



Website Usability Report

**RPI Human-Computer Interaction
Usability Team**

December 2024

Dr. Justin Dowdall, Jayden Montalvo, Sophia Turnbow,
Siyan Zuhayer, John Lockwood, Carlos Cruz, Joseph Park



Rensselaer

School of Humanities,
Arts, and Social Sciences

Table of Contents

<u>Our Vision</u>	3
<u>Methods</u>	6
<u>Findings & Recommendations Section</u>	8
<i><u>Comparative Analysis</u></i>	8
<i><u>Sentiment Analysis</u></i>	10
<i><u>Dramaturgy</u></i>	10
<i><u>Personas</u></i>	10
<i><u>Voice Chart</u></i>	11
<i><u>Survey</u></i>	12
<i><u>Speculative Thinking</u></i>	12
<i><u>Card Sorting & Tree Testing</u></i>	13
<i><u>Other Findings</u></i>	16
<i><u>All Recommendations</u></i>	18
<u>Conclusion</u>	19
<u>Appendix</u>	20
<u>Works Cited</u>	21

Our Vision

In today's interconnected world, website usability and user experience are key in providing impressionable service. Bennington County Conservation District (BCCD) pursues the honorable goal of promoting livelihoods and protecting natural resources. In order to best develop this aim, a strong website can be a powerful tool.

BCCD's website can be a platform to communicate its mission, attract support and volunteers, and engage with its community.

Our Goal

To facilitate BCCD's vision, we begin with crafting its ethos while explaining its foundational values and the community it is trying to forge by reevaluating the mission statement.

Original Mission Statement

The purpose of the conservation district is to create a permanent and prosperous agriculture run by happy, healthy people.

New Mission Statement

Our mission is to foster a resilient and sustainable future for the people of Bennington County by **uniting community collaboration, conservation mindfulness, and technological innovation**. We are dedicated to **preserving the natural landscapes, supporting rural landowners, and empowering the county's residents to take part in shaping a vibrant and environmentally forward community**.

Audience

Preservationists are the people that have studied and engaged in natural landscape protection as they educate our community, as exemplified by the [Local Working Groups Intro](#) slides on the BCCD website.

Rural landowners are the bedrock of the conservation district as they handle the bulk of the agriculture in the county. They make up a large portion of the population, as exemplified by the [Rural Livelihoods](#) page on the BCCD website.

Residents that are looking for opportunities to be involved in retreats, to learn and explore at symposiums, and to support local farm products, are always welcome to events such as the [Stormwater Community Resilience Forum](#) hosted in August 2024.

Approaches to agricultural and environmental thinking

Community collaboration bridges groups of people that are disengaged with agriculture and environmental activities or events, by revealing to them that agriculture (farming and its role in local economies) and the environment (soil erosion and stormwater catastrophes) can affect them in ways they aren't prepared for. This is reflected through the [Chestnut Sapling Give Away](#) and [BCCD Partners](#).

Conservation mindfulness is a stepping stone to making sure the future of the people of Bennington County is secure. By taking responsibility for the care of the local environment, the residents of the county protect and improve their surroundings by doing local cleanups, enforcing safe-land practices, and developing projects to solve & prevent climate crises, demonstrated in the [Local Working Groups Intro](#) slides on the BCCD website.

Technological innovation is one of Bennington County's greatest assets. By being at the forefront of new agricultural technologies, Bennington County can ensure that its residents have all the resources available to live comfortable lives without having to deal with stress and strain. This is illustrated by the spotlight on the [Vermont Ripsower](#).

About Us

Conservation districts were first created by local citizens in 1937 to help conserve their water and soil. Now, every state in the nation is served by conservation districts border to border, each an official body created by an act of their state legislature.

Districts now focus on agricultural concerns, water quality, forestry, wildlife, environmental education, or other related issues. All conservation districts still share one important feature, we're bottom-up, locally-led organizations.








Vermont has fourteen conservation districts, some established according to county boundaries, others according to watershed boundaries. BCCD was established in 1946 to serve all of Bennington County and its four watersheds – the Mettowee, the Batten Kill, the Hoosic, and the Deerfield. For more information on VT's other conservation districts, refer to the [Vermont Association of Conservation Districts site](#).




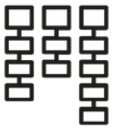

These watersheds encompass some of the most culturally, economically, and ecologically significant landscapes in Vermont. The health of the natural world around us and the vitality of our communities are deeply connected to wild and cultivated landscapes. The Bennington County Conservation District protects them by serving those who work them and live in them.

The current About Us page has no mission statement or an explanation of the values of the BCCD. It presents more like a history of Bennington County.

Our new mission statement allows a first-time visitor of the BCCD website to understand who is being served, what their goals are, and what mindset they will use to achieve those goals. When Michael Fernandez came in and talked to us about the state of the website and his goals, we realized that there was a major issue with the identity of the website. There was nothing that pops out and signifies who the target audience is and what the BCCD can do to help them. Without spending hours combing through the website, it is unlikely that the average user will be able to discern that BCCD has a priority in technologically innovating while maintaining a symbiotic relationship with its constituents.

We used various methods to aid us in understanding BCCD, gathering data, and creating recommendations. Below are the explanations of each method:

	Name	Description
	Mission Statement Reworking	Redefining an organization's core principles to ensure clarity and alignment within people in the organization.
	Logo Reworkings	Updating a brand's logo to either enhance, modernize, or evolve upon its previous logo.
	IT Support Document	Provides strategic guidance on technology improvements and methods to enhance efficiency and scalability. This is a necessary tool for many companies to meet evolving technological trends.
	Comparative Analysis	Comparing multiple websites to identify strengths and weaknesses.
	Sentiment Analysis	Analyzing text to "determine if the emotional tone of the message is positive, negative, or neutral" (<i>"What Is Sentiment Analysis?"</i>). This is used to determine the website's current perception and what may need to change to make it positive.
	Dramaturgy	A framework that places users at "the centre of the experience" to understand the "performance" of users in a digital interface and analyze how users of a product interact with it (<i>"The 'D' Word - What Is Dramaturgy?"</i>). This is similar to an actor performing on stage for a particular setting with a distinct role concerning the product.
	Personas	A "fictional, yet realistic, description" of different segments of a product's target audience (<i>"Personas"</i>). This is used to better understand and focus on the user.

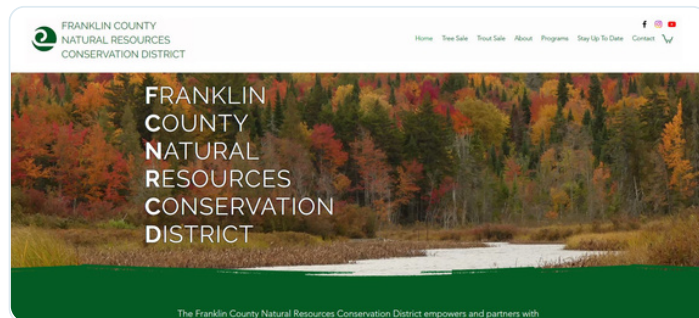
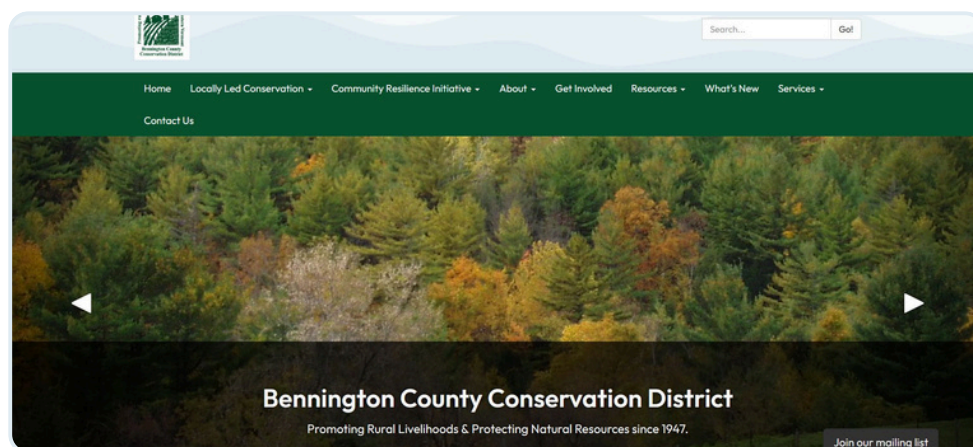
	Name	Description
	Voice Chart	"A set of decision-making rules and creative guidance" to outline a brand's tone and communication style, detail how it should express itself in various contexts (<i>Podmajersky, 18</i>). This can serve as a guide to content writers to help keep a consistent voice and tone.
	Surveys	Collecting data from a target audience to gain insight on audience preferences or opinions.
	Speculative Thinking	Thinking about "how things could be" rather than the present reality, leading to insights that otherwise may not have been found (<i>Dunne and Raby, 69</i>).
	Card Sorting	A research method where participants gather topics from the website and organize them into "groups according to criteria that make the most sense to them" (" <i>Card Sorting</i> "). This helps better the understanding of user mental models and the website structure.
	Tree Testing	A research method where participants "look for key resources" in a tree, representing the information architecture of a website (" <i>Tree Testing</i> "). This is used to determine how effective an information architecture is and what problems exist with it.

Findings & Recommendations

8

Comparative Analysis

One of the first methods we used was Comparative Analysis, where we looked at similar websites to see how they were organized differently in order to get find their strengths and weaknesses. Using our findings, we tested to see what made conservation districts successful. In our research, we found the Vermont Association of Conservation Districts website which directed us to many other conservation districts websites in Vermont. We noticed that a few conservation districts do not even have their own website - their contact information is just on the Vermont Association website. The counties whose websites we looked into for comparison were Bennington, Rensselaer, Franklin, Caledonia, and Lamoille.



Home pages of Bennington, Rensselaer, Franklin, Caledonia, and Lamoille County Conservation Districts

Sources: <https://www.renscosoilandstormwater.org/soil-water-conservation-district>,
<https://www.franklincountynrcd.org/>, <https://caledoniadistrict.org/>, <https://www.lcnrcd.com/>

Comparative Analysis (continued)

For the comparisons, we listed out the information architecture of each site - the names of each of the pages listed in their header bar. This was helpful to see what information counties considered important enough to make into its own header. For example, Rensselaer, Franklin, and Lamoille county all have a storefront for fish and tree sales, so they put more of a focus on that. Caledonia county has fewer headers and organizes their information clearly, separating out their resources into agricultural, watershed, and municipal. Franklin county emphasizes their Agricultural Guide and features their programs as well as a survey on their home page. On the bottom footer, Franklin county has a sign-up for their mailing list and contact information. We also compared the key phrases used by each county, which can be found at the bottom of the document in **Appendix A**.

FRANKLIN COUNTY
NATURAL RESOURCES
CONSERVATION DISTRICT

Contact Us
info@FranklinCountyNRC.org
802-582-3133
Office: 431 Franklin Park West, Suite 100a
Mailing: 50 S Main St, Suite B-20
St. Albans, VT 05478

Subscribe to our newsletter for updates on District events and our annual Tree Sale!

First Name *

Last Name *

Email *

e.g., email@example.com

Join

©2022 by Franklin County NRC. Proudly created with Wix.com

Franklin County NRC's footer

Recommendations based on Comparative Analysis:

- Make sure that social media and events are easy to find by linking social media by keeping keeping the link to BCCD's Facebook at the top of the website and renaming the "What's New" header to "News & Events"
- Home page should showcase the most important information for people to see. For example, the mission statement, upcoming events, latest news, and links to other important information.
- In the footer, clearly label BCCD's contact information, put the signup for the mailing list there, and change the text from all uppercase to title case to improve readability.

Sentiment Analysis

We used generative AI (ChatGPT) to do a sentiment analysis on BCCD. Taking key phrases from the website, we got back an analysis of what sort of emotions are conveyed by the words used. Here are some examples of what was outputted:

“The BCCD emphasizes long-term commitment to protecting natural resources and improving rural livelihoods. Phrases like "protecting natural resources" and "promoting rural livelihoods" express a positive and proactive sentiment, showing dedication to environmental health and sustainability.”

“The tone across all sections of the website remains constructive and collaborative, particularly in phrases like "partnering is the key to conservation success." This fosters a sense of collective effort and shared responsibility for conservation.”

From the sentiment analysis, we learned that BCCD has a big emphasis on community involvement and a long-term commitment to conservation. For the full results of the sentiment analysis, see "Sentiment Analysis" in [Appendix B](#).

Dramaturgy

We paired up and acted as a specific user of the website, and the website itself, to go through different scenarios of answering questions users would likely have. After performing the dramaturgy, we found that for most of the answers to the questions, all roads lead to contacting Michael. This shows a lack of support structure on the website for people to help themselves and find the right information. This will be a major problem that needs to be addressed, as seen in the recommendations from other methods.

Personas

When making the personas, we took into account people from various places of different backgrounds as potential users of the website. From this, we learned how the difficulty of finding information varies for people of different backgrounds. We also learned that the main information that most users are looking for is likely about grants, resources (about flooding, agriculture, etc.), opportunities and events about community engagement, and contact information.

Some of the difficulties people may face can be addressed using the voice chart and results of tree testing, which can be found below. For more information about the personas, see [Appendix C](#).

Voice Chart

When making the voice chart, we took into account some of the findings we had from the sentiment analysis. From that and a thorough lookover of the website, we decided that the content that should be emphasized is conservation, education, and technology. The voice chart details the suggestions we've made for how to rewrite content on the website.

Recommendations based on Voice Chart:

- Rewrite content, following suggestions such as making concise content from the voice chart to write consistently and stay aligned with BCCD's goals; this can be found in **Appendix D**. More information about making content concise can be found in section 3.2 of the IT support document in **Appendix E**.

Get Involved

Volunteer Opportunities

With the work we do, we always need volunteers. We are a community based organization, and are nothing without our community!

If you support the work we do, consider joining the Bennington County Conservation Corps.

Why you should commit

Every hour you volunteer with the District is valued by grant making agencies at set rates. That means when you volunteer with the Conservation District the work you do is magnified 8-10 fold.

What you can expect

BCCD has a wide and expanding array of programs and community initiatives where you can lend a hand. When you indicate your area of interest BCCD will work to pair you with work you'll find meaningful.

These program areas include:

- Riparian Buffer Planting Work Days
- Invasive Species Removal Work Days
- River Clean Up Work Days
- Community Garden Work Days
- Bioremediation Work Days
- Community Stormwater Work Days
- Outreach and Engagement Work Days

... and more to come!

Get Involved

Volunteer Opportunities

With the work we do, we always need volunteers. We are a community based organization, and are nothing without our community!

If you support the work we do, consider joining the Bennington County Conservation Corps and help contribute!

Why should you commit?

Every hour you volunteer with the District is valued by grant making agencies. So when you volunteer with the Conservation District, the work you do is magnified 8-10 fold!

What can you expect?

BCCD has a vast amount of programs and community initiatives where you can lend a hand. When you indicate your area of interest, BCCD will work to pair you with work you'll find meaningful.

These program areas include:

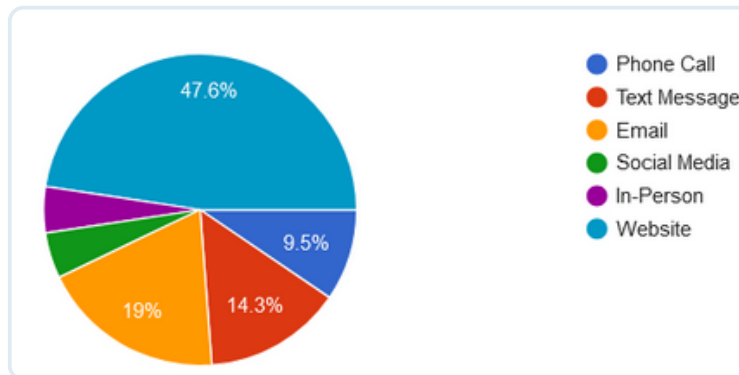
- Riparian Buffer Planting Work Days
- Invasive Species Removal Work Days
- River Clean Up Work Days
- Community Garden Work Days
- Bioremediation Work Days
- Community Stormwater Work Days
- Outreach and Engagement Work Days

... and more to come!

Example of rewritten content on the Get Involved page to be more concise and engaging to potential volunteers

Survey

From our survey, we found that most people believe the website's purpose is to find information on how to volunteer and other resources. We also found that people preferred to contact BCCD through the website or email. But since the majority of responders were students, it showed that it's important to upkeep online communication specifically for the younger generation. The full survey results can be found in [Appendix F](#).



Survey responses about preferred communication methods

Speculative Thinking

Some of the major ideas we thought through was what if BCCD had unlimited funding and what if people could only learn through their sense of touch? Some things we found were that BCCD could benefit from having a social media manager to grow their online presence for the younger generation, BCCD should hire writers to build complete and concise content for the website, and internships should be offered to students to manage BCCD's social media, write the website's content, and manage the website.



Hand touching tree, showing one of our thought processes during speculative thinking where we imagined how the website would function if people could only learn about conservation through touching

Annie Spratt, Childs hand resting on mossy tree trunk, photograph, 2018.

Speculative Thinking (continued)

Recommendations based on speculative thinking:

- Hire a social media manager to grow BCCD's online presence
- Hire writers to build the website's content
- Offer internships to students for managing social media, writing content, and managing the website
 - If you are interested in offering internships to RPI students, you can contact Juliana Manning (CCPD associate director of employer relations) at mannij5@rpi.edu to set up postings and find candidates

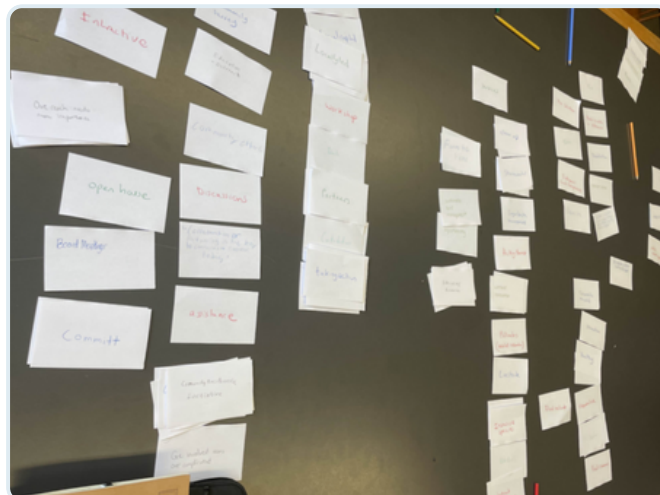
Card Sorting and Tree Testing

From the card sorting results, some major concepts we found that need to be emphasized are grants, community involvement, services, and education. From there, the major categories we decided that needed to be emphasized in the information architecture were:

- Grants
- Get Involved (Community Engagement)
- Resources
- Events
- About Us (info about BCCD)
- Contact Us
- Emergency Response (flooding)

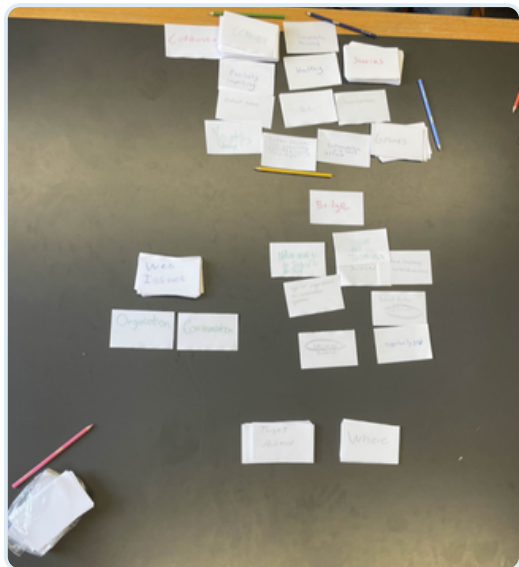
What do we mean by Information Architecture?

An **information architecture** guides users through a website's content by structuring and labeling content in an intuitive way (*What Is Information Architecture?*). It is the organization of pages under headers and sub-headers, which allow users to efficiently navigate a website without getting lost or overwhelmed, improving the usability and user experience of the website.



Information from the website written out on cards

Card Sorting and Tree Testing (continued)



Sorted information into main categories



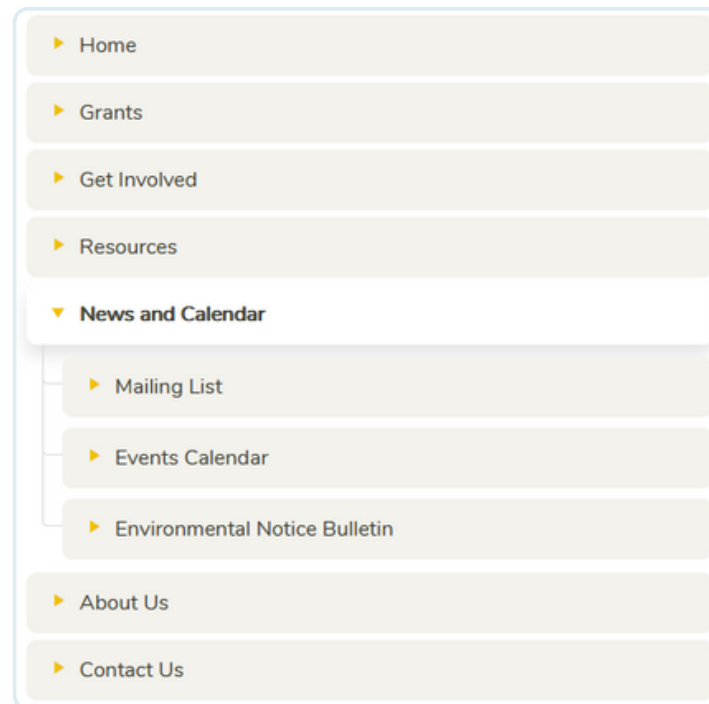
After the first card sorting session, more cards were created and added to the original deck of cards. Afterward, the deck was reorganized again to create a new set of themes for the website.



Sorted information in card sorting results

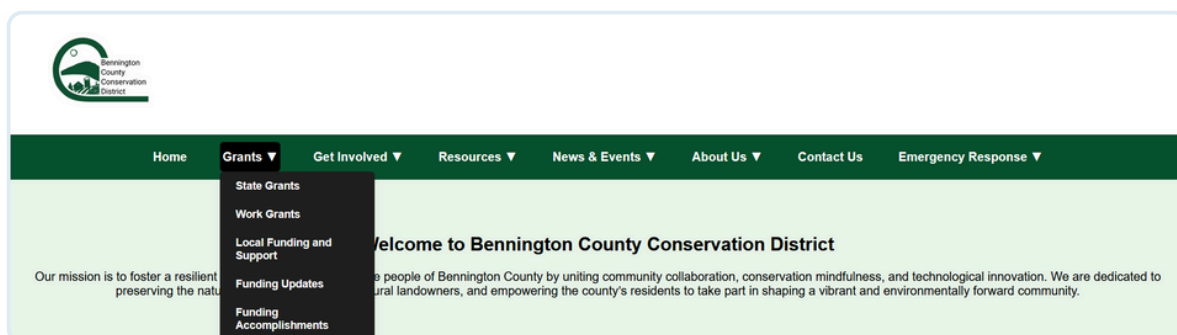
Card Sorting and Tree Testing (continued)

Using the major categories, we created an initial information architecture of the website, aiming to significantly simplify and group headers together for easier navigation. This information architecture was used for tree testing to see how well people can navigate the new architecture, as seen in "New Information Architecture v1" in **Appendix G**.



Tree testing form used to collect feedback and data

From the results of tree testing, we found that there shouldn't be too many levels of subheaders as that leads to information getting buried. We also found that some important information was difficult to find and other information can often be expected to be found in many different places. So, we created a second new information architecture to address these issues, adding a header for emergency responses to flooding and decreasing the amount of subheaders.



The new information architecture based on the results of tree testing

Card Sorting and Tree Testing (continued)

Recommendations based on card sorting and tree testing:

- A new information architecture needs to be made to significantly simplify the navbar and emphasize the most important information for BCCD, similar to what we've made in "New Information Architecture v2" in **Appendix G**.

Other Findings

Besides the methods that we used to get our findings above, through conversations within the team, we found other problems with the BCCD website that can need to be addressed:

- The website is missing a mission statement
- The BCCD logo is too tall and complex, taking up too much space on the website and making it difficult to identify the components of the logo
- An FAQ page is needed to help answer common questions quickly
- The BCCD Facebook page needs to emphasize the website to spread awareness of it
- The website is lacking in images specific to Bennington County, making it harder to distinguish BCCD from other counties' conservation districts
- There are other problems, such as grammatical errors and missing content, that needs to be fixed. Examples of this can be found in **Appendix H**.



***The current logo,
which is too tall and
complex***

Frequently Asked Questions

What do I do if there are nuisance beavers on my property?

The New York State Department of Environmental Conservation (NYSDEC) provides an effective online manual that includes details on the many different management techniques, necessary permits for, and the pros and cons of beaver management.

[DEC Techniques and requirements for controlling nuisance beavers \(link\)](#)

Where can I get my drinking water quality tested?

What are the appropriate contacts at DEC for...

Where can I find info on GCSWCD's Bare Roots Sale?

Do I have wetlands on my property?

Do I need a permit?

How do I find my FEMA flood insurance rate map (FIRM) ?

Example of an FAQ page

Source: <https://www.gcswcd.com/resources/faq>

Other Findings (continued)

Recommendations based on other findings:

- Add a mission statement to the About Us page. An example of one can be seen in **Appendix I.**
- Shorten and simplify BCCD's logo to make it easier to identify and understand. Along with the new logo, create a color deck to keep the website's colors consistent to create a theme. An example of a new logo and color deck can be seen in **Appendix J.**
- Create an FAQ page to let people quickly find answers to common questions.
- Emphasize the website on the BCCD Facebook page through a post or by linking it in the bio
- Add images of Bennington County in the home page to distinguish BCCD from other conservation districts in Vermont
- Fix other common problems throughout the website, such as the ones seen in **Appendix H.**



A new logo we created, decreasing the height of the original logo and simplifying it

All Recommendations

Below is a summary of all our key recommendations:

Comparative Analysis:

- Keep social media links at top of website
- Rename "What's New" to "News & Events"
- Showcase information about upcoming news and events and the mission statement on the home page
- In the footer, label the contact information, put a signup form for the mailing list, and change text to be title case

Voice Chart:

- Rewrite content, following suggestions from the voice chart and IT support document in **Appendices D** and **E**

Speculative Thinking:

- Hire a social media manager
- Hire writers to build the website's content
- Offer internships to students for managing social media and the website and writing content

Card Sorting and Tree Testing:

- Create a new information architecture, such as the one in "New Information Architecture v2" in **Appendix G**

Other Recommendations:

- Create a mission statement, such as the one in **Appendix I**
- Create a shorter, simpler logo and color deck to follow, such as the logo and color deck in **Appendix J**
- Create an FAQ page
- Emphasize the website on BCCD's Facebook
- Include Bennington-specific images on the website
- Fix other problems found, such as the ones in **Appendix H**

Conclusion

The main issue that we addressed in this UX report is about the impact of the website's structure and content on the user's ability to answer their own question. We hope through our recommendations, BCCD will be able to improve their website, there by empowering current and prospective members of the Bennington community to learn more about their environment and be engaged.

Going Forward:

For immediate steps to take going forward, please refer to our IT Support Document in **Appendix E** and our proposed information architecture in "New Information Architecture v2" in **Appendix A**. These two documents will contain the most actionable and impactful changes that can be done on the website, impacting how users navigate the website, their ability to find information, and how to roll out updates to the website in a safe way.

We thank you for taking the time to read through our report and hope that it helps the Bennington County Conservation District in their future endeavors.

Appendix

Appendix A:

Comparative Analysis

Appendix B:

Sentiment Analysis

Image Generation

Website Structure Recommendations

Appendix C:

User Personas

Appendix D:

Voice Chart

Appendix E:

IT Support Document

Appendix F:

Survey Responses

Appendix G:

Card Sorting Results

Tree Testing Form

Tree Testing Questions

Tree Testing Results

Tree Testing Data

New Information Architecture v1

New Info Architecture v2

New Navbar Example

Appendix H:

Other Problems Found

Appendix I:

Mission Statement Reevaluation

Appendix J:

Color Deck

New Logos

Works Cited

Caledonia County Natural Resources Conservation District | Technical Assistance for Landowners & Municipalities. <https://caledoniadistrict.org/>.

“Card Sorting: Uncover Users’ Mental Models.” Nielsen Norman Group, <https://www.nngroup.com/articles/card-sorting-definition/>.

Dunne, Anthony, and Fiona Raby. Speculative Everything: Design, Fiction, and Social Dreaming. The MIT Press, 2024.

Frequently Asked Questions - Greene County Soil & Water Conservation District. <https://www.gcswcd.com/resources/faq>.

“The ‘D’ Word - What Is Dramaturgy?” Fast Familiar Workroom, 7 Jan. 2022, <http://workroom.fastfamiliar.com/what-is-dramaturgy/>.

Home | Franklin County Conservation District - Vermont. <https://www.franklincountynrcd.org/>.

Lamoille County NRCd. <https://www.lcnrcd.com/homepage>.

“Personas: Study Guide.” Nielsen Norman Group, <https://www.nngroup.com/articles/personas-study-guide/>.

Podmajersky, Torrey. Strategic Writing for UX: Drive Engagement, Conversion, and Retention with Every Word. O’Reilly Media, 2019.

“Soil & Water Conservation District.” MS4andSWCD, <https://www.renscosoilandstormwater.org/soil-water-conservation-district>.

Spratt, Annie. "Childs hand resting on mossy tree trunk." Unsplash, 18 June 2018, <https://unsplash.com/photos/shallow-focus-photography-of-persons-hand-on-brown-tree-trunk-CzTkPs1jr9E>.

“Tree Testing: Fast, Iterative Evaluation of Menu Labels and Categories.”

Nielsen Norman Group, <https://www.nngroup.com/articles/tree-testing/>.

“What Is Information Architecture?” UX Design Institute, 8 Feb. 2023, <https://www.uxdesigninstitute.com/blog/what-is-information-architecture/>.

“What Is Sentiment Analysis? - Sentiment Analysis Explained - AWS.” Amazon Web Services, Inc., <https://aws.amazon.com/what-is/sentiment-analysis/>.

