are assimilated into dominant structures of what is good, what an opportunity looks like, and what is valued.

Outreach vs. always already being part of communities (or not)

I remember when I was ten or so, a local church sent us a Thanksgiving turkey and a food basket. "Why did they give us a turkey?" I asked my mom. She laughed: "They think we're poor," she said. "They're reaching out." I had no idea we were poor before that.
Max Liboiron, 2018

"Outreach" implies that you are extending a hand from your own group and placing it in another group. Ever have a disembodied hand from another place pop into your community? It's creepy and gross. The metaphor is useful because it highlights two things:
- it assumes that access to communities by scientists, researchers, and academics is inherently good, rather than something that has to be earned, invited in, or can be refused
- It assumes that scientists, researchers, and academics are not part of communities, drawing a hard line between us and them

Also, it usually implies a deficit model (see below).

Raising Awareness vs. infrastructure and power

What's the problem with "awareness" as a "solution" to a given problem?
Awareness campaigns are almost always based on a deficit model. Awareness assumes that someone, or some group, or community lacks the "right" information or knowledge (and simultaneously that someone or some group -- read: dominant, powerful -- has the right information/knowledge) and that simply giving people the right information will ensure they do the right thing, behave differently, thus solving the problem. This approach ignores the social context and power relations within which individuals and communities operate. Instead, it makes individuals ultimately responsible for social problems rather than infrastructures or systems.

It often does not ensure that individuals and communities have the resources they need to take care of themselves, and it ignores how the rules of society (e.g., the law, "normal" ways of doing things) make it difficult for individuals and communities to respond, and even create the problem in the first place. It also ignores how different groups have their own sources of knowledge, reasons for doing things, and principles of what is "right" and"good" that are not shared with dominant groups.

For example, the main approach to the problem of fishing safety -- a real problem given the high rates of accident, injury and fatalities -- is to "train" fish harvesters to fish more safely, or as Transportation Canada puts it, to change the culture of fishing safety among fish harvesters. Framed this way, regulators position fish harvesters as the problem. My (Nicole Power) research

suggests that harvesters know how to fish safely and their knowledge about fishing safely is more nuanced and place-based than regulators' (e.g., wearing personal safety equipment, carrying locating technologies that deploy in emergencies). Instead, harvesters recognize the value of these kinds of technologies, but also identify problems with their use in their actual day-to-day fishing (e.g., carrying a life-raft requires vessel space that is not available to small boat harvesters and regulatory requirements prevent harvesters from acquiring larger vessels that would better accommodate these safety technologies).

For more, see Liboiron, Max. (2014). [Against Awareness, For Scale: Garbage is Infrastructure, Not Behavior](#). *Discard Studies*.

Indigenous sciences vs. decolonial science vs. anticolonial sciences

This excerpt is from *Pollution is Colonialism*:

> "Indigenous sciences are done by Indigenous peoples, full stop: "Native science is a metaphor for a wide range of tribal processes of perceiving, thinking, acting, and 'coming to know' that have evolved through [our collective] experience with the natural world."[20] Sometimes Indigenous sciences use methods, tools, theories, and frameworks developed out of Western and other non-Indigenous
> sciences, like the work of Robin Wall Kimmerer (Potawatomi).[21] Sometimes not. Sometimes they involve settler scientists. Sometimes not. Sometimes it is called Traditional Knowledge. Sometimes not. These decisions are an expression of Indigenous sovereignty over Indigenous ways of producing knowledge on Indigenous Lands, by Indigenous peoples.[22]" (Liboiron 2021: 124).

> "CLEAR does not claim to do Indigenous science, not least because most of our members are white settlers. While some of our Inuit, Métis, and First Nations members certainly draw on Traditional Knowledge or local knowledge and certainly work from their worldviews and even with their families, communities, and homelands, we do not give this to academia.[23]" (Liboiron 2021: 124-125).

> "As director of CLEAR, I identify our space as an anticolonial lab, where anticolonial methods in science are characterized by how they do not reproduce settler and colonial entitlement to Land and Indigenous cultures, concepts, knowledges (including Traditional

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[20] Cajete, Native Science, 2.

[21] Kimmerer, Braiding Sweetgrass.

[22] For more, see Geniusz, Our Knowledge Is Not Primitive; Kawagley, Yupiaq Worldview; Kawagley, Norris-Tull, and Norris-Tull,"Indigenous Worldview of Yupiaq Culture"; Knudtson and Suzuki, Wisdom of the Elders; and Dene Nation and Assembly of First Nations, "We Have Always Been Here."

[23] As discussed in chapter 1, the emerging drive in academia to capture, incorporate, use, and eat up Traditional Knowledge as a Resource is often another expression of colonialism and the settler and colonial entitlement to Indigenous Land (now with more knowledge!). This trend is why clear does not claim to engage in Traditional Knowledge (tk) or Traditional Ecological Knowledge (tek) collection or use. For more critiques of bringing TK and TEK into the academy and how doing so can reinforce colonial, academic knowledge systems even when that may not be the goal, see McGregor, "Traditional Ecological Knowledge"; Reo, "Importance of Belief Systems in Traditional Ecological Knowledge Initiatives"; Nadasdy, "Politics of tek"; and Nadasdy, "Anti-Politics of TEK."
For Indigenous readers well versed in these topics looking for a little more nuance, I recommend Duarte et al. " 'Of Course, Data Can Never Fully Represent Reality.' " NOTE: these footnotes are also citations from the text! (Hence the "as discussed in chapter 1"

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Knowledge), and lifeworlds. An anticolonial lab does not foreground settler and colonial goals. There are many ways to do anticolonial science: in addition to Indigenous sciences, there are, for example, also queer, feminist, Afro-futurist, and spiritual land relations that are anticolonial. Anticolonial here is meant to describe the diversity of work, positionalities, and obligations that let us "stand with" one another as we pursue good land relations, broadly defined." (Liboiron 2021: 27).

Western Science(s) vs. Dominant Science

This excerpt is from *Pollution is Colonialism*:

"Western culture — the heritage of social norms, beliefs, ethical values, political systems, epistemologies, technologies, and legal structures and traditions heavily influenced by various forms of Christianity and Judaism [and Islam] that have some origin in Ancient Greece and which heavily influenced societies in Europe and beyond — is not synonymous with colonialism. Western culture certainly has its imperialistic and colonial impulses, histories, and ideas of what is good and right, but these are different things from colonialism. When I hear a researcher ask, "Isn't doing research ethics paperwork colonial?," they are conflating Western and colonial. Remember: treaties are paperwork. If paperwork is used to possess land and secure settler and colonial futures, then, yes, it's colonial. But there is also anticolonial, Western-style paperwork that accomplishes the opposite, like the forms required by Indigenous research ethics boards. Colonialism, first, foremost, and always, is about Land, including the circumvention of ethics paperwork so researchers can have unfettered and unaccountable access to field sites (a.k.a. homelands), archives, samples, and data.[24]"
(Liboiron 2021: 10)

"I use the term dominant science instead of Western science for two reasons. First, dominant keeps the power relations front and centre, and it's these power relations I am usually discussing. Western science is a cultural tradition where ways of knowing start with the Ancient Greeks, get influenced by various forms of Christianity and Judaism [and Islam], and move through the Enlightenment. Generally, I have no problem with that culture. The problem is when it becomes dominant to the point that other ways of knowing, doing, and being are deemed illegitimate or are erased. Second, not all Western science is dominant. Midwifery, alchemy, and preventative medicine are part of Western science that suffer at the hands of dominant science."
(Liboiron 2021: 20-21. FN7)

Thank you to Katherine for making sure this is in the lab book!

Settlers, settlers of colour, immigrants, allies, Whites, etc

- Coming soon, citing la paperson, TallBear, Noelani Goodyear-Kaʻōpua, and Vowel.

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[24] E.g., Lawford and Coburn, "Research, Ethnic Fraud, and the Academy."

Newfoundland vs. Newfoundland and Labrador

This province is called Newfoundland and Labrador, but often poeple--people who do not live in or have relations to Labrador--will just call it "Newfoundland." This not only effectively erases one huge part of the province, it recenters the island part of the province as dominant, normal, and central while casting Labrador as unremarkable, not even worth naming. Since the majority of people who live in Labrador are Inuit and Innu, it's also anti-Indigenous.

When you are referring to the province, say/write "Newfoundland and Labrador." When you are referring to just Labrador, say/write "Labrador." When you are referring just to the island portion of the province, say/write "the island of Newfoundland."

Place names may seem to be banal and everyday, but they are often indicators of power and the way it maps onto space--who does the naming of a place? The ways places are named, and who names them speaks volumes about structures of power and privilege, and who has the right to name a place. Often times in settler colonies, Indigenous and other non-White place names were erased in favour of settler/White place names. Bearing in mind the proper names of places and respecting these place names can represent a pushing-back against this form of geographic erasure.

Fragile vs resilient vs…?

Sometimes people refer to the Arctic and/or its peoples as "fragile." We have been asked to never do this. Think of a brick. Is it fragile? It is in the face of a wrecking ball. To call the brick fragile not only mischaracterizes the brick (as only ever being in relationship to the wrecking ball), but also makes the wrecking ball invisible. So too, with the Arctic and industrial- and souther-based climate change, military pollution, and colonialism. The Arctic is not fragile, it is under attack.

Often naming something "fragile" is used as a reason to intervene to save it, care for it, etc. To date, colonial state and southern-led efforts to "save the Arctic" have not been done on terms that align with the needs of Inuit and others in the north. The deficit framing of "fragility" invites in more forms of harm.

The Inuit and Innu groups we work with, along side, or not-at-all-with in Labrador opt for the term "resilience" instead. While resilience has its own baggage (most notably that it often indicates that people/places can handle a certain amount of abuse and still be fine, so no worries about the abuse), it's baggage these groups know about and choose anyhow. We will follow their lead when speaking in those contexts/places/accountabilities. In other context/places/accountabilities, we can use other terms. For example, Nicole will often point out that when people say rural towns on the island of Newfoundland are "dying," rather than call them resilient, she reminds people that they are being killed.

Field sites/work versus homelands

We have been asked by Inuit and other Indigenous researchers and people not to call their homes "field sites" or say we are doing "field work" when we are in their homelands. It would be like someone coming into your house and calling it an undifferentiated, open field. It is not. We can say we are working in Inuit (or other) homelands, name the land (like Nunatsiavut) or that we are doing research in Inuit homelands rather than using the terms fieldwork and field site.

"Ladies" vs. job titles

One of the sneaky ways that sexism creeps into naming and terms is when people refer to groups of professionals by their gender rather than their job titles. This only happens for women. We hear people refer to Valarie and Pam, for example, as "the ladies of Geography" rather than "the administrative staff" of geography. Yet no one refers to the "men of geography" to mean our cartography staff. Would you like people to refer to "Edward, John, Alex, and the ladies of CLEAR"? Probably not.

"Crazy" vs. intense/overwhelming/jarring

This entry is here because we hear this in lab (and on the streets) a lot. Remember, back in the day, when people said "retarded" and how that is really not cool anymore because of *ableism*? Same, same. Ableism is making able bodies the norm and casting everything else as deviant/deficit.
About one in five people in Canada have a clinically diagnosed mental illness. That means labmates. When people use the word "Crazy" or "insane"--both words that refer to mental illness--as something that is inherently bad or undesirable, it devalues folks with mental illness(es). Ableism is a type of discrimination or social prejudice against people with disabilities based on the belief that typical abilities are superior. You probably didn't mean it, and didn't do it on purpose. But just like colonialism, as a dominant system, ableism often seems "normal."
Other words in the same vein: dumb, mad, lame, stupid, insane, deranged, loony, maniac, moron…
Instead, try: haywire, intense, overwhelming, harring, horrible, outrageous,
Katherine recommends this blog post for checking ableist language: Brown, Lydia X.Z. (2012, updated 2021). "Ableism/Language," *Austistic Hoya*.

Part two: Protocols

Protocols include the physical, mental, intellectual, and social "attitudes" or "the manner in which one approaches each and every element in our space"[25]. They are different from pure rules or instructions, though they can be those, too; protocols are ways that we establish and maintain practices across our group and within science that are good-- it defines the way we *ought* to proceed or behave in different situations. As such, they are normative, or premised on values, morals, and an idea of how things ought to be done. They are a manifestation of our values.

We recommend checking and rechecking the protocols for activities that you are involved in within the lab.

> *It's early, like really early for me--there is an hour and half time difference between where I live (Toronto) and where the lab is located (St. John's). I think I am ready to facilitate a meeting for one of the many lab's working groups. I feel good. I have set aside time to review and organize my notes, as if the meeting was about the way I experience or thought about collaboration. Confident that I knew how to organize and support conversation in a good way--after all I had spoken in countless graduate seminars--I didn't bother to review the protocols in place for facilitating a meeting. I didn't do the work of checking in. (Insert sound of a forehead smacking a desk). As you can imagine the meeting wasn't great. I took up space, which meant that those in attendance (who also woke up early and prepared for the meeting), had to do the work of understanding and reframing what I was talking about in terms of the project at hand.*
>
> *Note to self: before facilitating a meeting re- read protocols in and of the place. Protocols are placed- based grounded relational practices, not universal truths. It's a lesson that is easy to write about in abstract terms but can sometimes be more difficult to remember to practice.*
> *- Emily Simmonds, no date*

These protocols are based on collective work by generations of CLEAR labbers. They are, in a sense, alive. They are always changing, always adapting. In this way, the form of protocols, as well as their content, mirror our values of humility and accountability.

> *I met Kaitlyn back at the lab to begin the first attempt at the new protocol. We pulled the protocol up on the CLEAR laptop and I got my phone ready to take pictures of every step we took so we could add them to the document for visuals. As we began to follow the steps of the protocol things seemed to be going well.*

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[25] Kealiʻikanakaʻoleohaililani, "Hawaii Environmental Kinship," 77.

The protocol said to mark on the tights with a sharpie or marker to track how much of the tights were in the field of view (FOV) so when we pulled the tights down on the sieve we could see clearly how far to pull them down/ what parts of the tights have already been examined. We quickly realized that this was not going to work as the sharpie would not mark on the wet tights. This hiccup caused us to activate our problem-solving skills and think of a solution. We tried a few different things such as pen and pencil marks however they all seemed to either not show up on the tights or they were very faint and faded quickly. Last we tried a yellow highlighter which worked perfect. The bright color stood out and only faded a little on the damp tights. Over the course of the rest of the processing we ran into a few more areas in which we needed to adjust the protocol. The process was rewarding and exciting. I loved being a part of developing the protocol for such a new and innovative project. Once we finished Kaitlyn asked if I wanted to take on the rest of the Babylegs samples as my project for the semester. I felt grateful to be trusted with such a new project.
- Carley Mills, no date

Onboarding new lab members

There are three kinds of people who come into CLEAR:
- Occasional guests: People who are invited in for specifically selected lab meetings designed to be open and accessible for a wide audience (like seeing an example of our author order protocol in action). Accountability is fairly low, and the only onboarding is to read the guest protocol on our website: https://civiclaboratory.nl/methodological-projects/protocols-for-guests/
- Guest members: These guests come to lab meetings regularly, but are not full members of CLEAR. They are not able to work on any projects or participate in working groups outside of lab meetings and their bio isn't on the lab website. But they are part of the collective and participate in collective decision making, consensus, and overall lab discussions. They have a more involved onboarding process because they have greater accountability to the lab and its membership (see below).
- Full Lab members: Whether you've been a lab member for ten minutes or six years, full lab members do the work of the lab, create and use its methodologies, and are accountable to the full range of stakeholders and rightsholders involved in lab work (though of course this accountability is different for different members-- Max is accountable to the Nunatsiavut Government quite differently than a brand new lab member, even though both are accountable). Because of their central role in the life and community of the lab, full lab members do an extensive onboarding. If you think it seems like a lot, check out the [required reading for new members of the Black Panthers](#)!

Onboarding for guest members

For occasional guest members that are invited only to specific meetings, read the guest protocol on our website: https://civiclaboratory.nl/methodological-projects/protocols-for-guests/

For guest members that are joining us regularly for lab meetings:
- Read the guest protocol on our website: https://civiclaboratory.nl/methodological-projects/protocols-for-guests/
- Read Part 1 of Lab Book front to back, and any sections of Part 2 that you are involved in, including but not limited to: the onboarding section (here!), how to run a feminist lab meeting, introductions, and apologies.
- Watch our 12 minute documentary GUTS on the CLEAR website landing page: civiclaboratory.nl
- Read the AORTA Collective Hand out on "Anti-oppressive Facilitation for Democratic Processes," which we use in lab meetings: http://aorta.coop/wp-content/uploads/2017/06/AO-Facilitation-Resource-Sheet.pdf

Onboarding new full lab members

Orientation

It should take you approximately 4-5 hours to complete the following (you are paid for this time):
- Read our website's About page, Who we Are, and any of the project pages for projects you are involved in: https://civiclaboratory.nl
- Read Part 1 of Lab Book front to back, and any sections of Part 2 that you are involved in, including but not limited to: the onboarding section (here!), how to run a feminist lab meeting, introductions, and apologies.
- If you're using Google spreadsheets, read that section. If you're working on a paper, read the section on equity in author order. If you're processing samples, read the section on **In-Lab Processing Protocols For All Sample Types**.
- Feel free to leave comments, questions, and other marks in the Lab book. It is, afterall, your lab book, too. We've often clarified, updated, etc sections that new members had trouble understanding.

- Read about the relationships between place and colonialism with plastics (and pollution more generally):
  - How Plastic Is a Function of Colonialism | Teen Vogue

- Watch our 12 minute documentary GUTS on the CLEAR website landing page: civiclaboratory.nl
- Read the [AORTA Collective Hand out on "Anti-oppressive Facilitation for Democratic Processes](#)," which we use in lab meetings: http://aorta.coop/wp-content/uploads/2017/06/AO-Facilitation-Resource-Sheet.pdf
- Optional: Read "Being a Scientist Means Taking Sides":
  - http://faculty.washington.edu/skalski/classes/QERM597/papers_xtra/OBrien.pdf
- Optional: Watch the 20 minute intro
  - [Tools, practices, & ethics for monitoring marine plastics from a feminist laboratory (video)](#)

- If you're a MUCEP, ISWEP, or GradSWEP, Fill out section 1 of the Reflection Form (ignore if you're not in one of these positions)
  - MUCEP Learning and Reflection Agreement
- If you are processing plastic samples in the lab, read the executive summary (only) of CLEAR's [Regional report on plastic pollution in Newfoundland and Labrador, 1962-2019](#)
- After reading the section of the lab book on Importance of introductions & bios and their purpose and have looked at other labmate's bios, write a short bio plus send a picture to add to our website. Be sure to include gender pronouns and land relations: [Who we are](#)

Lab and Safety Onboarding tasks

Do these if you are physically working in the wet lab or if you are gathering samples. It should take you approximately 3-4 hours to complete this set of tasks (you are paid for these tasks):

- → Complete the **CCAC Core Modules** (D2L/DELTS) training:
  - ◆ Training and Orientation | Research (scroll down the page and click "Registration: Please visit the self-registration site" then submit form for registration)
  - ■ You are only required to read the introduction section (plus relevant link) and complete 3 core stream module quizzes for the CCAC training.
  - ■ Quizzes:
    - Ethics in animal experimentation
    - Occupational health and safety
    - Three Rs of humane animal experimentation
  - ■ The CCAC recently updated their training materials and have dropped one of the core stream modules, "Guidelines, Legislation and Regulation" from the roster and it is no longer available through the CCAC. Thus this quiz is no longer required to be completed at this time.
  - ■ Passing score for each quiz: 80%

- - - Number of attempts allowed: 3
    - The 'housed in vivaria' section (like euthanasia, etc.) is irrelevant to the work you'll be doing in the lab and so it's not required for you to complete
  - ➔ Complete **WHMIS** (Science 1808) and **Laboratory Safety** (Science 1807) training
    - ◆ Note: if you've worked in a lab at MUN before and have taken laboratory courses, you should already have these completed. You do not have to redo them.
    - ◆ Please send proof of completion to the lab manager: [email]@mun.ca
  - ➔ Read the Lab Safety Procedure

  - ➔ **COVID-19 required safety procedures.** You <u>must</u> follow and be familiar with these tasks in order to be granted access to work in the lab.
    It should take approximately 45 mins to 1 hour to complete this set (you get paid for this time):
    - ➔ Read and become very familiar with our lab's health and safety guidelines to keep you and your labmates safe. This is crucial.
    - ➔ Download the MUN-SAFE App
      - ◆ Make sure push notifications are on so you are aware of any emergencies or updates while you are on campus and in the lab
    - ➔ Complete the COVID-19 awareness training
      - ◆ You can sign-up and complete via brightspace
      - ◆ The training is in the form of a 30 min online session
    - ➔ Read and be familiar with MUN's COVID Health and Safety Moment
    - ➔ Complete MUN's COVID-19 Daily Self-Assessment Tool everytime you plan on coming to campus and/or enter the lab

If you have any questions or concerns while going through any of the tasks don't hesitate to reach out and ask the lab manager for help or clarification.

Lab meetings

- Throughout the semester we usually have a 1 hour lab meeting every week, for about 12 weeks of the semester
- Lab meetings usually run on Friday's from 12:00-1:00pm. However this time is subject to change depending on the semester.
- Sometimes prep work and homework will be required for the meetings (e.g. readings), these count towards your hours. They will be emailed out on the lab listserv, usually on the Monday before the lab meeting.
- Be sure you read the protocol on How to Run a Feminist Lab Meeting

Logging hours

- Onboarding tasks are **included in hours worked**, as well as all other work-related tasks you complete. We log our hours in this live spreadsheet: Fall 2020 CLEAR Hours **immediately after we work them.**
- You can look at the way everyone else has their hours logged to see how to format yours.
    - Be specific when logging exactly what tasks you are working on
    - Round time worked to the nearest 15 minute interval within the hour.
- **Important notes about hours**:
    - Hours are due at the **end of the day on Friday**, every 2 weeks. Reminders will be sent earlier in the week.
    - ***Log your hours as you are completing them***, that way none are forgotten and hours will always be in on time. This reduces extra work for Kaitlyn, Max, and Valarie. Also, Max and Kailtyn review these every week and they need to be detailed and up to date since it's the primary way we see how the lab is working as a whole. So important!
    - If you do not submit your hours on time, you won't get paid on time. These hours will be held until the following payroll. While this may not affect you, it creates considerable extra work for Kaitlyn, Max, Valarie & Pam. It means Max has to dedicate grant money to pay Kaitlyn to round you up, and it means Max, Valarie and Pam are working on chasing down your hours, double checking to make sure they align across pay periods, logging into special parts of the HR system to back-fill them, speaking with HR to explain why we're back filling hours and showing how they align with existing contracts, and following up with Kaitlyn to ensure lab spreadsheets are updated. Let's not require others to do this much extra work.
    - Hours can be banked in advance (i.e. you can work extra hours in advance and bank them to use to take time off later) but should not be retroactive (i.e. you cannot take time off and have to make up missed hours later--making up for missed hours is much more difficult than it sounds). Always talk to Kaitlyn to discuss your plans to work extra hours/take time off so we can ensure that a change in your work schedule doesn't affect our timelines for getting projects done.

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MUCEP, ISWEP & GradSWEPs

Time you'll spend on each lab aspect based on position type:

80 Hour MUCEPs/ISWEPs/GradSWEPs
- Onboarding: ~ 8 hours
- Meetings: ~18 hours
- Sample Processing: ~ 57 hours

40 Hour MUCEPs/ISWEPs
- Onboarding: ~ 8 hours
- Meetings: ~18 hours
- Sample Processing: ~ 17 hours

Processing samples

- For most hires doing bench work (work in the lab), the bulk of your work hours should be spent on sample processing.
- All training for sample processing will occur in the lab after all the onboarding tasks above are completed. Be sure to touch base with Kaitlyn as soon as you finish the tasks so you can set up training times.
- Types of samples that you'll likely be working on:
  - Trawl (surface water samples)
  - Sediment
  - Cod/Fish
  - Seal
  - Plastic Processing
- To prepare for training, be sure to read the relevant protocols for sample processing located in the lab book.
- A lab schedule has been put in place so folks can book time to use both the sink and the microscopes: Spring/Summer 2021 Lab Schedule. PLEASE BE SURE TO USE your allotted time, as they are in high demand. If you aren't able to show up for a shift, please communicate it to Kaitlyn and other lab workers so they can take it.

Lab Training for processing samples

Once you have completed all onboarding tasks, contact the lab manager to set up a time to meet to begin training for sample processing. Length of training time varies from person to person. We train new lab members until there are 4 times in a row where we check their sieves and find no missed plastics.

Initial Training Session

The initial training session includes:
- Tour of the lab
- Safety orientation (eye wash station, fan, safety gear, no drinking lab water, covid regulations)
- Lab expectations (manage your own time, solve problems to the best of your ability, use the entire lab as a resource, etc.)
- More info on lab meetings (round robin, hand gestures, etc)
- Get access to Drive and added to listserv
- Get a key, if appropriate
- Learn about lab projects
- Intro to plastics: plastic types, erosion, tips and tricks to identifying
- Animal respect (no earbuds, repatriation)
- Training in sample processing (contamination protocols, dissecting, microscope use, etc)
- Proper clean-up

Things to remember while in the lab:
- **Do not wear fleece!**
- **No perfumes or fragrances**

Exiting the Lab

We'll always try to do a collective goodbye to lab members who are leaving. We often write Lab Love Notes (see the protocol) and our goodbyes are folded into this.

There are also a few things that have to be done when you are leaving the lab. These activities are paid, so make sure you leave 2-3 hours in your contract to get these done.

- If you are an ISWEP or MUCEP, complete Mucep Reflection form
- Return lab key!!!!!!
- Make sure all data sheets you worked on have all the metadata you can provide, including your name in who worked on the project!
- Make sure all samples left in the lab are labeled appropriately and stored in a clearly documented location- this includes controls!
- If there is any hard copy paper work, sample collection notes, or collection data, make sure this stored in a clearly labeled folder/binder as well as location in the event in needs to be referenced
- We often schedule exit interviews (time permitting) or ask that you answer questions like these based on your knowledge and experiences in CLEAR:
    - How was your overall experience working in the lab?
    - What is the most valuable thing that you learned? What else did you learn?
    - How do you think your work/experience in the lab could have been different?
        - What would you like to learn that you didn't get to?
    - Would you like to come back to work in the lab?

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- If so, what would you choose to work on?
    ○ Did you face any challenges while working in the lab? (issues with other lab members?, things you didn't enjoy doing?, things you found difficult?)
    ○ Is there anything about the lab that we can fix/improve? (different approach to training?, different way of running things?)
    ○ What would you like us to do with your personal data, including your bio, profile picture, stories, CV, etc? CVs and logged hour records help Max write letters of recommendation. Logged hours help us recover who worked on what projects for author credit. Stories are used in training and writing. But they are all your data-- what would you like us to do with each kind?

Starting CLEAR

If you are looking to start your own lab, this section is for you. This is mostly the story of how CLEAR started, with some general advice that will hopefully generalize to different places, set ups, and disciplines. Labs are just collective spaces for working together as coordinated groups, so there are a lot of flavours of lab out there.

How CLEAR started

CLEAR is Dr. Liboiron's lab, but instead of calling it Liboiron Lab (normal in the field), they called it something more descriptive of what it was. But how did it start? When Dr. Liboiron was a brand new professor, they decided that the lab model fit with their research agenda and ethics (and had founded and helped steer a mutual aid research collective that worked very much like a lab as a post-doc, called Superstorm Research Lab). It turns out that when you're a professor, all you need to do is say you have a lab, and then you do. You need a name, a space (even if that's just a website or a meeting room that you sign out once a week), at least one other person, and a declarative statement. That's it. That's enough.

The people (hiring)

At first, Dr. Liboiron didn't have funding for their own students. But other faculty routinely had research assistants they couldn't train or have enough work for, or who were looking for extra projects. Dr. Liboiron adopted those students first, sharing them with other faculty. Gradually, as they learned how other faculty got students, Dr. Liboiron got their own.

CLEAR hires people who share our values, regardless of experience. We often take people with zero experience in our research area if they are humble, kind, accountable, and think in

collective terms. This is what our interview process is about. Some of our interview questions are:

1. Tell me a little about yourself, where you grew up, your connection to Land, and how you came to want to work in this area/this lab. [Note: this question is NOT "where are your from", which is often used as a microaggression against people of colour, even if it's also a normal way to ask Indigenous people about their kin]
2. What do you know about CLEAR? How did you prepare for this interview?
3. What made you want to work with us?
4. What does feminism mean to you? What does anti-colonialism mean to you? (We don't care about the "right" answer to these, so much as we care about how they're dealt with. We know they're real hard questions!)
5. CLEAR operates as a collective, we work together on everything we do. What would you say are your greatest strengths in a collaborative setting? What collaborative skills would you be interested in learning or improving?
6. Have you ever been involved in any activist or advocacy projects before, or any volunteer work? If so, can you talk about them a bit?
7. Which kind of collaboration would you prefer:
   - You consult with other scientists/community groups on a research question, work on the project independently and with full autonomy, then report back to them. You publish some papers from this as first author, and other as second author.
   - You facilitate a research project with a community group where you basically work for them— you don't have autonomy over the project, your main task is to give them resources and help build capacity where they say it's needed. Your work does not get published, but the research is extremely useful to the community.
   - You work in a lab on a lot of different projects. You aren't the head of any of them, but you do a little here and there, getting middle or end author on a few papers, doing a variety of tasks and developing a lot of skills.

We tend to hire people who ask questions; make mistakes, own them, and move on; acknowledge other people and groups in their interview (while respecting their privacy if applicable); and who are self reflexive and thoughtful. We tend not to hire people who are individualistic (including talking exclusively about how they will benefit from CLEAR), seem to be staking their identity on being part of CLEAR, who are not interested in working with others, or who interrupt the interviewer.

The name

Dr. Liboiron didn't want to call their lab the Liboiron Lab for a number of reasons, mostly because it describes a type of individualistic leadership style that is not their jam. They compiled a lot of words they wanted to use to describe the lab and they sat down with an acronym generator for an hour or two. Civic Laboratory for Environmental Action Research was ok, but CLEAR was great. One word of advice: if you're an early career researcher, keep it general enough that it still fits your research in 15 years (the advantage of Liboiron Lab!).

Dr. Liboiron doesn't actually love the word "civic" anymore. They tried to find a Michif word to replace it with, but most Michif words start with K. No go. "Civic" isn't a great fit, but it isn't awful. It's also why we call ourselves CLEAR instead of Civic Lab.

The space

The university denied Dr. Liboiron's request for space multiple times. But a colleague, Dr. Yolanda Wiersma, who was a full professor in the science department, had an extra storage room with a sink. They cleaned it out and Dr. W lent it to Dr. Liboiron. It was literally a closet and could really only fit one person at a time comfortably, but we did a few studies in this space while signing out various meeting rooms around campus for weekly lab meetings.

One day, The Canadian Broadcasting Corporation (CBC, the national media), did a story on our work. They tried to film our work in the little closet, and they had to stand on a chair in the hallway to get a not-awful shot. This shot showed the entire square footage of the closet, including the door tag that read, "storage." It was on national television. Several faculty at the university texted the dean to voice their embarrassment. The next week, the university (faculty of HSS) found Dr. Liboiron a real lab space.

The structure
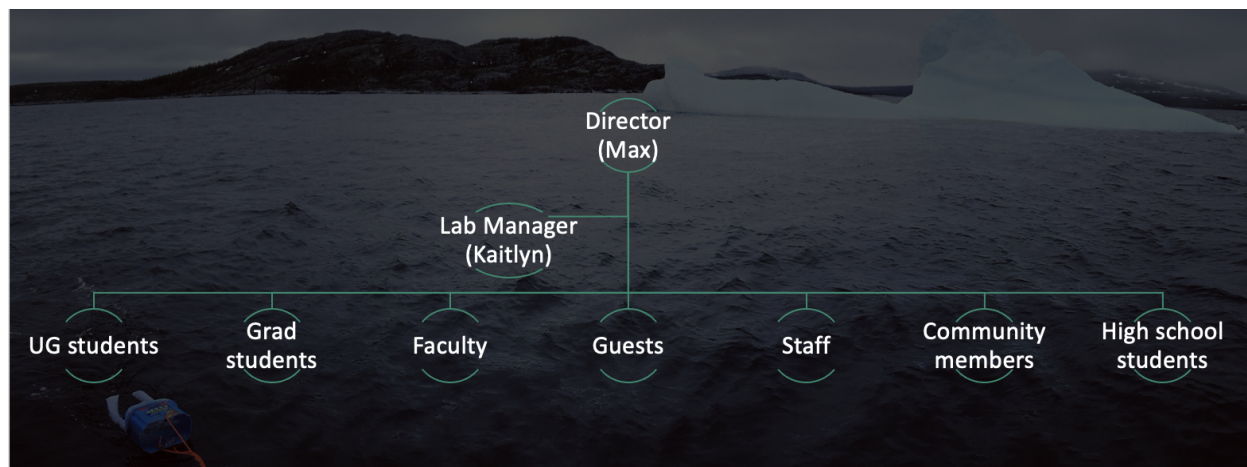
Sometimes people forget this is Dr. Liboiron's lab because it's not called Liboiron Lab. But it is. Dr. Liboiron directs the lab and is accountable for everything it does. CLEAR also has a full time (used to be part time) lab manager, which is necessary when we have 20+ members. The lab manager does time sheets for employment, quality assurance and control on projects, most training (for bench science, lit reviews, etc), onboards new members and does exit interviews for all outgoing members, looks after supplies, shipping, and waste disposal. They also do original research and get paid to do professional development. Every week, the lab manager and Dr. Liboiron meet to discuss how the lab is doing, what needs to be addressed or prioritized, and any issues that come up. They review hours together, project status, and if there are any

interpersonal issues. They talk about any new or ongoing projects and the needs of those projects.

All other lab members are equal in terms of responsibility and decision-making. High school interns have the same amount of decision making power as faculty. This is due to our consensus-based decision making model, round robins, etc (see "How we Run a Lab meeting" section). Not all decisions go to the lab to be made collectively. For instance, only Dr. Liboiron and the lab manager are part of hiring. But each semester/year, the lab has a major project they do together (citational politics, storytelling, artists in residence program) and that is chosen as a group. Author order (see protocol on that), when lab meetings are, art/film projects on the lab, and other decisions are also decided collectively.
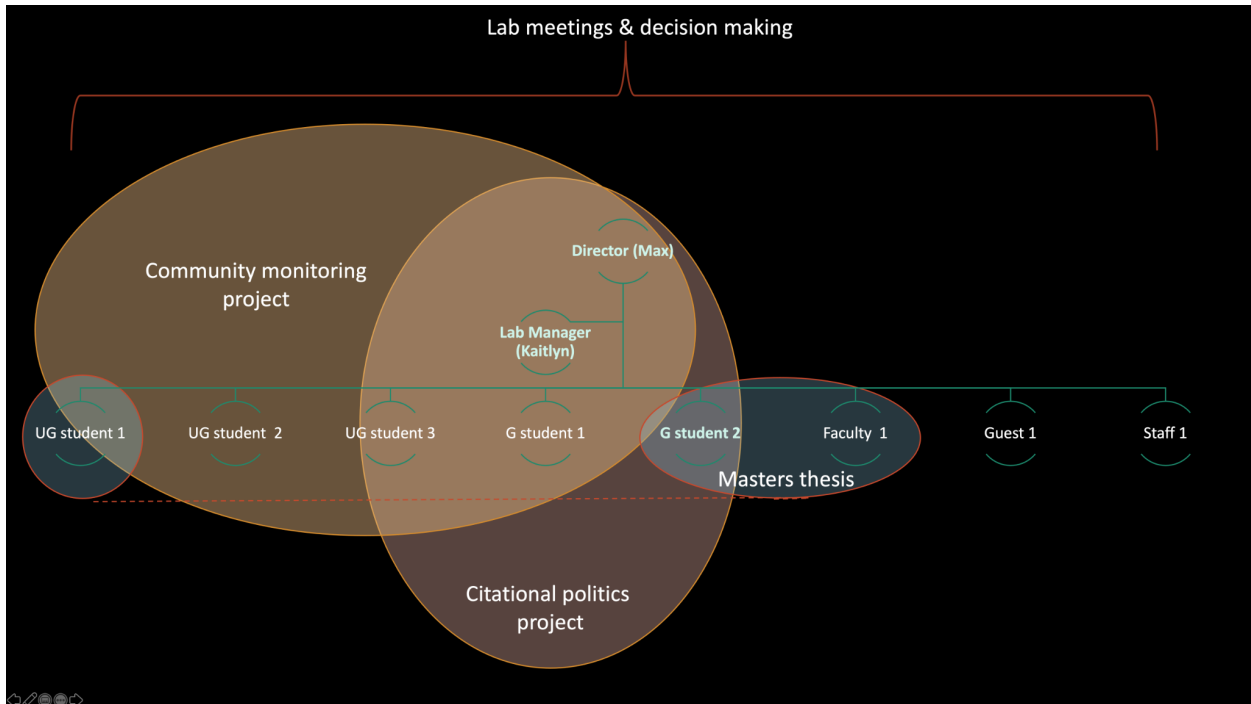
While Dr. Liboiron is involved in all projects in some way or another, and the lab manager is responsible for some of their logistics, there are many, many sub-projects going on at once and each has different lab members involved. Some lab members only come to lab meetings and are involved in the lab-wide project (e.g. citational politics, or the artist in residence program). Graduate students have their own projects, but often (almost always) other lab members are paid as RAs to help. Other projects have point people that are responsible for overseeing the project (often that person is Dr. Liboiron, but often not). Thus, every lab member is involved in one or more projects.

The infrastructure

Dr. Liboiron spends a lot of time writing grants. The lab takes about ¾ of a million dollars to run every year, almost all of which is personnel (~90%). The lab is also designed to shrink dramatically if we lose funding--mostly by losing personnel. We rent time on expensive equipment instead of buying our own so we don't have to pay maintenance costs, and we readily take contract work (where we don't produce a paper at the end, only data for an outside party) so we can retain lab members (our fee structure includes payment for attending lab meetings).
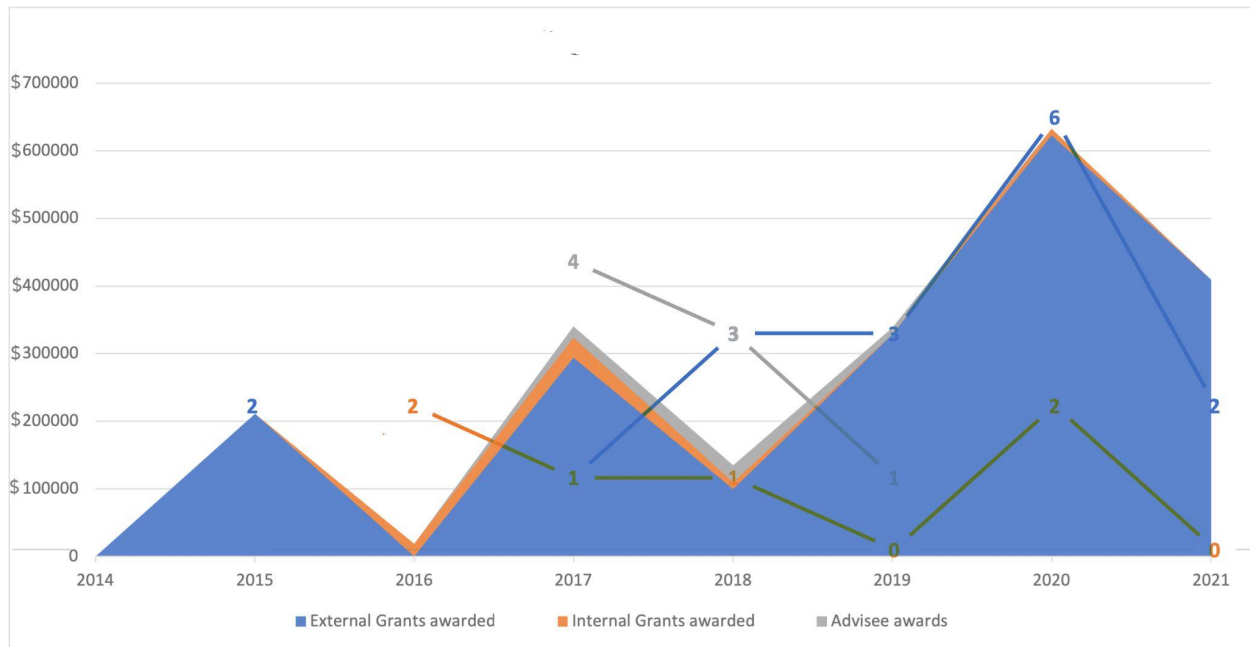
This graph shows one part of infrastructure and managerial labour: grants that keep the lab running. The filled in colour are the cash amount of grants in the year they were awarded (even though the money is spent over time--this is to show labour, not how much it takes to run the lab every year), and the lines indicate the number of grants. You can see that most of CLEAR's funding has come from external sources, and that a high number of grants does not necessarily correlate to a high amount of funding, especially in years with many internal and advisee grants, which tend to be much smaller.
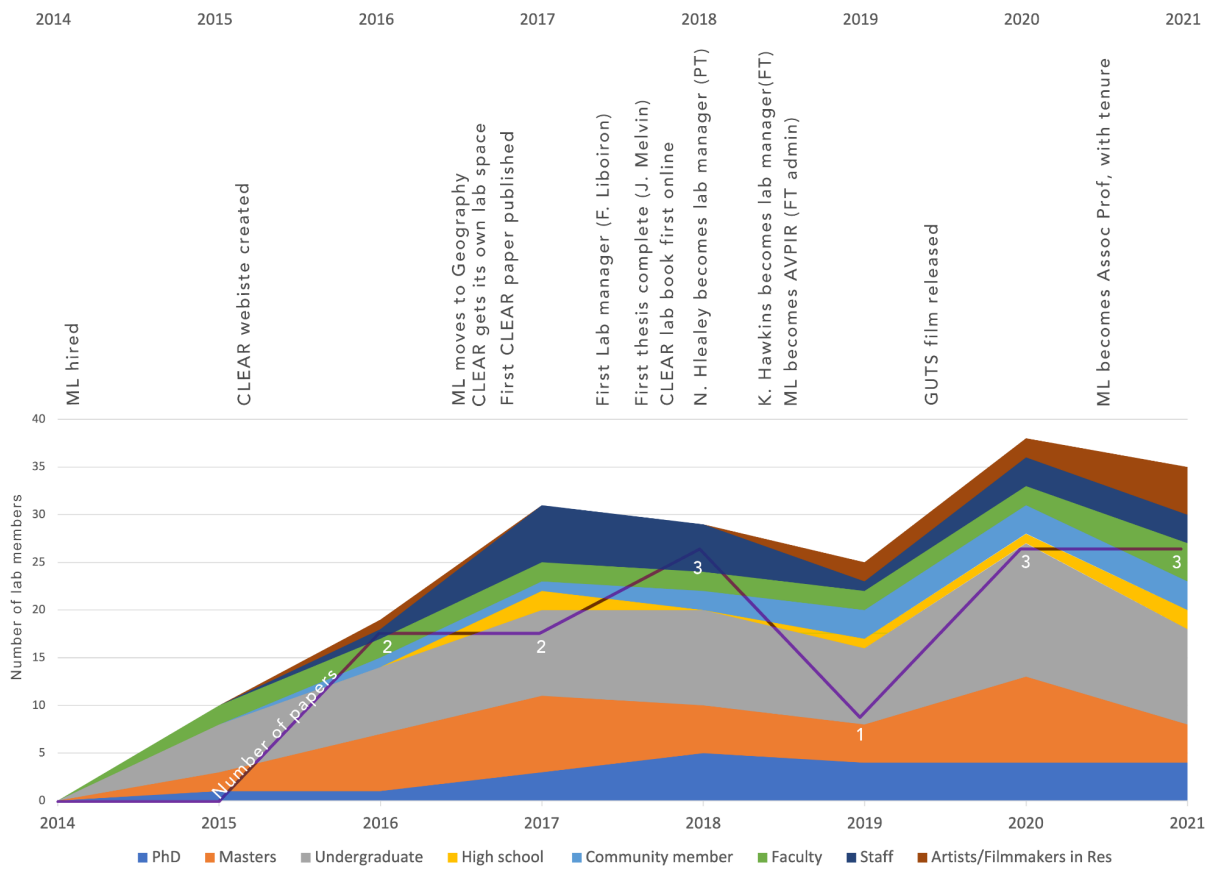
This timeline shows the number and types of CLEAR lab members we have had over time, the number of lab papers we publish (different than the number of papers Dr. Liboiron publishes), and some of the milestones in our lab's history. You can see that when Dr. Liboiron (ML) became a full time administrator, lab personnel and publishing dropped. You can also see the sharp rise in lab membership after we got our own space in 2016 and Dr. Liboiron moved to the Geography department, and that broadly, lab membership increases when we have more funding. You can also see why we got a lab manager when we did… membership was at a sudden, all time high in 2017.

Introductions (read *before* writing your bio for the lab website)

Introductions are about naming the aspects of our relations that are important to a group. For example, at academic conferences, people introduce themselves using their names, their academic position (Associate professor, PhD candidate), and their university. At a huge family reunion, people introduce themselves using their names, and who their closest kin are ("Jim and

Anne's granddaughter--Jerome is my dad"). Introductions are about relationality and thus humility, and they also lay the groundwork for accountability-- who is responsible for you, and whom are you responsible to?

In CLEAR, as a feminist and anticolonial lab, there are some relations that matter that we make part of our introductions that are based on feminist and anticolonial theory:

- **The privilege of marking/remaining unmarked**: Simone de Beauvoir talks about "the positive and the neutral [position], as is indicated by the common use of *man* to designate human beings in general" (Beauvoir 1989, xxi[26]) while woman is a more specific, limited, and marked, a deviation from "mankind." You may notice that some groups of administrators at the university are called "ladies" while others are called by their job titles. The ones called by their job titles are usually men. Men can remain "unmarked," not labeled or categorized because of sexist power structures that make men in jobs normal, while women workers are marked by their gender. You may also notice this when reading texts: Indigenous authors are marked as "Métis" or "Anishinabe" but White authors have nothing before their name. Not marking--because it is not needed!--is an exercise of privilege that maintains white, male, educated, etc as the norm, and all others as deviations from that which must be noted.

  This is why we introduce ourselves with our gender pronouns during lab meetings and on the website. It shows that everyone in gendered in various ways, and that it is not just trans, non-binary, two-spirit, and other gender miniorites who should mention their pronouns. It's also why we don't leave white or settler unmarked as the unexceptional norm on Indigenous land (see Terms we Do and Do Not use section for more on these terms).

- **Everyone has land relations (especially in an anticolonial lab):** Everyone has land relations, regardless of their heritage and regardless of whether they chose them or not. Privilege, oppression, ways of knowing, permissions, rights, accountability, obligations, forms of care, and many other things flow out of those land relations. Métis scholar Chelsea Vowel writes, ""Dialogue requires terminology we can use to name one another, so we can recognize how certain events impacted/impact us differently, as well as what we have in common as diverse peoples."[27] Including colonialism. The first two chapters in Vowel's book, *Indingeous Writes*, are dedicated to naming-- first Indigenous peoples, and then non-Indingeous peoples (whom are usually not marked at all, see above). If you aren't already fluent in or comfortable with terms for non-Indigenous peoples, please read Vowel's "[Settling on a Name: Names for Non-Indingeous Canadians](#)." This is one of many ways we name our land relations in introductions. This is not an imperative to sort out exactly who is a settler and who is not, a militant categorization with roots in Western science's eugenic movement that theorized that there was an essential characteristic for different types of people. This is a call to name our land relations, which are always

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[26] De Beauvoir, S. (1989). *Le deuxième sexe*. Vintage.
[27] Vowel, C. (2016). *Indigenous writes: A guide to First Nations, Métis, and Inuit issues in Canada*. Portage & Main Press: 14.

shifting, complicated, intersectional and in relation to others. However, if you have a lot of discomfort around the idea of being called a settler, please do some work with yourself about the privileges of being unmarked and about how this kind of naming isn't about blame or guilt but about relating ourselves in ongoing systems.

This is why we introduce ourselves as settlers, refugees, immigrants, settlers of colour, diaspora settlers of colour, displaced peoples, locals, come-from-aways, settlers displaced by colonialism, by our family names, by naming our Indigenous nations/groups, and/or by naming whose home territories we are on and are from.

- **Situated Knowledges**: In feminist science and technolgy studies (STS) there is a core concept called situated knowledge, which refers to how all forms of knowledge reflect the particular conditions in which they are produced, and at some level reflect the social identities and social locations (inluding stcutures of privilege and oppression) of knowledge producers. Overall, women tend to know more about systemic gendered voilence than cis men. Indigenous people tend to know more about how everyday education systems exercise colonialism and Western elitism. Men often know more about the pressures of masculinity. Canadians tend to know more about Canada. And so on. The term is coined by Donna Haraway, who writes that doing good research is "about limited location and situated knowledge, not about transcendence and splitting of subject and object [ie, an objectivity that says subjects of knowledge (researchers) and objects of study are completely different and unrelated]. [A theory of situated knowledge] allows us to become answerable for what we learn how to see."[28] She writes that situated knowledge, embodied knowledges, is "an argument against various forms of unlocatable, and so irrespon-sible, knowledge claims. Irresponsible means unable to be called into account"[29] or unaccountable, the opposite of what we value at CLEAR.

This is why you'll hear Max talk about the important and unique roles that new lab members and guest lab members play in the lab. They are not exempt from decision making or sharing ideas because they are new--on the contrary, new and guest members can see and know things in a way that long-term members cannot because we have gotten used to things, take things for granted. It is why we put land acknowledgements in our peer reviewed articles--it's not just naming our land relation; it's also about how we know things by being in this place. Indeed, an entire section of study in CLEAR is about how standardized methodologies developed in the United States don't work in Newfoundland and Labrador because they assume sandy, ice-free shorelines.[30]

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[28] Haraway, Donna. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist studies*, *14*(3), 583.
[29] Haraway, Donna. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist studies*, *14*(3), 583.
[30] Liboiron, M. (2020). Plastics in the Gut. *Orion* (winter): 22-29. https://orionmagazine.org/article/plastics-in-the-gut/
McWilliams, M., Liboiron, M., & Wiersma, Y. (2018). Rocky shoreline protocols miss microplastics in marine debris surveys (Fogo Island, Newfoundland and Labrador). *Marine pollution bulletin*, *129*(2), 480-486.

Here are a couple of typical lab member bios from our website. Note the gender pronoun, the namedland relations, and the articulated lab relations. Bios are usually around 100 words.

Rui Liu: (she/her) Hello! My name is Rui Liu. I'm a first-generation Chinese settler living in Dish With One Spoon Territory. I am an undergraduate student at the University of Toronto majoring in Women and Gender Studies. My emerging research interests revolve around cross-race coalitional politics, settler of colour critique, and decolonial technoscience studies. This semester I'll be joining CLEAR as a research assistant for a project on citational politics.

Alex Zahara: (settler, he/him) Hi there! My name is Alex Zahara. I am a settler from kistahpinanihk or Prince Albert in Treaty 6 Territory, northern Saskatchewan. I am also a PhD candidate in Geography at Memorial, where my research focuses on settler colonialism and wildfire management practices near my home community. I'm really excited to be re-joining CLEAR as a science writer, where I'll be working on Arctic plastic studies and methods papers like community peer-review. As a settler researcher, I aim to respectfully engage with, and where appropriate contribute to, the development of anti-colonial methods and research practices in solidarity with Indigenous, feminist, and queer thinkers.

How we run a feminist lab meeting

While our protocols, technologies, and experimental designs are all feminist in that they foreground issues of equity and justice, the main place where people notice feminism-at-work when they join our lab is in how we run our weekly lab meetings. Max runs CLEAR meetings based on training and experiences in social justice movements. This includes having guidelines that make the space safer, facilitation rather than leadership of discussions, and consensus based decision making.

> It's been a full year now since I started at CLEAR. I didn't expect myself as an undergrad to have so much opinion as a single lab member. I assumed that I would just be in the background, listening in and seeing what's happening. I didn't expect Max, at my first meeting, to ask, "what's your opinion on this?" And I'm like, "Oh, my God." But then: I have an opinion! I didn't expect that I would, maybe because I'm not used to having the opportunity to have an opinion. And then, I didn't expect that my opinion would be valued at all. But now I know: CLEAR is built on everyone's opinion. We've had so many people come into the lab without a background in geography or whatever and then Max is like, "what's your opinion on this?" for a geography related question. It's intimidating at first.

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It was hard for me. I am still not very comfortable public speaking, even in a small setting like a lab meeting. So the first few times I was very intimidated because you have Max and you have other professors in the lab. You have people getting their Master's. And I'm a little undergrad that does not know anything. I don't feel like my opinions should be valued, because that's how I was taught.

But after multiple meetings, I'm just sitting through and listening and actually watching because there are other undergrads like me. I liked to just watch Max listen to them like, "wow, they actually care and they are actually listening, actually understanding them." And they're not just trying to be nice. Max actually wants everyone's opinion and they want—expect— everyone to be listening like they are. Seeing that meeting after meeting, every single meeting, it's getting a bit easier every time. I just speak and whatever comes out comes out. I don't worry about whether whatever I say makes sense or is articulate enough. At first, I thought "OK, Max is a professor. They are the vice president of indigenous research. I have to watch what I say, make a good impression." But now I'm like, "Max, I just don't understand what you're talking about" or "why is that". I'm not afraid to ask questions or speak up about something.

This has affected my life outside the lab. By sitting and listening to how the lab works, how everyone speaks, how respectful everyone is, when I leave the lab and I'm listening to different groups of people speak I can see there is a serious problem. There is a lot of racism in rural Newfoundland. I don't call anyone out because I don't feel like that ever works. That just makes people angry. But I sometimes change the topic or say "maybe it's not actually what you think." I try. I'm not going to pretend that I know everything, but I feel like because of what I know now, it's almost my duty to at least try to change other people's perspectives. I feel like I've learned so much about how to be respectful, and I'm not able to take that anymore.

- Kailtyn Hawkins 7/8/2019

Guidelines for safer collective conversations at CLEAR

- **One Diva, One Mic**: one person speaks at a time. Also, if you've been speaking a lot or for a long time, step up into a listening role. If you haven't spoken much or at all, step up into a speaking or communicative role. No one has to speak, but everyone is expected to communicate.
- **Your Story, Your Choice**: You decide which stories to share and which to keep. No one is expected to educate anyone else by sharing their experiences, traumas, or stories.
- **Don't Yuck My Yum (Yes, And)**: If what someone offers to the group (their joy, ideas, experiences, gender expressions) isn't hurting anyone, don't disparage it. Instead, affirm and add (yes, and!). One person's yummy bit isn't superior to anyone else's.

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- **Own Your Shit**: There's a difference between intent and affect, and often harm can occur when there isn't the intent for harm. We know people will make mistakes. All we ask is that people are accountable to those mistakes. See the apology protocol for help.
- **Watch your trauma matters:** While being cavalier or flippant about genocide, slavery, racism, sexism, ableism, rape, etc. can be an individual coping mechanism, it's not an ideal fit in collectives where there are survivors. We'll be talking about these things in a way that respects the heaviness that we're laying on our peers, including asking for consent first.
- **What Happens in Vegas, Stays in Vegas**: People often share and say things in lab because it is in lab. If you want to take something out of lab that isn't yours-- someone else's actions, stories, ideas, or images--get consent.

Facilitation

Facilitation is a discussion method that aims to bring collective knowledge together. Rather than styles of discourse characteristic of teaching, leadership, or debate, all of which are more individualistic and based on a single main "knower," facilitation looks to "grease the wheels" of everyone else's knowledge. Facilitation addresses how different people in the room are more or less likely to speak, be heard, or be interrupted, and works to address those disparities. Facilitation is not intuitive, though intuition helps. It's a skill, and it has to be trained. '

Max models facilitation at all lab meetings--but so do CLEAR lab members. First, by following the guidelines for collective conversations, which serve to make the lab space a safer space for sharing (we say safer instead of safe because no space is ever totally safe for all things and all people). Secondly, you'll notice CLEAR members "Step back" from the conversation sometimes to make space for others to speak. They do this by "passing" during round robins (see below), echoing what others have said, and simply speaking less when they've already spoken. Third, you'll sometimes see CLEAR members synthesizing or summarizing what others have said, "If I'm understanding you correctly you're saying…" or " It sounds like you mean…" or "I'm nothing that…"

One of the key facilitation techniques we use is called **round robins** (sometimes they're also called talking circles, but talking circles are part of a reparative justice framework for certain Indigenous groups and is not something we do). We go around to everyone at the table or Zoom, in order, and they have a chance to speak or weigh in on the topic based on a prompt or question by the facilitator. Anyone can "pass" and choose not to speak. Round robins mean that the junior researchers, introverts, women, people of colour, new recruits, and others that may not otherwise speak have a structured chance to share their insights.

One of the onboarding tasks for all members is to read the AORTA Collective's hand out on "Anti-oppressive Facilitation for Democratic Processes," which is the type of facilitation we use in lab meetings:
http://aorta.coop/wp-content/uploads/2017/06/AO-Facilitation-Resource-Sheet.pdf'

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Consensus-Based Decision Making

Consensus-Based Decision Making (CBDM) is a process where everyone in a group agrees to move forward on a plan of action. This doesn't mean everyone agrees equally, but that everyone has agreed to move forward regardless of unevenness and differences of opinion. Because it is a method that aims to reach agreement despite difference, it should be carefully and intentionally facilitated. Max usually does this for us in the lab, but if you're in a working group without Max, other CLEAR members can do it. Here are the steps to the process:

1) Frame the topic
·   Have a discussion topic (problem, idea, or task) clearly determined before you start. Stay on topic. Flag other topics that come up for later.
·   Have an agenda with an idea of how much time a topic should take
·   Make sure people agree on the topic

2) Open discussion
·   Identify different ways of seeing the problem, topic, idea, etc. You can use brainstorming. You can do a round robin (each person takes a turn). You can just have a chat.
·   Don't yuck any yums. You are not yet judging ideas, so ask questions of others rather than make statements whenever possible.

3) Identify underlying concerns
·   Paraphrase the main concerns you heard that people have in common, or that individuals had. What are the root concerns or issues of what people were saying? What is behind them?
·   This is not the section for judging, so ask questions rather than make statements in response.
·   Identify everyone who might be affected by the topics and how.

4) Collaborative proposal development
·   Once you have a list of all the needs and concerns identified, try to come up with solutions that address all needs, even if they aren't yours. These solutions are called proposals. There is likely to be more than one. That is perfect at this stage.
·   Give each and every proposal a go-around where the entire group tries to make it as good as possible, even if it isn't yours, and even if you don't like it. Try to make the proposal meet as many of the needs and underlying concerns as possible.
·   Continue until you've exhausted your creativity. You should now have several workable proposals.

5) Choose a direction
·   Compare the pros and cons of each proposal.

- Then, and only then, as a group, indicate your preference for each proposal. Use a gradient- yes, so-so, no, for example. Or rate them from 1-5. This helps determine if there is a clear choice, and/or any ambivalence in a way that a yes/no vote cannot.
- People can clarify the reasons for their votes.
- As a group, choose which proposal you will go with.

These processes don't mean that we don't have problems in CLEAR. We have them all the time. But we work through our issues supportively and consistently, leading with humility. As a result, lab members are collectively able to take on riskier work, stretch their limits and skills, and have fun doing it.

Lab Love Notes & Thank you cards

One of the ways we practice humility and accountability is writing thank you notes to other lab members and the people/groups that make our work possible, and who we are accountable to. There are some techniques for writing really good thank you notes to others, and they have to do with specificity--the same things that describe our obligations and relations to one another! You are accountable to your mother and your mail carrier, but you are accountable to them in different, specific ways. It's this specificity that makes a good note of gratitude.

- Use specific examples, memories, terms (e.g. 'generous' instead of 'good', 'thank you for helping me with the door' instead of 'thanks for all your help')
- they avoid essentializing characteristics as a component of someone's gender, race, culture, etc. For example, "you're sweet" (for a woman) instead of "I appreciate how you constantly think of other people's needs. I know that takes both energy and skill." Or "Thank you for teaching us about x, y, z" instead of "I appreciate your French culture" (see here for a great primer on avoiding gender bias in writing about the good qualities of someone else: https://csw.arizona.edu/sites/default/files/avoiding_gender_bias_in_letter_of_reference _writing.pdf)
- they are sincere - avoid exaggeration, mention limits if there are any (e.g. 'I just met you, but...')
- if you're at a loss, refer back to our values and how the person upholds and supports them: humility, accountability, openness, etc. Ask yourself:
  - what do you appreciate about them?
  - a memory/moment that stands out
  - what can you count on them for?
  - have they done something to support you?
  - How do they seemed in meetings? What have they said or done that you remember?

Even if you're brand new to the lab or have only interacted with someone once, they are still part of our web of relations and we can still show gratitude for that. Some tricks for writing notes for people you don't know well:

- it's likely that you've at least been introduced, so did anything stand out from introductions?
- What are you curious about?
- What do you appreciate from that person's position in the lab, even if you don't know them? (see the lab's bios on our website)
- what do you hope for your relationship with them going forward?

Thank you for agreeing to take part in CLEAR, and for consistently showing up and putting things on the collective intellectual table. I've appreciated your insights and the energy with which you've shared them. The story of your flagging undergraduate career and its twist ending was excellent, and I could see many lab members relaxing and leaning forward into that story. I can only hope you're getting as much out of us as we--or at least I--am getting out of your participation.

You are such a gift to CLEAR. I think you and Janine, and perhaps Nadia and Domenica, are our models for the way thinking and feeling are the same thing, where the strength of your gratitude, anger, and enthusiasm is what drives insights, resonance, and articulation. It is of course not the only way you are smart, but as you know, being able not only to say but to demonstrate that those two things work together is rare and I deeply appreciate how you model it for other labbers. I also very much look forward to thinking more with you as new year progresses—every snippet you've said during meetings shows depths and shades of thinking underneath, and I would very much like to dig in together. Til then.

Calling in

Calling in, rather than calling out, is a way to address relationships with accountability, respect, and love. We can't expect people to change their actions, words, or tendencies without first calling them into how those things affect you or others. We can't expect people to read our minds or even our body language sometimes. We all also come from very different worlds (by design— we hire this way!) and so calling in will be necessary! Sometimes this will be for Oppressive Things like not doing gender pronouns correctly, and sometimes it will be something like working together with different working styles (like when chatty introverts and silent extroverts share a room!). The exact way to call in will change with circumstances, but here are some guidelines:

Things to ask yourself before calling in (via Everydayfeminism):
1. Do I Have the Emotional Capacity to Call Someone in Right Now? You are not obliged to call in.
2. Do I Have Privilege Over Those Who Are Harmed by This Person's Actions?
3. What Are (Or Were) Their Intentions? Do You Think They'll Change Their Behavior?

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Protocol for calling in:
- It is likely that calling in should be done in private, not in a group. Ideally, do this in person in an aside. Sometimes you have to interrupt a situation or conversation, though, if harm is happening right now. See the interruption chart below from Seed the Way for examples of how to do that.
- This is about behaviour, not people and about relations. Try the phrase: "when you _____, I feel _____." Also see the chart below for potential ways to start the conversation.
- If you've done one call in, you can expect that the lab mate will change. If they don't, remind them. Perhaps they didn't understand. If they still don't change, Max and Kaitlyn will take the next shot. But you have to tell both the person causing an issue about it first and Max/Kaitlyn about it second!

If you've been called in (this is identical to the apology protocol):
- Take a moment to centre yourself. You are not being attacked. This is not about who you are, but something you're doing that is impacting others.
- Don't interrupt or think of ways to defend yourself. Focus on learning on what is being harmful or a problem and being a compassionate part of a collective.
- Acknowledgement. Repeat back what you've heard so you and the other person are on the same page. Since you started on different pages, this is important. Inquire if you have to. Apologize if appropriate.
- Move forward: what will concretely change now? This is more than just intending to do things differently. What specific steps or actions are next?

Calling In:

- When there is an opportunity to explore deeper, make meaning together, and find a mutual sense of understanding across difference
- When we are seeking to understand or learn more
- When we want to help imagine different perspectives, possibilities, or outcomes
- Provides for multiple perspectives and encourages paradigm shifts
- Focused on reflection, not reaction
- Is *not* just a suggestion with an uptick (Don't you think you should...?)

I'm curious. What was your intention when you said that?	How might the impact of your words/actions differ from your intent?	What sort of impact do you think your decision/comment/action might have?
How might someone else see this differently? Is it possible that someone might misinterpret your words/actions?	How might your own comfort level, assumptions, expectations, prior experiences be influencing your beliefs, decisions, process?	How is ___ different from ____? What is the connection between ___ and ___?
What criteria are you using to measure/assess etc?	How did you decide, determine, conclude...	What would have to change in order for ____?
What do you assume to be true about ____?	Why is this the best way to proceed? What other approaches have you considered?	What is making you the most fearful, nervous, uncomfortable or worried?
Why do you think that is the case? Why do you believe that to be true?	Why do you think others have/haven't moved in that direction?	How do you know it's working?
Why did the result or response cause a problem for you?	What would other stakeholders say/think/feel?	In your opinion, what is the best case scenario?
Think: How might we call out the behavior, while calling in the person?		

Adapted from the School Reform Initiative *Pocket Guide to Probing Questions*

For more on callin gin, see Ngọc Loan Trần:
http://www.blackgirldangerous.org/2013/12/calling-less-disposable-way-holding-accountable/

Apologies

In feminist and anticolonial work there are going to be mistakes. There aren't a lot of roadmaps in science for this kind of work, and our lab members are at different stages of understanding and enacting our values. We need to know how to apologize in ways that are feminist and anticolonial, rather than the ways many of us have learned that tend to foreground logic, self-preservation, judgment, or demands for other people's apologies rather than focusing on our own accountability. "True accountability, by its very nature, should push us to grow and change, to transform. Transformation is not to be romanticized or taken lightly" ([Mingus 2019](#)).

Apologizing has two steps: 1) the articulation of wrongs done and taking ownership of those wrongs, and 2) making reparations. Sometimes, though not always, the second step is accomplished through the first one.

Here are two readings we've done on doing apologies in a way that aligns with CLEAR values
[The Four Parts of Accountability: How to Give a Genuine Apology, Part 1](#) by Mia Mingus, 2019.
[*How to Give a Genuine Apology Part 2: The Apology – The What and The How*](#) by Mia Mingus, 2019.

[Mingus (2019)](#) writes that there are five parts to an apology:
1. Say "I'm sorry."
2. Name the harm/hurt
3. Name the impact (not the intention)
4. Name the actions
5. Commit to not doing the harm again

Here is a useful <u>in-the-moment way</u> of thinking about what happens when you get called out or called in or otherwise realize you have made a mistake (by Lukayo.com):
- "Center yourself. You're not being attacked. You're still a good person. THis is about your behaviour, not about who you are.
- Listen. Don't interrupt or think of ways to defend yourself or skirt accountability. Focus on learning what was harmful and being empathetic, compassionate, and humble.
- Acknowledge/Apologize. Instead of explaining *why* you did something, acknowledge what happened and apologize for its effects. [See the five steps above]
- Inquire. If the other person consents and has the time and resources, ask what you could have done instead and learn to how to make amends
- Move forward. "The best apology is changed behaviour." If they gave you reasonable recommendations and amends, do them. Don't do the harm again. Use this experience to help others learn, too." Lukato.com

Finally, it is important that apologies do not entail setting up the apologyee do emotional labour to comfort or deal with the guilt of the apologizer. Apologise, take accountability, move on when the apology is accepted.

Equity in Author Order Protocol

A longer (and older) detail of this protocol is outlined in: Liboiron, Max, Justine Ammendolia, Katharine Winsor, Alex Zahara, Hillary Bradshaw, Jessica Melvin, Charles Mather et al. "Equity in author order: a feminist laboratory's approach." *Catalyst: Feminism, Theory, Technoscience* 3, no. 2 (2017).
Please cite the paper, not this lab book, if you are using or adapting this protocol.
There is also a video: https://youtu.be/ZrLOGokqL7w

Our protocol is a set of guidelines that are always shifting and adapting to the needs of the moment, but they are shaped by three factors that tie the process to accountability and humility:
1) Involving the entire lab in decisions
2) Making decisions by consensus
3) And the acknowledgement of social location

The process overall:

1) *Convene a meeting* with the entire lab and all potential authors, including those that have left the lab or have never been part of the lab. Circulate the paper to everyone ahead of time.
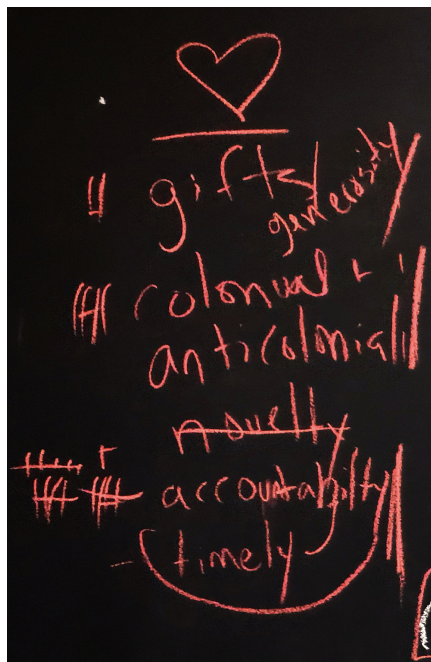
The heart of the work, with a tally of which is most important

2) *The heart of the work*: Discuss what makes this paper/project unique: what is the heart of this work? What makes it different than other work, spectacular, important? List these.
3) *The hands of the work*: Talk about alllllll the forms of labour that went into the project/paper, from things that are usually recognized in science like sample collection and statistics to the types of labour involved in care and reproduction of the research collective like coordinating meeting, cleaning, organizing. In the past, we've included:
    - Research design
    - Ethics and permissions
    - Sample collection
    - Processing samples
    - Coordinating shipping, data transfer, meetings, travel
    - Training
    - Data entry
    - Clearing data
    - Statistics
    - Coordination with partners
    - Developing and testing protocol
    - Cleaning
    - Quality assurance/quality control
    - Writing
    - Editing
    - Validation via community review, internal review, ethics compliance, etc
    - Validation via models, statistics, etc
    - Conducting literature reviews
    - Acquiring funding
    - Administration of payments, fees, material costs, salaries
    - Theorization
    - Analysis
    - Ensuring the health and wellness of the research team
    - Making hard calls on accountability, ethics, calling in (killjoy chores)
    - What else?
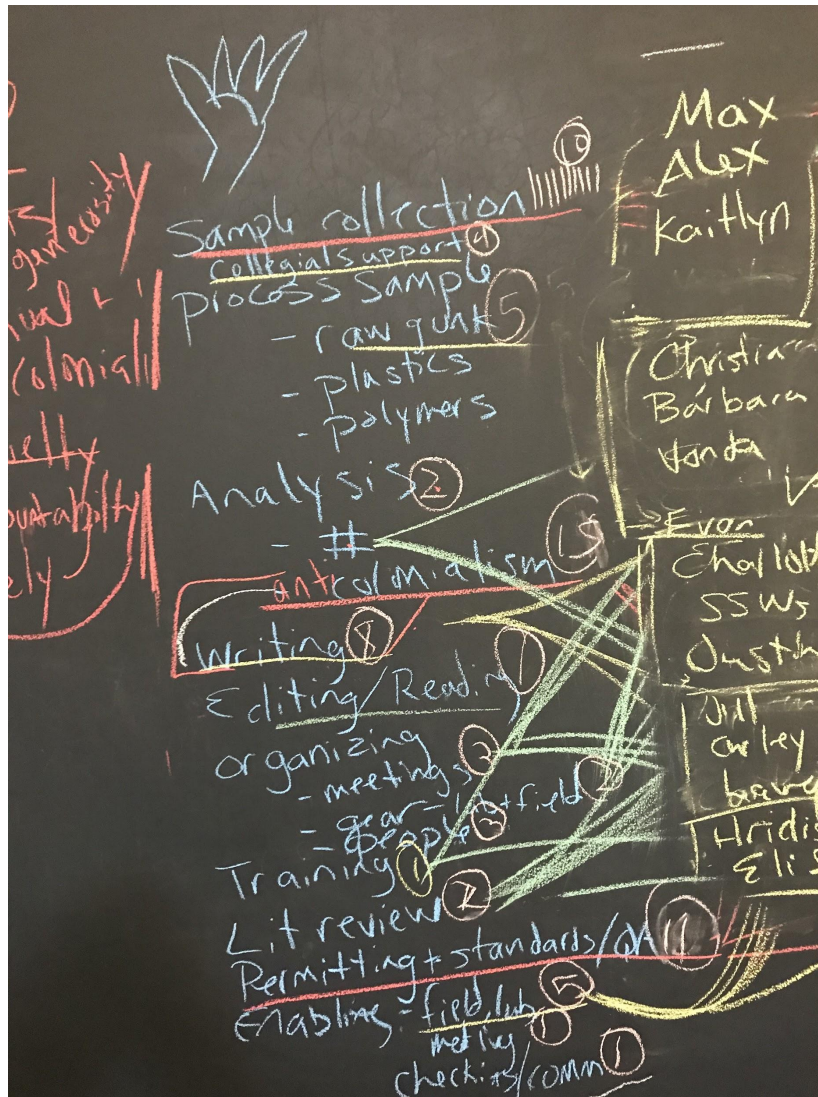
The hands of the work, with the three forms of labour most related to the heart of the work underlined in red. Note the bins in yellow on the side (step 7)

4) *Prioritizing hands using heart*: Collectively decide which of these types of labour *most* contributed the heart of the work. E.g. If the paper is characterized by the generosity of others and accountability to land (like our Inuit Nunangat paper), which forms of labour did that (permits, permissions, gathering samples and donating them, working with community partners, etc).
   Mark the top 2-4 forms of labour that characterise the heart of the work. This type of labour will boost its practitioners in the author order.
5) *People*: Who are all the people who did the labour listed? Be as inclusive as possible. Not all of these people will end up in the author list-- more on that later. Administrators, librarians, fish, visitors, families might all make this list.

6) *Connect labour to people*: Starting with the most important forms of labour, use a special coloured chalk/pen/etc to draw a line between those forms of labour and the people who did them.
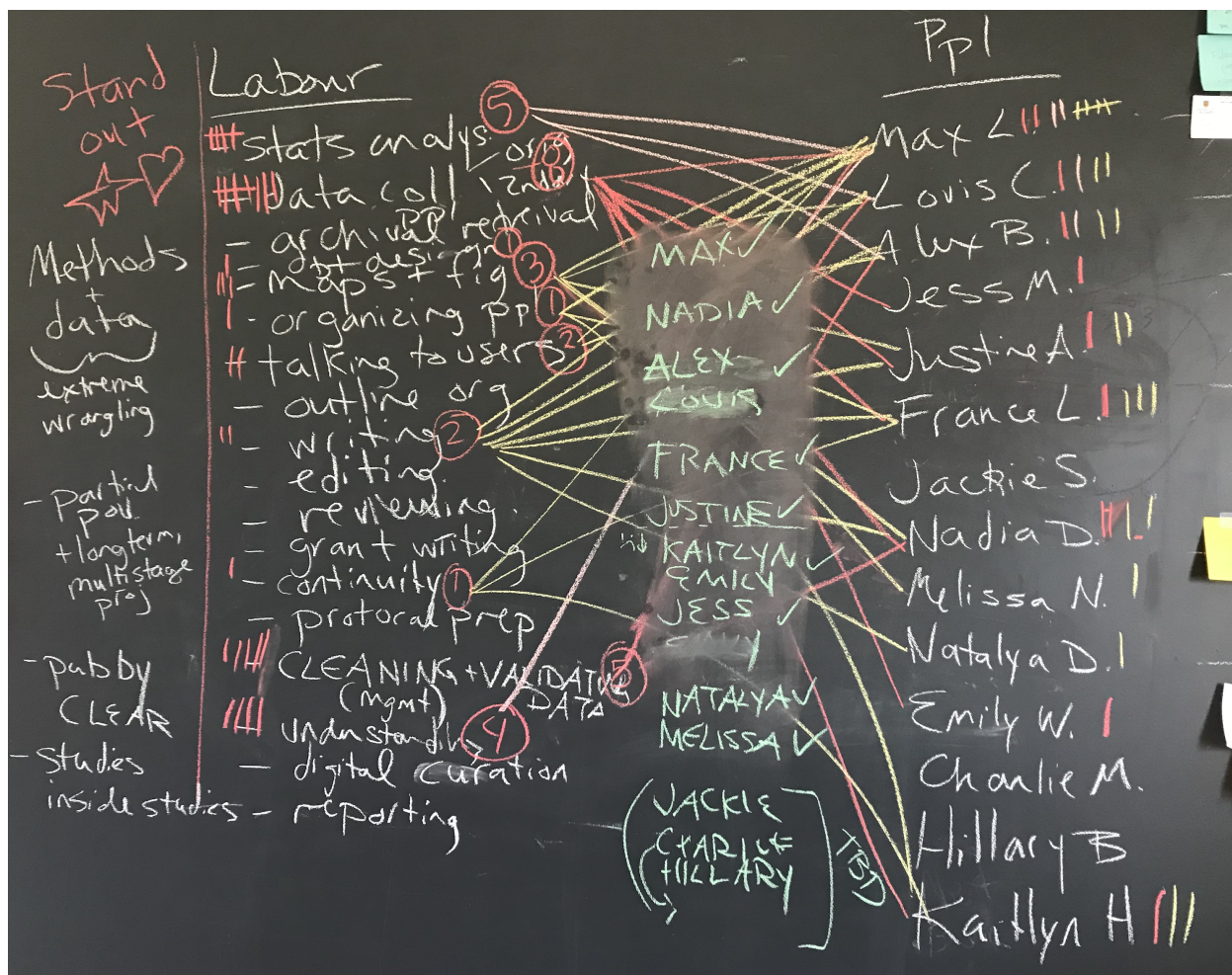
Red lines tracked the most important forms of labour (in this case, extreme data wrangling), followed by pink, then yellow. Once all the lines are drawn, each person has a tally outlining the type (colour) and amount (number in the tally) of labour they did. This results in "bins" of poeple (e.g. the box at the bottom with three people).

7) Binning/clustering: There are several ways to proceed from here, but essentially people will start falling into clusters of similar amounts and types of important work. Some clusters will rise to the top because they did the most important types and the most work, while others will have played important but more minor roles. Exactly how these bins are made is up to the facilitator and the collective (good luck!). Usually, we put the people doing the most types of crucial work in the top clusters. If someone ought to move to the

top or bottom of a category because of their labour, put them in their own cluster. Each Cluster should be of the same type--meaning there is no clear way to further order them based on labour.

8) *Social location and equity*: Now we look at social location and equity. Social location--the groups people belong to because of their place or position in history and society, including race, gender, age, sexual orientation, and educational status--influences not just how people encounter science (determining their wages, likelihood of receiving tenure, awards, etc.) but also how science is produced (influencing the values embedded within their research, the questions they choose to ask, methods they use and more). Equity names the process that attends to this. We order people in the clusters based on equity and social location. We usually do this from bottom to top, starting with lower stakes orders to practice the method before we get to first, second, third author status.

   Some of the aspects of social position we've considered include:
   - Markers of difference: consider gender, race, Indigeneity, age, disability, and other markers of difference and privilege. How can we address severe underrepresentation of certain demographics in STEM right here, right now?
   - Affiliation and institutional status: people with degrees at universities are often assumed to be more knowledge-y than those who do not; undergraduates are often assumed to be less knowledge-y than graduate students, who are assumed to be undercooked faculty. Even when the same types of labour are performed.
   - others?

   Social location is about structures of privilege and oppression, not individuals choices or paths. For example, if a white man had the chance to go to graduate school but chose not to, that is not an automatic bump up because he does not have an academic affiliation. Perhaps the group decides to move him up for this or other reasons, but it is crucial not to individualize power structures--that's not how they work. There are certainly individual factors that may come into play here, ideally after social location is considered-- is anyone about to go on the job market, is this highly related to someone's area of research compared to someone else, has someone been cheated out of authorship lately?

9) *Who is an author?* Not everyone in the list might be an author. Authors must be accountable to the contents, findings, and arguments of the paper. They must, in effect, be researchers in the broad definition of the term (that includes Inuit hunters, but likely not fish). When in doubt, ask. Do not remove an author without consent from them.

I'm in the lab with fourteen other lab mates, seated around a table that's topped with baked goods to nourish our bodies while our brains attempt to decide the author order of our newest ingestion study. We're listing types of labour involved in the science so we can be sure to credit everyone who has been part of the project. The list includes: field work gathering the fish, processing samples, writing, editing, organizing meetings, cleaning up, grant administration... Now we're adding another one. All fingertips reach

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skywards and wiggle: jazz hand consensus around the table. This is how we show agreement. We've all agreed that death is a form of labour and it is worthy of a star – meaning, it is among the most important forms of labor in this project. Labour means authorship credit. Max, who's facilitating, adds "Fish" and a star-like scribble to the list of potential authors on the whiteboard. I grab an extra granola cookie.
- Emily Wells, n.d.

10) *Final consensus*: Once you have a list, circulate the paper again with the proper author order at the top and ask everyone on it to consent to the list and their place in it.

These are guidelines for practices, not rules. They can change -- by consensus! While we consider care work and social location to achieve equity in author order, we still heavily weigh the amount of work someone put into a project or paper and whether someone could speak knowledgeably about the paper their name is on. We also usually include a "contributions" section that outlines the roles that all members played in the study for transparency.

I was nervous during the first meeting because it was my first online meeting and I was not sure what to expect. The beginning of the discussion about the author order was kind of vague to me, but once everyone took part in it, things started to become clearer. I thought it was amazing how everything got credited in the film starting from fish guts, landscapes, water and plastics to boat driving/driver; essentially things that are not usually credited in other films in addition to things that are, which in my opinion, makes the film special and unique!
The meeting made me feel like I was an important part of the film, too, as they did a round robin discussion and I was able to share my input/thoughts on the order. I thought it was really cool that we shared our thoughts about the film and I appreciated how everyone's opinions mattered and how we were valuable contributors even though some of us didn't have knowledge of what kind of effort actually went into making the film. It felt very welcoming and inclusive.
The meeting was quite different from other lab meetings I attended which are much more tedious as most of the times we are told how we should do certain things or follow a protocol rather than sharing our opinions on things. The meeting really helped me ease up, and although I do not mind being a listener, maybe this experience will help me get rid of my social anxiety and actively participate in future meetings.
- *Hridisha Arif, n.d.*

How we Choose Lab Values

CLEAR is dedicated to humility, accountability, and good land relations in everything we do, from hiring new members to choosing research questions. But how did we arrive at "humility,

accountability, and good land relations"? Episode 2 of Laboratory Life: "Choosing our lab values" shows the process, taking the viewer through stages of storytelling, consensus, and deliberation. Watch the 10 minute mini-doc here: https://youtu.be/YYjfWZyAoh4

We renew or refresh our values every 3-4 years or so, or whenever we feel the current lab values no longer exactly fit. Values tend not to change radically, but the more we live with them at the heart of our research, the more nuanced and complex they become. For example, when we did our first round of values in 2015-6, they were "humility and solidarity, "equity" and "inclusive openness." In 2021, we still have "humility" but have dropped the solidarity because as part of humility we now understand that we do not get to call ourselves allies or say we are standing in solidarity--that is up to those we stand with to decide and declare. "Equity" has also become a buzzword emptied of specific meaning in the university over the past few years. Our new value is "Accountability," which includes accountability to the very different social locations different groups of people start in. It's a more specific and ethical way to communicate what we meant by "equity." Finally, "inclusive openness" has developed slightly to include a discourse and explicit practice of maintaining healthy boundaries, so it is now called [new name! tktk]

Here is the process we used to choose values:

Step 1: Tell stories

To start understanding what our lab culture and practices already value, we tell stories. This allows us to focus on values we already have and enact, rather than reaching for the 'ol "equity, diversity and inclusion" that many institutional value statements talk about and likely support on paper, but don't necessarily have the capacity to enact. A core part of building a shared lab culture is that is feasible.

The prompt we use to tell stories is: Talk about a time when something happened that made you really glad to be here. Stories with people doing things in place are better than statements about what you value. As each person tells their story, the facilitator (or note takers) write down the values they hear within the story.
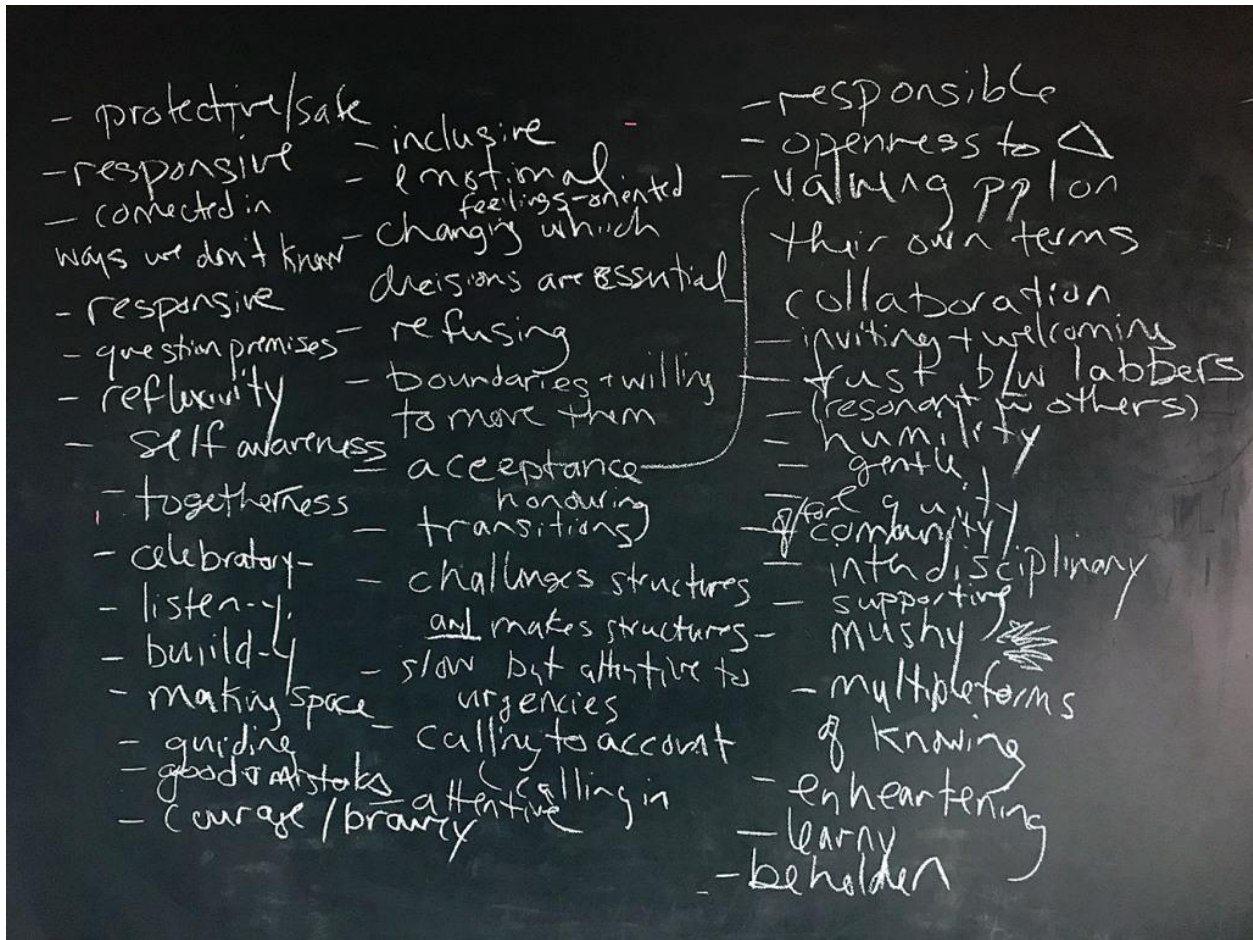
List of values from one of CLEAR's story telling sessions. They include: responsible, open to change, valuing people on their own terms, collaboration, welcoming and inviting, trust between labbers, humility, gentle, interdisciplinary, supportive, mushy, multiple forms of knowing, enheartening, learn-y, beholden, inclusive, emotional/feelings-oriented, changing which decisions are essential, refusing, boundaries and willing to move them, acceptance, honouring transitions, challenges structures *and* makes structures, slow but attentive to urgencies, collecting to account (calling in), protective/safe, responsive, connected in ways we don't even know, questions premises, reflexivity, self awareness, togetherness, celebratory, listen-y, build-y, making space, guiding, good mistakes, courage/bravery, attentive.

Step 2: Cluster values

In this stage, the list of values gets shortened by grouping them together. Some of the values on the list will be similar and/or add necessary context to one another. For example, reflexivity, self-awareness, honouring transitions, and questioning premises are similar values that might belong together in a cluster called "reflexivity." Or perhaps when stories were being told, "beholden" specifically refers to a way of being attentive, so those two values get clustered.

There are many ways to do this step. You can physically write values on cards of paper and move them around a table as a group. You can draw lines that link values together. One value can be repeated in several groups, and sometimes values just sort of hang out on their own.

Step 3: Rank the clusters

The guiding values in a collective or group have to be just that– *guiding*. This means that there can't be 17 of them. Indeed, some of the hard decisions in a collective are about such conflicts, say when one option is more prestigious and can help multiple careers, but the other option is more humble and matters more to only one person's quality of life. What kind of a lab are you? Which is the better decision, based on your values? That means you need to know which value(s) guide the lab. CLEAR has 3 main values (that are highly related), but you can also do just one.

There are many ways to rank things as a collective. CLEAR tends to use two variations on dot-voting called passion voting and rank voting. The method depends on what works best for your group to ensure all voices are heard and you are able to deal with existing power dynamics in your group (which are always there, even if everyone loves each other). So now we have 1-3 core values! Congratulations! But what does the value mean? For instance, if you have "Respect" as a core value, that can be interpreted to mean "give someone space to be different when they are different than you" but it can also mean "follow the rules." Spend some time with the group talking about the core value(s) and why they were ranked so highly.

Step 5: Enacting those values, over and over and over…

The purpose of articulating common values is that they guide the decisions and actions of the group. Since we started the process by telling stories, your group likely already does some of this. Brainstorm a list. How does your group already do things in a humble/respectful/self-reflexive way? What are other things you could do to strengthen that?

Here are some examples from how CLEAR foregrounds *accountability* in our lab work from earlier in the lab book:

- "We only collect data in places where we have been invited. For example, it took Dr. Liboiron three years to do work in Labrador, as it took that long to gain a good reputation and receive explicit invitations for doing work in/with different groups and Lands."
- "We have a mandatory community peer review process when we study contamination, where we report our findings back to the communities we sample from **before** we publish to ensure we are representing them in a way that is in alignment with their needs and goals so they have the opportunity to change, support, or refuse our work (see *Community peer review* in Part two of the lab book for details)"

- "We include metadata in our data sets to be accountable to those who follow us."
- "We learn to *step up* to advocate for another person's work or ideas if they are quiet, modest, or absent, and to *step back* if we have taken up more space than others during a conversation. Sometimes we have to remind one another to step up or step back."

The Most Feminist Science Article in the World would include:

(a brain stormed list)
- A land acknowledgement
- A position statement
- A count of all the pretty things
- A map/graph legend with "no contamination" that wouldn't be used
- A discussion of justice
- Hand drawn graphs/maps
- Local place names
- Multiple languages, including local indigenous languages
  - Multiple understandings (local narratives)
- Section in results of community peer review
- Coloured ink
- Elder review
- Translation between traditional knowledge & scientific knowledge → how they work/ do not work together
- What kind of day you're having & effects on results
- "Baymen's terms" & "Baywomen's terms" abstract → like an abstract, but in less jargony terms
- Dictionary-ish reference at back of paper (like a textbook) for jargony terms
- A romance novel
- Zine or comics
- The social life of contaminants → follow the fish & log all its contaminants, not just the ingestion of plastics
- Sections on hands, brain, heart
- Write it as a discussion or play so that roles & care work is clear
- Explicitly address when we are using scientific categories/names/stuff instead of assuming that it's normal (ie "cod" vs "Gadus morhua")
- Always include a "how to". No good ideas without ideas for implementation
- Say where our thinking has changed (our "mistakes" or changes & learning)
- Write more about fear

- Pay attention to legacies, debts, & origins of practices as politics because science borrows from others all the time (called stealing)
- 'Personal communication' should outweigh/out number references to dead white guys
- More references (relations) than text
- Increase our timeline of references to include people erased from history/the record
- Inclusion of gender dynamics (Gender pronouns)
- Be clear about what essential characteristic we care about (ex: in our cod study, we care more about the edible status of the fish rather than if it's cod)
- Always include interdisciplinary discussions
- Study unimportant, ugly things instead of things useful to humans, keystone species & charismatic species
- What about health of fish rather than humans - decentering the human
- Curse as outcome
- White paper bios (including training)
- More grey literature - efforts to increase our 'bodies of knowledge'
- Critique our 'public engagement' instead of patting on back - be specific, be better
- Do feminist evaluation, did the research do what you said you'd so. Unintended consequences (accountability!)
- Offer the britches
- Power, knowledge, money -global criticism
- Feminism is about ending/mitigating/surviving systems of patriarchy, colonialism, capitalism, so explicitly stating how we are attempting/doing this in methods, topic, results…
- Metrics that matter to the animal
- Use of direct quotes & stories
- Ethics of collection..ethics section in all sections - shooting & vomiting
- Integrational studies (lab + CS)
- Only their words/quotes - not our words
- In contribution section/methods mention our consensus process
- Articulate the value-laden choices (how we chose a research question)
- Having guidelines for what we can & can't offer to communities
- Include a section on teaching
- How is this activism?
- Really own our feminist epistemology instead of __ it
- Looking sideways on conducting science - covariables, forward thinking, & different perspectives
- Acknowledge languages of lit review
- Don't let any section start without talking about the body
- Quote Sarah Ahmed
- Let definitions be fluid rather than _/closed
- Killjoy fish?
- Use personal experiences/stories as data

- Citation: White men (300DC-20170
  - White dudes cite as one institution
- Have study [species/being] in authorship
  - Died for the cause
- Local narrative about condition/phenomenon/thing
- Reciprocity
- Check back at every step (people, communities...)

Sharing writing for in-lab review

We write papers, and it's crucial to share them with others to use our collective knowledge to make them as strong as possible. Please share your work with other lab members and Dr. Liboiron. Here are some best practices of sharing:

1. Tell the person(s) the goals of the share. Are you sharing a very drafty draft or outline to get on the right track? Are you looking for copy edits (spelling, grammar, etc)? Do you want them to act like a peer reviewer for a complete draft (ideas, content, issues)?
2. If you are sharing a complete draft, make sure it is complete, including all the images, figures, bibliography, etc. This lets the person have all the information they need to do a complete job.
3. Put images, figures, etc **IN** the document rather than at the end so they can see things together.
4. Tell the person the time frame you'd like to have your paper back in. Two weeks is a polite minimum unless you've already cleared a different timeline with them.

Using our Google Spreadsheets

Google Spreadsheet is an online application where users can create spreadsheets and share them with others. Data added to a spreadsheet is saved online in Google Drive, updates in real time, and allows for multiple people to edit the spreadsheet at once.

We use Google Spreadsheet often at CLEAR, from storing project data to using it as a log book to keep track of hours worked. Lab members who get paid hourly (e.g. MUCEPs, ISWEPs, etc.) are responsible for logging their hours worked into CLEAR's hour spreadsheet. The hour spreadsheet for the particular semester will be sent to each member paid hourly at the beginning of the semester. A schedule for the microscope is also located in the hour spreadsheet, where lab members can book times to use the microscope. We also use them to log data.

The following are some useful tips for Google Spreadsheet to make your work life at CLEAR a little easier.

Finding a Spreadsheet

Spreadsheets used at CLEAR will be shared with lab members through their email account that is linked with Google Drive. Anytime you need to locate a spreadsheet, you can

find it by going to Google Drive, logging in to your email account, and checking the "shared with me" folder. Once you open the spreadsheet, it will show up in your "recently opened" folder on your Google Drive home screen for quick access.

Merging Cells

Learning to merge cells is a helpful tool when logging hours and booking microscope times. To merge cells highlight the cells you wish to merge by clicking on one (image 1) and dragging your cursor over others to highlight them as well (image 2). Then click the merge button (image 3) to get the individual cells to merge into one large cell (image 4).

(1)

(2)

(3)

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(4)

Sorting Data

When doing simple stats, like summaries per sample, sorting data can make the task quick and easy. For example, if you want to determine how many of each type of plastic were present in a large sample, simply highlight **all rows or columns of data** from that sample (image 1), move your cursor over the data tab at the top of the spreadsheet (image 2), click "sort range" and pick the column you'd like sorted (in this case type is column E) and click sort (image 3). Then voila, the spreadsheet sorts the data alphabetically based on column E and you can quickly count how many of each type there are (image 4).

IMPORTANT: **do not just select a single column to sort**-- it will resort just that column, disconnecting the data from the rest of the spreadsheet.

(1)

(2)

(3)

(4)

Resizing Columns

Keeping all data columns compact, so you are able to more columns at once, can be very helpful. To quickly change the size of a column to fit the length of the longest word, hover your cursor over the right corner of the top of the column (labelled with letters) until you see an arrow and a blue line. Double- click and the column will resize to fit the word perfectly.

Sometimes doing this will not be beneficial if you have a column that has long sentences in each cell, as the size of the column will expand to fit the length of the sentence.
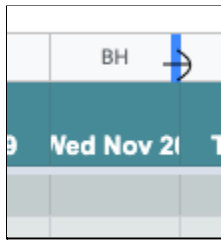
Hover until you see the blue line and arrow, then double click.
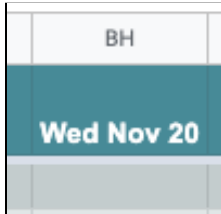
Note how you can now see all of the wording in the cell.

Counting Cells

If you highlight a number of cells, Google Spreadsheet tells you have many you have highlighted at the bottom right side of the spreadsheet. This is useful when counting the number of fragments in a sample, for example.

Summing Numbers

To sum numbers in a column, click and highlight the cells you want summed, then click the Σ symbol at the top of the spreadsheet and click sum. The cells should now be highlighted orange. Click enter and the sum of the numbers in those cells with be calculated and will appear below the cells you summed.

CLEAR
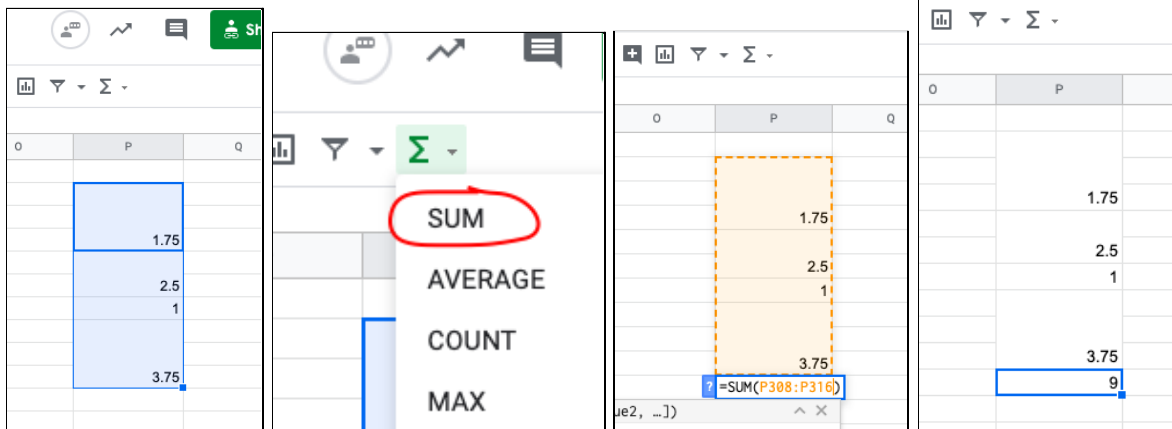
Personal Vehicles for University Business

Please see the following links regarding:
MUN's General Travel Policy
Use of Employee Owned Vehicles

Quality Assurance/Quality Control, or, Contamination protocols

There are plastics *everywhere*, and we study plastics. Seems like a good idea, but the problem is: if plastics are everywhere, how do we know which are our samples, and which came from our clothes, water, equipment, souls, and air?

The following, nested protocols are to ensure we can tell the difference between our samples, and plastics that are not our samples, and should be known followed by ALL labbers processing all types of samples in the lab.

Tap Water Protocol
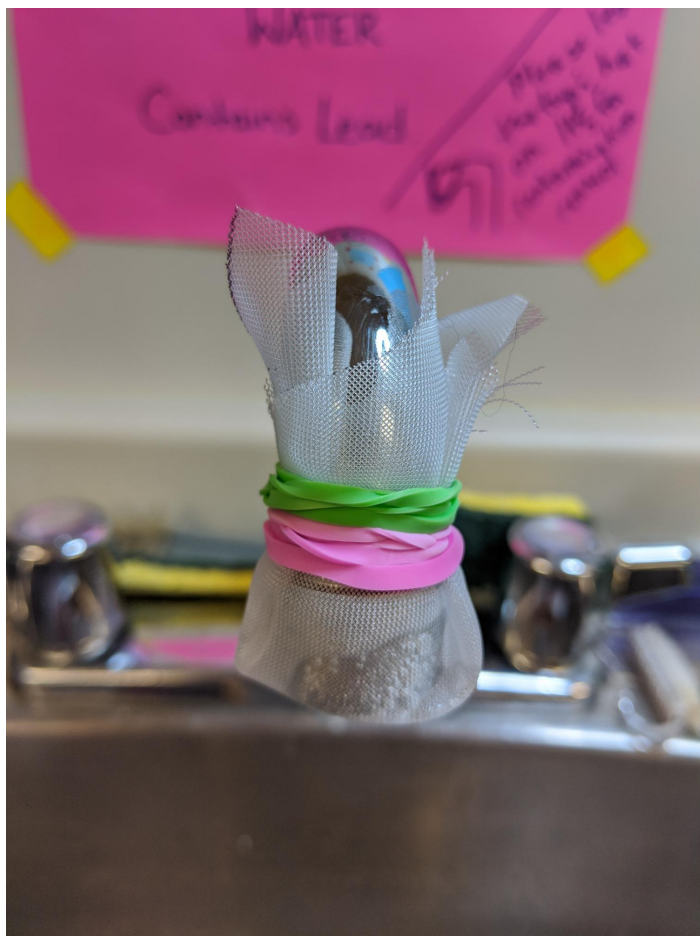
To mitigate plastic contamination coming from the tap water used to process samples, a 333 um mesh should always be placed over the sink tap end to collect any plastics that may be in the water. **It should already be there: check to make sure it's there and on properly at the start of every session when you use the sink.**

The lab manager or her delegate checks the filter regularly and any plastics (or other stuff) found are added to our contamination library. There is a chart located near the sink that notes the last time it was checked. **When checking the mesh for plastics**, carefully remove the rubber bands holding the mesh to the sink tap and place the mesh in a petri dish. Observe the mesh in the dish under the microscope for microplastics. If any plastics are found, remove them and add them to a labelled vial to later be mounted to microscope slides and added to the contamination library. If there is unusual or significant contamination, contact the lab manager and/or Max. The mesh should be cleaned and put back on the tap, and if necessary, a new piece of mesh can be used.

To date, we have found several plastics from the tap water that were captured by the mesh.

Percent Recovery Protocol (Proficiency Testing)

How do we know that we're finding all the plastics? We calculate percent "recovery," which also tells us the margin of error in a study. We want a high % recovery, and a low margin of error.

20% of all samples in a study (every 5th sample) are examined by a second person. Tracking how many plastics the second examiner finds (ones that the first examiner missed), allow us to calculate our percent recovery of plastics from our samples and give us a numerical value of how sure we are of our results. This needs to be included in our papers.

[Kaitlyn and all, how do you know which is the 5th sample? How are you tracking that? Shared spreadsheets?]
Samples can either be (1) re-examined by a person who is present in the lab at the time that you process the sample (like the lab manager), or (2) if no one is present when you complete a 5th sample, the sample can be left in the sieves for the next person that comes to the lab to check.

Samples that are left for the next person should be covered, clearly labelled with the sample ID, and **clearly noted that the sample is left for re-examination**. It will be the **responsibility of all lab members to prioritize processing any samples left for re-examination** before they begin working new samples.

Re-examined samples should be processed in exactly the same way as the initial processing. Basically, treat it as a new sample. They will be recorded on a new line in the appropriate data sheet for the project in the same location that the normal processed samples are recorded (whether paper or google spreadsheet). Recovered plastics will go in its own coffee filter, etc. To highlight the re-examined sample versus the original in the project spreadsheet, p**lace "R-" ahead of the original sample ID** (the R representing redo or re-examination or recovery) and clearly mention in the comments that the sample was a redo. If none are found, fill in the sheet with a 0. See the example below in bold:

Date	Sample ID	# of Probable Plastics	Comments
Date re-examination was performed	R-(original sample ID) E.g. R-ABC	Include # of plastics found, if any E.g. 2 microfibers	Clearly mention that it is a redo/ re-examination, and add any other comments you have.
11/11/19	NCC-2019-095	8	Fish was full of mucus

CLEAR

When it comes time to process the plastics in the coffee filters, the same process will take place-- treat it as its own unique sample with its own line in the data sheet. If none are found, fill in the sheet with a 0.

Waldo Plastics (Quality Assurance)

Plastics will be planted in ~20% of samples to test our ability to identify plastics. Max or the lab manager will be in charge of carrying out this form of quality assurance testing. It's like a secret where's Waldo, but for plastics. **All you have to do is find all the plastics.**

Behind the scenes: Max or the lab manager will record planted Waldo plastics in samples in the appropriate data sheet for a project. The data added to the spreadsheet regarding planted

plastics will include the sample ID, the date the plastic was added, the type of plastic added (e.g. fragment, microbead, etc.), color of plastic added (e.g. blue, red, etc.), and the size of plastic added (e.g. micro, meso, macro), and a column for whether or not the plastic was recovered (for the later plastic processing stage).

Sample processors: Don't peek at the Waldo spreadsheet! If you're processing a sample, do not look at the spreadsheet to see whether or not the sample they are processing has Waldo plastics. We really do need to know our recovery rate, as it is part of ensuring our training and methods are sound. It is likely that you will miss a plastic sometimes. That makes you human, not a bad scientist. We know plastics will be missed--we just need to report our recovery rate for ethical science.

Plastic ID processors (aka Molly or Max): Use the Waldo sheet when going through coffee filters! When going through the coffee filters to carry out the plastic identification, the plastic processor should be aware that some plastics may be planted Waldo plastics and should refer to the Waldo tab on the spreadsheet for planted plastics to identify all Waldos, **taking them out of the sample data but recording their recovery in the original Waldo spreadsheet (see below).** When you come across a planted Waldo plastic, record that the plastic was found in the Waldo tab on the projects spreadsheet. Keep little Waldo and put them in a jar in the cupboard for later use. See table below for required info when planting plastics.

Waldo entry:

Sample ID	Date plastic was added	Type of plastic added	Color of plastic added	Size of plastic added	Plastic Recovered? (Yes/No)
NCC19-29	Jan 1, 2020	microbead	orange	micro	no
NCC19-02	Jan 1, 2020	microbead	blue	micro	yes
NCC19-67	Jan 1, 2020	thread	yellow	micro	yes

The lab manager or Max (or other project lead) will fill in the appropriate data in the % recovery of plastics spreadsheet to determine the % recovery. For example.

% Recovery of Plastics

Project ID	# of plastics planted	# of plastics recovered	% recovery
NCC19	3	2	0.67

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Blanks and pinches (Contamination controls)

Blanks and pinches are two types of contamination controls we use to see whether equipment, materials, clothes, hair, and air are putting plastics in our samples.

Appendix

Appendix 1: List of prioritized values from the consensus process (2021).

Humility	Accountability	Openness to others
Accountability openness to others	humility inviting and welcoming openness to others	inviting and welcoming self-awareness
Collecctivity	self awareness	Consideration
Giving space & leaving space •	Giving space & leaving space •	Giving space & leaving space •

self-awareness	Collectivity	Consideration	Inviting & welcoming
humility openness to others	openness to others	openness to others	openness to others
Standing with other's problems	Giving space & leaving space •	Giving space & leaving space •	Giving space & leaving space •
	Standing with others	Standing with others •	

<table>
<tr><th>Standing with other's problems •</th><th>Standing with other's problems</th><th>Standing with others •
Standing with other's problems</th></tr>
<tr><td>Beholden to others•</td><td>Beholden to others•</td><td></td></tr>
<tr><td>Calling to account (calling in) •</td><td>Calling to account (calling in) •</td><td></td></tr>
<tr><td></td><td>Care</td><td>Care</td></tr>
<tr><td>Community (of/for)•</td><td>Community (of/for)•</td><td></td></tr>
<tr><td></td><td></td><td>orange ones under here, esp Inviting & welcoming</td></tr>
<tr><td>Emotionally intelligent/feelings oriented•</td><td>Emotionally intelligent/ feelings oriented</td><td></td></tr>
<tr><td>Good with/on mistakes</td><td>Good with/on mistakes</td><td></td></tr>
<tr><td>Guiding (instead of correcting/negging)•</td><td>Guiding (instead of correcting/negging)•</td><td></td></tr>
<tr><td></td><td>Learning & growth •</td><td>Learning & growth •</td></tr>
<tr><td></td><td>Patient •</td><td>Patient •</td></tr>
<tr><td>Slow but attentive to urgency</td><td>Slow but attentive to urgency</td><td></td></tr>
<tr><td></td><td>Togetherness•</td><td>Togetherness•</td></tr>
<tr><td>Reflexivity</td><td>Reflexivity</td><td></td></tr>
<tr><td></td><td>Trust b/w labbers •</td><td>Trust b/w labbers •</td></tr>
<tr><td>Valuing others *on their terms* •</td><td>Valuing others *on their terms* •</td><td>Valuing others *on their terms* •</td></tr>
<tr><td>multiple ways of knowing</td><td>**Collectivity**</td><td>Multiple ways of knowing•</td></tr>
<tr><td></td><td>Accepting what's there & openness to waiting •</td><td></td></tr>
<tr><td>Doing chores •</td><td></td><td>Building up •</td></tr>
</table>

<table>
<tr><td>Reflexivity</td><td>Togetherness•</td><td>Learning & growth •</td><td>Care</td></tr>
<tr><td></td><td>multiple ways of knowing</td><td></td><td>Community (of/for)•</td></tr>
<tr><td>Shared reality</td><td>Collaborative & extensive •</td><td>Compassion</td><td>Compassion</td></tr>
<tr><td>Stepping up</td><td>Connection •</td><td>Respectful</td><td>Generosity</td></tr>
<tr><td>Safer</td><td>Connected in ways we don't even know</td><td>Supportive like love •</td><td>loyalty/protection</td></tr>
<tr><td></td><td>Inclusion •</td><td></td><td>Respectful</td></tr>
<tr><td></td><td>Interdisciplinary •</td><td></td><td></td></tr>
<tr><td></td><td>Interwoven/mushy•</td><td></td><td></td></tr>
<tr><td>Courage/bravery •</td><td>Courage/bravery •</td><td>Courage/bravery •</td><td>Courage/bravery •</td></tr>
</table>

scaling

actions- process oriented values

being/context

directional/prerequisite relationship

BEING/CONTEXT	DOING/ACTIONS	
of/in our lives •	Appreciation •	With heart •
of/in the world •	Collaborative & extensive •	Gentle •
Open to change •	Concrete action •	Generosity
Relationality	Courage/bravery •	Respectful •
Connection	Fluid •	Safer
Connected in ways we don't even know	Interwoven/mushy•	shared reality
Courage/bravery	killjoy	Supportive like love •
	listen-y•	open to change
	Responsive•	inclusion
	Doing chores •	connected in ways we don't even know
BEING/CONTEXT	DOING/ACTIONS	Courage/bravery •
	Stepping up •	
	equity	refusal as repair
	attention to unevenness	loyalty/protection
		Doing chores •
		killjoy

Appendix 2: A wee primer on colonialism

Colonialism isn't synonymous with capitalism, patriarchy, racism, or other bad stuff, even if they're related (Tuck and Yang 2012). The following is an amended excerpt from *Pollution is Colonialism* (2021), by Max Liboiron, to help us understand what colonialism is like so we can understand what *anti*colonialism might look like in our science and mentorship. At the same time, there is no final, stagle,

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single, coherent, English-definition of colonialism that will work in all contexts. There are many colonialisms that are shaped by the places they are from and the people resisting and benefiting from it. This is a primer, not a definition.

In 1956, Lloyd Stouffer, the editor of America's *Modern Packaging Magazine*, addressed attendees at The Society of the Plastics Industry in New York City, USA:

> "The future of plastics is in the trash can.... It [is] time for the plastics industry to stop thinking about 'reuse' packages and concentrate on single use. For the package that is used once and thrown away, like a tin can or a paper carton, represents not a one-shot market for a few thousand units, but an everyday recurring market measured by the billions of units." (1963, 1)

Stouffer was speaking at a time when reuse, making do, and thrift were key practices reinforced by two U.S. wars. Consumer markets were saturating. Disposability was one tactic within a suite of efforts to move goods *through*, rather than merely *into*, consumer households (Packard 1963, Strauser 2000). Today, packaging is the single largest category of plastic production, accounting for nearly 40% of plastic production in Europe and 33% in Canada (PlasticsEurope 2016, Deloitte 2019). The next largest categories are building and construction at just over 20% and automotive at 8% (PlasticsEurope 2016, 12). Stouffer's desire looks like prophecy (Spoiler: it isn't. Still colonialism).

Stouffer's declaration about the future of plastics and trash cans assumed that household waste would be picked up and taken to landfills or recycling plants that allowed plastic disposables to go "away." Without this infrastructure and access to Indigenous Land there is no disposability. He assumed that Land would provide a sink, a place to store waste, so profits could be generated through flows of waste-as-consumer-goods. That's colonialism.

While there are different types of colonialism--settler colonialism, extractive colonialism, internal colonialism, external colonialism--they have some things in common. Colonialism is a way to describe relations characterized by domination that keeps Land available for colonial and settler goals--relations that grant colonial and settler "ongoing state access to land and resources that contradictorily provide the material and spiritual sustenance of Indigenous societies on the one hand, and the foundation of colonial state-formation, settlement, and capitalist development on the other" (Coulthard 2014, 7), regardless of the intent, politics, practices, identities, heritages, and values of individuals and their ancestors. Emphasizing the centrality of Land to colonialism, Edward Said writes that,

> "To think about distant places, to colonize them, to populate or depopulate them: all of this occurs on, about, or because of land. The actual geographical possession of land is what empire in the final analysis is all about. At the moment when a coincidence occurs between real control and power, the idea of what a given place was (could be, might become), and an actual place--at that moment the struggle for empire is launched. This coincidence is the logic both for Westerners taking possession of land and, during decolonization, for resisting natives reclaiming it." (Said 1993, 93)

Let's take a moment to focus on that bit about Westerners. Western culture—the heritage of social norms, beliefs, ethical values, political systems, epistemologies, technologies, and legal themes and traditions heavily influenced by various forms of Christianity and Judaism that had some origin in Ancient Greece and heavily influenced Europe and beyond—is not synonymous with colonialism. Western culture certainly has its imperialistic and colonial impulses, histories and ideas of what is good

and right, but they are two different things. When I hear "isn't doing research ethics paperwork colonial?" from researchers, it is a conflation of Western with colonial. I remind them: treaties are paperwork. Wampum belts are governing documents, as is paperwork. If paperwork is used to achieve the possession of land and secure settler and colonial futures, then yes, it's colonial. But there is also anticolonial, Western-style paperwork that accomplishes the opposite, like research ethics paperwork. Colonialism, first, foremost, and always, is about *Land* and the genocides necessary to clear that land for settler desire, including the circumvention of ethics paperwork so researchers can have unfettered and unaccountable access to field sites, archives, samples, and data. Oh.

Land, with a capital L, which comes out of various Indigenous cosmologies, is not the same as land with a small l used in terms like landscape that are common nouns in English. Land is about relations between the material aspects we might think of as landscapes–water, soil, air, plants, stars—as well as histories, spirits, events, feelings, and other more-than-human relatives. Potawatomi scientist Robin Wall Kimmerer writes that Land is, "everything: identity, the connection to our ancestors, the home of our nonhuman kinfolk, our pharmacy, our library, the source of all that sustains us. Our lands were where our responsibility to the world [is] enacted" (Kimmerer 2013, 13).

The focus on Land in colonialism--what it could be, might become, what it is for--does not always mean accessing Land as property for settlement, though it often does (TallBear 2019). It can also mean access to Land-based cultural designs and culturally appropriated symbols for fashion. It can mean access to Indigenous Land for scientific research. It can mean using Land as a Resource, which may generate pollution through pipelines, landfills, and recycling plants, or as a sink to store disposables and other waste. It can mean imagining a clean, healthy, and pollution-free future and conducting settler-led beach cleanups on Indigenous Land without permission or consent. **It means imagining things for land in ways that align with colonial and settler goals, *even when those goals are well-intentioned*.** Especially when they are well-intentioned. Which means it's time to talk about environmentalism.

Environmentalism and colonialism

Environmentalism does not usually address colonialism and often reproduces it. Potawatomi scholar Kyle Whyte (2017), and many, many others, have pointed out that often environmental solutions to pollution such as hydroelectric dams (Nunatsiavut Government 2016), consumer responsibility, and an appeals to the commons (Mildenberger 2019), are based on having access to Indigenous Land and its ability to produce value for settlers and colonial power. Environmentalism often "propagate[s] and maintain[s] the dispossession of indigenous peoples for the common good of the world" (Byrd 2011, xix).

Colonialism isn't about asshat goons. Colonial land relations are inherited by settlers (and others) as common sense, even as good ideas (see CLEAR's paper on plastic research in Inuit Nunangat). Environmental historians have shifted the origins of environmentalism from back-to-the-land and save-the-(access to)-land movements in the 1960s and 70s to earlier imperial archiving, cultivation, and control measures necessary for the flourishing of empire around the globe, within and outside of where is lately called North America (e.g. Anker 2001, Komeie 2006, Grove 1990 &1996). They argue that colonial scientists attempting to mitigate and halt environmental destruction in colonies so the colonies might flourish are "the pioneers of modern environmentalism" (Grove 1990, 12) where "environmentalism is police action, inseparable from western conceptions and attitudes" (Barton 2020, 6) of how to best organize and govern land.

The way that environmental crises and their solutions are often techniques to maintain rather than change existing power structures is central to the scholarship of settler anthropologist Joseph

Masco, who points out that "crisis," environmental and otherwise, has "become a counterrevolutionary idiom in the twenty-first century, a means of stabilizing an existing condition rather than minimizing forms of violence across militarisms, economy, and the environment" (2017, S65). Rather than using crisis as a relational model that puts certain things beyond dispute in the imperative to act at all costs, a focus on colonialism within environmental narratives and action can be one way to address this usually unmarked power dynamic.

Indigenous sciences are different than anticolonial sciences

Indigenous sciences are done by Indigenous peoples, full stop. Sometimes Indigenous sciences use methods, tools, theories, and frameworks developed out of European and other non-Indigenous sciences. Sometimes not. Sometimes they involve settler scientists. Sometimes not. These details play a minor role in the defining feature of Indigenous sciences—that they are an expression of Indigenous sovereignty over knowledge production on Indigenous Lands, by Indigenous peoples, from Indigenous cosmologies, ontologies and epistemologies.

CLEAR does not claim to do Indigenous science. While some of our Inuit, Métis, and First Nation members draw on what is often called Traditional Knowledge and certainly work from their worldviews and even with their families and homelands, we do not give this to academia (McGregor 2005, Nadasdy 1999 & 2005).

We also have a lot of settlers in the lab and likely always will. They need to do science differently as well, and they can't do Indigenous science; the appropriation of Traditional Knowledge or Indigenous sciences is just another form of settler and colonial entitlement to Indigenous life and Land. Not our goal! At the same time, Indigenous lab members solve scientific problems in ways that align with traditional teachings. For example, after a CLEAR meeting where we discussed how we might discard fish guts after we had analysed them for plastics in a good way, people talked with their families. This is Edward Allen's story:

I asked my Elder about 'sharing' animal guts. After several moments he shared a memory starting in his childhood. It was my memory as well, and undoubtedly the same memory his Elder kept. When I was young, I was told to take what remains over to feed the dogs, or the birds in the summer months, and these other ones to another place so that the mice might enjoy them. Some were left to be reclaimed by the waters and all that lived below them, and some to go into the ground. As the memory travels through the generations, the only difference was how much there was to take. There was no such thing as waste. All was consumed by us, the animals we shared the land with, or the land itself. Everything is in movement. Even things that were still were gone by morning. Spreading what remains around ensured that they were shared efficiently, and that no remains were piled to the point of contamination. And while the delicacies found in entrails have been forbidden to me because of PCBs and other things from away, the remains still have purpose in the larger whole. They are part of sila and keep me, my Elder, and my Elder's Elder buoyant.

Edward's conversation with his Elder was one small part of what is now a regular CLEAR practice: we return fish and other animal guts to the water when we're done. Indigenous teachings and practices, while they certainly are part of how things happen in CLEAR, are not a shared knowledge system in the lab. Laurelyn Whitt explains that,

a knowledge system can be defined in terms of four characteristics: epistemology, a theory of knowledge giving an account of what counts as knowledge and how we know what we know; transmission, dealing with how knowledge is conveyed or acquired, with how it is learned and taught; power, both external (how knowledge communities relate to other knowledge communities) and internal (how members of a given knowledge community relate to one another); and innovation, how what counts as knowledge may be changed or modified. The systemic nature of knowledge is due to the reciprocal influence of these four characteristics upon one another: how we know, how we learn and teach, how we innovate, and how power figures in this are linked." (Whitt 2009, 31)

It is not that Indigenous sciences are over here as a monolith and anti-colonial sciences, Euro-centric or "Western" sciences, and other sciences are over there as different monoliths. As different knowledge systems, part of them overlap. Yet, Indigenous sciences have fundamentally different obligations and structures of accountability than other sciences. For instance, CLEAR is not accountable to Edward's Elder, but Edward is, including whether and how he shares his Elder's knowledge in the lab. I don't get access to Edward's Elder to ask whether I can share his story in this lab book: I ask Edward, who asks his Elder. Protocol helps us see our different orientations.

CLEAR is oriented towards mitigating and undoing colonialism, towards anti-colonial science. The term "anti-colonial science" can make it appear as though there are two stable entities, one called anti-colonial science and one called dominant or colonial science, that are fundamentally distinct. Not so: science(s), colonialism(s), and resistance(s) are neither monolithic nor stable, but rather changing, moving, patchy, incomplete, plural, and diverse. Often I hear scholars and activists alike talking about capitalism (or patriarchy or racism, but mostly capitalism) as if it is a solid monolith that we can dash our bodies against to no avail. But that gives capitalism and colonialism more power by erasing the patchiness, the unevenness, the failures of reproduction of those systems. It erases the other kinds of economies and land relations that happen within, alongside, in spite of capitalism and colonialism. So let's not.

There are many anti-colonial sciences even within dominant science: queer science, abolitionist science, Zapatista science, feminist science, anarchist science, anti-capitalist and communitarian science, and many more. So why not just say we're doing intersectional feminist and queer science in a decolonial lens? First, queer, feminist, and other sciences are not monolithic or stable, either—some expressions of these sciences can even be colonial in their entitlement to Land. By foregrounding colonialism, it avoids the idea that a queer or feminist future is automatically and simultaneously an anti-colonial future. An anti-colonial science does not conflate and collapse different forms of oppression and resistance into one category.

So: what are some ways we can bring anticolonial commitments into our everyday science work?

"Colonialism is not an event, and "not even a structure, but a milieu or active set of relations that we can push on, move around in, and redo from moment to moment." Tiffany King, *The Black Shoals*, 40

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