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MASTERS PROJECT: RELATIONAL REGULATION: CO-CREATING A MORE
EFFECTIVE AND ACCESSIBLE GOVERNMENT PROGRAM WITH SMALL
WATER SYSTEM OPERATORS IN VERMONT

A Project Presented

by

Bridget Phillips

to

The Rubenstein School of Environment and Natural Resources
University of Vermont

In Partial Fulfillment of the Requirements
for the Master's Degree Specializing in Leadership for Sustainability

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Committee:

Matthew Kolan, Ph.D., Advisor
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ABSTRACT

The purpose of this project was to co-create better conditions for and with those regulated by a small drinking water system program run by the State of Vermont. This endeavor was carried out through survey collection, ongoing conversations and relationship building with nine operators, and culminated with a potluck roundtable discussion with those involved in the project. In order to create positive change within the system I am a part of, I also focused on shifting my internal conditions through critical inquiry into my own privilege and positionality as a government regulator.

Outcomes of the project included an improved understanding for me of the diverse perspectives of water system operators, as well as a report to the TNC Program Coordinator outlining the findings of our work which detailed substantial changes that the TNC Program should make to increase equity, transparency and communication in the program. An unexpected result was the flexibility I was able to find in what I had viewed as a rigid, bureaucratic program. It is recommended that co-creating materials and co-visioning better futures with regulated communities can orient us to thriving for the long haul. This can be accomplished by creating opportunities for modes of governance that challenge systems of oppression imprinted within ourselves and in our current government structures.

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CHAPTER ONE: INTRODUCTION

Imagine a person who has just opened a general store in Vermont, balancing the numerous responsibilities and challenges of juggling a small business. The building is 100 years old, and everything seems to be going wrong. The old furnace just failed, the Fire Safety inspector informed them the fire alarms aren't up to code, and to make matters worse, they just learned they will be regulated as a public water system.

My role in the Transient Non-Community (TNC) Program in the Drinking Water Division is to communicate state and federal regulations that apply to facilities with their own water source and the capacity to serve water to 25 or more consumers per day. TNC water systems are restaurants, hotels, campgrounds, gas stations, golf clubs, churches, and other facilities where visitors might consume water. Many of the people affected by the regulations are small business owners or employees who are expected to perform the duties of a "water system operator" on top of their many other responsibilities. TNC water systems are facilities that do not have the benefit of being connected to a municipal water system. The people who run them are responsible for the quality of water that comes out of their tap and consequently the public health of their consumers.

The TNC Program sends out letters formatted with language that is often inaccessible to people who are not in the drinking water industry or familiar with our regulations. The method most used in our program to incentivize compliance with regulations is to issue violations, framed in the language of "failure to comply". Over the past three years, I learned that many operators view communications with the TNC Program as something to be avoided.

The question at the heart of my project is: How can I work with the operators I serve to co-create authentic relationships founded in reciprocity and re-orient the TNC Program

towards thriving for all? I believe that building relationships between regulators and operators will benefit all TNC operators in Vermont and everyone who drinks the water from their establishments for generations to come. Determining how to foster thriving in governance, an idea I have named “bureaucratic love”, requires me to stand in my strengths to change a system that has power over those regulated.

I designed this project to contribute to the small pool of research in the area of partnerships between regulators and the regulated community. Pautz and Wamsley (2012) discuss the importance of building trust between inspectors and the regulated community and develop a framework of trust dynamics to improve health outcomes. Kot, Castelden and Gagnon (2011) document relationships between professional water system operators and regulators in Canada, noting similar challenges that small systems operators in Vermont face, such as lack of resources and time to familiarize oneself with the regulations. One promising initiative for operator engagement by the Rural Community Assistance Partnership (RCAP) involved a potluck dinner workshop where operators discussed issues important to them over a shared meal (Rodgers & Buck, 2018). However, few studies found in my literature review involved direct collaboration with regulating entities. An opportunity exists to contribute work in this field by exploring what it means to build partnerships with regulators.

CHAPTER TWO: THEORY

Water quality emergencies could potentially be prevented if more people had access to the resources and information they need to maintain a healthy water system. However, in order for people to want to work with the state, to take their routine water samples, and to notify us when issues arise, the state needs to prove it is trustworthy. The theory of change driving the methodology of my project is that the TNC Program can achieve better outcomes for drinking

water safety by decreasing the burden on small business owners through communication and policy informed by the needs of regulated communities. The design of my project is informed by this theory of change, the principle of systems thinking, the goals of critical theory, and collaborative and relational strengths-based orientation to solving problems; these influences on my thinking will be described below.

In a discussion regarding the leverage point of information flows in systems-based analysis, Meadows (1997) states that “Missing feedback is a common cause of system malfunction. Adding or rerouting information can be a powerful intervention, usually easier and cheaper than rebuilding physical structure.” (p. 13). My work is designed to strengthen and grow the flow of information to the regulated community to empower them in protecting the public health. Critical theory and indigenous theory on research have informed this project’s inquiry into accessibility, the role of dominant culture in state regulation, and how operators experience regulation. Denzin, Lincoln & Smith (2008) have been especially instructive in the design of this project: “Indigenous ethical and moral models call into question the more generic, utilitarian, biomedical, Western model of ethical inquiry...They call for a collaborative social science research model that makes the researcher responsible, not to a removed discipline (or institution) but rather to those studied” (p. 15). I respond to this “call for a collaborative social science research model” by engaging water system operators in ongoing conversation to establish a foundation for an operator-informed program. Simultaneously, I am examining my own role as a regulator through critical inquiry of my internal landscape (described in the Methods section below).

Throughout my project development and implementation I strived to align the process to my natural gifts of creativity and conversation. I regularly engaged in centering, self-care,

and privilege awareness practices, processing these experiences through frequent journaling. Tending to my own physical, emotional, psychological and spiritual needs allowed me to show up to the relationships with my full self even when I faced difficult personal times.

CHAPTER THREE: METHODS

I felt that in order for my project to center the needs of the water system operators, it needed to be co-created with them. First it was important for my work to be in alignment with L.T. Smith's Eight Research Questions as cited in Denzin, Lincoln and Smith's *Handbook of Critical and Indigenous Methodologies* (2008):

1. What research do we want done?
2. Whom is it for?
3. What difference will it make?
4. Who will carry it out?
5. How do we want the research done?
6. How will we know it is worthwhile?
7. Who will own the research?
8. Who will benefit?

(Smith, 2000, p. 239).

To answer these questions with the needs of the regulated community centered I sent a survey to 572 operators, first through mail and subsequently through email. The survey asked about how they viewed communications with the program and what challenges they had with meeting the requirements of the program (See Appendix A).

A key learning from our Ecological Leadership course at Shelburne sparked an important awareness for me: "The change we create in the world is reflective of the internal

change we create in ourselves” (M. Kolan, K. Sullivan, S. Garcia, E. Tsao, personal communication, 2017, August). I embodied this learning by focusing on a rigorous critical inquiry of my biases, blindspots, and assumptions as a state public health worker during the time of late December to early February as I waited for survey responses. I felt that it was essential for me to attune my senses to my own imprinted modes of relating to the world before I could do the work of challenging external systems of domination. See Appendix B for excerpts of journaling I did around this inquiry.

After collecting surveys, I reached out by phone to operators interested in volunteering for “The Operators on Tap Project,” the ongoing collaborative phase of my project. I then developed a reverse consent form inspired by Glesne’s discussion in *Becoming Qualitative Researchers*, which suggests that a researcher making promises to those involved in the research is a way to serve the needs of the participants instead of vice versa (Glesne, 2016) (See Appendix C for the Project Information Sheet).

Nine operators ultimately signed up to participate, and we began our monthly conversations in March. In the first conversation I asked them to share as much of their life story with me as they desired. Subsequent conversations flowed from the stories of what brought them to where they are now in the world, unique to each operator’s perspective but covering similar ground in respect to the topics that affect water system operators. We discussed the responses from the initial survey I had sent out in the winter, the issues identified in this survey and others that came up through the course of our conversations, as well as potential ways to address these issues. Towards the end of this collaboration period, I shared ideas between operators so that each could contribute their insights to each idea generated. See Appendix D for notes on the themes of each conversation.

While I planned to continue conversations with each operator in July, we instead met in person in July after a few operators expressed interest in meeting the others involved with the project. At this meeting, I presented all of the ideas that had emerged to the stakeholders and co-creators of this work as a practice of transparency and a strategy for workshopping what stood out from our conversations. I also asked for evaluative feedback which I describe in the Evaluation and Assessment section.

CHAPTER 4: RESULTS

My desired outcomes for this project were to develop authentic relationships with water system operators and to co-create resources that increase transparency and accessibility to information needed for water systems to comply with the regulations. One method for achieving these outcomes was analyzing survey results. I received 125 out of the 572 surveys distributed, a response rate of 22%. I expected a higher return rate because the survey was relatively short (five questions) and was enclosed with a mailing that operators complete and return to the state every year. One explanation for the low response rate is that completing the survey was not considered a valuable use of time. While the response rate was low, the completed surveys provided information that was instrumental in shaping the collaborative phase of the project with the Operators on Tap participants. See a summary of survey responses in Appendix E.

At the outset of implementation, I expected to have developed our ideas into finished products by the time we wrapped up our collaborations. As I submerged myself into the implementation phase, I found that four months of in-depth conversation and analysis of these exchanges with nine key participants provided a more meaningful experience than attempting to create the deliverables in the scope of this project. What emerged was a robust set of

recommendations, which I compiled into a Project Report and delivered to my supervisor and presented to my research collaborators at our July potluck (See Appendix F).

At the start of the project, I expected that an outcome would be the development of polished videos or audio recordings to share the stories from our conversations as something that would benefit the program and the operators by showcasing their businesses. However, none of the collaborators were interested in this when I made this offer. Each operator expressed to me that they joined the project to help the collective of water system operators, not to promote their individual story. Ultimately, the relationships from this project are expressed in the ideas we co-created and in the incorporation of these ideas into programmatic changes that will make important information more accessible to all operators in the TNC Program.

One of the most impactful results of this project to me was the opening we made for a new kind of relationship between regulators and the people affected by the regulations. The fact that I was able to find space and freedom to co-envision new possibilities for a government program alongside the people regulated within that program was hugely inspirational for me.

CHAPTER FIVE: EVALUATION AND ASSESSMENT

In order to evaluate my personal growth and leadership practice development throughout the year, I relied on a combination of monthly coaching with my anchor coach, personal reflection, and peer group coaching. Keeping a regular journal and performing weekly implementation reflections on my practice was an important evaluative tool for me to track my biases and assumptions, reflect on my experiences and learnings, and make new connections between my project and the continued leadership practices integrated in my Capstone work. Rigorous reflection around my lived experience allowed me to take even the challenging parts

of my year, learn from them, and re-calibrate my actions. I now understand that this is what “embodiment” means. My weekly leadership prompt can be found in Appendix G.

Through re-reading my journal entries, I have noticed a shift in my internal landscape start of this project. I have become a more flexible person who adapts as conditions change, who is less attached to outcome and more focused on the process and relationship. For instance, I was very concerned about this concrete scheduling matrix I had developed at the start of the project. As time progressed and each operator and I became more comfortable, I loosened up on this protocol because our relationships began to transcend the boundaries of this rigid schedule. I learned to adapt if an operator had to cancel their conversation with me, remembering that every minute they gave me was a generous gift.

To evaluate the work that I did with water system operators, I created a Post Project Assessment, inspired by the After Action Review process taught to me in our Washington DC retreat course work with Mistinguette Smith (M. Smith, personal communication, 2018, January 15). This review was completed by asking the operators to complete an evaluation of me as a project organizer and collaborator at the end of our July 18th potluck. Returned assessments can be found in Appendix H.

CHAPTER 6: RECOMMENDATIONS, NEXT STEPS, AND KEY LEARNINGS

The act of doing this project has been a practice in collective visioning that I believe should be done more often in government at every level. This kind of work can orient us to thriving for the long haul by creating opportunities for modes of collaborative governance that regulate through “power with” people instead of “power over” people. This project itself does not meet the criteria as outlined in the extensive literature review on the topic by Ansell and Gash (2007) because it does not enable participants to engage directly in decision making,

which they assert is one of the required criteria for true collaborative governance. It is, however, the first step on a long path of collaborative governance in a state program where conventional modes of power over regulated individuals is the accepted method of protecting public health.

An essential component of this Capstone Project was the development of practices to challenge white supremacy and colonialist domination within me and within the program I work in. As a government employee involved in regulation, I am cognizant of my role in the dominant structure and the power I have in relation to the people I regulate and have spent much time reflecting on how my actions help to perpetuate or dismantle this structure. Before I began, I would not have guessed that anti-racist practices would be so crucial to advancing the goals of this project. I have learned that understanding the roots of public health inequity, calling in people around complicity in racism, and viewing governance through the lens of love are all essential practices for leadership work that is oriented to the goal of sustainable living. Recognition of my positionality as a government regulator and a white woman of immense privilege is a practice I attempt to engage in continuously, to ensure that I am working from a place of humble servitude to the whole and not a place where I am trying to use my work for personal gain at the expense of those I am working with.

Work grounded in anti-racism is the methodology we need to employ in order for love to exist in bureaucracy. This reflection has led me to the question “What would it look like for us to become an organization that welcomes challenges to privilege and oppression?” I believe that my Division must internally answer the question before it can move toward collaborative governance.

My next steps involve bringing my coworkers into thinking about this question together and understand how collaborative governance can create better health and compliance outcomes for everyone impacted. In August, I invited them into this work with a presentation on the findings of our project and the recommendations that emerged from a collaboration between regulators and the regulated community. I will next meet with the Director of the Division to discuss the theory of my work and how it can help our Division better serve the regulated community on a larger scale. My focus now is to encourage my coworkers to view the people they regulate as essential partners in achieving the goal of improving public health. Internal conversations around our privilege as regulators and positionality will be essential to making this work matter in the long term. The recommendations that we are now working to implement are exciting improvements to how we communicate in the TNC Program. However, it is a broader scale implementation of the methodology of this project and its underlying theory of collaboration that can improve the trustworthiness of regulating entities and make bureaucratic love a reality.

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CHAPTER 8: APPENDICES

Appendix A Winter Survey

Tell us what you think!

The Drinking Water and Groundwater Protection Division's TNC Program wants to know what you think so that we can better communicate with you about your water system. Please consider taking a few minutes to answer the following questions. Your feedback will help us create better correspondence, resources, and trainings. All answers will be anonymous unless you choose to become a part of our Operators on Tap Project (described at the bottom of the survey).

1. How would you describe instructions from the TNC Program for taking water quality samples?
Please circle one.

• Very Poor • Poor • Fair • Good • Very Good

Comments:

2. How would you describe the overall quality of communications from the TNC Program?
(Examples include: sanitary survey letters, operator renewal reminders, seasonal start-up, and other information sent by email or mail about program requirements). **Please circle one.**

• Very Poor • Poor • Fair • Good • Very Good

Comments:

3. What materials would make TNC Program instructions easier to understand? Examples include (but are not limited to) pictures, infographics, videos, and handouts.

4. Please describe any challenges you face meeting the requirements of the TNC Program.



Do you have more you would like to tell us? Become an Operators on Tap Volunteer!

We are looking for individuals who have 1 or more years of experience operating a TNC water system and who would like to tell us more about what they think. We estimate a time commitment of approximately 1-2 hours per month over the phone or in person between March and July 2019. Want to know more? Provide your name, phone number, and email address below and we will be in touch to give you more information. You are not committing to be a volunteer at this time.

Name:

Phone Number:

Email Address:

Appendix B

Incubation Time Work

Background

In the “incubation time” of waiting for the survey responses to return, I took a five-unit course entitled “Roots of Public Health Inequity”, designed by the National Association of County and City Health Officials (NACCHO) to engage students in critical thinking about aspects of social justice as they relate to public health. Through stories, case studies, and discussion framing, the course guided me through the history of how these oppressions have shaped the disparate health outcomes we see today, and how our colonial western methods of researching focuses on individual behaviors instead of addressing the historical root cause, inviting me to examine my own role in this structure. In the winter and spring, I also engaged in white privilege awareness work, attending an in-person racial bias disruption workshop and completing a four-week workbook by Layla F. Saad entitled *White Supremacy & Me* (Saad, 2018). This internal privilege and positionality journey is a critical component of my work, empowering me to dismantle imprinted structures of oppression from within as I seek to change structures of power and privilege externally. I have learned that this work is continuous and imperative for me to be an effective agent of systems change.

Another important aspect of my capstone project was seeking community with people on similar journeys to me. In the winter, I sought to deepen my connection to place and people in Montpelier by joining a community garden collective, where I have been practicing a very joyful kind of place-based, collaborative leadership that I have named “garden leadership”. The garden encourages-self organization, calling on everyone to show up with their natural gifts and use those in service to planning and growing the garden together. Working in the garden has become an awareness practice for me, a place to mull over the work I have been doing while allowing me to tend to other-than-human beings, work that I found very healing and restorative. I have learned more than I can describe in words from these people and this place. Below I have included several journal excerpts from pivotal moments in this part of my learning journey.

1.4.2019

I am now in a liminal phase of waiting for survey responses and am using the time before outward engagement to focus on inward engagement. Through doing a literature search for my project today I discovered a free online course hosted by NACCHO, the National Association of

County and City Health Officials. The course is called “ROOTS of Health Inequity” and is a five-unit course designed to engage students in critical thinking about aspects of social justice as they relate to public health. “Can public health influence the unequal structuring of life conditions? NACCHO thinks public health can reach the heart of the matter: the core social injustices associated with class oppression, racism, and gender inequity. Advances can occur, even if only incrementally, by thinking differently about possibilities for practice.” I am very excited to take this course which I will be doing this month in the “incubation” phase of my project- as I wait for surveys to come in I am spending some time doing deep inquiry of tools and practices that can work to dismantle the colonial structures and forces present in government and in the bureaucratic program I am a part of.

1.11.2019

This experience started out tangentially related to my project and then fully connected back into my project as everything is seeming to do lately. I have had a bit more spaciousness in the past couple of months to deepen my roots into my community and have been joining some local organizations. One of these is a collaborative community garden where you apply and interview, and if it is a good fit, join the garden team which plans and grows one large garden together, dividing up the work and the fruits of the labor throughout the growing season, and also sharing the space as a place for recreation, relaxation and nature connection. This idea was so resonant with what I have been feeling and thinking about since I started the MLS Program, that when I saw the posting in our online community forum I immediately applied. During my interview I got talking with the coordinator about my white privilege journey and she invited me to join her book club for their meeting about *White Fragility* by Robin DiAngelo. While I have been spending time over the past few months engaging in articles about white privilege, decolonization and intersectional feminism, I was reminded during this conversation that there is nothing quite as enriching or thought-provoking as face to face conversations with others about the topic of white privilege. It reminded me of advice we have received from our professors regarding the importance of engaging with others in this work who are at similar places in their journey. For most of the folks at this book club, this was the first experience they had really engaging in white privilege, and I found myself eager to facilitate the conversation, having to continuously remind myself to practice deep listening as a guest and new member of the group. Hearing of others’ experiences and new insights after reading the book made me eager to engage in further and deeper conversations about white privilege. I learned about another ongoing effort

to address racial bias and white privilege through the Unitarian Church, “Interrupting Racial Bias”. I plan on attending the discussions they are holding to allow myself the opportunity to deepen and expand my white privilege awareness journey, as I ask continue to ask how I can use my power and privilege to disrupt and dismantle systems of oppression. This experience also reminded me of how important and rewarding it is to be locally engaged and involved.

1.30.2019

I feel like my leadership practice is showing up both within the confines and outside the confines of what I had delineated as “my project”. By thinking deeply about what kind of communication culture I want to foster, by asking myself how to build deep relationship within the community of operators that I work with, I opened myself up to more opportunities to be in community with those around me. It started with a posting I saw on Front Porch Forum, advertising some openings in a collaborative community garden. I joined the garden immediately and the founder of the garden brought me into her book club, where the first meeting I attended was a discussion on white fragility and privilege awareness. Between book club, the community gardeners who are teaching me how to plan and nurture a collective garden, and the Unitarian Church where I have been welcomed with open arms, I am starting to feel the sensation of roots burrowing deeper, establishing a more sense of myself and of standing in my principles here in Montpelier. What is challenging me right now is this sense of direction in my project. Before I started going deeper and having more conversations with people, I had what I thought was a great idea for a series of workshops and establishing an operator liaison program. A pivotal conversation with a person in Fish and Wildlife who specializes in reaching out to municipalities has changed my perspective. He invited me to look from the other side of this idea- an operator already not in love with our program having another structure foisted upon them. This made me reconsider that as a potential path and now I considering how I can best facilitate super emergent conversations without attempting to overlay my own structure or idea of what is useful onto the operators.

2.21.2019

Cross-Agency Communications Committee Meeting - Agency of Natural Resources

At the meeting, Elle opened with a question for people to bounce ideas and perspectives off of: “How do we seed curiosity about the work we are doing?” This provided some insightful conversation on how to get people engaged on social media with the work that the Agency is doing. The floor was then opened to anyone who wanted to workshop our ideas/projects/issues

with the group, so I took the opportunity to explain the project I've been developing and ask a question about how to engage people who do not have internet access or are computer-savvy, which make up a good portion of the operators I work with. I received a lot of great threads to follow in terms of how to ascertain where people get their information from off-line and how to make connections with those sources of information. I received a lot of encouragement and offers of support for my project which is very exciting, because not many people within my Division are doing this kind of communication and relationship-building project, but within the Agency, a lot of people are engaged in this kind of work on a regular basis and I am now building relationships with people I can learn from and connect with. The cross-communications meeting, being a monthly meeting, is another structure of accountability I am building into my project, as I now have the chance to provide updates to those interested and am invested in honoring the gifts they are giving me by sharing their time and resources, which I can reciprocate by continuously deepening my commitment to a rigorous project.

Appendix C
TNC Operators on Tap
Project Information Sheet for Collaborators

Thank you for your interest in the TNC (Transient Non-Community) Operators on Tap Project. Before you decide to take part in the project, please take the time to read the following information carefully and reach out to me with any questions or if you would like more information.

If you are interested in participating, please reply back to me via e-mail and I will be in touch to schedule our first phone conversation.

Who Am I? What is TNC Operators On Tap about?

My name is Bridget Phillips and I have worked as the Outreach Specialist in the Transient Non-Community (TNC) water system program in the State of Vermont's Drinking Water and Groundwater Protection Division (DWGWP) since 2016. My role in the TNC Program is to communicate with water system operators to ensure that you have the information you need to successfully operate your water system in compliance with drinking water regulations. Currently, I am undertaking a master's degree through the University of Vermont Rubenstein School of Environmental Science to deepen my knowledge about creating sustainable and effective change to better serve the people in the State of Vermont.

During my time with the TNC Program, I have received a lot of feedback about our failures to effectively communicate to operators. In response to this feedback, I have decided to take on this project in conjunction with my master's program to ask how we can improve communications and support in the TNC Program. I believe that the best way to learn how to improve our communications is to talk directly to the people affected by the TNC program, specifically water system operators like you.

What will taking part involve?

The project will involve a conversation, over the phone or in-person, about once per month between March and July 2019. The length and frequency of these conversations can be tailored to your needs and availability, but the goal would be to talk for about 1-2 hours each month. Broadly, the conversation topics will be:

- Your background and life story, and how you came to be a water system operator (as much as you would like to share);
- Positive experiences you have had with the TNC Program;
- Negative experiences you have had with the TNC Program; and
- Ideas, suggestions, and comments you might have that would make the TNC Program work better for you.

Why have you been asked to take part in TNC Operators On Tap?

You have been asked to take part because this project is not possible without the insights and experiences of water system operators. The outcomes of this project will be created WITH water system operators; your ideas and suggestions will help us create better materials for you as well as improve our internal program processes in direct response to your needs.

What are the pros and cons of taking part in TNC Operators On Tap?

A potential “con” of taking part is the 1-2 hour commitment of time per month. Please do not feel obligated to participate if this commitment does not seem manageable to you. A “pro” of taking part is the chance to give your input and ideas to us to improve processes that can benefit you as a water system operator.

Will taking part be confidential?

Yes. Everything will be confidential and names of operators, businesses and any identifying information will be changed in my final project report and any materials produced from our collaboration. There may be opportunities for storytelling or sharing about your business and water system on our website or in materials such as videos, at which point you will be asked if you would like to waive your confidentiality. Confidentiality and anonymity will be the standard for this project unless you agree to have your name shared with your story.

How will the information you provide be recorded and stored?

All conversations will be recorded on a state-issued iPhone and stored on a password-protected work computer to which only I have access. Quotations from our conversations will be used for the project but I will coordinate with you to make sure I have accurately represented your opinions before they are put (anonymously) in a project report or TNC Program materials. Recordings of your conversations will be available to you upon request. These interview recordings will not be made available to the public.

What will happen to the results of the TNC Operators On Tap?

The conversations and stories shared as part of TNC Operators on Tap will be used to co-create materials for the TNC Program and a final report and thesis defense for my master’s project. These materials will be shared back with you as they are developed to verify that they reflect your ideas and suggestions. I will also write a final report and do a thesis defense for my master’s project about my and your experiences in collaborating on the project. Any representation of you in these write-ups or presentations will be strictly anonymous unless you authorize me to use your name.

Vermont Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
One National Life Drive - Main 2 [phone] 802-828-1535
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Agency of Natural Resources

Commitment by Project Coordinator to Collaborators

My signature below represents my commitment to the above promises I have made regarding TNC Operators On Tap and your participation. I look forward to speaking with you in the coming months and working together to make the TNC Program better for you. Thank you for making this project possible.



Bridget Phillips
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Appendix D
Summary of Themes in Operators on Tap Conversations

Operator	Month 1	Month 2	Month 3	Month 4
Gene Volunteer Water System Operator for church facilities	<p>3/8/2019</p> <ul style="list-style-type: none"> ● “I volunteered to be a water system operator at my organization because I knew I’d enjoy it. I’ve always been interested in water because everything relies on water.” ● Value on water and importance of keeping it healthy. Has been paddling since he was sixteen. ● He is on the operating committee for his building and helps them make the best decisions about how to maintain the building. ● He has had no problems with the water sampling. He was able to attend one of our trainings early on. ● Hands on training would be great for Gene because otherwise the concepts are pretty abstract. We will be trying to implement more trainings in the lab so people can see what happens to their samples once they drop them off. 	<p>4/18/2019</p> <ul style="list-style-type: none"> ● “If I get a positive sample I know who to call” ● How do we break down the barrier between “the state” and the regulated community? “I thought it was great at your trainings how you reassure people that they are not in trouble, however you expressed that it made me feel that it’s more a thing that you want to help us have safe water, to “be in compliance”. You’re helping us have safe water. And I think that is something that feels a little more like teamwork and a little less like police.” ● Gene says that operators find our sanitary surveys a little intimidating. “It can be scary to have someone show up and tell you to make improvements”. ● His organization places big value on water safety. Their maintenance programs are standardized across their buildings. Trained volunteers do each task because they have the knowledge and equipment to do them safely. 	<p>5/30/2019</p> <ul style="list-style-type: none"> ● Bridget shared the lab interpretation tool with Gene. “It would be useful for anybody who wants to know what their water testing means.” ● What prevents people from calling us when they need information? Gene thinks making the information as clear as possible and putting more encouragement to call us could be helpful. ● Gene compared looking at a suite of lab water testing results to what it’s like to look at your own bloodwork. It can be confusing and overwhelming. ● Youtube videos would be useful for him. If it was a 5 minute video, he would take the time to watch it. He doesn’t use our website, but would click on a link if a Youtube training video was emailed to him. A 15-20 minute video would be daunting, but a 5 minute video would probably engage him right away. ● Gene did not know about the Drinking Water Search database tool that allows an operator to look up their past monitoring results. We need to find a way to share this information. ● Would Gene find it useful to get an email on a regular basis with helpful links and reminders? -Yes he would. 	<p>6/20/2019</p> <ul style="list-style-type: none"> ● Reviewed Winter Survey responses and talked about problem with accessibility to labs. It would be nice for people to have a lab within 30 minutes away. Some people get violations because labs are very far away and by the time the sample gets there it has exceeded the hold time. ● “Why aren’t there more municipalities that do this for small water systems?” Gene noted that some municipalities are state-approved for water sampling. There is not currently a financial incentive for municipalities to test samples from TNC water systems. ● Gene wonders why more people do not offer a sampling service. Contract operators do take samples for some folks but it is expensive. One lab has a courier service but courier locations do not work for everyone geographically. ● Looking at survey responses it seems like there is a misunderstanding of the rules. ● Sampling costs money, even if \$15 doesn’t seem like a lot to you or me, it can add up for a small business. ● “Rural towns aren’t connected and resources are limited.”

Operator	Month 1	Month 2	Month 3	Month 4
<p>Lisa Small Business Owner, Water System Operator</p>	<p>3/8/2019</p> <ul style="list-style-type: none"> ● Lisa purchased her inn after driving through Vermont in the 1980's. This year her and her husband are celebrating their 25th anniversary of running the inn. ● The building was almost a tear-down. Everything they touched crumbled and fell apart. They knew it was bad, but they didn't know it was that bad. In her head, she had this image of getting it all fixed in 5 years, and it's 25 years later and they are still putting massive money into renovations. ● Business has changed over the past 25 years. They used to have large groups coming and now people are aging out. Different clientele ● "One door closes and another opens". Ski Mountain opened nearby and has helped business. ● Social media has made their nearby lake overcrowded, when it used to be peaceful ● Wishes technology was not as prevalent but "time stands still for no one". They had to get a computer to make themselves appealing to people who wanted to book online. 	<p>4/16/2019</p> <ul style="list-style-type: none"> ● 95% of Lisa's dealings with the state have been very positive. Big issue right now with the Lodging Department and their failure to regulate rental properties. It's a matter of hiring more inspectors and knocking on doors. ● Properties near her are offering lodging accommodations and are not currently required to be in the same state programs as her inn. ● Bridget asked Lisa what she and the TNC Program can do to support her. She is attending a Short Term Rental Summit in May, the first of its kind in Vermont, which will explain existing and upcoming regulations on rental properties. She asked if Bridget or someone from the Division could attend. ● "It would be beneficial for real estate agents and town representatives to know these rules" ● Bridget was able to get approval from her supervisors to attend the training next month. ● The trainings put on by the TNC Program helped her understand the Revised Total Coliform Rule. 	<p>5/31/2019</p> <ul style="list-style-type: none"> ● Bridget and Lisa discussed their experiences at the Short Term Rental Summit they attended a few weeks ago. ● She was very happy this event was put on in the south. "Most of the events I am interested in happen in the north and are less accessible". ● Discussed the importance of state officials attending these events so they can get the word out about regulations that affect people. ● Lisa suggests that outreach to realtors could be helpful- they are the frontlines when someone is buying a property. ● Discussed the Ohio State Lab tool. Lisa pointed out that this tool, while comprehensive, has limited utility to TNC operators because they typically only test for nitrate and bacteria. Focus first on communication that will benefit TNC operators. ● Lisa has a friend who told her that coliform and e. Coli are the same thing- important to let people know that this is not the case. Context video to send to new operators explaining distinction and why we sample for both coliform and e. Coli, and where the rules come from. 	<p>6/28/2019</p> <ul style="list-style-type: none"> ● Reviewed Winter Survey responses from operators and discussed the lab and sampling issues people are reporting. ● Lisa used to mail samples but they never got there on time. They did expedited shipping which was very expensive. Thankfully, they now have a friend who takes their samples to the courier for them. ● While reviewing survey comments, Lisa said "some people are saying here that they appreciate quarterly sampling reminders- I never get a reminder!" Lisa samples early in the quarter. We only send reminders out towards the end of the quarter so "early birds" do not benefit from the reminders. Discussed sending out an email at the beginning of the quarter that includes a reminder to sample. ● Lisa had questions about operator certification and permit fees, has trouble finding information. She asked, "Do people not ask you these questions?" The frequency of these FAQ's is a symptom of our communication issue- we take for granted that we know these things but we are not making that information accessible to our operators.

Operator	Month 1	Month 2	Month 3	Month 4
Jay Kullman, Full-time operator for Summer Camp	3/21/2019 <ul style="list-style-type: none"> ● Started working for the summer camp after being a contract worker for them. Got thrown into the fire, did not know the regulations but asked a lot of questions and picked it up pretty quickly. ● For him, the state language was a big barrier. “I had to think about those things constantly and it took a lot of time of being immersed entirely, to know the difference between a TNC and an NTNC, the difference between coliform and e. Coli.” Not intuitive for him without a science background. ● Jay is on the local planning commission for his town and expressed the importance of notifying townspeople of regulations ● Working as a water system operator has increased his awareness of water health and what it means when you discharge water in the environments. “I realized there was implications for dumping chlorinated water into the earth. Now I am more methodical in my procedure because I am aware that it can be harmful.” ● Jay wondered where the rules for our program came from. Important to communicate that better to people- how? 	4/26/2019 <ul style="list-style-type: none"> ● Jay and Bridget discussed how information gets distributed by his local planning commission at the town level. People use the town clerk’s office a lot. Distributing brochures or information here may be a good place to start. People have to come here for building permits. There is an annual training meeting in Fairlee for town clerks hosted by the Vermont League of Cities and Towns that may be a good place for outreach. ● Jay says a lot of people receive information from the town from Facebook and Front Porch Forum. “You are really at a disadvantage if you don’t have the internet.” ● Jay has helped some other small summer camps and businesses understand the regulations. “With the new licensing laws for summer camps and lodging regulations, a lot of these owners don’t understand the material they receive in the mail.” ● A lot of people build a residential house then convert it into a rental property without understanding there are regulations that may now apply to them. ● Jay finds the Vermont Drinking Water website easier to use than other states. 	5/22/2019 <ul style="list-style-type: none"> ● Bridget told Jay about the Short Term Rental Conference she attended for communicating regulations with rental property owners. Jay thinks a big barrier is language used by the state. “Some of the language stuff is dense for the average homeowner.” ● Town clerk communications- Jay saw a handy checklist sent to a business he was helping that detailed what the business needed for fire safety requirements. Could be a good model for a New System On-Boarding packet which had been suggested by a survey respondent. ● Inspired by the checklist idea, discussed creating a brochure style information packet to leave with town clerks, to distribute to realtors and whoever else may be contacting water system operators. ● Discussed communication with various programs in the Drinking Water and Groundwater Protection Division from Jay’s experience. He knows who to call if he has a positive bacteria sample but doesn’t have a relationship with the permitting programs and has struggled with obtaining information when he needs to get a permit. 	6/28/2019 <ul style="list-style-type: none"> ● Discussed the Ohio lab interpretation tool. A few operators questioned if it would be useful to build a version of this for Vermont because TNC systems do not test for a wide variety of contaminants. Jay said, “Just because it doesn’t apply to TNCs and that’s the scope of your work generally, doesn’t mean it isn’t worth investing in.” The tool would be beneficial for many other groups. ● Bridget asked Jay talked about the idea of a quarterly email with links to the drinking water search tools and FAQ’s Jay suggested that Bridget also share this information with Vermont Rural Water Association (VRWA) to share to their network. ● Reviewed Winter Survey results and discussed respondents’ confusion about the TNC Program. Jay distributes information for his work and some people don’t read it. “At some point, the operator needs to do a little work to understand.” Considering how to balance the expectation for some reading with saturation of information overload. What is essential to communicate?

Operator	Month 1	Month 2	Month 3	Month 4
<p>Alison Buhler Professional Water System Operator</p>	<p>3/6/2019</p> <ul style="list-style-type: none"> ● “People take infrastructure for granted because they can’t see it” ● Being good at standardized testing helped her get the certificate needed to become a Class 3 water system operator. ● The water system operator career certification process is prohibitive to people who do not naturally excel at taking standardized tests. ● Has a friend who is new to being a water system operator and was terrified when he received his first violation. Felt he had done something very wrong “When an operator gets their first one they often freak out” ● “I can’t find help.” There are not a lot of operators in the state. Not certain why she cannot find help. ● “Nobody wants to learn”. If the water system fails, it is all on her. She worries that if something happens to her, nobody else will know what to do because nobody else at her company has wanted to learn. ● Thinks a lot about the “what ifs” of water system failure. Where would we send people, what would we tell them, how would they get water, where would they go? Alison is the first and only one to know and address the water system problem: “I don’t sleep”. 	<p>4/9/2019</p> <ul style="list-style-type: none"> ● Alison’s operator friend is not comfortable with computers. How do we make our program more accommodating to those who don’t use computers? ● Her friend was confused when he got a coliform hit and thought he had to implement a Boil Water Notice immediately. Alison helped him understand the difference between coliform and e. Coli. How do we better communicate the difference between coliform and e. Coli and the different requirements for follow-up that come along with each? Lab interpretation tool would be helpful for this- empower people by giving them access to this information so they aren’t left wondering when we don’t answer the phone right away. ● How many people don’t have email? Bridget will run this report. Need to balance a move towards being electronic friendly with being accommodating to people who don’t have computers. ● Drinking Water Watch is a tool that we have that many operators don’t know about. Alison uses this frequently to help track her violations. Other operators may find this useful to assuage their concerns. Find a way to let operators know this tool exists. 	<p>5/14/2019</p> <ul style="list-style-type: none"> ● We took a look at New Hampshire’s drinking water website- they have a one-stop shop page, very user friendly. ● Bridget did some research on lab interpretation tools and found one created by the Ohio State University and Ohio EPA. One puts their lab result in and it interprets what the action should be, where the contaminant is found and what treatment options are available. This would be difficult to make our own in Vermont but perhaps worth seeing if they have open source software. ● Monitoring Violations: Alison was curious as to how many TNC water systems received monitoring violations. I ran a report and found that 159 of our 735 TNC systems received a monitoring violation in 2018. ● How to help people understand their violations? ● “It would be good to link the Water Supply Rule to the Drinking Water Watch. So that when you are looking around you can see what section of the WSR you have violated.” ● Bridget ran a report and noted that 34 out of 579 operators do not have an email address listed. 	<p>6/18/2019</p> <ul style="list-style-type: none"> ● Reviewed survey responses from the Winter Survey sent out to TNC operators, Alison noticed that half of the comments about communication were about lab and sampling issues. ● Communication issues: people do not know all of the options available for them for labs. “It seems like people that are not career operators may not understand water system operation is a part of public health protection” ● For lab help, put out better communication on how people can find labs closer to them or with courier services. ● A form preparation guide that helps fill out forms online? Our challenge is that the Drinking Water Program doesn’t yet accept electronic forms- Bridget will get an official update on the progress of the Division on this effort. Vermont Divorce page as inspiration for clear program communication. ● Accessibility of our operators training- Alison suggested a webinar version for people that cannot get away for 5 hours during the day

Operator	Month 1	Month 2	Month 3	Month 4
Rosa, VTrans Hazardous Waste and Materials Coordinator	3/12/2019 <ul style="list-style-type: none"> ● Rosa was involved in high school student politics her first experience working with other peers interested in things beyond their high school walls. ● Strong mentorship in women-owned company she worked for in college was very rewarding ● Interested in investigatory, monitoring, environmental work. She moved to Vermont from Massachusetts after meeting her partner there. ● Enjoys work life balance with VTrans. "I am doing work that I like with integrity." ● Rosa is responsible for VTrans Agency's TNC water systems, which are state-owned airports. ● How information is communicated is key to her job function. ● Previous operator did not leave good records which was challenging but allowed her to make the job responsibility her own. Organized binders and spreadsheets help her stay on top of her water quality monitoring requirements, permitting, and certifications. ● "I believe clean water is a right"- this influences her excitement in doing the work. ● Clean water as a natural energy source for Rosa. 	4/26/2019 <ul style="list-style-type: none"> ● Discussed breakdown in communications that Rosa has experienced working with the TNC programs. She struggled with some of the requirements at first. ● "Fully understanding the program ahead of time and having program requirements communicated ahead of time helps operators like me understand how to respond." ● Bridget asked Rosa "How do we make that process easier for new operators in the beginning?" ● Rosa says, Vermont Rural Water Association is an important resource for her. The trainings that the TNC Program puts on are very helpful. ● Accessibility of trainings for rural operators is a problem. Would webinars be useful? Rosa answers that they are, if engaging. Rosa had the idea of 5-minute YouTube videos on specific topics. ● Power of Infographics. Rosa shared a graphic memoir called RX that shares stories of people with medical conditions to help medical community collaborate better for wellbeing of patients. ● Discussed privilege of having clean water and public health injustices. What would it look like to have a privilege awareness workshop with coworkers? 	5/31/2019 <ul style="list-style-type: none"> ● Rosa shared her experience attending Vermont Rural Water Association conference. ● Issue of succession planning for wastewater and water system operators: "We don't know what to do, we need to find people who want this as a profession." There is a misconception of the profession- "People think wastewater is just about poop." Operator jobs have good benefits and pay, are dynamic and engaging. How do we better communicate this? ● "Nobody appreciates water and wastewater system operators. You turn on the tap and forget it." ● Idea for a spotlight video- "Day in the life" of an operator to raise awareness about the importance of water and wastewater careers. ● TNC operators in this project so far have not been interested having their water system filmed. Rosa thinks this is due to a fear of the state finding deficiencies. ● Reviewed Winter Survey responses- one comment from a responder is the idea of a "New System Onboarding Packet". Rosa pointed this out as a good idea to have a friendlier supplement to state language, conversational way to demystify regulations. 	6/21/2019 <ul style="list-style-type: none"> ● Reviewed all of the suggestions Bridget has been hearing so far. Rosa suggested looking at the Underground Storage Tank communication materials for inspiration in the way they communicate their regulations. ● Rosa discussed the Private Well Homeowners Committee meeting she attended. They discussed how realtors and house sellers don't always reveal information about their water systems, and new owners aren't always educated enough to know they should inspect their well. ● Outreach to realtors and town clerks through realtor conferences and Town Meeting Day, a town clerk training event. Empowering people with information up front is a way to move closer to relational regulating. Discussed systems-based thinking and the importance of information flows. ● Asked Rosa how she would feel about quarterly email reminders. She would like them because the automated phone call reminders we send are confusing. ● Discussed idea of satellite lab in southern Vermont. This would help private well owners and non-public businesses with sampling.

Operator	Month 1	Month 2	Month 3	Month 4
<p>Sonny, Full-time operator for Summer Camp</p>	<p>3/27/2019</p> <ul style="list-style-type: none"> When he was in high school in the 1950's, Sonny got a knock on the door from three nuns looking for a contractor. They wanted to build a summer camp for Lithuanian children and needed help. Sonny and his father helped them build the camp and 50 years later, Sonny is still there doing maintenance for the camp, which is celebrating 50 years this summer. "Not your ordinary camp". The camp celebrates Lithuanian heritage and culture. Sonny is responsible for anticipating maintenance problems and needs to make sure water emergencies are dealt with before the kids arrive. Sonny wants to retire soon, but is worried about finding someone to run the camp. His maintenance procedures and processes have been based off of his knowledge of the camp. He worries about finding someone that can replace him. From the TNC Program's perspective, anyone with a high school diploma or GED can run his class of water system. But that person will not have the 50 years of experience that Sonny has. 	<p>5/2/2019</p> <ul style="list-style-type: none"> For water sampling, Sonny pays \$20 just to have the sample mailed to the lab. Bridget told Sonny that there is a lab that has a courier service included in the price of the sampling that would save him money. This brought to light the fact that many operators are not aware of their options for sample delivery. Sonny gave some helpful feedback regarding the yearly nitrate sampling reminders that the Program sends out. "One of the things that confused me last year was when you sent out the reminder to take the nitrate sample before the end of the year. That post card is confusing for summer camps who close before the end of the calendar year. Can you change it so that the post card says "take the sample before the end of your operating season?" Bridget will note of this to edit the next nitrate reminder for summer seasonal operators. Discussed how TNC water systems are not required to sample for lead. Sonny wants to sample because he worries that there are lead lines at his camp. He wants the kids to be safe. 	<p>6/3/2019</p> <ul style="list-style-type: none"> Sonny discussed the pressure of getting everything fixed on the water system before the kids arrived. "One day, our booster pump wasn't working because a tiny little sensor failed." It took him a week to get the part. People consuming water take for granted the challenges of running a water system, some people don't believe in water sampling. Sonny says that he took it for granted when he was a child because he was able to drink from his stream. Now, water is more polluted. "If there is anything that needs to be done to protect the water at our camp, we will do it." Bridget shared with Sonny the idea of giving resources to town clerk offices to distribute and he thought this was a good idea, he goes to the town clerk and looks at the information they have posted while he is there. He also suggested giving materials to well drillers because they are also in direct relationship with water system operators. This is all information the public should have, and access to it will help them manage their water system in a way that is easier for them and protects public health. 	<p>7/1/2019</p> <ul style="list-style-type: none"> Sonny shared about the summer camp's 50 year celebration. He had to give a speech at the event and said in his introduction: "Most of you don't know who I am, and that's a good thing. I do all my work when you aren't here." Discussed the lab interpretation tool from Ohio. Sonny thought this was a useful tool and that maybe we could tell people to use the Ohio version with the caveat that some of the information is tailored to Ohio. It may be a resource-saving option, as long as it is not confusing to operators. Sonny likes the idea of a quarterly email, and requests that we put a reminder to take the nitrate sample. He also realized that a link he had been using for a long time to look up his bacteria test results was not working anymore, so providing a regular email with updated links would help. Training accessibility- Sonny likes the idea of webinars..Would be easier for him than the 3.5 hour class we offer which is a challenge to get to since he lives far from where the trainings are hosted: "It kind of ruins your whole day."

Operator	Month 1	Month 2	Month 3	Month 4
<p>Margaret, Full Time Water System Operator for Ski Mountain, Vermont Rural Water Association board member</p>	<ul style="list-style-type: none"> Margaret signed up for the project in Month 2. 	<p>4/26/2019</p> <ul style="list-style-type: none"> Margaret began working as a wastewater operator for a ski mountain 27 years ago. The men who worked for her used to call her “Alice in Wonderland” when she started because she didn’t have any wastewater or water treatment experience. She hopes to retire soon to focus on her contract water system operator side business. It would be helpful to Margaret to meet other operators and understand what they do for their contract businesses so she can grow hers. Might the Operators on Tap group be able to meet up at some point? A big challenge for Margaret in her job are water main breaks. Sometimes they will get a major line break in the middle of a busy ski day and have to wait until the late afternoon when lifts close to start digging for the line. This makes for long nights digging in the bitter cold. Margaret worries about operator succession planning. When she attends conferences she sees a sea of gray hair. How do we reach people and make the profession appealing? There is currently a revolving door for pay. 	<p>5/31/2019</p> <ul style="list-style-type: none"> Margaret shared that she spent some time this month working on tours of water and wastewater systems to educate the public. Bridget asked Margaret if she thought it would be helpful to do “spotlight” or “day in the life” videos or features on water and wastewater system operators. Margaret thought this would be great because there is so much public misunderstanding about this field. “They don’t understand what we do and what the rules are. We come out looking like the bad guys.” People get angry due to the strict rules that increase their taxes but take it for granted that this money goes into improving infrastructure and protecting the environment. Margaret shared that the topic of operator succession planning came up at the Vermont Rural Water Association (VRWA) conference she attended. She is lucky to have a young team currently and is not worried about it when she retires but sees that it is a problem. Hopes her side business as a contract operator will help people. Discussed the Ohio Lab tool and the drinking water database search pages. Margaret thought these tools were useful and worth sharing with operators. 	<p>6/27/2019</p> <ul style="list-style-type: none"> Discussed Winter Survey data. Margaret says that she thinks we need a lab in southern Vermont. “The closest one to us is in Lebanon New Hampshire. Right now we have a courier in Springfield but they only pick up samples at noon on Tuesday.” There used to be a local lab in southern Vermont that everyone could take their samples to but the lab got bought out by a larger lab and they closed the location. A survey respondent noted it would be nice if there was a “lab on wheels” where you could pay someone to take your sample and take it away. This is a service that some operators provide. It would be excellent if the state had more lab resources to offer people since the state is enforcing the requirements. The Department of Health manages the sampling for its own programs but the Drinking Water Division does not. Leads to a lack of control for assisting operators with lab issues. Margaret thinks a satellite lab in the south that offers sampling would make a big difference for people. Margaret finds the terminology the TNC Program uses on its forms to be confusing and dense. A simple guide to filling out our forms that is less wordy may be a better way to communicate form instructions to folks.

Operator	Month 1	Month 2	Month 3	Month 4
Pete Krolczyk, Volunteer Water System operator for church facilities	<ul style="list-style-type: none"> Pete signed up for the project in Month 2. 	<p>4/25/2019</p> <ul style="list-style-type: none"> Pete got into wastewater treatments in the 80's but used to be a professional musician. His life took a different path and he found religion. He worked in Florida, West Virginia, New York and eventually Vermont, helping his church with missionary work and facilities maintenance. Even though the water system operation work is volunteer work, he spends most of his time there. He works with Main and New Hampshire and has found it challenging to work with other states. He finds it easier to work with the Vermont program. The up front training that the TNC Program did when the Revised Total Coliform Rule went into effect was very helpful. "You folks really set the bar by taking hold of the program." He thinks that the high standard that the state of Vermont places on enforcing the federal rules is what all states should be doing and is frustrated that the different states he works in have different standards. For him and his church, safety is the most important thing. It would be beneficial for the church's water system operator staff to have a training from the TNC Program. Bridget's supervisor has agreed that this is something we can do, and Bridget and Pete will work to organize this training for roughly 30 water system operators. 	<ul style="list-style-type: none"> Pete had to skip this month due to work obligations. 	<ul style="list-style-type: none"> Pete had to skip this month due to work obligations.

Operator	Month 1	Month 2	Month 3	Month 4
Gene Martin, Full Time Water System Operator for Ski Mountain	<p>4/2/2019</p> <ul style="list-style-type: none"> Gene spent most of his career working in consulting. He worked a long time in environmental permitting but the travel was too much for him when he had small children. One day he saw a job posting to work as a water system operator at a ski mountain about ten years ago. He started out as the Assistant Chief Operator of wastewater and now he is the Director of Utilities, so he is responsible for operating several big and small public water systems that are regulated by the State of Vermont. He had not been ready to take over the department but the department head announced she was leaving, so he was thrown into it. "Trial by fire." He was so happy to get to work closer to home and watch his kids grow up. "Best move I ever made in my life." "When people complain about the price of their ski ticket, they do not realize what goes into running a ski resort." You don't see the hard work that operators do to make sure the infrastructure is running smoothly. Each year they have a cross-training event where their employees learn about other parts of the system that their coworkers manage to appreciate all of the work that goes into the whole system. 	<p>5/2/2019</p> <ul style="list-style-type: none"> The mountain had a great ski season but the water and wastewater work does not stop for Gene when ski season is over. He is available on-call most of the time. They are not able to fully compensate employees for being on-call. "If it fails, we are the guys that have to make it work." Gene has had both positive and negative experiences working with the state. He has always tried to be proactive with both regulations and regulators. "You guys have a job to do, we have a job to do, the customers are there. You got to know what the regulations are, you can't cut corners, lie cheat or steal, because that will come back to haunt you." Ethical practice is important to Gene. Some people are afraid to call the state but he has found that it is better to work with them. He has had trouble with sanitary surveyors not being consistent with their inspections. "You go through a sanitary survey and three years later someone else comes along and looks at it differently." The Drinking Water Division does not currently have any sort of training program for regulators who are doing water system surveys. There is a benefit to different perspectives but it is important that regulators know the laws they are enforcing and are consistent with that. 	<ul style="list-style-type: none"> Gene had to skip this month due to work emergencies. 	<p>6/27/2019</p> <ul style="list-style-type: none"> Bridget told Gene the idea about including a recommendation for an internal sanitary survey training based off of Gene's comments regarding consistency with sanitary surveys. Gene liked this idea. Gene wishes the Division would allow him to submit his reports electronically. Right now it is cumbersome since he operates so many systems. He has to print them off, make copies and mail them, whereas with his wastewater reporting he simply has to email them and the email automatically responds that the report has been received. Gene found the Ohio lab interpretation tool very helpful because he runs several large systems that have more complicated chemical analyte testing requirements than TNC water systems "I like this tool because it tells you what the effects of high or low results are, what the treatment options are and provides resources." The quarterly email idea sounds useful to Gene because he likes fact sheet and educational tools. He provides fact sheets to his water and wastewater users to help them understand the importance of what they put into their septic system and the importance of water conservation. Gene thinks this kind of project is useful for operators. "We are all in this together."

Appendix E

Summary of Winter Survey Responses- Questions 1 through 4

	Survey Results	Comments
Q1: How would you describe instructions from the TNC Program for taking water quality samples?		
Very Good	50	Comments: "I have never had an issue following these directions"
Good	62	
Fair	7	Comment: "could be more succinct"
Poor	1	
Very Poor	1	
Miscellaneous	2	One "NA" and one "Not sure I have ever seen or read program"

Q2: How would you describe overall quality of communications from the TNC Program?		
		Comments: "Correspondence, instruction and feedback from Tanya Dyson outstanding and timely", "Really appreciate the sampling reminders", "very easy to work with" "I heard the reminders come regularly from those receiving them. I will be the designated operator starting this year" "Pre-recorded messages get cut off by my voicemail system so I usually miss the first half. Not a huge deal" "I was very unclear on"
Very Good	57	
Good	49	
Fair	10	Comment: "Too much info and not enough face time"
Poor	3	Comment: "no response to sanitary survey for West Hill Rec Area Water System. Asked about additional sampling with no response" (this was resolved)
Very Poor	2	
Miscellaneous	2	one "NA" and one "Reminders are good"

Q3: What materials would make TNC Program instructions easier to understand?		
Videos		
Picture-based handout/instructions		
Pictures, videos		
Something would be better than nothing		
The wording used for instructions could be written better. Sometimes, as with the "2019 Operational Update", they are harder to understand than they could be		
Comment like "if you are in compliance skip ahead to X"		
Availabilities of Water Testers and laboratories		
Pictures, etc would be helpful for those of us who don't have much previous experience with the myriad plumbing configurations		
Infographics such as charts showing repeat sampling procedures		

An online database of all water systems info would be very handy. One page for each system combining monitoring schedules, lab results, permit statuses, and DWW info. NHDES has a nice "one stop" page.
Operating permit exp date- mine is 2/28/2020. Will be given instructions soon on how to apply for a new permit?
I love the videos
Online video for sampling etc
Handouts would be helpful for me
Any method of communication has value and is helpful
Pictures, infographics, diagrams and detailed, specific guides for system operations, FAQ, Public/operator
The cost of operating a business in Vermont has become a burden to small business owners. Government jobs
Love the chlorine calculator- infographics are super helpful
An on-boarding packet that is more user friendly with links to online resources. The current ANR website is very difficult to navigate if you don't know what you're looking for
Infographics would be a good idea
A way to make this easier is to require properties that have a clean record for 2 years only need to test once a year. If there's an issue then that property is required to test quarterly until they are clean for 2 years
Explanations of upcoming changes to regulations
Pictures
Videos
Y
Videos
Auto Email Reminders
Infographics to post in appropriate locations
Videos
Someone at groundwater should be taking samples to ensure customer safety
Handouts
Handouts
More online info
I think is very information as is, maybe training
Pictures
Videos
Handouts
Videos might keep operators' attention if properly presented
Pictures and videos
Videos are good, completed examples of relevant forms, templates
Simplicity
More training video's. Jehovah's Witnesses have implemented an in-house training program for all of our Vermont facilities
Pics, videos etc

Q4: Please describe any challenges you face meeting the requirements of the TNC Program?
I am very happy for the final Quarter Reminders Thanks
The staff has been highly available by phone, which is helpful
Local lab sample pick up schedule can sometimes be a challenge
The dates that the water test place are open they can only be done on set dates and if the timing of your test is not within that time then you end up not in compliance. Example: Requested on 10/5 Friday can be done until Monday when lab is open
Getting the sample taken early in AM and then getting to pick up site in time
Not familiar with TNC program requirements
None at this time
The test kits should be free and they should include free postage. I don't feel like the TNC Program is "Helping" me or my business at all. More forms, more fees, more permits.
So far, I have had no positive samples, but when/if I do, I think it will present a challenge to know what tests
Overkill for a 10 room-inn; expensive; if no historic issue reduce sampling requirements to save us \$\$
I struggle to find people to cover for me when I am away. I am trying to train new operators but it is a lengthy
How can we check if we are up to date on our training?
Getting water samples to Colchester vs UPS or FedEx. Both are expensive from the Northeast Kingdom
The only problem I have encountered is breakage of water sample in shipping. Now use UPS it has been fine.
I have found the drinking water and groundwater protection division TNC program staff members to be very helpful when I needed special attention to issues.
Clarity of system operations for facilities with limited historical data, regulatory compliance for operators in professional capacity- understanding the individual system as it not may be the same as examples
The amount of testing required and the distance to get this to the labs.
Time and money spent on samples and administrative fees
Taking the time to drive samples to Burlington 4 times per year I think once a year sampling should be arranged
Working with the Administrative Contact to complete TNC goals/requirements
Getting to a lab from my rural area. Could there be a lab on wheels? I would pay more for that service.
Budget constraints. The revised total coliform rule, while I understand the intent, has caused more paperwork and cost than anticipated
The daily testing of our two wells, as well as the monthly sample collecting, can be a lot on small businesses. I do understand it needs to be done.
The challenge is having to get tests to the testing facility. Like my answer above, in question 3, allow people who are clean to test annually not quarterly

Having to sample 10 days before opening. I turn the water on 5-6 weeks before opening. Would be nice to test then to make sure there are no problems.
My business is in Vt. My water gets tested in New Hampshire. Enough said.
Staff turnover is a problem. When we have questions its always a different contact person, and they almost always have a different way of doing things. Please stay consistent with what you tell people.
Compliance dates are too short, understand that changes sometimes require capitol, labor, time, engineering
have found that the rules take over common sense. I got a level two because my sample did not come on the schedule date. I was trying to fix the problem to avoid level 2. The end result was getting a level 2 by not submitting on time or by submitting on time know that the problem had not been fixed. I asked what level two was "better"
Access to sample sites
I understand it's mandated, but seems to be a lot of paperwork required. Seems that if a system is validated as a consistently top class performer that there could be exemptions permitted after an annual evaluation?????
If we receive a failed water test but take another test immediately the bells and whistles we have to go through in a short amount of time is challenging. Economically the monthly testing was financially and time-stressful. Living in a state such as Vermont with a small population and highly dependent on small businesses for income to work with owners in a professional but less limited rules way. I would have expected a broader understanding and possibly another level of proof prior to the extensive testing
Winter months and continuing system maintenance. Also, Lab proximity and delivery of samples
Submitting monthly readings. Can it be done digitally?
It is unclear who is responsible for doing the water tests. We own the business, but rent the building - so are we or our landlord responsible? We have asked the department but not received a clear answer.



Vermont Department of Environmental Conservation

Agency of Natural Resources

Drinking Water and Groundwater Protection Division

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Appendix F

. Operators on Tap Project Report

Attention: Meredith Maskell, DWGPD TNC Program Coordinator

Re: Operators on Tap Project Report

Contributors: Sonny, Alison Buhler, Margaret, Pete Krolczyk, Jay Kullman, Gene Martin, Rosa, Gene, Bridget Phillips, Lisa

In December 2018, I sent out a communications survey as an enclosure in our TNC Annual Report mailing for year-round and winter seasonal water systems. I followed up with a Survey Monkey version of the survey. I sent the survey to a total of 572 water system contacts, and received 84 paper surveys and 41 online surveys back, for a total of 125 surveys back. Overall, the return rate for the survey was 22%. Once the deadline to return the surveys had passed, I recorded the responses and reached out by phone to operators who wrote that they would be interested in volunteering for what we called “The Operators on Tap Project”. I then sent a Project Information Sheet to inform those who expressed interest that the project would consist of a roughly hour long conversation per month from March through July, detailed what I would do with the phone conversation recordings, and explained what my promises to my collaborators were. Nine operators ultimately signed up to participate after reviewing the information sheet.

Starting in March and going through June, I had monthly conversations with each of the nine operator participants. In the first conversation I asked them to share their life story with me, as much or as little as they wanted, leading up to where they were in the world now. While the conversations with each operator differentiated based on that operator’s experiences and perspectives (Several were professional operators, some were small business owners or employees, and one was a state work who oversees state-owned water systems), we covered similar ground in each collaboration. We reviewed the survey responses from the winter survey I had sent out, and discussing and building upon tools or ideas other operators in the project had come up with.

While I had planned to continue another month of conversations with each operator in July, we ended up planning an in person meet up in July instead after a few operators expressed interest in meeting the others involved with the project. Most of my collaborators were interested and available, so we have organized a potluck lunch wrap-up and celebration for July 18th. At this meeting, I will present to them, the stakeholders and co-creators of this work, all of the ideas we have come up with, as a way of member checking and additional collective workshopping to assess that what I have taken away from their conversations reflects their perspective with integrity. This will also be the space where I ask for evaluative feedback on how I held up the promises I made in the Project Information Sheet that I gave them at the start of the project.

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Below is a summary of the recommendations from the Operators on Tap Project Team.

New System Support

1. **New System On-Boarding Packet-** The inaccessibility of the language used by the TNC Program to describe our requirements came up in some conversations. While we are required to use certain language to describe the federal and state regulations and rules that affect water systems, we also have the freedom to supplement those official letters and emails with other materials that may be helpful by providing an alternative way of learning the information. The packet should include an easy-to-understand sampling guide with graphics that illustrate the sampling steps. It should also include helpful links, upcoming trainings, and a simple guide to filling out the forms (we currently have guidance writing on the forms but it is such an overwhelming amount of writing that people are not inclined to read it).
2. **Context Video-** In conversation, it came up that some operators in the TNC Program never really got a good rundown on why sampling is performed, where the regulations come from, and why it is important. The operators that are able to attend our in-person trainings say that these trainings were extremely helpful in understanding the context of the program. However, it would be helpful to have this information up front when someone becomes newly involved with the TNC Program. Therefore, we recommend that the TNC Program create a short video that it can send out when a person becomes an operator or when a new facility is brought into the program. This video would cover the basics of what coliform and e.coli are, why it is important to perform routine water quality sampling, and a quick explanation of the regulations that affect water systems.
3. **Town Clerk Training and Outreach-** Many of our conversations touched on a theme that we are familiar with in the TNC Program, the fact that many people do not know about our program before they open or build their facility, and later when we discover that they should be regulated, we are experienced as an additional burden to their other responsibilities. In order to address this, we discussed the possibility of giving town clerks a short training and providing them with brochures to keep in the town offices that provide information on what kind of services at facilities trigger regulation by our program. Since town offices were identified by some collaborators in this project as “watering holes” of information in their community, it could be beneficial to make our program known at the local level. Town Clerks gather at the annual League of Towns and Cities meeting every year in Vermont for a Town Fair day, which could be a good opportunity for a presentation to increase awareness about our program.

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Ongoing Operator Support and Training

1. **Quarterly Newsletter Email-** Through our conversations I learned that operators were not aware of some of the useful tools and information we have if they have not attended one of our in-person trainings. Another item came up was that operators who like to sample early in the calendar quarter do not benefit from the postcard and phone-call reminders to sample, which only get sent out at the end of the quarter to people who haven't sampled yet. People who sample early in the quarter would appreciate a reminder, too. Therefore, it is recommended that the TNC Program send out a quarterly newsletter email at the beginning of the quarter, which reminds people to sample, includes links to our Drinking Water System Database Search and Drinking Water Branch pages, and highlights other useful resources, videos, and webpages we have available for operators. Other possibilities include a "Frequently Asked Questions" section and an "Operator Spotlight" where we profile a water system operator we have worked with recently.
2. **TNC Operations Training Courses Alternatives-** Every operator I spoke to that had attended a TNC Operations Course said it was very beneficial for them to understand the Program and its regulations better. However, many operators cannot make the time for the training, which is 3.5 hours long plus what can be a lengthy drive for many people living in rural areas of Vermont. Even though we offer the training in different areas of the state, it is still difficult for many people to make it to our training because of their job responsibilities. If they are not a professional operator, they often do not have the luxury of taking a half of a day off work to attend a training. Therefore, it is recommended that we offer some alternatives to our traditional 9am-12:30am class. One alternative would be an "after-work hours" option for the in-person course. Another alternative that we recommend is to offer a live webinar series, where the course is given in one-hour segments over the course of three weeks (for instance, 3 Mondays in a row at 12pm). We would offer this several times throughout the year and offer a training credit for each hour, allowing an operator to mix and match sessions as their schedule allows. This flexibility would be very helpful for water system operators who really want to attend the training but cannot make our traditional schedule work for them.
3. **5-minute training videos for Youtube Channel-** Another recommendation would be to create more content for our Youtube Channel, with short videos on certain topics taken from our TNC Operations Training. Potential topics include Seasonal Start-up Walkthrough and Form Completion, What to Expect during a Sanitary Survey, and A Day in the Life of a Water System

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Operator. These videos could be shared regularly through the quarterly newsletter email, since our website where the Youtube channel is linked from is reportedly difficult to navigate.

Recommendations for the Long Term

- 1. In-house Sanitary Surveyor Trainings-** One problem reported among some operators in the survey and in Operators on Tap conversations was an inconsistency in surveyor method during sanitary surveys. It was reported that surveyors varied in which things they would identify as a sanitary survey deficiency, so that something that was not called out at a problem at one survey would be identified in the next survey by someone else, creating confusion and frustration for the water system operator. This may be due to the fact that each sanitary surveyor is trained individually upon hire, typically by their supervisor or coworkers, so that each surveyor may have a different knowledge base which could lead to the inconsistency. Therefore, we recommend that the DWGWD host in-house group trainings of surveyors. The curriculum should be co-developed by section chiefs and senior staff who have had extensive experience with the federal and state rules. The curriculum should include a thorough review of sanitary survey deficiencies, common problems that surveyors may run into in the field, and guidelines for writing sanitary survey letters and setting up compliance schedules and deadlines. The trainings should take place on a regular basis even for staff who have received it in the past, so that they can get a refresher.
- 2. Satellite Lab in Southern Vermont-** Question 4 of the communications survey sent out in the winter asked “Please describe any challenges you face meeting the requirements of the TNC Program”. Half of the respondents wrote about challenges working with a lab or getting samples in on time. People who live in rural parts of Vermont, especially the far south, have a difficult time getting their lab samples in before the maximum hold time of 30 hours since sample collection. This is due to a lack of labs and courier services throughout the state, as most are concentrated in cities and larger towns. Therefore, we recommend that the Department of Health Lab perform a feasibility study on a satellite lab in south Vermont to complement its headquarters in Colchester. This lab could be certified to perform total coliform and e. Coli analysis and nitrate analysis. Not only would this benefit TNC operators, but it would also benefit private homeowners who have wells as well as small businesses required to perform sampling for their Food and Lodging Licenses.
- 3. Lab Result Interpretation Tool-** A discussion that came up for some operators was interpreting lab results, as the lab report that gets issued does not include any interpretation. During our work together we found a tool that was created by a partnership between the Ohio State University, the

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Ohio Department of Health, and the Ohio EPA, but has applicability to Vermont. A user enters the lab result for a contaminant hits “submit”, and a page is generated that includes information based on the number entered. This tool may have limited benefit to TNC water systems due to the small number of contaminants they are required to test for. However, the tool would have great benefit for larger water systems such as municipalities and schools that are required to do more complex testing and are overwhelmed when they receive their lab report. The tool can be found here: <https://ohiowatersheds.osu.edu/know-your-well-water/well-water-interpretation-tool>

4. **Operator Succession Planning-** Several of the professional operators I worked with on this project voiced concerns about succession planning due to Vermont’s aging workforce and industry difficulty in recruiting young people into water and wastewater careers. It is recommended that the DWGPD meet to discuss this issue and what the state’s role could potentially be in assisting municipalities and other large water systems in their difficulty with recruitment.

Lastly, I want to thank you and the Division for all of your support in my creation of this project. It was very heartening to feel encouraged to do this kind of inquiry in our workplace, which I believe will help orient us towards a future of regulation that is service-focused.

Sincerely,



Bridget Phillips

TNC Program Specialist

Appendix G
Weekly Leadership Prompt

Weekly Leader Practice Alignment Reflections and Questions to Ask

Each week I will reflect on the following questions as they relate to my project experiences for the week:

Questions

- How is my leadership practice showing up in your project?
- In what ways have I noticed my project impacting the way I show up in other areas in my life?
- What's challenging me? What's challenging my practice of embodied leadership?
- What new insights are emerging?
- What's my burning question?
- What have I risked in service of this project?

And also reflect on the leadership practices:

- Integrity/accountability
- Self-determination
- Awareness
- Critical inquiry
- Working with difference
- Relationship building
- Systems thinking
- Conscious communication
- Creativity and play

I will ask myself how I have been walking through the work and in alignment or out of alignment with the work by the daily activities, experiences and internal/external responses and reactions I have to situations that challenge my worldview and assumptions.

Appendix H
Operators on Tap Project Assessments

Operators on Tap Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Sonny

- 1. Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

Yes

- 2. What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

All aspects worked well

- 3. What did you think could be improved with the structure of the project?**

If time would allow, a sight visit on one of the month instead of a phone call.

- 4. Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

Yes

- 5. Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?**

No

6. Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.

- Full name
- First name
- Initials only
- Completely anonymous (“Water System Operator 1”)

Other: Sonny

I appreciate your feedback. Thank you for the generous gifts of your time and ideas which made this project possible.

Operators on Tap Project Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Gene

- 1. Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

I think it was exactly as described.

- 2. What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

For me it worked great to schedule a month in advance. I think conversations were about half a hour, which was just right. I thought it was best when there was a fairly specific subject and when I had an idea of what that would be in advance. Bridget created a relaxed atmosphere, was not rushing, and freely expressed appreciation, which made me feel free to convey thoughts .

- 3. What did you think could be improved with the structure of the project?**

My own water system experience is on the most basic level, so there was nothing very complex for me to add. If more technical things were to be discussed or solutions to issues were being brainstormed, than having an outline of the conversation a little in advance might be good for someone like myself who thinks a little slowly. Where the project was seeking to see more of the initial reaction to an idea, the structure of the conversations seems to be perfect.

- 4. Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

I am not sure what recommendations came from the project, but I feel no concern about my perspective being represented. I am confident that it has been heard and included in the process.

5. **Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?**

The communication and processes seem to be outstanding.

6. **Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.**

- Full name
 First name
 Initials only
 Completely anonymous (“Water System Operator 1”)

Other: _____

I appreciate your feedback. Thank you for the generous gifts of your time and ideas which made this project possible.

Thank you for your good work!

Operators on Tap Project Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Pete Krolczyk (7/28/2019)

- 1. Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

I didn't view the program objectives as 'promises' that needed to be kept. I viewed the project as an opportunity for networking and sharing ideas which some did result. I was a little disappointed in the lack of response and involvement from other operators but realize the time crunch during the summer season.

- 2. What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

The scheduling and the communication were very good. The format and the length of the interview were appropriate. One suggestion would be to conduct the interviews and the project possibly during a less busy season, fall or winter.

- 3. What did you think could be improved with the structure of the project?**

No real suggestions as I thought the structure and outline of objectives were and will continue to be beneficial.

- 4. Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

The perspective we have is unique due to the volunteer nature and the organizational structure of our dozen or so Kingdom Hall facilities throughout the State. Like a franchise or a larger corporation, it is easier for us to train and implement standard operating procedures. Our internal networking and resources for troubleshooting is very good. I think it would've been difficult to emphasize our unique perspective since we would be an exception and not the rule for the hundreds of other water systems.

5. Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?

I appreciated the comments regarding trying to enhance the Agencies on line web tools and even reporting. The training tutorials is excellent and would be very beneficial if these could be increased.

6. Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.

- Full name
- First name
- Initials only
- Completely anonymous (“Water System Operator 1”)

Other: _____

I appreciate your feedback. Thank you for the generous gifts of your time and ideas which made this project possible.

Operators on Tap Project Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Alison Buhler

1. **Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

Yes, the project progressed as I expected from what was explained.

2. **What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

I liked that we had a general framework for the overall conversation (operator background, experiences, and ideas) but that we came up with specific ideas to discuss and reflect upon as we continued to meet. Having tasks and goals resulting from our meetings was helpful in continuing the next conversation and helped me develop some specific ideas. Bridget was great about being candid and honest when answering my questions and I learned a lot about the TNC program and the DWGPD structure as a result.

3. **What did you think could be improved with the structure of the project?**

I really enjoyed our in-person meeting and would definitely incorporate that in the future.

4. **Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

Yes. Bridget did a great job taking my feedback and developing it into actionable tasks to enhance my ideas.

5. **Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?**

At this time, nothing in addition to what we have already discussed.

6. **Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.**

- Full name
 First name
 Initials only
 Completely anonymous (“Water System Operator 1”)

Other: _____

I appreciate your feedback. Thank you for the generous gifts of your time and ideas which made this project possible.

Operators on Tap Project Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Lisa

1. **Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

Everything went as expected.

2. **What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

It was the first time I participated in an event structured this way. It was fun, and I think very productive.

3. **What did you think could be improved with the structure of the project?**

I think it is fine the way it is right now.

4. **Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

Yes, I was glad to participate and feel that my views and recommendations are appreciated and incorporated into the project.

5. **Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?**

Continue an open line of communication with a core group of TNC's. Try to encourage a few more to participate.

6. **Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.**

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Operators on Tap Project Assessment

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Name: Jay Kullman

- 1. Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

I do feel that the promises were honored, not that I expected any differently. I was not quite sure what we would touch on over the course of the conversations, I think I was pleasantly surprised at how we got to discuss some really interesting ideas in detail. I learned a lot more than I expected. Bridget was not only an excellent facilitator of the conversations, but her wealth of technical knowledge and experience enhanced the discussions dramatically and made them engaging.

- 2. What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

I think the structure was fine, I cannot really add any improvements. I liked that we were able to veer what seemed to be off track for a little bit but it was a way of thinking about the topic more broadly, and we ended up circling back with relevant ideas about the topic.

- 3. What did you think could be improved with the structure of the project?**

I really could not say, I hope Bridget got what she expected from the interviews, I felt they were productive.

- 4. Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

Absolutely, I saw many of the things we discussed: how to get knowledge out, including Town clerks and the fair.

5. Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?

I think that this was a real opportunity for the program, it is great that Bridget chose this as part of her Masters. I hope the State provides tuition assistance, this was a real opportunity to identify some areas to get operators on board and continue the success of the program. I mentioned in our discussions that I feel that it is a privilege for operators to be trusted to do this work, I could easily imagine a scenario where more specialized licensing and training is required where people could not keep up with the demands. Try to get a plumbing or propane license for example.

I hope the division inspires other departments to do this kind of work. What a great way to build trust between the division and operators. Great work!

6. Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.

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- Completely anonymous (“Water System Operator 1”)

Other: _____

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Operators on Tap Project Assessment

Please take a moment to fill out this assessment so we can learn more about what you thought about your participation in this project and the usefulness of this project. This information will be used to guide future efforts to improve our program.

Name: Gene Martin

- 1. Do you feel that the promises made to you were kept? Was there a difference between what you expected to happen and what actually happened over the course of the project? For reference, I have included a copy of the Project Information Sheet given to you at the start of the project.**

I was not sure how it would unfold but there were no great surprises and I thought it was right on target!

- 2. What did you think worked well with the structure of the project (how we scheduled and conducted our conversations, length/format of our conversations, the topics covered)?**

The calls were well scheduled and communicated and there was flexibility. The communication was concise and it was very comfortable to talk about the issues.

- 3. What did you think could be improved with the structure of the project?**

Actually it was all well done, maybe more time and more in person type meetings.

- 4. Did you feel your perspective is adequately represented in the recommendations that came out of this project? If not, please elaborate.**

Yes I think the items I brought up were covered.

- 5. Do you have any recommendations for future projects that the TNC Program should undertake to improve its processes and communications?**

I provided my recommendations during the project.

6. **Lastly, I will be referencing this project and the work we have done in a thesis paper that will be submitted to UVM and posted on the ScholarWorks website once published and an in-person presentation to UVM faculty and students. How would you like to be represented in the paper and presentation? Please check one box.**

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