

# NCGrowth's Field Guide to Blueways: Leveraging Natural Assets for Economic Development | March 2021





## About NCGrowth-SmartUp

NCGrowth-SmartUp is an award-winning applied economic development university center with a goal of directly addressing inequality, poverty, underemployment, and other factors that keep people and communities from reaching their greatest potential. NCGrowth's team includes expert staff across the Carolinas, academic advisors from multiple universities, and hundreds of local partners. Together we are transforming communities by (1) providing technical support to promising businesses so they can grow, hire more people, and create wealth; (2) helping towns/counties/tribes create robust local economies with equitable opportunities for residents; and (3) providing policymakers across the U.S. the tools to learn how to achieve success. Learn more at [ncgrowth.unc.edu](http://ncgrowth.unc.edu).

NCGrowth-SmartUp is part of CREATE, an economic development research center at the UNC Kenan Institute of Private Enterprise working to tackle the problem of severe and increasing wealth inequality by generating shared economic prosperity through a combination of research, data analytics, homegrown interventions, and policy development. Learn more at [createprosperity.unc.edu](http://createprosperity.unc.edu).

This work is supported by the Economic Development Administration and the Kenan Institute of Private Enterprise.





# Authors & External Reviewer



**RACHEL TAYLOR, AUTHOR**  
**Senior Analyst, NCGrowth**



**Rachel** is a Senior Analyst with NCGrowth focusing on economic development projects across North Carolina. A recent MPA graduate from Western Carolina University, Rachel is interested in sustainable and community-focused approaches to economic development. With NCGrowth, Rachel has worked on projects ranging from built asset assistance workshops to leveraging outdoor recreation for economic development. Originally from Alabama, she found a second home in the mountains of Western North Carolina. Rachel holds a BA from the University of North Carolina at Asheville, where she double majored in Spanish and Interdisciplinary Studies-focusing on Latin American politics and minored in Cultural Anthropology. Rachel's experiences traveling and working in different sectors and countries have inspired her to put down roots and focus on building resilient communities. Rachel enjoys spending time outdoors, hosting game nights, and spending time with her partner.

**CAROLYN FRYBERGER, AUTHOR**  
**Assistant Director of Economic Development, NCGrowth**

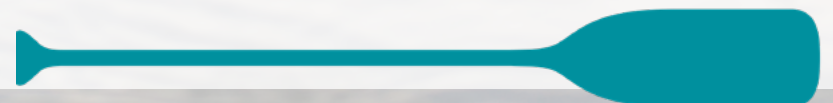


**Carolyn** leads NCGrowth's economic development research and client projects across North Carolina. She works with local government and community clients to develop and pursue strategies addressing downtown revitalization, business retention and expansion, and economic development planning. Prior to graduate school, Carolyn worked 2.5 years in local government for a small North Carolina town. Carolyn holds a Master's degree in City and Regional Planning from UNC-Chapel Hill with a specialization in Economic Development.

**DR. EMILY YEAGER, EXTERNAL REVIEWER**  
**Assistant Professor, Eastern Carolina University**



**Dr. Yeager** is an assistant professor at Eastern Carolina University. She received her B.S. in Geology and M.S. in Sustainable Tourism from Eastern Carolina University. She received her Ph.D. in Natural Resources, Recreation, and Tourism & Integrative Conservations from the University of Georgia.



# Table of Contents



## **5 EXECUTIVE SUMMARY**

### **7 GETTING STARTED**

- 7 How to Use This Guidebook
- 8 Methodology
- 9 Introduction to Blueways
- 10 Water Trail Designations
- 14 Policies and Regulations

### **16 PART ONE: BUILDING YOUR BLUEWAY**

- 16 Plan Your Blueway
- 22 Design Access Sites
- 25 Launch Design Options
- 32 Blueway Signage
- 36 Blueway Safety

### **38 PART TWO: LEVERAGE RECREATION FOR ECONOMIC DEVELOPMENT**

- 38 An Economic Case for Blueways
- 38 Promote Your Blueway
- 44 Outdoor Industry Economics
- 45 Recreation in Rural Counties
- 46 User Trends and Demographics
- 53 Economic Impacts of Paddle Trails
- 54 Connect Trails to Local Businesses
- 56 Funding Mechanisms
- 56 Resiliency and Economic Development
- 58 Business Opportunities

### **60 CONCLUSION**

### **61 REFERENCES**

### **64 APPENDICES**

- 64 *Appendix A: General Resources for Building Your Blueway*
- 65 *Appendix B: Blueway Planning Work sheets*
- 80 *Appendix C: Case Studies*
- 83 *Appendix D: Funding Resources*
- 87 *Appendix E: Additional Resources*





# Executive Summary

**The southeast** is home to first-class paddling opportunities for every type of outdoor enthusiast. From whitewater rapids to coastal islands and everything in between, communities can leverage their unique natural characteristics to provide an environmental and cultural asset that supports not only local recreation but also brings in visitors and connects them to the community. With the impacts of COVID-19, travel plans are rapidly shifting to focus on outdoor recreation and locations within driving distance, which means new opportunities for the Carolinas. Finally, leveraging waterways into community and economic assets can help boost local support and, in flood-prone areas, can help communities overcome barriers by creating a positive community asset from one that traditionally has only caused problems.

Creating paddle trails, also known as blueways, is a strategy that helps to improve visitor experience, preserve the environmental integrity of the area, and leverage the paddle trail to increase awareness and connection to surrounding communities. Blueways, and outdoor recreation, in general, help improve the health and quality-of-life for residents and can attract visitors and new businesses to an area. Rural communities, in particular, have the unique ability to leverage their abundant natural resources in a sustainable way for economic development.

Unfortunately, blueway creation is more challenging than simply installing a sign and hopping on the water. There are many factors to consider during the planning process, like stakeholder engagement, creating a managing organization, and funding the blueway. Building access sites and ensuring user safety involves careful consideration and design. Ensuring that the river stays usable and clean is an additional challenge that becomes more important as the blueway becomes more popular. Finally, the planning process must consider ways to effectively leverage the blueway for economic development by connecting it to local communities.

NCGrowth created this Blueway Guide to provide blueway planners with a tool to aid in the creation and enhancement of blueways and to leverage these assets for economic development effectively. This guide contains the following information:

Part One: Build Your Blueway	Part Two: Leverage Recreation for Economic Development	Resources
<ul style="list-style-type: none"> <li>• Blueway planning</li> <li>• Involving stakeholders</li> <li>• Master Planning</li> <li>• Safety and stewardship</li> <li>• Site design</li> <li>• Water trail designations</li> </ul>	<ul style="list-style-type: none"> <li>• Businesses supported by blueways</li> <li>• Economic impacts of water trails</li> <li>• Outdoor Economy</li> <li>• Recreation in rural counties</li> <li>• User trends and demographics</li> </ul>	<ul style="list-style-type: none"> <li>• Case studies</li> <li>• Funding opportunities</li> <li>• Launch design guides</li> <li>• Worksheets for blueway planners</li> </ul>

NCGrowth hopes that this guide will provide a foundation for planning a paddle trail in your community. The guide provides specific considerations for planning and building blueways as well as specific strategies to connect local businesses to the paddle trail. This resource can be shared amongst stakeholders and invested organizations to help generate buy-in. We also hope this guide will help you to leverage your natural assets for economic development and to improve the quality-of-life for your residents.



# Getting Started

## How to Use this Guidebook

This guide intends to be a resource for communities planning to leverage water resources for recreation and economic development. For technical considerations related to planning, designing, and building your blueway, please refer to part one of this guide. For planning economic development strategies, please refer to part two of the guide. The appendices offer practical worksheets, relevant case studies, resources for design and planning, and funding opportunities.

1. The guide first highlights technical considerations for building or enhancing a water trail. Communities looking to leverage their water resources for recreation can significantly improve user experience by enhancing access points and by providing safety information. We have provided general guidelines for water trail designations and permitting for building access site amenities. For more specific permitting information, please speak directly with your local agencies. Many of the technical considerations for part one of this guide are adapted from the [Michigan Water Trails Manual](#). Additional general references for part one of this guide can be found in [Appendix A](#).



Figure 1 Clear Creek Paddle Trail Sign  
Source: leaguacity.com

## 2.

The second part of this guide emphasizes the economic development strategies used to leverage paddle trails effectively. It also highlights non-traditional approaches to economic development, such as using flood resiliency and stormwater management approaches as tools for economic development. Finally, this guide includes resources for case studies and design guides to help communities learn about successful strategies for leveraging outdoor recreation and building river access sites. The resources section also provides links to funding opportunities and additional technical resources for trail building and community programming.

### Methodology

NCGrowth has engaged in several projects related to water-based recreation and economic development. In addition to several recreation-based business projects, NCGrowth has completed the following economic development projects:

- [Coharie 8A Certification Report](#)
- [Ecotourism in the Roanoke River Region](#)
- [Leveraging Natural Assets for Economic Development](#)
- [Mapping Mitchell County](#)
- [Bertie County Tall Glass of Water Project](#)
- [Cultural Heritage in Brunswick County](#)

Due to the interest in leveraging natural assets, NCGrowth created this blueway guide, which we hope will be helpful and applicable to communities with diverse natural assets and economic resources.

For this guide, the author reviewed over twenty case studies and over one-hundred articles. These articles and case studies can be found in the appendix. The author also relied on notes from site-visits and interviews related to similar projects. Key lessons and information from these activities are highlighted in relevant sections throughout this guide. Throughout this guide, water trail, blueway, and paddle trail are all used interchangeably to refer to a designated route through rivers, lakes, or other bodies of water. They are designed primarily for non-motorized watercraft like kayaks, canoes, and stand-up paddleboards.



Figure 2 Bear Waters Brewery in Canton, NC  
Source: [mysmokymountainpark.com](http://mysmokymountainpark.com)





## Introduction to Blueways

A blueway is more than a river, lake, or other body of water; it is a designated route that is primarily designed for small, usually non-motorized watercraft, such as kayaks, canoes, stand-up paddleboards, or even small sailboats.<sup>1</sup> Commonly used for recreation, these blueways are also called water trails or paddle trails and are similar to greenways. Blueways can be rural or urban and are often located near significant cultural or ecological features in the community. Blueways are also differentiated by their physical characteristics. In an urban context, blueways often have well-defined launch sites, also known as put-ins and take-outs, and are usually located near amenities such as lodging, dining, and shopping.<sup>2</sup> In rural settings, water trails may have fewer amenities and may feature primitive camping as the primary lodging option.<sup>3</sup>

Water trails benefit communities by providing places for people to improve their health through exercise and recreation and gather as a community. Water recreation also contributes to tourism and positively contributes to the broader economy of a community. Water trails provide opportunities for education, stewardship, and conservation.<sup>4</sup>

The benefit of creating a designated water trail compared to simply allowing recreational paddling is that there is dedicated organization and management of the water trail either by one managing entity or a partnership that brings together multiple organizations. Water trail designation also provides the following benefits:

- Confers official designation from the Secretary of the Interior
- Increases the visibility of the paddle trail
- Improves the economic impact of the trail due to increased visitors
- Fosters mutual support and information-sharing amongst different organizations
- Provides opportunities to acquire technical assistance and funding
- Increases water resource protection and sustainability projects
- Increases opportunity for outdoor recreation

---

<sup>1</sup>“What’s a Water Trail?,” MSU Extension, accessed August 4, 2020, [https://www.canr.msu.edu/news/whats\\_a\\_water\\_trail](https://www.canr.msu.edu/news/whats_a_water_trail).

<sup>2</sup>“What’s a Water Trail?”

<sup>3</sup>“Water\_trail\_manual\_20170609\_web.Pdf,” accessed August 4, 2020, [http://www.michiganwatertrails.org/downloads/water\\_trail\\_manual\\_20170609\\_web.pdf](http://www.michiganwatertrails.org/downloads/water_trail_manual_20170609_web.pdf).

<sup>4</sup>“What’s a Water Trail?”

The managing entity(ies) is primarily responsible for the management and upkeep of the paddle trail, including launch sites and campsites. It is also responsible for securing funding and the future development of the water trail.<sup>5</sup>

## Paddling in the Carolinas

Whether you are looking for whitewater rapids, coastal island hopping, sleepy swamps, or winding rivers, the Carolinas have paddling opportunities for every type of outdoor enthusiast. There are over one-hundred paddling opportunities in North Carolina and over eighty in South Carolina. These vary from dramatic whitewater routes in the Appalachian Mountains to long coastal island-hopping trails along the Atlantic Coast. The North Carolina State Parks website lists ten paddle trails in North Carolina just in the eastern portion of the state,<sup>6</sup> and Paddle SC helps adventurers find routes in South Carolina.<sup>7</sup> Designations for these paddling opportunities vary widely, but designated paddle trails are the most accessible to visitors conducting a quick online search. While there are many different types of paddling opportunities across the state, blueway planners can elevate the profile of their community and natural assets by creating designated paddle trails.

## Water Trail Designations

There are different options for trail and river designations that range from a national designation down to designation at the local level.

## National Designations

There are three primary national water trail designations.

1.

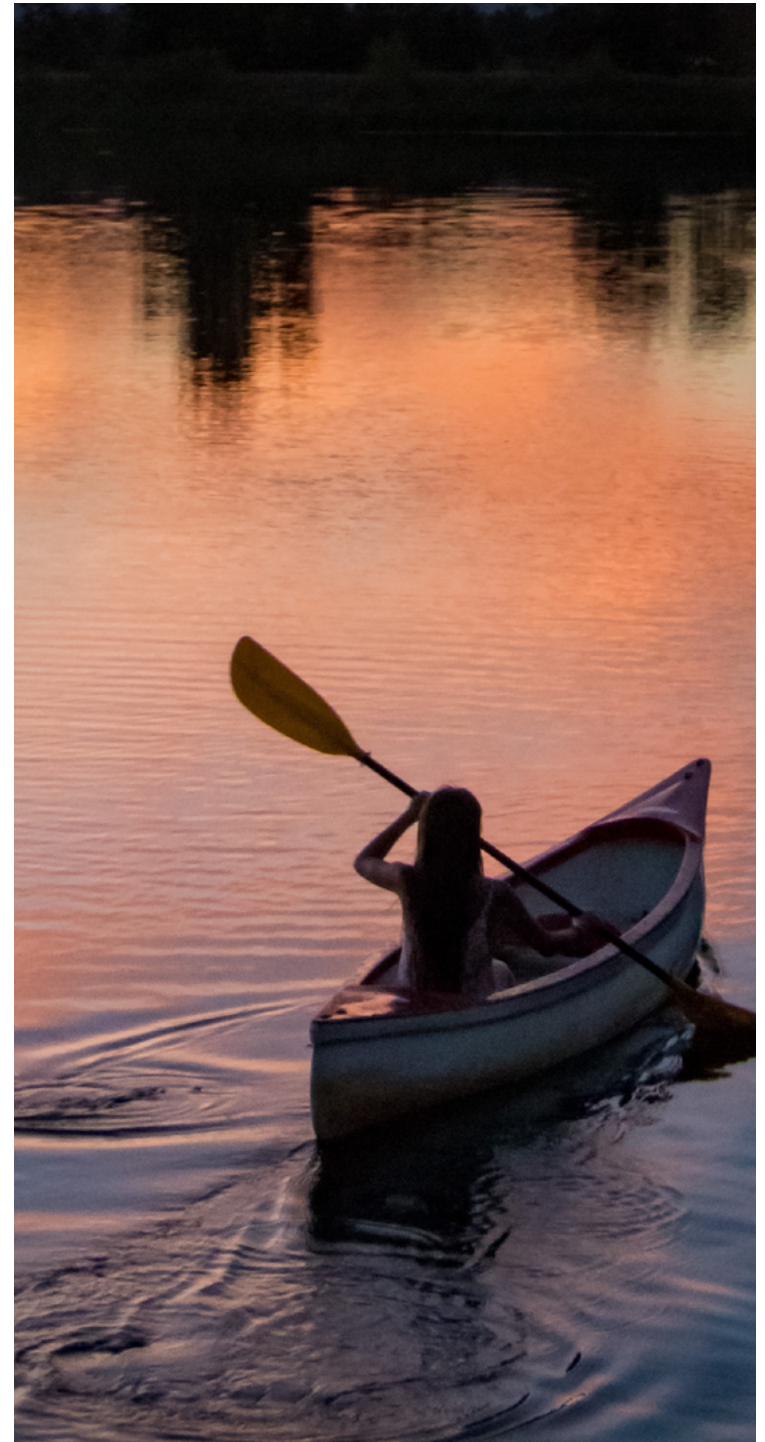
The **National Water Trails System** is a sub-set of the National Recreation Trails Program. National Water Trails were established to protect and restore America's rivers, shorelines, and waterways, conserve natural areas along waterways, and increase access to outdoor recreation on shorelines and waterways.<sup>8</sup>

<sup>5</sup> "Water\_trail\_manual\_20170609\_web.Pdf."

<sup>6</sup> "Trails | NC State Parks," accessed August 5, 2020, <https://www.ncparks.gov/find-an-activity/trails>.

<sup>7</sup> "Explore Waterways," [gopaddlesc.com](https://www.gopaddlesc.com/waterways), accessed August 7, 2020, <https://www.gopaddlesc.com/waterways>.

<sup>8</sup> "National Water Trails System - National Trails System (U.S. National Park Service)," accessed August 7, 2020, <https://www.nps.gov/subjects/nationaltrailssystem/national-water-trails-system.htm>.





2. The **National Natural Landmarks (NNL) Program** encourages the protection of nationally significant natural areas. The landmark will represent and maintain an ecological geologic feature. The program currently protects a number of significant river features.<sup>9</sup>
3. The **National Parks Service (NPS) Wild and Scenic Rivers (WSR) Program** preserves certain rivers with exceptional natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.<sup>10</sup>

Communities must undertake five key steps in order for their blueways to receive **National Water Trail Designation** from the NPS:

**1. Provide basic trail information**

- Examples: trail name, agency, trail location, and trail details.

**2. Commit to best management practices**

- Examples: mission statement, recreation opportunities, and planning.

**3. Provide contact information**

- Examples: trail managing organization, trail manager information, public information contact.

**4. Provide proof of owner consent and state support**

- Examples: written consent from public and private property owners.

**5. Include a photo, map, and logo**

- Example use: displayed online as a preview of the trail.

In order to receive **Wild and Scenic River** designations, there are two main ways communities can approach this process:

**1. Acquire state-level designation first**

- Section 2(a)(ii) of the Wild and Scenic Rivers Act<sup>11</sup> requires designation at the state level before acquiring federal designation.

**2. Acquire Congressional designation**

- Requires a study to determine eligibility.



Figure 3 National Natural Landmarks Program  
Source: letsgooutside.org



Figure 4 National Water Trail  
Source: nps.gov



Figure 5 National Wild and Scenic Rivers System  
Source: epa.gov

<sup>9</sup> "National Natural Landmarks and Rivers - Rivers (U.S. National Park Service)," accessed August 7, 2020, <https://www.nps.gov/subjects/rivers/national-natural-landmarks-and-rivers.htm>.

<sup>10</sup> "Wild and Scenic Rivers - Rivers (U.S. National Park Service)," accessed August 7, 2020, <https://www.nps.gov/subjects/rivers/wild-and-scenic-rivers.htm>.

<sup>11</sup> "Wild & Scenic River Designation," accessed August 7, 2020, <https://www.rivers.gov/designation.php>.



## State and Regional Designations – North Carolina

On the state level in North Carolina, trails are designated as state or regional trails.

In North Carolina, the General Assembly authorizes **State Trail Designation**<sup>12</sup> after a feasibility analysis which includes an assessment of the following:

- Provides significant statewide natural, cultural, scenic, and recreational value
- Contains sufficient length and beauty to attract varied and significant use from regions outside the local area
- Contains minimal and surmountable incompatible features such as roads, intrusive development, or large water bodies

Feasibility is also based on the following:

- Local public support for the general concept of a public trail and the availability of trail volunteers
- Viable section sponsors committed to the design, construction, maintenance, and management of the trail
- Environmental and economic sustainability of the trail route

Feasibility analyses are not conducted by one specific unit or organization and can be conducted by a team of consultants.

The North Carolina Trails Programs plans and oversees **Regional Trail Designation**<sup>13</sup> by the North Carolina Trails Program, which partners with councils of government (COG), agencies, counties, municipalities, nonprofit organizations, and trail users across the state.

---

<sup>12</sup> “Create A Trail | North Carolina Trails,” accessed August 7, 2020, <https://trails.nc.gov/trail-guidance/create-trail>.

<sup>13</sup> “North Carolina Trails Committee | North Carolina Trails,” accessed August 7, 2020, <https://trails.nc.gov/nc-trails-program/north-carolina-trails-committee>.



## State and Regional Designations – South Carolina

On the state level in South Carolina, trails are designated through the **Scenic Rivers Program**<sup>14</sup> and the **Recreational Trails Program (RTP)**.

Trails designated through the **South Carolina Scenic River Designation** undergo the following five-step process:

1. Interested groups, individuals, landowners, local governments, or other entities must submit a written request to the South Carolina Department of Natural Resources (SC DNR) asking for an eligibility study.
2. The Scenic Rivers Program Staff conducts the eligibility study.
  - Assesses the scenic, cultural, historical, and natural values of the river corridor. Land use along the river is also studied
  - Provides information needed to designate a State Scenic River and to classify it into one of three categories: a natural river, a scenic river, or a recreational river
3. Landowners are notified during the eligibility study, and a public meeting is held to discuss the study and the program in general.
  - Requires approval by county councils in the counties through which the designated scenic river would run
4. The General Assembly designates the river as a State Scenic River.
5. An advisory council is appointed, and a management plan is cooperatively drafted for the scenic river.

Trails designated through the **State Trail Designation**<sup>15</sup> and the **Recreational Trails Program (RTP)** undergo the following process:

1. Administered by the South Carolina Department of Parks, Recreation, and Tourism (SC DPRT) under the approval of the Federal Highway Administration
2. Develop or improve trails for off-road vehicles, cyclists/mountain bikers, equestrians, hikers/walkers, and kayakers/canoers
3. Eligible applicants include state, federal, and local government agencies, as well as qualified private organizations
4. All applications are graded utilizing a competitive Open Project Selection Process (OPSP) – reviewed by a grading team
5. A 20% match is required – project sponsors make payments (100%) upfront and are eligible for reimbursement of up to 80% of the total cost

---

<sup>14</sup> “SCDNR - Scenic Rivers - Program Overview,” accessed August 7, 2020, <http://www.dnr.sc.gov/water/river/overview.html>.

<sup>15</sup> “Recreational Trails Program | SCPRT,” accessed August 7, 2020, <https://www.scpert.com/recreation/recreation-grant-programs/recreational-trails-program>.

## Local Designations

Finally, on the local level, trails can be designated in various ways, but key steps to keep in mind are:<sup>16</sup>

- Plan
- Build
- Manage
- Promote
- Safety

Other designations include special fishing designations like the **Mountain Heritage Trout Waters Program**, which is a program between the NC Wildlife Resource Commission and local communities to increase the use and economic impact related to trout fishing.<sup>17</sup> The **Mountains to Sea Trail** is a state-wide trail in North Carolina that integrates land and sea trails across the state.<sup>18</sup>

## Policies and Regulations

The legal basis for public use on paddle trails comes from the Public Trust Doctrine (PTD). This doctrine states “that certain natural and cultural resources are preserved for public use, and that the government owns and must protect and maintain these resources for the public’s use.”<sup>19</sup> This doctrine has roots in many ancient cultures, and most courts attribute the PTD to a common-law rule.<sup>20</sup> However, there are several key cases which established the PTD in the U.S.:<sup>21</sup>

- 1869 – **Illinois Cent Co v. State of Illinois City of Chicago**
- 1896 – **Geer v. Connecticut**
- 1979 – **Hughes v. Oklahoma**

In North Carolina, the state Supreme Court maintained that “navigable waterways and fishing rights were protected under public doctrine.”<sup>22</sup> The public trust doctrine gives the public the “rights to navigate, swim, hunt, fish, and enjoy all recreational activities in the watercourses of the State.”<sup>23</sup> In coastal areas, the public trust doctrine gives the public the right to use and enjoy the ocean, beaches, and estuaries. Generally, the public trust doctrine allows public access up to the high-water mark in coastal areas. The high-water mark is generally considered the mark left by sediment or other debris carried in high waters during ordinary events such as tidal changes and average high water levels. High-water marks left by extreme flooding events or other extreme weather events are not typically used in defining the public trust doctrine.<sup>24</sup>



<sup>16</sup> “Build a Blue Trail,” accessed August 7, 2020, <http://www.bluetrailsguide.org/build/>.

<sup>17</sup> “Mountain Heritage Trout Waters Program,” accessed August 10, 2020, <https://www.ncwildlife.org/Fishing/Learn-Resources/Programs/Mountain-Heritage-Trout-Waters-Program>.

<sup>18</sup> “The Trail | Mountains-to-Sea Trail,” accessed September 16, 2020, <https://mountainstoseatrail.org/the-trail/>.

<sup>19</sup> “Public Trust Doctrine,” LII / Legal Information Institute, accessed August 10, 2020, [https://www.law.cornell.edu/wex/public\\_trust\\_doctrine](https://www.law.cornell.edu/wex/public_trust_doctrine).

<sup>20</sup> Kacy Manahan, “THE CONSTITUTIONAL PUBLIC TRUST DOCTRINE,” *Environmental Law* 49, no. 1 (2019): 263–305, <https://doi.org/10.2307/26794285>.

<sup>21</sup> “Public Trust Doctrine,” Ballotpedia, accessed September 14, 2020, [https://ballotpedia.org/Public\\_Trust\\_Doctrine](https://ballotpedia.org/Public_Trust_Doctrine).

<sup>22</sup> “Public Trust Doctrine: Who Owns the Beach? | Coastal Review Online,” September 29, 2016, <https://www.coastalreview.org/2016/09/public-trust-doctrine-owns-beach/>.

<sup>23</sup> “Public Trust Doctrine.”

<sup>24</sup> “Ordinary High Water Mark - Washington State Department of Ecology,” accessed September 14, 2020, <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/>



In North Carolina, the public trust doctrine does not extend to riverbanks or shores. Riverbanks belong to adjacent landowners, and paddlers cannot trespass on shoreland.<sup>25</sup> In the case of river paddle trails, it is important that paddle trail planning includes an adequate number of public access points. State and local jurisdictions are responsible for managing the river surface and enforcing other state laws and regulations.<sup>26</sup>

Another key piece of starting and maintaining a paddle trail is understanding the environmental permitting process. The State Department of Environmental Quality regulates many activities that may require a permit during the planning and construction phases of water trail development. In certain situations, federal agencies may be the regulating entity. Some common activities that require a permit are:<sup>27</sup>

- Dredging or placing fill material
- Removing logjams
- Installing docks, boat launches, culverts, or other structures

Finally, many land owners and local government agencies ask about liability. **The information in this guide is to be used as a reference and should not be construed as legal advice.** According to the National Parks Service River Management Society, generally, “local governments and private landowners participating in water trails with ‘reasonable care’ are usually protected from liability in most instances.” North Carolina limits liability in the context in which a private landowner allows public use of private property. However, “local jurisdictions or landowners may be found liable if their conduct is ‘willful or malicious,’ or if ‘valuable consideration’ (i.e., a specific fee, such as a launch fee, is paid in return for the use of an access site).<sup>28</sup> These concerns emphasize the need to have clear signage, so that visitors understand where they are and are not permitted. Clear signage also provides assurance to property owners and can help encourage them to participate in blueway development.



<sup>25</sup> rwsmith, “More on the Public Trust Doctrine,” *SmithEnvironment Blog* (blog), September 11, 2013, <http://www.smithenvironment.com/more-on-the-public-trust-doctrine/>.

<sup>26</sup> “Chapter\_77.Pdf,” accessed August 10, 2020, [https://www.ncleg.net/EnactedLegislation/Statutes/PDF/ByChapter/Chapter\\_77.pdf](https://www.ncleg.net/EnactedLegislation/Statutes/PDF/ByChapter/Chapter_77.pdf).

<sup>27</sup> “NC DEQ: Other,” accessed August 10, 2020, <https://deq.nc.gov/permits-regulations/permit-directory/other>.

<sup>28</sup> “Landowner Guidance\_final\_final\_revised\_1-21-2016.Pdf,” accessed August 10, 2020, [https://www.river-management.org/assets/WaterTrails/landowner%20guidance\\_final\\_final\\_revised\\_1-21-2016.pdf](https://www.river-management.org/assets/WaterTrails/landowner%20guidance_final_final_revised_1-21-2016.pdf).



# Part 1: Building Your Blueway

Part One of NCGrowth's Blueway Guide illustrates the technical considerations for creating a blueway or paddle trail. The following sections provide step-by-step considerations for planning and creating a designated blueway. This section also provides detailed information about different types of access site amenities, launch types and designs, universally accessible launches, wayfinding and signage, and safety considerations. Information in this section comes from the River Management Society, the National Parks Service, and the Michigan Water Trails manual. These resources and others can be found in [Appendix A](#).

## Plan Your Blueway

Successful water trails begin with a lengthy and thorough planning process. This process involves bringing together existing plans, relevant stakeholders, and assessing existing assets to create a detailed plan that achieves the goals for the paddle trail and does not waste resources on duplicating efforts or creating unnecessary aspects of the blueway. While this guide provides worksheets and strategies for engaging stakeholders and identifying assets, it will also be helpful to approach this process with a community asset mapping mindset. This will help engage people by encouraging active participation, and it can start the process of framing aspects of the environment and community in a positive light. For example, a swamp that often floods near town is now an asset that can be included in the community asset map.

### Step 1. Organize & Identify Stakeholders

Before planning the blueway, it will be necessary first to identify the committed stakeholders and establish a steering committee or task force. This task force will help coordinate and facilitate planning efforts and will help to create a Master Plan for the blueway. The blueway planner should consider having a conversation about how much decision-making power the committee will have and be clear in communicating that to its members. Below are two considerations for this stage of the planning process.



## Identify Key Stakeholders

A [stakeholder identification chart](#) will help the project manager and steering committee to identify key stakeholders who may be involved throughout the blueway planning and management stages. It may be helpful to identify one point person who will initially oversee organizing and coordinating efforts.

## Identify Roles and Assign Responsibilities

In the beginning stages, many responsibilities may be shared amongst the task force members. But as the planning and implementation stages progress, it will be helpful to assign specific roles and duties to each member. A [worksheet](#) to help identify these roles is in the appendix. These roles can be based on different categories, including:

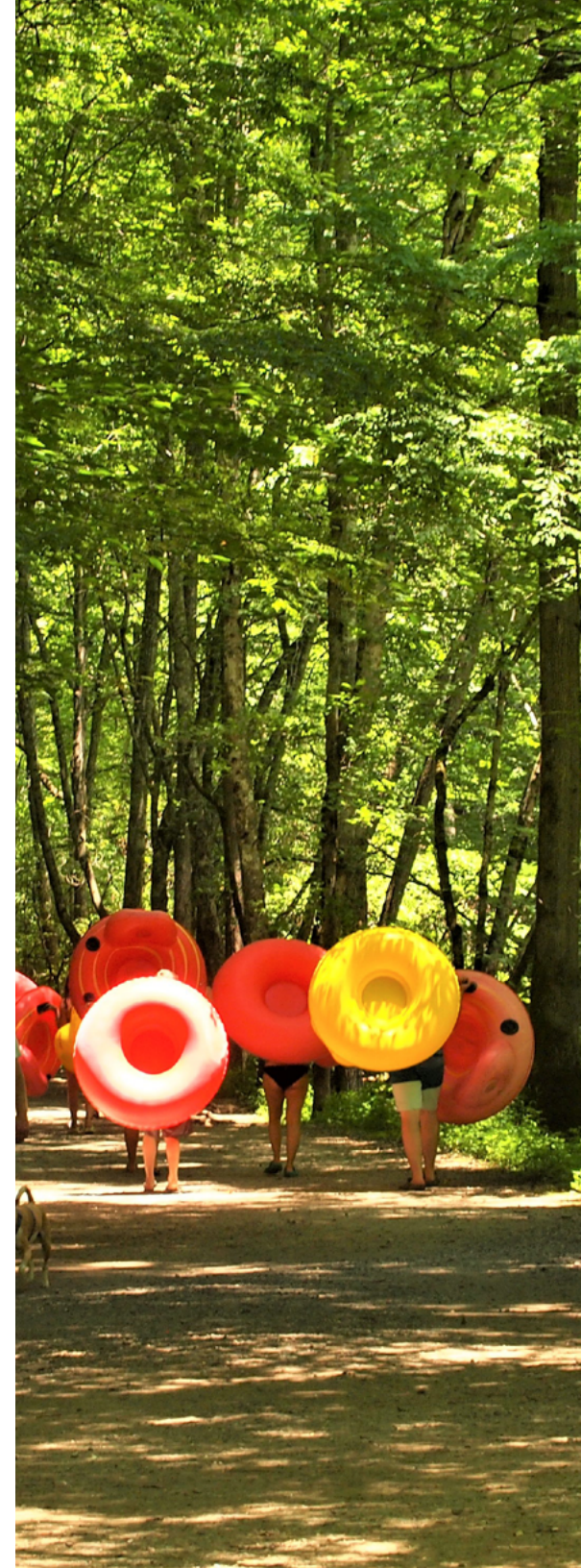
- o Blueway Management
- o Volunteer Coordination
- o Fund Raising
- o Events
- o Marketing

## Step 2. Conduct an Inventory Assessment

The second step in developing a blueway is to conduct an inventory of all available resources and assets to determine strengths and weaknesses. The inventory will include administrative frameworks, amenities, and physical characteristics of the proposed paddle trail. An inventory of community assets can also help to increase the economic impact of the paddle trail.

## Assess Organizational Capacity

Assess all of the agencies and organizations involved with the blueway. An [assessment worksheet](#) is available to record ongoing activities. By understanding which organizations are involved and the degree to which they are involved, the committee will have a better understanding of the organizational capacity to create and manage the blueway.



## Assess Existing Plans and Programs

Compile a list of existing plans and programs related to the paddle trail. This list will help to create a landscape of existing efforts and will minimize redundant efforts. Work with organizations and agencies identified as key stakeholders to determine any relevant plans or programming.

## Assess the Historical and Community Assets

Understand the history of the waterway. This context can help create interpretive signage or programming specific to the unique history of the area. It can also be helpful from a trail management perspective in understanding the natural history of the water, how it has changed over time, and how it may change in the future.

Compile a list of businesses, organizations, cultural assets, and other points of interest. This list will help blueway planners to incorporate local businesses and economic development throughout the blueway planning process and in marketing efforts.

## Assess Physical Attributes

Conduct an inventory of the physical attributes of the water body, such as the river characteristics. Much of this data can be pulled from state and national organizations, but online platforms like google maps can also be helpful.

Continue to inventory publicly accessible lands and access sites along the water body. The access sites will require an additional inventory with a description and assessment of the site, and [worksheets](#) are provided in the appendix to help facilitate these assessments.

Evaluate water hazards and obstacles. Some examples of hazards and obstacles include<sup>29</sup>:

- o Swift water, areas prone to flooding, areas heavy with woody debris
- o Dams, culverts, bridges, pipelines, & utilities which may require a portage

Identify adjacent land uses, zoning regulations, shoreline characteristics, parcel data, local and regional watersheds, and connecting waters.

Include points of interest in maps and promotional materials. By identifying points of interest, the water trail can connect with the local community more directly. Points of interest to consider include:

- o Historical sites
- o Natural areas
- o Unique wildlife
- o Shoreline restaurants

---

<sup>29</sup> "Water\_trail\_manual\_20170609\_web.Pdf."



- o Industrial sites
- o Liveries & outfitters
- o Campgrounds
- o Parking areas
- o Parks
- o Downtowns
- o Other popular amenities

Once the inventory process is complete, the taskforce and involved partners can work to identify gaps in resources and infrastructure needs. Plans to address these gaps can be accommodated under the umbrella of the master plan. See the [Blueway Experience Table](#) in the Appendix for suggestions for access sites based on paddler experience and water body characteristics.

## Step 3. Plan the Blueway

### Create a Vision for the Blueway

The task force will work to create a vision for the blueway. This vision will consider the physical characteristics of the river, lake, or coastal area, informing the types of experiences the trail will ultimately facilitate. For example, if the river has many technical whitewater features and is in a remote area, the blueway will likely attract more experienced paddlers and paddlers wishing for a more wild and scenic adventure. The [target audience and experience chart](#) featured in the appendix can help build a vision for the blueway. Once the target audience and purpose for the blueway have been determined, the task force will be better able to plan the number of access-sites, amenities, and marketing materials needed. The task force will also need to establish a start- and end-point for the blueway.

### Engage the Public

It will be important to communicate with the public through public meetings and other engagement strategies throughout the planning process. See the [Public Engagement Strategies Table](#) in the Appendix. Open meetings will help to educate the public on what the blueway is and how it will look once complete. Some residents may be resistant to the paddle trail, but these meetings provide opportunities to discuss the environmental, economic, health, and cultural benefits of a paddle trail. Through public engagement, river users may provide insight on preferred amenities or water access site locations. Feedback from the public will help shape the vision and purpose of the water trail.

Stakeholder organizations can also be engaged through interviews to gain a better understanding of their activities and plans regarding the water body.

## Create a Master Plan

After conducting the inventory process and the first public engagement meeting, the task force can create the Master Plan. The planning document will present recommendations and a plan of action regarding the operations and maintenance of the water trail, an improvement plan, environmental stewardship and programming, and a branding and marketing plan. The Master Plan will also help create a long-term plan for the development of the paddle trail as well as a short-and long-term plan for funding the paddle trail. The following considerations should be included in the Master Plan.

- **Operational Recommendations**

- Outline the long-term operational framework for managing the blueway
- Formalize a managing organization(s) for the blueway
- Address how the blueway will be managed
- Outline the steps that the task force will take to create a formal managing organization such as a non-profit
- Address how the managing organization will continue to work with stakeholders and local government agencies

- **Physical Recommendations**

- Address specific improvements needed for the blueway, such as access sites

- **Stewardship and Programming Recommendations**

- Address the programming activities to engage stakeholders and keep them invested in the future of the blueway

- **Brand Identity & Development Recommendations**

- Outline considerations for branding, marketing, and fundraising
- Create a separate marketing, branding, and communications plan under the umbrella of the Master Plan
- Create a brand identity for the water trail to promote and communicate information related to the water trail, such as safety and economic development information

- **Maintenance and Funding Recommendations**

- Include specific strategies to address short- and long-term maintenance efforts.
- Create a process for identifying sites in need of maintenance, associated costs, and a plan to determine which organization will make the repairs
- Identify a funding strategy which often this includes a mix of public and private funding
- Create a five-year plan which identifies infrastructure needed for the blueway will also help to develop a picture of funding needs





- **Priorities and Tasks**

- Address specific steps and priorities to achieve each of those recommendations.
- Prioritize small projects to build momentum and enthusiasm for larger projects
- Include a five-year long-term improvement plan to prioritize larger projects for the blueway

## **Address Potential Challenges by Managing Expectations**

In some areas, a concern may be that the blueway will cause overuse of the water body. The task force should work with the Department of Natural Resources to determine if an official carrying capacity exists for the river.

If no carrying capacity exists, work with stakeholders to determine reasonable expectations for the water body. For example, in a heavily populated urban setting, paddlers can expect access sites with more amenities, and they can reasonably expect to navigate around a greater number of paddlers compared to a rural and scenic setting. Paddlers in rural areas can reasonably expect to put-in at access sites with fewer amenities. But, they may expect a more natural and scenic paddling experience (which may include navigating around more river hazards).

After the task force has outlined a draft of the vision and goals for the blueway, expectations can be managed from the beginning of the planning process. In the case that expectations change, the managing entity(ies) will need to work together and with stakeholders to determine how the new expectations will be addressed.

## Step 4. Implementation

After creating and approving the Master Plan, the task force (or newly formed organization) is charged with implementing the Master Plan. Implementation will involve engaging and working with many of the stakeholders identified in the earlier stages of the planning process. Implementation may also involve pursuing funding opportunities. If this is the case, it will help refer to the Master Plan when approaching potential funders. Implementation will also entail making decisions about the design of the access sites and building those sites. It also involves creating the marketing materials illustrated in the Master Plan or the marketing plan and connecting with local businesses. The following section provides considerations for various aspects of access site design.



## DESIGN ACCESS SITES

Amenities along the blueway and at access-sites can play a significant role in user experience and safety, but installing and maintaining these amenities can be expensive. After the task force or managing organization has determined the vision and goals for the blueway, they will then work to install or enhance amenities based on that vision. The following section addresses different types of amenities, but it is not an exhaustive list of blueway or water trail amenities.

### Access-Site Amenities

The number and extent of amenities located at each access site will vary based on site location, physical characteristics of the site, and the managing entity. Often, access sites located next to a public park or recreation complex will have a broader range of access site amenities than access sites located in wilderness areas or privately owned access sites. More heavily used and formal access sites may include the following:

- o A boat launch and/or an Americans with Disabilities Act (ADA) compliant launch
- o Paved or marked parking lot with room for boat trailers
- o Bathrooms
- o Trash and recycling containers
- o Drinking water
- o Picnic tables
- o Shelter
- o Boat lockers
- o Boat rack
- o Charging station
- o Wayfinding signs
- o Informational kiosk





“Regardless of access type, all access sites should include wayfinding and informational signage to help users have a safe experience and shape desirable visitor behavior.”

Users can expect more rural access site to have some of the following amenities:

- o A boat launch
- o Legal parking (though it may be gravel or even a public right of way)
- o Trash container
- o Vault toilet
- o Wayfinding

Remote access sites may only include wayfinding signage depending on specific site conditions and property ownership. In some areas, certain amenities may not be permitted, so it will be necessary for the blueway managing organization to identify all access site owners, managing entities, and regulations. Much like managing paddlers' expectations of the paddle trail, access site amenities can be addressed in similar ways. If the access site is located in an urban area, paddlers can reasonably expect the access to have more amenities like bathrooms, picnic tables, and some form of boat launch. If the site is more rural, river users can expect fewer amenities. If the blueway is designed for novice and recreational users, more amenities at access sites will improve user experience and will connect river users to businesses in town. Regardless of access type, all access sites should include wayfinding and informational signage to help users have a safe experience and shape desirable visitor behavior.



Figure 6 Brick and Mortar Restroom Source: RVHive.com



Figure 7 Pit Toilet Source: Adventurenotincluded.com

## Restrooms

Brick and mortar restrooms provide blueway users with bathrooms and a place to change, refill their water, and charge their devices. This type of restroom can also offer ADA compliant and larger family restrooms. These types of bathrooms are often closed during the off-season and may not be open for the duration of the shoulder seasons. The disadvantages are that they can be expensive to build and require regular maintenance.

Portable bathrooms can be provided at access sites during the shoulder and off-seasons. However, they do not provide paddlers with other amenities, and they will also require regular maintenance and cleaning.

Vault or Pit toilets are less expensive than brick and mortar restrooms, and they offer more room and privacy than portable bathrooms. The disadvantages are that if poorly ventilated, they can cause a foul smell, and they may need to be moved if over-used or if the pit is not deep enough. They, too, require regular maintenance and cleaning.

In general, paddlers will need to use the restroom after about two to four hours of paddling.<sup>30</sup>

## Parking

Parking can have a significant environmental impact on the access site, and sites with insufficient parking can inadvertently cause users to park in less safe or desirable locations. Parking lots, whether paved or gravel, should be designed so that water does not run off the lot and into the water body. Modern stormwater management and vegetation practices should be incorporated into the design of the parking area.

In more developed access sites, larger parking areas will be better able to contain parties with multiple boats and gear. Ideally, the parking area should contain a turnaround area, one vehicle and trailer parking spot, and areas for paddlers to unload without blocking the lane.

<sup>30</sup> "Normal Urinary Frequency," *Bladder & Bowel Community* (blog), April 6, 2017, <https://www.bladderandbowel.org/bladder/bladder-conditions-and-symptoms/frequency/>.





Figure 8 Boat Rack Source: Storeracksolutions.com

## Boat Rack

Boat racks can be a useful amenity for paddlers when securing their boats while shuttling or moving their cars. In urban contexts, boat racks can allow paddlers to store their boats if they decide to venture into a riverside restaurant or brewery.

Boat cages can be rented out to residents for seasonal storage of their boat and other gear. Rental fees can be reinvested to help maintain the access site.

Coastal paddle trails will need to consider longer racks and cages to accommodate sea kayaks.

## Boat Washing Station

A boat washing station can help reduce the spread of aquatic invasive species. The station also enhances visitor experience by allowing paddlers to clean their gear of mud and other debris before packing up.

## Boat Slide

Boat slides can be helpful at access sites with steep riverbanks. They can also help paddlers more easily portage their boats around dams and other permanent obstructions.

## Launch Design Options

One of the most important access site amenities is the boat launch. The launch must balance the needs of different types of blueway users, and some access sites may have more developed launches than others. A well-designed launch site can have a positive impact on user experience. Launch designs must also consider the environmental integrity of the access site and water body and the impact that the launch will have on the surrounding area. For more information on launch design considerations, please see “Prepare to Launch” in [Appendix A](#).

## Launch Placement

During the initial planning and inventory phases, it will be important to note the number and condition of each access site. It is preferable (and economical) to improve an existing access site rather than construct a new one. Some



Figure 9 Boat Slide Source: Padfield.org



access sites may need only slight improvements, while others may require much more investment to be fully functional.

At new access sites, the launch will need to be designed according to the natural characteristics of the water body and the bank or shoreline. Access site characteristics to consider include:

- o Depth of water
- o Type of water body
- o Currents or waves
- o Changes in water level
- o The ability of the site to support other amenities
- o Site ownership
- o Cost

Because building launches and new access sites is challenging, local officials and managing entities will need to work with an engineer to design the site according to local regulations and usage goals for the site. In some cases, significant work will require a permit from the North Carolina Department of Environmental Quality (DEQ).

### **Launch Placement: Water Body**

Because water bodies vary widely, it will be important to design the access site and the launch placement according to the specific characteristics of the blueway water body. Conducting interviews and research during the planning phases can help determine the specific challenges to address as well as the best use and placement of the launch.

#### *River or Stream*

When building a launch on a river or a stream, there are some general guidelines to consider. First, locate launches on straight sections of the river, preferably on a site with low riverbanks. River launches on incised or steep riverbanks will require additional infrastructure to make the launch more accessible to paddlers. Second, avoid areas with swift water flow or waves. In swift-moving rivers, locate launches in eddies or sheltered areas of the river.

#### *Inland Lakes*

In large inland lakes, launch sites should be located in protected areas with less exposure to wind, currents, and erosion. Launches and access sites in marshes should be avoided due to the fragile nature of marsh ecosystems.

#### *Coastal Areas*

Like inland lakes, coastal access sites should be placed in locations that are protected from the wind, waves, and strong currents. Coastal access sites will also need to account for daily and seasonal changes in water levels that may pose hazards for paddlers. Suitable locations for coastal launches include public beaches, harbors, and connected waterways.





## Physical Elements of Launches<sup>31</sup>

Before constructing a launch, consider the following elements to determine suitability for the launch site.


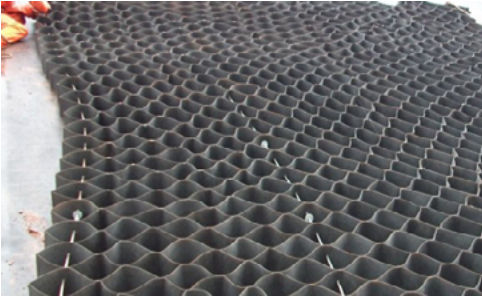
- **Staging Area**
  - Allows paddlers to unload their gear, get ready for their trip, or pack up their belongings
  - Located near the parking area or within 50 yards of the water
  - Include a path from the parking area to the staging area wide enough to accommodate different types of boats
- **Surface**
  - Provide a stable surface which allows all paddlers, regardless of ability, with easier access to the water
- **Slope**
  - Maintain a slope of less than an 8% grade
  - See boat slides in the previous section as an option to address extremely steep slopes
- **Height Above Water**
  - Locate the launch as close to the water surface as possible
  - Place decking as close to the water surface as possible, if a dock is the only access
  - Consider high and low tides when planning launches in tidal areas and areas prone to extreme changes in water level
- **Water Depth**
  - Confirm water depth as non-motorized watercraft like canoes and kayaks usually need at least 5 inches of water to float

---




<sup>31</sup> "Prepare to Launch!," accessed August 25, 2020, <https://www.river-management.org/prepare-to-launch>.

# Launch Types

There are several different options to consider for boat launches. This section highlights several of the most typical launch types with the advantages and disadvantages of each.

Launch Type	Description	Advantages	Disadvantages
<p><b>Natural Surface Launches</b></p>  <p><b>Figure 10 Natural Surface Launch</b> Source: <a href="http://thesunchronicle.com">thesunchronicle.com</a></p>	<ul style="list-style-type: none"> <li>-Located along the natural surface of the water body: riverbank, beach, or shoreline</li> <li>-Requires little or no construction</li> <li>-Applicable in areas with low banks, moderate currents, suitable water depth</li> <li>-Gravel can be used to create a ramp</li> </ul>	<ul style="list-style-type: none"> <li>-Cost-effective; requires little maintenance</li> <li>-Minimal environmental impact</li> <li>-Aesthetically pleasing</li> <li>-Easy anchorage due to proximity to bank/beach</li> </ul>	<ul style="list-style-type: none"> <li>-Water changes may make the launch inaccessible</li> <li>-Rocky launches may be slick or difficult to walk on when wet</li> <li>-Heavy use could cause erosion</li> <li>-Not always easy to spot from the water</li> <li>-Presents challenges to users with disabilities</li> </ul>
<p><b>Geotextile Mats</b></p>  <p><b>Figure 11 Geotextile Mat</b> Source: <a href="http://typargeosynthetics.com">typargeosynthetics.com</a></p>	<ul style="list-style-type: none"> <li>-Lightweight, open cells that allow water to flow through</li> <li>-Used in environmentally sensitive areas</li> <li>-Can help stabilize the shoreline</li> </ul>	<ul style="list-style-type: none"> <li>-Lightweight</li> <li>-Typically made from recycled material</li> <li>-Allows light and water through</li> <li>-Doesn't rot</li> <li>-Stabilizes surfaces and improves accessibility</li> </ul>	<ul style="list-style-type: none"> <li>-Can be more expensive</li> <li>-Requires specialized installation</li> <li>-Can create dangerous strainers if they separate and flow downstream</li> </ul>



<h3>Concrete Mats</h3>  <p><b>Figure 12 Concrete Mat</b> Source: devronltd.com</p>	<ul style="list-style-type: none"> <li>-Made of concrete and allows water to filter through</li> <li>-Follows the slope of the bank</li> <li>-Doesn't require extensive cutting or filling, but requires heavy equipment to install</li> </ul>	<ul style="list-style-type: none"> <li>-Can be used on the shore or banks without significant change to the slope</li> <li>-Less frequent maintenance</li> <li>-Less intrusive to natural shore</li> <li>-Can allow shared access with motorized watercraft</li> </ul>	<ul style="list-style-type: none"> <li>-Requires heavy machinery to install</li> <li>-Can allow shared access with motorized watercraft, which may or may not be desired</li> </ul>
<h3>Concrete Ramps</h3>  <p><b>Figure 13 Concrete Ramp</b> Source: upperkeysmarine.com</p>	<ul style="list-style-type: none"> <li>-Can be used alone or in conjunction with other launch features</li> <li>-Should only be used in areas with little or no current</li> <li>-Additionally, surface finishing increases traction</li> </ul>	<ul style="list-style-type: none"> <li>-Most sturdy surface</li> <li>-Durable and requires minimal maintenance</li> <li>-Easy to shape</li> <li>-Easy to spot from the water</li> </ul>	<ul style="list-style-type: none"> <li>-Can be slippery</li> <li>-Can be damaged by freezing &amp; thawing conditions</li> <li>-Requires heavy machinery to install</li> </ul>
<h3>Concrete Stairs</h3>  <p><b>Figure 14 Concrete Stairs</b> Source: davesyaktales.blogspot.com</p>	<ul style="list-style-type: none"> <li>-Provides access for steep shores &amp; areas where water level changes frequently</li> <li>-Bottom steps should be wider to accommodate launching</li> <li>-Handrails may be added to improve accessibility</li> </ul>	<ul style="list-style-type: none"> <li>-Durable &amp; requires minimal maintenance</li> <li>-Provides access in steep areas</li> <li>-Combined with rails &amp; boat slides to facilitate access</li> </ul>	<ul style="list-style-type: none"> <li>-Not usually accessible for people with disabilities who use a mobility device</li> <li>-Can be expensive</li> <li>-May require heavy machinery to install</li> <li>-Long-term maintenance typically is done by hand</li> </ul>

## Wooden Stairs



Figure 15 Wooden Stairs  
Source: sds-la.com

- Cost-effective alternative to concrete stairs
- Functional for steep shores
- The base of the launch should be protected from strong currents to prevent erosion and undercutting
- The base of the launch should be able to withstand changing water levels and currents

- Usually easy & inexpensive to repair
- Less disruptive to shore than concrete

- Usually not accessible to people with disability who use mobility devices
- Susceptible to erosion or undercutting
- Requires maintenance as stairs age & weather

## Docks and Piers



Figure 16 Dock  
Source: greatnortherndocks.com

- Can be used alone or combined with other launch site amenities
- Often used in shallow or marshy areas to launch in a deeper area
- Usually made of wood or concrete
- Should always be above water level

- Effective in water with strong currents
- Stable launching surface
- Relatively inexpensive
- Easily visible from the water

- Doesn't adapt to extreme changes in water level
- Pilings can negatively impact the environment over time

## Floating Launches



Figure 17 Floating Launch  
Source: kayakdock.com

- Anchored to the shore rather than built into the stream bed
- Should be removed & secured during flooding and freezing events
- Most effective in water with little debris and minimal exposure to strong waves and currents

- Adjusts to changing water levels
- Provides a sturdy surface in areas with unsafe conditions
- Easy to purchase, assemble, & remove
- Not as slippery as sloped launches

- Use should be limited to areas with a water depth of 3' at all times
- Anchoring process must be well executed & site conditions must be accounted for

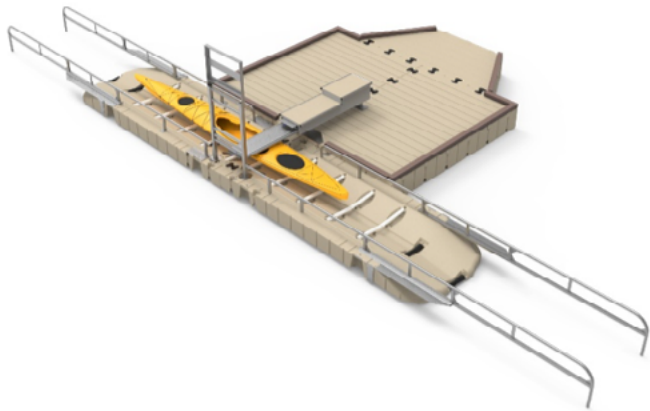
## Universally Accessible Launches

According to the Centers for Disease Control and Prevention (CDC), there are 61 million people in the U.S. (nearly 1 in 4) living with some type of disability. This percentage is even higher in the south.<sup>32</sup> At each stage of the Blueway planning process, there are ways to make blueways accessible to people with disabilities.

Universally accessible launches are one way to make blueways more accessible. These launches feature ADA accessible parking spaces with room for a trailer, informational signs, a six-foot-wide route or pathway with a sturdy surface, a boarding bench, a gangway and ramp, and pull rails and rollers.<sup>33</sup>

### Accessibility Features of Blueway Access Sites

The ADA establishes guidelines for newly designed and constructed recreation facilities. These guidelines address the typical and traditional access site amenities such as parking and restroom facilities, but these guidelines only minimally address the needs of recreationists with disabilities. Many communities across the country are opting for “universal design” principals in public recreation areas to allow for greater accessibility.



**Figure 18 ADA-Universally Accessible Boat Launch**  
Source: ez-dock.com

For paddling, putting-in and taking-out are the two instances in which accessibility is especially important. Firm launching surfaces help to support the paddler while they are making final gear adjustments and getting into or out of their boat.

While companies like EZ Dock have created universally accessible launch systems, there are other considerations for water-based launches and land-based facilities if the managing organization is considering building their own.

<sup>32</sup> CDC, “Disability Impacts All of Us Infographic | CDC,” Centers for Disease Control and Prevention, March 8, 2019, <https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-im-pacts-all.html>.

<sup>33</sup> “Accessible Boating Facilities - United States Access Board,” accessed August 25, 2020, <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/guides/boating-facilities/accessible-boating-facilities>.



## Launch

- Must be connected to an accessible route or path and placed in an area that is separate from a traditional boat launch
- Should be at least 25 feet long to allow sufficient dry access to the entire span of the boat while entering or exiting
- Ensure the gangway or ramp slope is below 8%
- Include boarding assistance, like a boarding bench, to center the paddler over the boat
- Include pull rails and rollers to aid in moving the boat into and out of the water
- Provide detailed descriptions and high-quality photos of the boat launch in informational material, even if there is no universally accessible launch so that paddlers can make an informed decision before arriving

## *Land-Based Facilities should include:*

- Pathways or routes with the following modifications:
  - Stable surfaces
  - 6 to 12-foot width
  - Slopes with less than 5% grade
  - Level landing areas at turns in path that are large enough to carry and turn the boat
- ADA compliant restrooms and at least one single-user universally accessible restroom
- Accessible drinking water source that can be operated with one hand and minimal force
- Information kiosk available in multiple formats and approachable by a stable surface
- Accessible parking spaces placed nearest the accessible path to the launch

## Blueway Signage

A significant part of the blueway system is signage, including wayfinding, navigational and safety information, interpretive signs, and information about local businesses and events. These signs help to improve visitor experience, facilitate desired behavior (such as not trespassing or treading on environmentally sensitive areas), and help to connect blueways and visitors to local communities. During the planning process, the task force or managing entity should create a branding and design guide for wayfinding and other materials. This guide will help create an easily recognizable brand for the blueway and help visitors quickly identify important information.

## Wayfinding

Wayfinding signs help to orient visitors to access sites and local points of interest. For the blueway system, wayfinding signs directing paddlers to the water access sites are one of the primary points of contact between the paddler and the blueway. And, they can make a positive impact on visitor experience. It is important to note that wayfinding signs can be costly, and it is important to include these costs in the blueway budget and fundraising plans.

Wayfinding signs should be easy to read and should communicate driving directions toward the access points. Simple icons and logos may be appropriate for these wayfinding signs and should be tied in with the blueway branding when possible. Wayfinding signs can include:

- o A paddling (or blueway) icon and directional arrows
- o The blueway symbol or logo, the access site number (or name), and a directional arrow with miles at the last key turn to the launch

When access sites are located within local parks, include the blueway logo or symbol on the park wayfinding signs when possible.

## Access-Site Signage

Sign location at the access site will be dependent on access site characteristics. Preferably, signage will be visible from land and from the water to help paddlers easily identify take-out locations. It will be important to work with landowners or site managers to get prior approval to place signs on the access site, and signage should be visible, but not obstructive.

The design and branding guide should determine consistent design features for all types of signage. Font size may vary depending on placement to increase visibility in larger open areas or areas with swift-moving water. Flags can also help paddlers quickly identify take-outs in swift-moving water. Signs visible from the water should have minimal content such as “access” and the access site number or name. The access site numbers should correspond with the river mile location with zero, “0,” starting at the mouth of the river.

Some signage can include information like the direction, distance, and name of the following access site or signs that could include information about access site amenities. Safety and emergency informational signs should also be available.



Figure 19 Blueway Sign with Map Attached  
Source: Cahabablueway.org



Figure 20 Informational Kiosk along the Roanoke River Blueway  
Source: roanokeriverblueway.org



Figure 21 Calusa Blueway Sign - In Water  
Source: Floridarambler.com



Figure 22 Example Bridge Signage  
Source: americantrails.org

### *Informational Kiosks*

Many access sites and trailheads have informational kiosks placed farther from the water but can convey more information. Typically, kiosks include a map of the blueway, amenities of the access site, safety information and warnings, emergency information, and access site rules. Additional interpretive panels can include interesting environmental, cultural, or historical details relating to the water or surrounding area. Often kiosks (and maps) can include information about local points of interest and nearby businesses. Kiosks can also include Quick Response (QR) codes to connect visitors to maps, local businesses, other apps, and websites.

### *Signs Along the Water*

Signs along the water can help warn paddlers of upcoming dangers or obstacles like low-hanging bridges or portages. These signs should be visible without being obstructive, and reflective signs made from long-lasting material such as aluminum can help improve visibility and increase the useful life of the sign.

On remote water trails with sparsely located access sites, signs along the water can inform paddlers of the access site number or name and the distance to the next access site to enhance paddler experience and reassure paddlers of their location along the river.

### *Bridge Signs*

Many blueways pass under bridges, which can provide a convenient mechanism to orient paddlers. Signs located on bridges can indicate the road and river mile or distance to the next access site. Blueway organizations can work with local officials and the Department of Transportation (DoT) to determine the extent of signage appropriate for the bridge.



### *Safety Markers*

Another way to confer safety information to paddlers is by using safety markers. These markers warn paddlers of specific hazards such as upcoming portages, low-hanging bridges, or safer routes to follow. Depending on the river, planning goals, and resources, the managing entity may consider placing safety markers throughout the blueway. Regularly placed signs and safety markers also help paddlers orient themselves and help public safety agencies locate paddlers in case of an emergency. Public safety agencies can also work with blueway planners to tie access signs to GPS data so that search and rescue operations are more streamlined.

Though signs help convey useful information to paddlers, blueway planners should be cognizant of balancing information delivery while maintaining a natural experience where paddlers can enjoy the river and wildlife. Some safety information can also be frontloaded through websites and print material that provide suggested gear, trip planning information, and a Frequently Asked Questions (FAQ) section that addresses paddler experience needed for each section and other questions.



## Blueway Safety

When planning and managing a blueway, it is necessary to consider paddler safety. The signage strategies mentioned in the previous section can help to warn paddlers of fixed hazards. But, it will also be important to give paddlers the tools they need to plan a safe trip and connect them to opportunities to learn more, like paddling classes. The [User Trends and Demographics](#) section, located in Part Two, highlights the number of hours each paddling type takes to plan their trip. Finally, it is crucial to create a plan and process for debris removal.

Considerations for blueway safety depend significantly on the type of water body, users, and natural hazards. For example, in larger waterways, kayakers will likely share the route with motorized boats and anglers. Motorized boats can cause waves that can knock over paddlers or push them into other hazards. Heavy rains can cause flash flooding events, and woody debris can cause log jams and create strainers that create dangerous currents and ensnare paddlers.

During the planning process, it will be important to work with public safety officials and other key stakeholders to determine the types of hazards likely to be experienced on the blueway. Then planners and safety officials will need to create strategies to mitigate harm and loss of life, educate the public, and develop emergency plans. Public safety officials should also be involved during the planning process to determine emergency evacuation options. As mentioned in the safety marker section, they can help pin GPS coordinates to access sites

and other markers to help with search and rescue operations. Other stakeholders like paddler clubs and outfitters can help to identify fixed hazards and notify managing entities when new hazards arise, like strainers, which are natural or humanmade obstructions in the river that allow water to pass through but holds boats and people.

In part two of this guide, we will address the different strategies to communicate with the public about the blueway. These methods of communication, like websites or maps, are convenient ways to educate the public about the safety measures they can take before they get on the water. Frequently Asked Questions (FAQs) sections can suggest the recommended level of experience users should have for each section of the blueway, recommended gear lists, suggested itineraries, and local emergency and safety information. Maps can include the location of the nearest hospital or medical clinic and the numbers of public safety agencies. Paddlers should always be encouraged to create float plans; an example is given in the appendix. Float plans provide detailed information about the intended trip and can be left with a friend or family member who can call public safety officials in case the paddler does not return. A second float plan can be taken on the trip and placed in a dry bag with information about the trip, the location and number of the nearest medical clinic or hospital, numbers for public safety officials, and several options for emergency evacuation routes.

## Woody Debris

Woody debris is a natural part of every stream and river and can function to provide shelter to fish and other aquatic life.<sup>34</sup> It will be important for managing entities and blueway planners to create a process for monitoring woody debris in order to balance maintaining the environmental integrity of the water body with the safety of paddlers and the threat of significant flooding caused by the accumulation of woody debris.

The Clean and Open Method<sup>35</sup> provides guidance on when to remove woody debris. In some instances, a permit may be necessary to remove large accumulations of woody debris, work with local agencies to determine the appropriate course of action when dealing with large woody debris. The steps to the Clean and Open Method are as follows<sup>36</sup>:

1. **Plan:** Address public health, legal access, safety concerns, define the point of access to the river, determine the depth of water and flow, and emergency plans
2. **Clean:** Remove urban rubbish and dispose of properly
3. **Open:** Move or cut loose floating debris to allow passage
  - o Use a handsaw or chainsaw to make the opening wide enough to allow flow through the logjam
4. **Place** excess woody debris along streambanks and in the adjacent riparian corridor to create habitat
5. **Leave** woody debris that is embedded in the stream's banks or bottom undisturbed.
6. **Minimize** the impact on the riparian corridor at the worksite

---

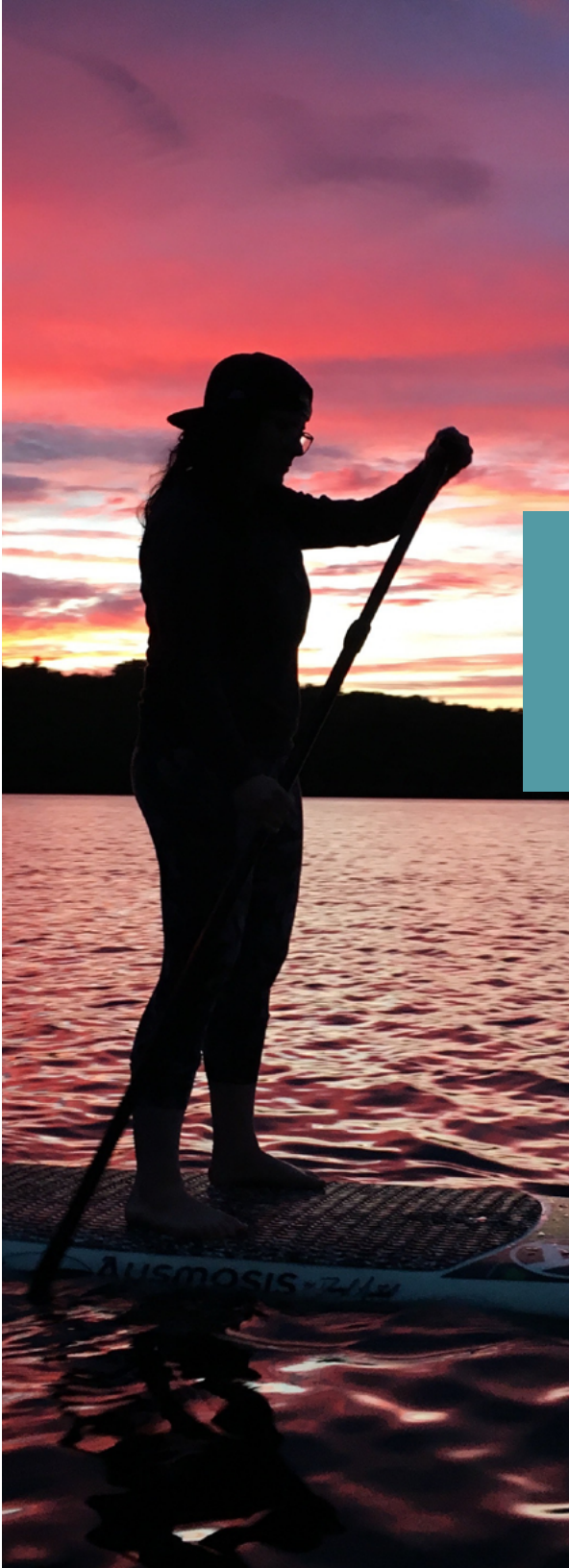
<sup>34</sup> "Benefits of Large Woody Debris in Streams," Penn State Extension, accessed August 26, 2020, <https://extension.psu.edu/benefits-of-large-woody-debris-in-streams>.

<sup>35</sup> "Woody-Debris-Fact-Sheet-PDF.Pdf," accessed August 26, 2020, <https://www.lansingmi.gov/DocumentCenter/View/842/Woody-Debris-Fact-Sheet-PDF>.

<sup>36</sup> "Clean-and-Open-Method.Pdf," accessed August 26, 2020, <https://www.hrwc.org/wp-content/uploads/2013/03/Clean-and-Open-Method.pdf>.

“It will be important for managing entities and blueway planners to create a process for monitoring woody debris in order to balance maintaining the environmental integrity of the water body with the safety of paddlers and the threat of significant flooding caused by the accumulation of woody debris.”





# Part 2: Leverage Recreation for Economic Development

In Part One of this Blueway, we discussed specific considerations for planning your Blueway, building access sites and installing amenities, building boat launches, installing signage, and accounting for paddler safety. Now that the building blocks of the Blueway are placed, it is time to consider how best to promote and leverage the Blueway to increase awareness, stewardship, the economic impact of the blueway in your communities.

## An Economic Case for Blueways

Blueways can significantly impact local and regional economies. They provide healthy ways for residents to recreate and are a significant quality-of-life factor that can help keep younger residents and attract new ones. Blueways can attract tourism and recreation-related businesses while supporting existing businesses. In this section, we will highlight significant outdoor industry trends, user profiles and spending trends, economic impacts of blueways, and ways to connect blueways to local communities and businesses.

## Promote Your Blueway

From the beginning of the planning process and into the future of the blueway, promoting the paddle trail will help to garner enthusiasm, community engagement, and to attract visitors and connect them to the blueway and the community. It will be important for the task force or managing organization to create a marketing and communications plan and a design guide for all promotional material and signage. We will discuss several approaches blueway planners and involved stakeholders can take to promote the paddle trail and foster engagement from the local community.

## Explore Nature, Culture, and History

During the planning phases, the blueway taskforce will identify natural features, cultural landmarks, and historical details about the blueway and the nearby area. Blueway planners can also use community asset mapping techniques to identify and include hospitality-related assets such as lodging, dining, and shopping experiences, which might interest paddlers. This information can be used in marketing material to bring in new visitors, and in informational signage along the paddle trail. It can also help local residents connect to and appreciate a valuable natural asset in their community. Outdoor recreation and cultural assets often go hand-in-hand in rural areas. This connection is especially important for assets belonging to indigenous communities and African American communities and heritage sites.<sup>37</sup>

Three actions to help you to market your blueway effectively are:

1. **Create a strong identity** for the blueway with standardized branding and marketing materials.
2. **Maintain regular communication** with stakeholders and celebrate the blueway with special events, programming, and educational opportunities.
3. **Create resources and tools** that paddlers can use to stay informed and safe when planning for their trip and while on the water.

## Create a Strong Identity

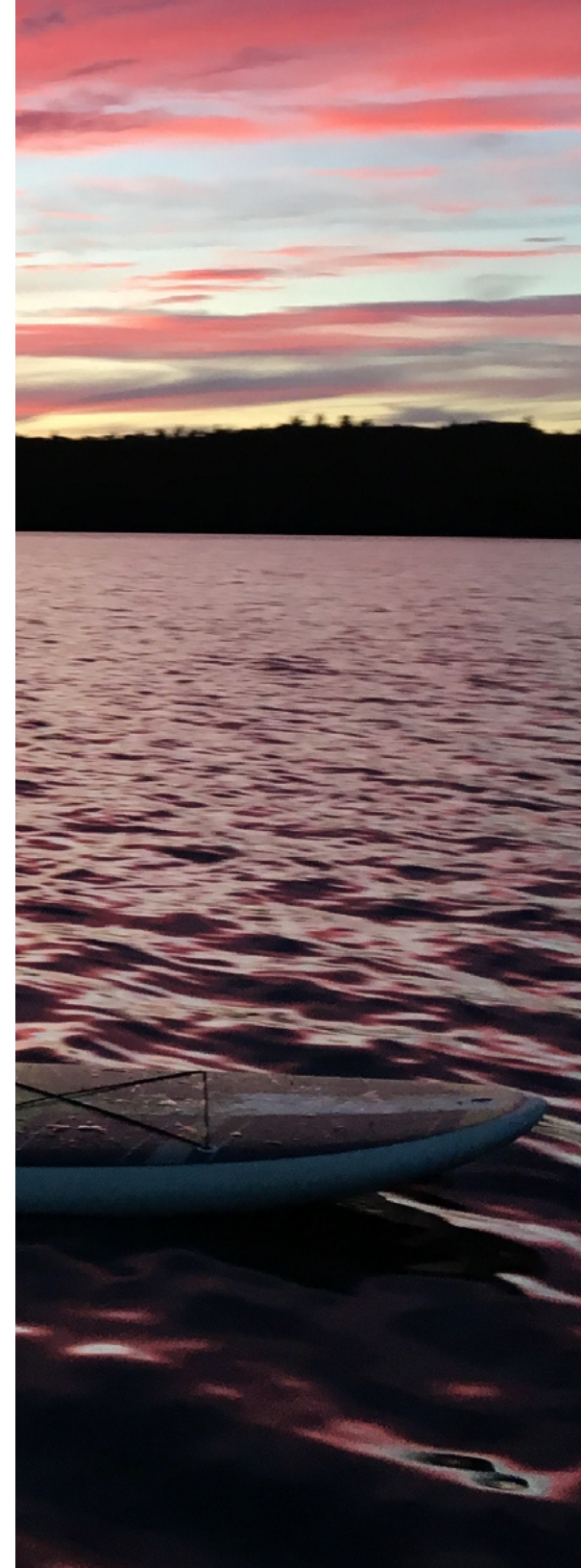
A strong brand identity for the blueway will help paddlers easily recognize wayfinding and safety signage and can also elevate the profile of a blueway to draw in more visitors. This identity celebrates the uniqueness of the blueway and helps to celebrate the communities through which the blueway passes.

### An Identity for Your Blueway

Marketing and communications plans do more than just create an identity for the blueway. They can create strategies to engage local residents, involve the broader region, and attract tourists to the blueway and surrounding communities. A comprehensive marketing plan will not only attract tourists, but it will also engage local residents who are invested in the success of the blueway.

---

<sup>37</sup> Leoneda Inge Shelton-Ormond Charlie, "The Tourism Tightrope," accessed September 16, 2020, <https://www.wunc.org/post/tourism-tightrope>.





Often communities will work with a graphic designer or marketing firm to help create a marketing plan and design guide. However, here we have provided some aspects to consider throughout the design process. The brand will need to be standardized across signage and all marketing materials with any changes adhering to specific options outlined in the design guide. The brand will incorporate a logo, a specific color scheme, and potentially a catchphrase or slogan that creates a positive identity for the blueway. The brand will also address the character of the water body and communities along it, and it will speak to the type of experience a visitor may expect to have. Branding incorporates the factors that make the blueway and neighboring communities unique, like cultural traditions, history, and rare natural characteristics or wildlife. By creating a positive brand for the blueway that ties-in the positive and unique aspects of local communities, the blueway will garner additional local support.

### Tips for Visual Branding

- **Involve local stakeholders** in the visioning and brainstorming process – these ideas could be the basis for a brand logo or slogan.
- **Keep visual elements simple.** Logos and signs with too many colors, fonts, and images quickly become distracting and difficult to interpret.
- **Ensure that branding and logos will work on multiple surfaces** and materials like websites, signs, and even clothing or drinkware.
- **Choose a color scheme** that grabs attention.

### Communicate and Celebrate

Regular communication with the public through updates, current website information, regular programming, and special events will help keep the community engaged and provides an easy way for new users to become involved and connected to the blueway.





## Communication Strategies

In order to realize the full potential of the blueway, the local and regional public needs to be aware it exists and how to access it. Local officials and businesses need to be made aware of the paddle trail, the experiences it offers, and how they can become involved. Some common tools and strategies for marketing the blueway and communicating important information include:

- Creating and regularly update a blueway website
- Presenting about the blueway at local and regional events
- Forming relationships with local media to help publicize special events and programming
- Regularly emailing taskforce members, local businesses, environmental groups, and volunteers
- Using social media to post user photos and share stories about the blueway's success
- Creating a video to post on the website and social media about the blueway
- Hosting special events to celebrate the blueway
- Publishing maps and other guides to keep users safe and informed

### Website

Blueway planners can publish the blueway website separately or include it on an existing website like a local tourism website. This site should include maps such as google maps or other interactive platforms that help display directions and route information as well as local points of interest and businesses like lodging or dining. The site should also include pictures to showcase the blueway and access sites; videos can be a useful tool for showcasing the blueway and conveying important safety information. A banner with up-to-date weather information or a link to river gauges can help paddlers plan their trips. A Frequently Asked Questions (FAQ) section with suggested itineraries and “know before you go” informational pages can help newcomers find trips suited to their experience level and trip goals. They can also help beginners better understand some of the safety features they should consider when planning their trip.

### Social Media

Social media is a very effective communication channel. Informational kiosks can provide additional environmental and educational material, promote businesses, and encourage visitors to post content with QR codes and social media logos. Additionally, some forms of social media may foster user-generated content. For example, a google map embedded within a website could be set up so that anyone can go in and drop a pin for an asset that they would like to add. This could be empowering for residents and visitors alike. Local businesses can host promotional events like a photo contest and give away with tags for the paddle trail and the business. Mapping platforms like AllTrails encourages users to create maps, post pictures, and write reviews of the trails they visit. This type of content sharing can help increase awareness of the paddle trail.

## Video

As mentioned above, videos can quickly highlight the amazing features of your blueway. Videos can highlight the different access sites, the environmental features paddlers might look for on the paddle trail, and safety videos can help paddlers better understand safety and equipment needs for the blueway. Additionally, special topics or educational videos could be turned into a series.

## Local Events

Many paddle trails use events and regular programming to celebrate their paddle trail and engage residents in stewardship and fundraising activities. Many organizations will likely engage in some form of programming on your blueway. Local outdoor clubs may conduct day or overnight trips which showcase local communities and highlight cultural and historic assets along the way. Local environmental organizations often engage in educational events related to watersheds and ecosystems. It will be important to work with these and other stakeholders to engage in events and programming efforts that work towards similar goals. For example, a river clean-up series could be sponsored by a local brewery and facilitated by a local environmental organization.

Annual or seasonal events can be fun and exciting ways to engage the community and raise funds to maintain and develop the paddle trail. These larger events help to raise the profile of the blueway and help to build the connection between the natural and recreational assets to local communities and businesses, furthering the economic development impact of the blueway.

There are many examples of blueway events, but some activities include:

- Interactive and hands-on environmental education from local organizations
- Tabling from local businesses
- Food trucks and raffles from local businesses
- Canoe/Kayak races
- Floating parades
- Concerts

“Annual or seasonal events can be fun and exciting ways to engage the community and raise funds to maintain and develop the paddle trail.”

## Blueway Maps & Guides

Blueway managing organizations can publish official maps and paddling guides created to highlight specific characteristics and considerations for the blueway. These materials will help paddlers plan their trips, learn more about the environmental, cultural, and historical features of the blueway. They can inform paddlers of safety measures, Leave-No-Trace environmental stewardship practices, and water trail etiquette. Proceeds from the sale of these materials can be reinvested in blueway initiatives.

Both maps and guides can be printed on water-resistant material and proportionately sized to fit in a dry resealable bag. Electronic maps housed on the blueway website can use modern mapping techniques to create an interactive map with GPS coordinates and pictures. These maps can also highlight points of interest, local businesses, and nearby medical facilities. Paper maps can be developed from online mapping services such as Google maps, but more advanced maps may need to be created with special mapping software, like ArcGIS. The digital and paper mapping efforts can be combined through new features like ArcGIS story maps, which provides additional context to the viewer through a sidebar that the viewer can click through.

Paddling guides provide more in-depth information about relevant topics. They can provide specialized safety and trail etiquette tips along with more details about environmental, historical, and cultural information. The guide may contain suggested itineraries, contact information for local outfitters, and descriptions of other local businesses like restaurants and shops. The maps, guides, and the website should clearly mark the ADA compliant sites and amenities.







## Outdoor Industry Economics

In the U.S., the Outdoor Industry is a rapidly growing sector in the economy. In North Carolina, over half of all residents participate in outdoor recreation each year; this contributes to quality of life factors, and it attracts families and employers. The Outdoor Recreation Economy in North Carolina generates \$28 billion in consumer spending annually, which is more than financial services and insurance. This consumer spending includes dollars spent on outdoor recreation products, including gear, apparel, and equipment, as well as trip and travel spending, which includes food, lodging, and guide services. It also contributes 260,000 direct jobs, \$8.3 billion in wages and salaries, and \$1.3 billion in state and local tax revenue. In addition to its direct economic impact, the outdoor economy helps diversify the local economy and improve quality of life, attracting entrepreneurs and employers from other sectors.<sup>38</sup>



Outdoor enthusiasts tend to have a relatively high level of discretionary income and enjoy going on multiple trips per year.<sup>39</sup> Outdoor enthusiasts also tend to enjoy participating in several different types of outdoor activities, such as paddling and mountain biking.<sup>40</sup> The local economy can benefit from these qualities and elevate the profile of multiple outdoor amenities by encouraging and facilitating other activities.



Towns can also act as central “hubs” for outdoor recreation activities. Recreation and outdoor amenities can be connected to these towns through regular events, marketing, and clear wayfinding, building the link for visitors who come to enjoy the area’s natural assets to community assets like lodging, dining, and shopping. This link will encourage outdoor enthusiasts to stay in the area longer and further strengthen the connection between outdoor assets, local communities, and local spending opportunities.

<sup>38</sup> “Outdoor Recreation Economy Report,” Outdoor Industry Association, accessed August 27, 2020, <https://outdoorindustry.org/resource/2017-outdoor-recreation-economy-report/>.

<sup>39</sup> “Visitor Profile Studies,” accessed August 27, 2020, <https://partners.visitnc.com/visitor-profile-studies>.

<sup>40</sup> “2017-Outdoor-Recreation-Participation-Report\_FINAL.Pdf,” accessed August 27, 2020, [https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Outdoor-Recreation-Participation-Report\\_FINAL.pdf](https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Outdoor-Recreation-Participation-Report_FINAL.pdf).

“Outdoor recreation opportunities are consistently mentioned as preferred amenities that attract entrepreneurs, creators, and maintain youth that might otherwise go to larger cities.”

## Recreation in Rural Counties

Rural communities often struggle with population loss, job loss, and growing economic distress, but recreation can be the difference between gaining or losing population in rural counties. Between 2010 and 2016, non-recreation rural counties lost 20 people per 1,000 residents because of out-migration compared to recreation counties, which gained just over 1 person per 1,000 residents.<sup>41</sup>

Households moving to rural recreation counties had higher average incomes than households moving into non-recreational rural counties. Earnings per job in rural recreation counties grew six-times faster than in non-recreation counties over the past decade. In the short-term, recreation drives support for tourism-related businesses. In the long-term, recreation supports the economy by recruiting new residents, business owners, entrepreneurs, and workers, which promotes job growth in earnings per job.<sup>42</sup>

As traditional exogenous growth strategies are losing effectiveness for economic growth in rural communities, these communities struggle to build and attract the knowledge-intensive functions associated with entrepreneurship and the creative class. Workers in these occupations strongly prefer communities with amenities and are willing to relocate to suit these preferences. Outdoor recreation opportunities are consistently mentioned as preferred amenities that attract entrepreneurs, creators, and maintain youth that might otherwise go to larger cities.<sup>43</sup>

---

<sup>41</sup> “Recreation Counties Across the U.S.,” Headwaters Economics, accessed August 27, 2020, <https://headwaterseconomics.org/dataviz/recreation-counties-us/>.

<sup>42</sup> “Recreation Counties Across the U.S.”

<sup>43</sup> David A. McGranahan, Timothy R. Wojan, and Dayton M. Lambert, “The Rural Growth Trifecta: Outdoor Amenities, Creative Class and Entrepreneurial Context,” *Journal of Economic Geography* 11, no. 3 (May 1, 2011): 529–57, <https://doi.org/10.1093/jeg/lbq007>.



## User Trends and Demographics

The Outdoor Industry Association's 2019 Special Report on *Paddlesports*<sup>44</sup> states that nearly 23 million people in the U.S. participated in at least one paddlesports activity. The report also indicates that kayaking, followed by canoeing and stand-up paddleboarding, were the top three paddling activities. As the most popular form of paddling, kayaking sees over 11 million participants each year, with many of these paddlers conducting over eight trips per year.<sup>45</sup>

Fishing is an extremely popular form of outdoor recreation that blueways can also leverage. A *2019 Special Report on Fishing* by the Outdoor Industry Association<sup>46</sup> notes that nearly 50 million people in the U.S. went on fishing trips in 2018. Freshwater fishing was the most popular type of fishing with 39 million participants and the most active type, with many people fishing more than 16 days each year. The second most popular fishing category is Saltwater fishing, with nearly 13 million participants annually. Though this category is second overall, in the South Atlantic region, it was the most popular type of fishing, with 35% of saltwater fishing participants living in the area.

The primary motivations for paddlers include getting exercise and staying fit, being with friends and family, experiencing nature, experiencing adventure and excitement, and getting away from day-to-day demands. Paddlers can be placed into one of three experience categories: 27% rate themselves as avid paddlers, 56% rate themselves as recreational participants, and 17% rated themselves as novice paddlers.<sup>47</sup> Many novice and recreational paddlers who do not own their boats prefer to rent from onsite rentals and of the paddler categories, users wishing to participate in stand-up paddleboarding use onsite rental providers more than any other category.<sup>48</sup>

Participants enjoyed fishing for similar reasons as paddlers – enjoying nature and spending time with friends and family. Anglers also enjoy other cross-over activities like camping, biking, and hiking. For blueway planners, there is an opportunity to capture both of these recreation segments.

Here we include the typical profiles of Canoeers, Kayakers, Stand-up Paddle Boarders,<sup>49</sup> and Fresh and Saltwater Anglers.<sup>50</sup>

<sup>44</sup> "2019\_Special\_Report\_on\_Paddl.Pdf," accessed August 27, 2020, [https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational\\_resources/2019\\_Special\\_Report\\_on\\_Paddl.pdf](https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational_resources/2019_Special_Report_on_Paddl.pdf).

<sup>45</sup> "2015-Paddlesports-Research.Pdf," accessed August 27, 2020, <https://outdoorindustry.org/wp-content/uploads/2017/05/2015-Paddlesports-Research.pdf>.

<sup>46</sup> "2019-Special-Report-on-Fishing\_RBFF\_FINAL1.Pdf," accessed August 27, 2020, [https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing\\_RBFF\\_FINAL1.pdf](https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing_RBFF_FINAL1.pdf).

<sup>47</sup> "NC-Paddle-Tourism-Study.Pdf," accessed August 27, 2020, <https://jordanrivercommission.com/wp-content/uploads/2011/04/NC-paddle-tourism-study.pdf>.

<sup>48</sup> "2019\_Special\_Report\_on\_Paddl.Pdf."

<sup>49</sup> "2019\_Special\_Report\_on\_Paddl.Pdf."

<sup>50</sup> "2019-Special-Report-on-Fishing\_RBFF\_FINAL1.Pdf."





# Overall Paddler Demographics

## Canoer Demographics

### Paddler Location

- 4.7 million participants in the South Atlantic Region

### Average Household Income

- \$75,000

### Gender

- Female 47%
- Male 53%

### Trip Location

- Lakes 59%
- Rivers 45%
- Oceans 19%

### Trip Length

- Day 77%
- Multiday 11%
- Overnight 9%



## Kayaker Demographics

<b>Gender</b>	<ul style="list-style-type: none"><li>• Female 47%</li><li>• Male 53%</li></ul>
<b>Age</b>	<ul style="list-style-type: none"><li>• 25-34 20%</li><li>• 35-44 16%</li><li>• 45-54 15%</li></ul>
<b>Race</b>	<ul style="list-style-type: none"><li>• White 82%</li><li>• Hispanic 6%</li><li>• Black/African American 5%</li><li>• Asian/Pacific Islander 4%</li><li>• Other 3%</li></ul>
<b>Income Brackets</b>	<ul style="list-style-type: none"><li>• \$100,000+ 33%</li><li>• \$50,000-74,999 21%</li><li>• 25,000-49,999 20%</li></ul>
<b>Hours Spent Planning</b>	<ul style="list-style-type: none"><li>• 2.5 hours</li></ul>
<b>Hours Spent Paddling</b>	<ul style="list-style-type: none"><li>• 4.6 hours</li></ul>
<b>Preferred Rental Options</b>	<ul style="list-style-type: none"><li>• Oniste Rental 59%</li><li>• Local Independent Outfitter 21%</li><li>• Outdoor Specialty Chain 19%</li></ul>



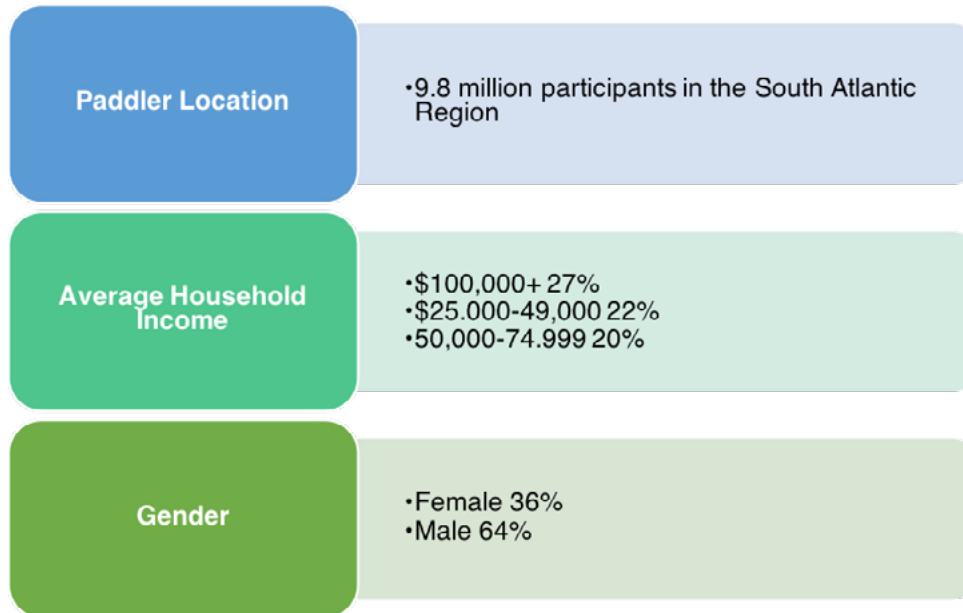
# Stand-Up Paddleboarder Demographics

<b>Gender</b>	<ul style="list-style-type: none"><li>•Female 51%</li><li>•Male 49%</li></ul>
<b>Age</b>	<ul style="list-style-type: none"><li>•25-34 26%</li><li>•35-44 22%</li><li>•18-24 17%</li></ul>
<b>Race</b>	<ul style="list-style-type: none"><li>•White 73%</li><li>•Hispanic 12%</li><li>•Asian/Pacific Islander 8%</li><li>•Black/African American 5%</li><li>•Other 2%</li></ul>
<b>Income Brackets</b>	<ul style="list-style-type: none"><li>•\$100,000+ 52%</li><li>•\$75,000-99,999 18%</li><li>•\$50,000-74,999 15%</li></ul>
<b>Hours Spent Planning</b>	<ul style="list-style-type: none"><li>•2.2 hours</li></ul>
<b>Hours Spent Paddling</b>	<ul style="list-style-type: none"><li>•3.9 hours</li></ul>
<b>Preferred Rental Options</b>	<ul style="list-style-type: none"><li>•Onsite Rental 76%</li><li>•Local Independent Outfitter 18%</li><li>•Outdoor Specialty Chain 4%</li></ul>

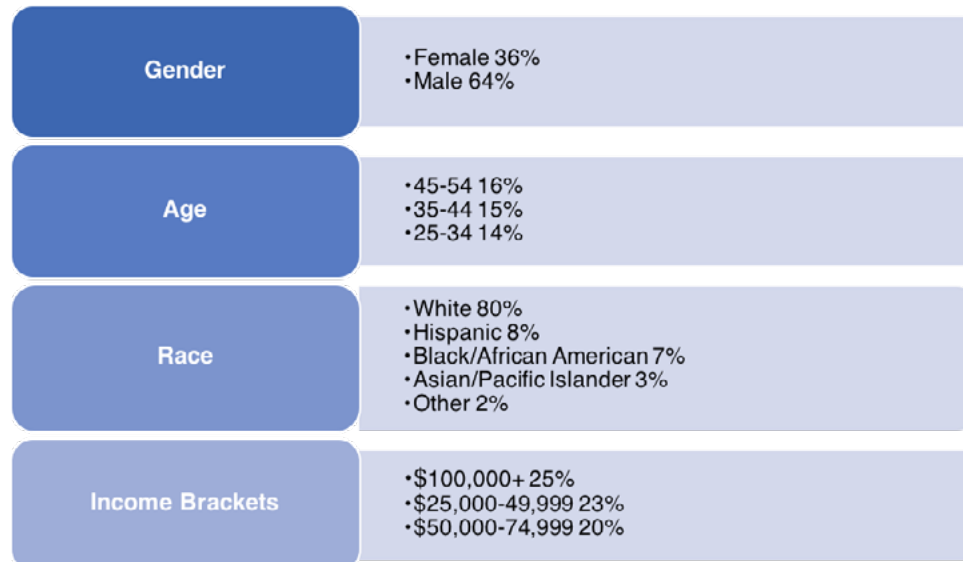




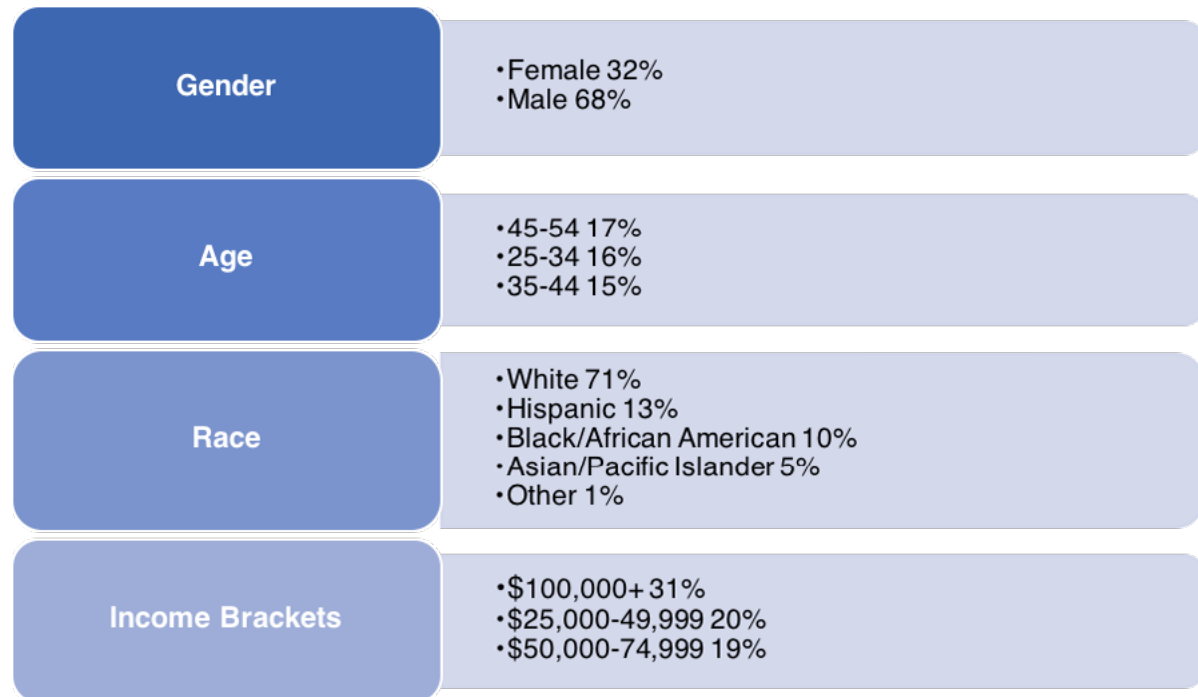
# Overall Angler Demographics



# Freshwater Angler Demographics



# Saltwater Angler Demographics



In addition to paddler and angler demographics, research shows that paddlers tend to travel up to 3.5 hours to a paddling destination.<sup>51</sup> This distance is within driving distance for many areas of North and South Carolina of many major metropolitan areas and millions of people. Due to COVID-19, over 70% of travelers have changed their travel plans.<sup>52</sup> Though many travel plans have changed, traveling by car remains the most popular method of transportation to visit friends and family and for leisure travel. International travel has dropped to just 1%, indicating that most travel is domestic and within driving distance.<sup>53</sup>

---

<sup>51</sup> "NC-Paddle-Tourism-Study.Pdf."

<sup>52</sup> "COVID-19 Travel Sentiment Study-Wave 19," Longwoods International, accessed September 16, 2020, <https://longwoods-intl.com/news-press-release/covid-19-travel-sentiment-study-wave-19>.

<sup>53</sup> "COVID-19 Travel Sentiment Study-Wave 19."

Families, novices, and recreational users tend to prefer calm water bodies and access points that are reasonably spaced (roughly five or fewer miles between each access point). The top concerns for river users are the quality and safety of access sites.<sup>54</sup> According to a 2015 River Management Society Report, some important amenities to consider when attracting new users and encouraging economic activity are:<sup>55</sup>

- **Access** to the water
- **Outfitters:** rental and shuttling services
- **Lodging:** camping, bed & breakfasts
- **Dining:** restaurants, breweries, grocery stores
- **Integrated recreation:** hiking & biking paths
- **Activities:** museums, interpretive centers, and other activities
- **Proximity:** neighboring towns with similar amenities

The report also states that the top visitor expenditures for paddle trail visitors are guides and outfitters, lodging, and food. Communities with overnight stay options, dining, and rental services or outfitters in place will likely experience a greater economic impact from the blueway compared to communities that do not currently have these businesses. However, the economic impact of paddle trails develops over time, and the impact is likely to be seasonal, with more paddlers coming during the extended shoulder seasons as the trail becomes more popular. Working closely with local leaders and the local business community can help increase the economic impact of the blueway and help promote the blueway and special events.

“Communities with overnight stay options, dining, and rental services or outfitters in place will likely experience a greater economic impact from the blueway compared to communities that do not currently have these businesses.”

---

<sup>54</sup> “NC-Paddle-Tourism-Study.Pdf.”

<sup>55</sup> “Economic Argument for Water Trails.Pdf,” accessed August 27, 2020, <https://www.river-management.org/assets/WaterTrails/economic%20argument%20for%20water%20trails.pdf>.



## Economic Impacts of Paddle Trails

In 2015, the River Management Society published a report highlighting the economic impacts of water trails. These economic impacts can be categorized in two ways: direct impact and indirect impact. Direct Impacts are payments for goods and services like outdoor gear, food, and gas.<sup>56</sup> Lodging typically has the most significant potential economic impact on communities since it drives spending in other categories. It is important to inform visitors of lodging options and work with local residents to set up Airbnb rentals or other lodging options if there are no alternatives in your local area. Typical direct impact categories for paddling trips include:

- **Gear:** Outfitters & Rentals
- **Food:** Restaurants & Grocery Stores
- **Lodging:** Camping, Hotels, Bed & Breakfasts, Airbnb's, etc.
- **Transportation:** gas and other travel spending
- **Retail & Services:** additional shopping & other services
- **Activities:** guided services, museum tickets, etc.

Indirect Impacts are the results of supply purchases from businesses that are directly impacted by the consumers. These impacts are often realized after the paddler has left town, and they include categories such as:<sup>57</sup>

- Tax revenue
- Household income/Employment
- Real Estate

In the following sections, we will discuss a few of the many strategies communities can use to bolster economic impact from blueways and support local businesses. For [case studies](#) regarding the economic impact of paddle trails, please see the table in the appendix.

---

<sup>56</sup> "Economic Argument for Water Trails.Pdf."

<sup>57</sup> "Economic Argument for Water Trails.Pdf."

## Connect Trails to Local Businesses

To fully realize the economic impact of the blueway, communities must work together to connect visitors to the paddle trail to local businesses. This may take time and will be more robust as both the paddle trail and the communities become better known. Regardless, blueway planners should actively work to emphasize signage and connectivity to promote local businesses. As the blueway becomes more popular and well known, more guides and outfitters will grow to accommodate the increased demand. In some areas, it may be beneficial for the blueway managing organization to work with local outfitters to provide equipment rentals at an access site or local park. In other cases, outfitters and guide services can provide regular paddling tours. Blueways can also elevate their profile and the region by connecting to one another. The Mountains to Sea trail connects many land and water trail segments under one umbrella of a state-wide trail system. Similarly, regions can promote many trails and communities as a destination that could facilitate a series of day trips or longer overnight trips across the region.

No matter the landscape of local businesses, it will be extremely important to connect the blueway to local businesses and vice versa. Businesses can connect with visitors by offering a social media spotlight to visitors who tag them in pictures on the blueway. This strategy also helps to market the blueway and business through (digital) word of mouth. Businesses can sponsor clean-ups or raffles in partnership with local environmental organizations. Blueway materials can feature local businesses where appropriate and digital versions of the blueway map are very helpful in quickly and easily connecting visitors to points of interest and local businesses. Local shops and restaurants, when well connected to blueway marketing, can give visitors a reason to stay in town and shop beyond the primary purpose of their trip.

Businesses can engage and promote themselves and the paddle trail in many ways. Businesses and communities should leverage any point of connection possible to increase the economic impact to the community. The tables below offer examples of how businesses and media can build these connections.

Business Type	Example Implementation
<b>Outfitters</b>	<ul style="list-style-type: none"><li>• Create a destination</li><li>• Host a food truck</li><li>• Install a taproom</li></ul>
<b>Food-Trucks</b>	<ul style="list-style-type: none"><li>• Transform a rental site or access point into a destination</li></ul>
<b>Pop-Up Rentals</b>	<ul style="list-style-type: none"><li>• Provide rental capacity temporarily – ideal for seasonal uses or blueways just getting started</li></ul>
<b>Guides</b>	<ul style="list-style-type: none"><li>• Provide visitors with technical expertise and can inform visitors of places to camp, dine, and shop</li></ul>

Example Media	Example Implementation
<b>Signage</b>	<ul style="list-style-type: none"> <li>• Include QR codes to connect visitors to points of interest &amp; businesses</li> <li>• Locate points of interest on maps &amp; larger signs</li> <li>• Direct visitors to town with wayfinding</li> </ul>
<b>Social Media</b>	<ul style="list-style-type: none"> <li>• Encourage user-generated content</li> <li>• Encourage local businesses to use social media</li> <li>• Post videos &amp; other creative content from local tourism organizations</li> </ul>
<b>Brochures &amp; Print Material</b>	<ul style="list-style-type: none"> <li>• Create a map that visitors can purchase to take on the water</li> <li>• Include information about points of interest, places to camp, &amp; local outfitters</li> </ul>
<b>Events</b>	<ul style="list-style-type: none"> <li>• Partner with environmental organizations to host clean-up events &amp; education days</li> <li>• Partner with local businesses to sponsor a section of the river or host clean-up events</li> <li>• Host larger seasonal or annual events sponsored by and featuring local businesses &amp; entertainment – these events elevate the paddle trail while promoting businesses and environmental stewardship</li> <li>• Host relevant events at a local restaurant or taproom – “blue drinks” could be a regular event featuring speakers &amp; topics relevant to waterways</li> </ul>
<b>Popular Platforms</b>	<ul style="list-style-type: none"> <li>• Host “review-ins” to help boost visibility for local businesses</li> <li>• Encourage residents &amp; visitors to use websites – AllTrails &amp; Google Maps to record trails, post photos, review the trail, and suggest points of interest</li> </ul>
<b>Website</b>	<ul style="list-style-type: none"> <li>• Provide an interactive map with layers for camping, dining, &amp; outfitters – include contact information for these businesses</li> <li>• Create an FAQ section with information about local businesses in addition to relevant safety and trip planning information</li> <li>• Include a suggested itineraries page and connect to points of interest</li> </ul>



## Funding Mechanisms

Though paddle trails and parks can gain some revenue from entry and rental fees, these alone are not enough to sustainably fund, improve, and example recreational assets. The section will briefly highlight funding mechanisms for paddle trails, many of which come from the state and local levels.

For state-funded programs, the state legislature will have to enable the funding mechanism through a statute or amendment officially. It will then need to allocate a funding source like bonds, sales tax, or appropriations.<sup>58</sup> In North Carolina, the Parks and Recreation Trust Fund is the primary funding mechanism for recreation. This fund dedicates 75% of the real estate transfer tax to parks and recreation. North Carolina's funding mechanism relies on a statute that dedicates specific revenue in each budget cycle or longer. This approach can be difficult to modify, and it can be politicized. The fund will sunset after a term and requires renewal efforts, but it does offer some security from year-to-year.<sup>59</sup> It will be important to look at the funding mechanism available in your state. For more information, please see the resources section, where we have also included a list of funded opportunities in the appendix.

## Resiliency and Economic Development

The U.S. Economic Development Administration (EDA) emphasizes economic resiliency in communities and regions. Economic resiliency is based on three factors:

- Ability to avoid a disruption
- Ability to withstand a disruption
- Ability to recover quickly from a disruption

Economic resilience depends on a community or region's ability to anticipate, evaluate, and respond to risks. These disruptions can be expressed in three ways:

- Downturns or major events in the national or global economy which impact local goods and consumer spending
- Downturns in certain industries that form a key component of the area's economy
- Other external disruptions such as natural disaster, climate change, or the closure or relocation of a major employer



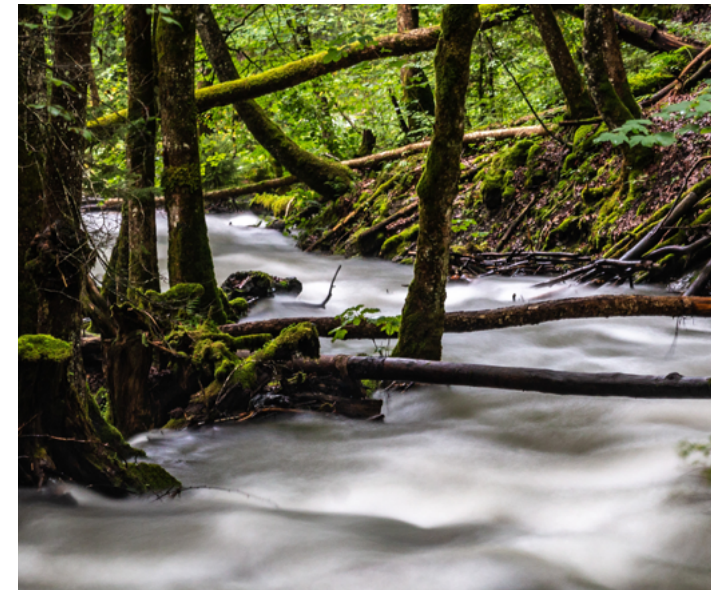
<sup>58</sup> "State-Rec-Fullreport.Pdf," accessed August 28, 2020, <https://headwaterseconomics.org/wp-content/uploads/state-rec-fullreport.pdf>.

<sup>59</sup> "State-Rec-Fullreport.Pdf."

The novel coronavirus has caused major disruptions in local, national, and global economic systems. While outdoor recreation cannot and should not be expected to fully sustain a community economically, it can help to diversify the economy and provide valuable economic, health, and mental benefits during this time. Due to guidelines emphasizing socially distant outdoor recreation, sales in outdoor gear have skyrocketed,<sup>60</sup> and many people have started spending more time outdoors. Another encouraging trend is that during the great recession, local vacations became more popular, and outdoor recreation participation increased.<sup>61</sup> As we mentioned in the User Trends and Demographics Section, the southeast could see an increase in travel due to the travel and economic disruptions COVID-19 has caused to travel plans for many people. It is also important to note that outdoor recreation and cultural-historical assets can be another powerful motivator in travel and tourism. This is especially encouraging for outdoor and cultural assets located on Native American boundaries and African American heritage sites.<sup>62</sup>

Due to climate change and the current disruption of COVID-19, communities must think creatively and strategically about economic development. Besides outdoor recreation, communities can use conservation, flood management, and stormwater management to provide jobs while increasing their resiliency to natural disasters. Recently, the Great American Outdoors Act was passed, which offers permanent funding for the Land and Waters Trust Fund (LWTF). The LWTF provides funding to various local, state, and national programs geared toward outdoor recreation and conservation.<sup>63</sup> Another creative way to catalyze economic activity while working toward flooding resiliency is by modernizing floodwater, stormwater, and watershed management. A recent report by American Rivers notes that ecological restoration contributes 226,000 jobs and \$25 billion per year to the economy, while water infrastructure contributes \$220 billion per year in economic activity producing 1.3 million jobs.<sup>64</sup>

Through improvements to floodwater and watershed management, communities that regularly experience flooding can increase their environmental resiliency. Creating sustainable waterways that focus on establishing healthy ecosystems and robust riparian environments can help alleviate flooding and help divert it from other areas in the community. By including environmental resiliency in all aspects of the planning and management phases, blueway planners can help locals overcome negative views of the waterway caused by consistent flooding. Eventually, with a commitment to environmental resiliency and communication, locals will likely begin to view the waterway and their community with more optimism and pride.



<sup>60</sup> John Herman, "The New Panic Buys: Kayaks, Pools, Tents and Trampolines," *The New York Times*, August 4, 2020, sec. Style, <https://www.nytimes.com/2020/08/04/style/outdoor-camping-gear-pools-backordered.html>.

<sup>61</sup> "OIA\_OutdoorRecEconomyReport2012.Pdf," accessed August 28, 2020, [https://outdoorindustry.org/pdf/OIA\\_OutdoorRecEconomyReport2012.pdf](https://outdoorindustry.org/pdf/OIA_OutdoorRecEconomyReport2012.pdf).

<sup>62</sup> Leoneda Inge Shelton-Ormond Charlie, "The Tourism Tightrope," accessed September 16, 2020, <https://www.wunc.org/post/tourism-tightrope>.

<sup>63</sup> "LWCF Programs," The Land and Water Conservation Fund, accessed August 28, 2020, <https://www.lwcfcoalition.com/lwcf-programs>.

<sup>64</sup> Fay Hartman, "INVESTING IN CLEAN WATER, COMMUNITIES AND OUR FUTURE," n.d., 37.





## Business Opportunities

There are many different types of business opportunities based on the characteristics of the blueway and the surrounding community. In urban areas, local restaurants or breweries may be close enough to the river to welcome paddlers right to their doors. In rural areas, a local outfitter might create a small taproom and food truck/dining area to create a “one-stop-shop” for paddlers. As the user trends and demographics section highlighted, there is a strong preference for on-site rentals and locally owned outfitters, so communities can start to leverage the paddle trail by encouraging these types of businesses and activities. In some communities, an entire whitewater or paddling center may be feasible. Map applications for phones and other devices are excellent tools for creating interactive and user-friendly maps that are useful for paddlers, provide business opportunities, and act as marketing tools. Regardless, each community can leverage its unique characteristics to connect businesses and blueways.

## Businesses Supported by Blueways

Communities can work to increase direct impacts by ensuring that the common spending categories are available in the community, such as lodging, dining, and transportation. For example, in many rural areas, there are no overnight lodging options. Fortunately, many paddlers enjoy camping, so a campsite, even a primitive style site, would be an attractive overnight option that could encourage visitors to stay longer. Alternatively, working with local homeowners to help them understand how to become Airbnb hosts is another strategy to provide overnight options in a community with no traditional options.

There are many different types of businesses that are directly supported by blueways, many of which are related to the direct economic impact categories mentioned above. Outfitters and guide services can sell or rent outdoor gear and provide tours and shuttle services. Many outfitters often expand their businesses to include a modest taproom and space outside for a food truck, so visiting the outfitter becomes an event and not just a brief stop. In communities with limited services, a small-scale independent corner store can provide many food and beverage items that paddlers are looking for in larger grocery stores.

Communities can support these businesses by providing an updated business dashboard that includes data related to outdoor recreation and connecting entrepreneurs to small business resources centers to help them create or expand their businesses. Existing businesses can benefit by increasing their online presence. Hosting “review-ins” where a tablet is set up and guests are asked to leave a review can help small businesses quickly elevate their online presence. Additionally, taking pictures and tagging the location on social media and other popular platforms will further boost local businesses’ visibility online.





## Considerations for Tribal Governments

For tribal governments, the land is more than an economic resource; it is a cultural asset and profound source of history and identity.<sup>65</sup> Tribal governments can build resiliency strategies such as flood and stormwater management into Master Plans to form part of the economy, similar to the Coharie Tribe's business certification efforts to provide environmental restoration to the Coharie River.<sup>66</sup>

Tribal governments can build economic development strategies into recreation plans similar to Jamestown S'Klallam Tribe's 2010 Outdoor Recreation Plan. This example brought together goals for cultural assets, human services, and natural resources under one umbrella. Many rural economic development strategies suggest that community development is economic development for small rural communities. For tribal governments looking to invest in tourism and outdoor recreation, the Native American Tourism and Improving Visitor Experience (NATIVE) Act "requires the Department of Commerce, the Department of the Interior, and federal agencies with recreational travel or tourism functions to update their management plans and tourism initiatives to include Indian tribes, tribal organizations, and Native Hawaiian organizations."<sup>67</sup> This act, combined with the U.S. Department of Agriculture's (USDA) emphasis on rural economic development, has opened up more funding opportunities for tribal governments.

Tribal governments can tie outdoor recreation and cultural heritage preservation together since both influence motivations for travel and tourism. Some cultural sites may be directly connected with outdoor recreation, such as trails leading to historical sites. Other cultural experiences and arts and crafts galleries offer visitors, who may have come for outdoor recreation, something to do beyond their hike or paddle trip, and encourage visitors to stay in the area longer.

---

<sup>65</sup> Leanne Jenkins, "2010 Tribal Outdoor Recreation Plan," 2010, 35.

<sup>66</sup> "NCGrowth Report: Coharie 8A Certification Research – NCGrowth," accessed August 28, 2020, <https://ncgrowth.unc.edu/index.php/ncgrowth-report-coharie-8a-certification-research/>.

<sup>67</sup> "Capturing a Slice of the Recreation Economy," *AIANTA* (blog), May 6, 2019, <https://www.aianta.org/capturing-a-slice-of-the-recreation-economy/>.

# Conclusion

**Blueways**, from the earliest stages of planning to hosting large special events with local business vendors, are about community engagement, stewardship, and connectivity. They provide a means for paddlers to connect with nature, friends, and family. They connect local businesses to visitors and environmental organizations. And, they connect often forgotten or underutilized natural assets to the greater community. We hope that this guide has given you and your community the tools it needs to plan and build a blueway while leveraging it for sustainable economic impact.

Whether your community is looking to build a blueway from scratch or is simply looking for ways to enhance it, part one of this guide provides detailed steps and examples to help you think through each stage of planning and building your blueway. Community engagement and buy-in in the early stages will help ensure not only the long-term success of the blueway; it will make leveraging the paddle trail for economic development a smoother process.

Though COVID-19 and natural disasters bring much uncertainty, we hope that diversifying your economy through outdoor recreation, stormwater management, and other creative strategies helps to establish a more resilient and sustainable economic landscape in your community. The outdoor industry and recreation have the potential to increase the quality of life factors that draw in visitors and entrepreneurs and help retain youth. For rural communities, in particular, natural assets are often readily available and can be transformed into outdoor recreation assets that contribute to community development and economic development.





# REFERENCES

- "2015-Paddlesports-Research.Pdf." Accessed August 27, 2020. <https://outdoorindustry.org/wp-content/uploads/2017/05/2015-Paddlesports-Research.pdf>.
- "2017-Outdoor-Recreation-Participation-Report\_FINAL.Pdf." Accessed August 27, 2020. [https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Outdoor-Recreation-Participation-Report\\_FINAL.pdf](https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Outdoor-Recreation-Participation-Report_FINAL.pdf).
- "2019-Special-Report-on-Fishing\_RBFF\_FINAL1.Pdf." Accessed August 27, 2020. [https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing\\_RBFF\\_FINAL1.pdf](https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing_RBFF_FINAL1.pdf).
- "2019\_Special\_Report\_on\_Paddl.Pdf." Accessed August 27, 2020. [https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational\\_resources/2019\\_Special\\_Report\\_on\\_Paddl.pdf](https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational_resources/2019_Special_Report_on_Paddl.pdf).
- "Accessible Boating Facilities - United States Access Board." Accessed August 25, 2020. <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/guides/boating-facilities/accessible-boating-facilities>.
- Penn State Extension. "Benefits of Large Woody Debris in Streams." Accessed August 26, 2020. <https://extension.psu.edu/benefits-of-large-woody-debris-in-streams>.
- "Boat-Float-Plan.Pdf." Accessed August 26, 2020. <https://www.nps.gov/piro/planyourvisit/upload/Boat-Float-Plan.pdf>.
- "Build a Blue Trail." Accessed August 7, 2020. <http://www.bluetrailsguide.org/build/>.
- AIANTA. "Capturing a Slice of the Recreation Economy;" May 6, 2019. <https://www.aianta.org/capturing-a-slice-of-the-recreation-economy/>.
- CDC. "Disability Impacts All of Us Infographic | CDC." Centers for Disease Control and Prevention, March 8, 2019. <https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html>.
- "Chapter\_77.Pdf." Accessed August 10, 2020. [https://www.ncleg.net/EnactedLegislation/Statutes/PDF/ByChapter/Chapter\\_77.pdf](https://www.ncleg.net/EnactedLegislation/Statutes/PDF/ByChapter/Chapter_77.pdf).
- "Clean-and-Open-Method.Pdf." Accessed August 26, 2020. <https://www.hrwc.org/wp-content/uploads/2013/03/Clean-and-Open-Method.pdf>.
- Longwoods International. "COVID-19 Travel Sentiment Study-Wave 19." Accessed September 16, 2020. <https://longwoods-intl.com/news-press-release/covid-19-travel-sentiment-study-wave-19>.
- "Create A Trail | North Carolina Trails." Accessed August 7, 2020. <https://trails.nc.gov/trail-guidance/create-trail>.
- "Economic Argument for Water Trails.Pdf." Accessed August 27, 2020. <https://www.river-management.org/assets/WaterTrails/economic%20argument%20for%20water%20trails.pdf>.
- gopaddlesc.com. "Explore Waterways." Accessed August 7, 2020. <https://www.gopaddlesc.com/waterways>.
- Hartman, Fay. "INVESTING IN CLEAN WATER, COMMUNITIES AND OUR FUTURE," n.d., 37.
- Herrman, John. "The New Panic Buys: Kayaks, Pools, Tents and Trampolines." The New York Times, August 4, 2020, sec. Style. <https://www.nytimes.com/2020/08/04/style/outdoor-camping-gear-pools-backordered.html>.



Jenkins, Leanne. "2010 Tribal Outdoor Recreation Plan," 2010, 35.

"Landowner Guidance\_final\_final\_revised\_1-21-2016.Pdf." Accessed August 10, 2020. [https://www.river-management.org/assets/WaterTrails/landowner%20guidance\\_final\\_final\\_revised\\_1-21-2016.pdf](https://www.river-management.org/assets/WaterTrails/landowner%20guidance_final_final_revised_1-21-2016.pdf).

The Land and Water Conservation Fund. "LWCF Programs." Accessed August 28, 2020. <https://www.lwcfcoalition.com/lwcf-programs>.

Manahan, Kacy. "THE CONSTITUTIONAL PUBLIC TRUST DOCTRINE." *Environmental Law* 49, no. 1 (2019): 263–305. <https://doi.org/10.2307/26794285>.

McGranahan, David A., Timothy R. Wojan, and Dayton M. Lambert. "The Rural Growth Trifecta: Outdoor Amenities, Creative Class and Entrepreneurial Context." *Journal of Economic Geography* 11, no. 3 (May 1, 2011): 529–57. <https://doi.org/10.1093/jeg/lbq007>.

"Mountain Heritage Trout Waters Program." Accessed August 10, 2020. <https://www.ncwildlife.org/Fishing/Learn-Resources/Programs/Mountain-Heritage-Trout-Waters-Program>.

"National Natural Landmarks and Rivers - Rivers (U.S. National Park Service)." Accessed August 7, 2020. <https://www.nps.gov/subjects/rivers/national-natural-landmarks-and-rivers.htm>.

"National Water Trails System - National Trails System (U.S. National Park Service)." Accessed August 7, 2020. <https://www.nps.gov/subjects/nationaltrailssystem/national-water-trails-system.htm>.

"NC DEQ: Other." Accessed August 10, 2020. <https://deq.nc.gov/permits-regulations/permit-directory/other>.

"NCGrowth Report: Coharie 8A Certification Research – NCGrowth." Accessed August 28, 2020. <https://ncgrowth.unc.edu/index.php/nc-growth-report-coharie-8a-certification-research/>.

"NC-Paddle-Tourism-Study.Pdf." Accessed August 27, 2020. <https://jordanrivercommission.com/wp-content/uploads/2011/04/NC-paddle-tourism-study.pdf>.

Bladder & Bowel Community. "Normal Urinary Frequency," April 6, 2017. <https://www.bladderandbowel.org/bladder/bladder-conditions-and-symptoms/frequency/>.

"North Carolina Trails Committee | North Carolina Trails." Accessed August 7, 2020. <https://trails.nc.gov/nc-trails-program/north-carolina-trails-committee>.

"OIA\_OutdoorRecEconomyReport2012.Pdf." Accessed August 28, 2020. [https://outdoorindustry.org/pdf/OIA\\_OutdoorRecEconomyReport2012.pdf](https://outdoorindustry.org/pdf/OIA_OutdoorRecEconomyReport2012.pdf).

"Ordinary High Water Mark - Washington State Department of Ecology." Accessed September 14, 2020. <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-Management-Act-SMA/Shoreline-Management-Act-jurisdiction/Ordinary-high-water-mark>.

Outdoor Industry Association. "Outdoor Recreation Economy Report." Accessed August 27, 2020. <https://outdoorindustry.org/resource/2017-outdoor-recreation-economy-report/>.

"Prepare to Launch!" Accessed August 25, 2020. <https://www.river-management.org/prepare-to-launch>.

LII / Legal Information Institute. "Public Trust Doctrine." Accessed August 10, 2020. [https://www.law.cornell.edu/wex/public\\_trust\\_doctrine](https://www.law.cornell.edu/wex/public_trust_doctrine).

Ballotpedia. "Public Trust Doctrine." Accessed September 14, 2020. [https://ballotpedia.org/Public\\_Trust\\_Doctrine](https://ballotpedia.org/Public_Trust_Doctrine).

"Public Trust Doctrine: Who Owns the Beach? | Coastal Review Online," September 29, 2016. <https://www.coastalreview.org/2016/09/public-trust-doctrine-owns-beach/>.

Headwaters Economics. "Recreation Counties Across the U.S." Accessed August 27, 2020. <https://headwaterseconomics.org/dataviz/recreation-counties-us/>.

"Recreational Trails Program | SCPRT." Accessed August 7, 2020. <https://www.scprt.com/recreation/recreation-grant-programs/recreational-trails-program>.

Rwsmith. "More on the Public Trust Doctrine." SmithEnvironment Blog (blog), September 11, 2013. <http://www.smithenvironment.com/more-on-the-public-trust-doctrine/>.

"SCDNR - Scenic Rivers - Program Overview." Accessed August 7, 2020. <http://www.dnr.sc.gov/water/river/overview.html>.

Shelton-Ormond, Leoneda Inge, Charlie. "The Tourism Tightrope." Accessed September 16, 2020. <https://www.wunc.org/post/tourism-tight-rope>.

"State-Rec-Fullreport.Pdf." Accessed August 28, 2020. <https://headwaterseconomics.org/wp-content/uploads/state-rec-fullreport.pdf>.

"The Trail | Mountains-to-Sea Trail." Accessed September 16, 2020. <https://mountainstoseatrail.org/the-trail/>.

"Trails | NC State Parks." Accessed August 5, 2020. <https://www.ncparks.gov/find-an-activity/trails>.

"Visitor Profile Studies." Accessed August 27, 2020. <https://partners.visitnc.com/visitor-profile-studies>.

"WaterSiteAssessment.Pdf." Accessed August 24, 2020. <https://www.americantrails.org/files/pdf/WaterSiteAssessment.pdf>.

"Water\_trail\_manual\_20170609\_web.Pdf." Accessed August 4, 2020. [http://www.michiganwatertrails.org/downloads/water\\_trail\\_manual\\_20170609\\_web.pdf](http://www.michiganwatertrails.org/downloads/water_trail_manual_20170609_web.pdf).

MSU Extension. "What's a Water Trail?" Accessed August 4, 2020. [https://www.canr.msu.edu/news/whats\\_a\\_water\\_trail](https://www.canr.msu.edu/news/whats_a_water_trail).

"Wild & Scenic River Designation." Accessed August 7, 2020. <https://www.rivers.gov/designation.php>.

"Wild and Scenic Rivers - Rivers (U.S. National Park Service)." Accessed August 7, 2020. <https://www.nps.gov/subjects/rivers/wild-and-scenic-rivers.htm>.

"Woody-Debris-Fact-Sheet-PDF.Pdf." Accessed August 26, 2020. <https://www.lansingmi.gov/DocumentCenter/View/842/Woody-Debris-Fact-Sheet-PDF>.

# APPENDIX A: GENERAL REFERENCES AND RESOURCES FOR BUILDING YOUR BLUEWAY

Resource	Link
Developing Water Trails in Iowa	<a href="http://www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/Water-Trail-Development">www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/Water-Trail-Development</a>
Georgia River Network Checklist for Starting a Water Trail	<a href="http://www.garivers.org/files/Newtrailchecklist.pdf">www.garivers.org/files/Newtrailchecklist.pdf</a>
Prepare to Launch	<a href="http://www.river-management.org/prepare-to-launch">www.river-management.org/prepare-to-launch</a>
Water Trail Planning 101	<a href="http://www.nps.gov/WaterTrails/Toolbox/DownloadFile/125">www.nps.gov/WaterTrails/Toolbox/DownloadFile/125</a>
An Economic Argument for Water Trails	<a href="http://www.river-management.org/assets/WaterTrails/economic%20argument%20for%20water%20trails.pdf">www.river-management.org/assets/WaterTrails/economic%20argument%20for%20water%20trails.pdf</a>
Land Information Water Trail Economic Impact Analysis	<a href="http://www.liaa.org">www.liaa.org</a>
Leave-No-Trace	<a href="http://www.lnt.org/learn/seven-principles-overview">www.lnt.org/learn/seven-principles-overview</a>
Managing Visitor Use in Diverse Settings Using the MUMC Framework	<a href="http://www.recpro.org/assets/Conference_Proceedings/2016/2016_managing_">www.recpro.org/assets/Conference_Proceedings/2016/2016_managing_</a>
Sharing the Rivers: Managing and Minimizing Recreational User Conflicts	<a href="http://www.americanwhitewater.org/content/Wiki/stewardship:share_the_river">www.americanwhitewater.org/content/Wiki/stewardship:share_the_river</a>
National Parks Service Rivers, Trails, and Conservation Assistance Program	<a href="http://www.nps.gov/orgs/rtca">www.nps.gov/orgs/rtca</a>
National Water Trails System	<a href="http://www.nps.org/WaterTrails">www.nps.org/WaterTrails</a>
River Management Society	<a href="http://www.river-management.org">www.river-management.org</a>
Schuykill River National & State Heritage Area Sign Design Guideline Manual	<a href="http://www.nps.gov/WaterTrails/Toolbox/DownloadFile/151">www.nps.gov/WaterTrails/Toolbox/DownloadFile/151</a>
National Parks Service Map Symbols and Patterns	<a href="http://www.nps.gov/hfc/carto/map-symbols.cfm">www.nps.gov/hfc/carto/map-symbols.cfm</a>
Woody Debris Management 101 – Clean and Open Method	<a href="http://www.hrwc.org/wp-content/uploads/2013/03/Clean-and-Open-Method.pdf">www.hrwc.org/wp-content/uploads/2013/03/Clean-and-Open-Method.pdf</a>
Field Manual on Maintenance of Large Woody Debris for Municipal Operation and Maintenance Crews	<a href="http://www.crowc.org/wp-content/uploads/LWD-Manual-Final.pdf">www.crowc.org/wp-content/uploads/LWD-Manual-Final.pdf</a>



# APPENDIX B: TYPICAL BLUEWAY STAKEHOLDERS-ROLES & QUESTIONS TO ASK

\*adapted from the [Michigan Water Trails Manual](#)

Group	Role	Questions to Consider
<b>Watershed Council, Land Conservancy, and/or Conservation District</b>	These groups often have a role in managing water bodies and associated natural resources. Natural resource managers often see the potential for stewardship and restoration that results from increased emphasis on waterways.	What are the ecologically vulnerable areas on the waterway? What actions should be taken to protect the biological integrity of these systems? Who manages the current paddling access points? Are there any water quality issues we should be aware of?
<b>DNR – Forest Resource Division</b>	Manages forest lands along lakes and rivers.	If the water trail is on a designated river, what are the specifics of the zoning district regulations? Is the ordinance administered by the State or by local governments? What types of signage (wayfinding and interpretive) along the river would be appropriate?
<b>DNR – Wildlife Division</b>	Manages lands and access sites (including state game areas) along many water resources.	What is the formal process for getting DNR parcels approved for access-site development? Would the water trail conflict with other recreational uses like hunting, and when would those conflicts occur?
<b>DNR – Parks and Recreation Division</b>	Manages state park lands and state boating access sites.	Are there any scheduled improvements to your access site? Can your access site accommodate an accessible kayak launch? Can we include signage at the access site? Can we create paddle-in campsites? How many auxiliary campsites are in the state park?
<b>DNR – Trails Section</b>	Develops trails and is the liaison between trail groups and all other divisions.	Would you be willing to participate in our planning process, and can you help direct us to the appropriate contacts in other divisions? Can you tell us how the water trail may connect with other trails in the region?
<b>National Forest Service</b>	Manages forest lands and boating access sites within the national forest.	Are there any scheduled improvements to your access sites, and can they accommodate an accessible kayak launch? Can we include signage at the access site? Can we create paddle-in campsites?
<b>National Park Service</b>	Manages national parks and access sites within national parks and lakeshores.	Can we use an existing access site in the park as a stop for the water trail?

<b>Local Units of Government</b>	Early cooperation with local governments is important in ensuring the success of the water trail.	Would a water trail benefit your community? If so, how? Are you currently planning for paddlesports in your parks and recreation plan or municipal Master Plan? Does this water trail complement any of your existing planning efforts? Are there any paddling-related infrastructure improvements you are planning to make? Are there any water quality issues?
<b>Tribes</b>	Native Americans have a rich history of using waterways for transportation, trading, and sustenance. Tribal lands and Native American reservations are self-governed.	Can you share any history on how this river/water body has been used and managed historically? Would a water trail benefit your community? If so, how? Does this water trail complement any of your existing planning or recreational efforts?
<b>Regional Council of Governments and/ or County Governments</b>	These regional public agencies often have expertise in Geographical Information Systems (GIS) and mapping services, land ownership and parcel delineation, and can provide other technical data sets.	What data is currently available for this waterway? What form is it in? Does any of the data need to be updated?
<b>Water Resource Managers (e.g., Drain Commissioners)</b>	County water resource managers have a handle on the system of human-made drains and creeks in the local watershed and can be a useful resource for informing new infrastructure decisions.	Do any county drains feed into this waterway? Would proposed access-site improvements impact the drainage system? Are there opportunities for improving water quality of the water trail through low-impact development (LID) or other green infrastructure techniques?
<b>Public Safety and Law Enforcement</b>	In coastal areas, the Coast Guard can provide information on water conditions, navigating harbors, and international waters. The Coast Guard is also a great resource for safety tips. Police and fire/rescue can provide information on local water rescue response protocols.	Are there segments of this water trail that are particularly dangerous? Are there certain times of the year when paddlers should be encouraged not to paddle? What is the best way for paddlers to get assistance in the event of an emergency? Are there paddling safety courses available that can be promoted? What types of safety signage should be added, and where should it be installed?

<b>Property Owners</b>	Landowners are critical to trail development. Getting support and buy-in from adjacent properties early on in the process reduces conflict later on when the water trail is implemented.	Do you or your family members use the waterway for paddling? If so, how could your paddling experience be improved? What has your experience been with other paddlers? Do you have any concerns about paddlers not respecting your personal property? Do you have ideas for steps that could be taken to alleviate any impacts from paddlers using the waterway?
<b>Outfitters and Liveries</b>	Existing outfitters and liveries can provide a wealth of information on waterway conditions, recreational paddling trends, and other factors impacting the water trail.	How long have you operated as a livery? What segments of the waterway do you use? What trends have you noticed in paddlers using your livery services? Would an increase in liveries on the waterway negatively or positively impact your business? Do you have any recommendations for access-site improvements?
<b>Anglers</b>	Engaging anglers in the planning process can help alleviate conflicts between paddlers and anglers. Additionally, many anglers are also avid paddlers, so they can help bridge any divides between the two user groups.	How often and at what time of year do you fish this waterway? Are there segments of this waterway that would be negatively impacted by an increase in paddlers? What strategies should paddlers use to share the waterway with anglers? Are there times during the day when paddlers should be discouraged from paddling? Are there times during the day and/or season that angler activity is low?
<b>Dam Managers</b>	If your waterway contains any dams, dam managers can provide valuable information on how water levels are managed, how water levels change throughout the year, and the preferred method for navigating around the dam(s).	How many dams are located on this waterway? What is the nature and history of the dam(s)? What is the best way to portage around the dam(s)? Do you have any recommendations for infrastructure improvements that would make the portage easier?
<b>Paddling Clubs</b>	Local paddling groups often have an intimate knowledge of the waterways and how the conditions change throughout the year. Paddlers can also play an important role in promoting the water trail and raising funds for access site improvements.	How large is your paddling club? What types of activities and paddle events do you organize? Do you hold an annual river or beach cleanup? What opportunities do you see for improving paddling access and the overall paddling experience? Are there opportunities to market this water trail to new user groups and bring in more paddlers to the community?



<b>Historical Society, Library, Historical Museum, Native American Tribe</b>	<p>Institutions can help provide information about the cultural history and themes of the community. It can help in the development of promotional materials, interpretive signage, and programming.</p>	<p>What should the water trail celebrate? What will the water trail mean for the community? What makes this community or area unique? Are there any historical sites along the waterbody? What role did the waterbody play in the history of the community?</p>
<b>Accessibility and Disability Advocates</b>	<p>Advocates can help evaluate the accessibility of existing access sites and provide suggestions for improvements and modifications.</p>	<p>What are the obstacles to accessibility at the launch? What are the obstacles to accessibility for the entire site (bathrooms, parking, routes, etc.)?</p>
<b>Environmental Educators</b>	<p>Environmental educators can provide information on existing educational programming offered on the waterway and identify opportunities for new educational programs. They can also identify opportunities for interpretive signage on the water trail.</p>	<p>What types of environmental education are you currently doing on the waterway? Who are you currently collaborating with? Do you bring culture and history into your activities? Are there opportunities for expanding environmental education on this waterway?</p>
<b>Economic Development and Tourism Professionals</b>	<p>The regional economic development corporation, Convention and Visitor Bureau, or Chamber of Commerce can provide information on any branding or promotion efforts currently underway in the area, help inform a marketing strategy for the water trail, and could be potential funding partners.</p>	<p>Have you measured the economic impact that paddling has on the local economy? Do you see opportunities for partnering with other groups in the community to promote paddling and use of this water trail?</p>

# BLUEWAY EXPERIENCE TABLE

\*adapted from the [Iowa Department of Natural Resources-Water Trail Development Tools](#)

	Gateway	Recreational	Challenge	Wilderness
<b>User Expectations</b>	<ul style="list-style-type: none"> <li>• Most predictable, especially for those with less experience</li> <li>• Paired launch and landing with ramped, hard-surface or well-maintained compacted aggregate slopes generally at a 12% grade or less and accommodating widths of 4' or greater</li> <li>• An enjoyable setting that will be attractive to new users</li> <li>• Exposure to few hazards relative to other segment types</li> </ul>	<ul style="list-style-type: none"> <li>• Requires some boat control</li> <li>• Intended for users with some experience</li> <li>• Low-head dam hazards signage present, as needed</li> <li>• Varied settings</li> <li>• Basic level of navigational aid (maps, signage)</li> </ul>	<ul style="list-style-type: none"> <li>• User expects to manage risk in hands-on ways</li> <li>• Good boat control necessary</li> <li>• Launch and/or parking may be slightly difficult to very difficult to use</li> <li>• Low-head dam hazard signage present, as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Some degree of solitude, quiet, and viewing of wildlife</li> <li>• Paddling endurance and skill required</li> <li>• Launch and parking areas can be very undeveloped, should strive to be in context with the setting</li> <li>• Wayfinding signage not always present at accesses and on-river</li> <li>• Low-head dam hazard signage present, as needed</li> </ul>

<b>Stream Character</b>	<ul style="list-style-type: none"> <li>• Slow or moderately paced streams to streams with limited ripples</li> <li>• Under normal conditions, will have very few obstacles (although users must still be aware they'll need to avoid common hazards such as snags along banks)</li> <li>• No portages</li> <li>• Often located in or near urban areas</li> </ul>	<ul style="list-style-type: none"> <li>• Vary from narrow and winding to wider channel stretches</li> <li>• Some sandbars, rocks, ripples, strainers, or mild rapids under normal conditions</li> <li>• May require short portages</li> <li>• Urban edge or rural setting is typical</li> </ul>	<ul style="list-style-type: none"> <li>• May include faster water and rapids, large lakes, expansive wetland areas</li> <li>• Includes larger lakes with long open-water crossings and power-craft avoidance, potential high waves couples with areas where steep or rocky shores prevent landing</li> <li>• May include confusing routes that require map-reading skills</li> <li>• May require short or long portages</li> <li>• Moderate to high number of hazards, including logjams, rapids, strainers, or others</li> </ul>	<ul style="list-style-type: none"> <li>• Any types of water conditions would be eligible</li> <li>• Setting is remote</li> <li>• Multiple long or short portages possible</li> <li>• May be "Challenge" elements including unmarked hazards, logjams, rapids, strainers, or others</li> </ul>
<b>Access Spacing</b>	$\leq 6$ miles	$\leq 9$ miles	Varies according to river conditions and blueway goals	$> 9$ miles



<p><b>Amenities such as restrooms, running water, picnic areas, camping</b></p>	<ul style="list-style-type: none"> <li>• Often available at access points</li> <li>• Liveries, shuttle often operating</li> <li>• Wayfinding signage on roadways is more extensive to clearly identify driving route</li> </ul>	<ul style="list-style-type: none"> <li>• May be available but usually not</li> <li>• Liveries, shuttle desirable</li> </ul>	<ul style="list-style-type: none"> <li>• May be available, but usually not</li> <li>• Guided experiences may be encouraged</li> </ul>	<ul style="list-style-type: none"> <li>• Any facilities present, such as remote campsites, are minimal, primitive, and without signage</li> <li>• Guided experiences may be encouraged in place of typical rental businesses</li> </ul>
---	---	---	---	---

# ROLES AND RESPONSIBILITIES CHART

Activity	Responsible Party	Approving Party	Partner(s)	Timeframe
<b>Blueway Management</b>				
Convene taskforce meetings				
Lead planning and project scoping: roles, activities, costs				
Lead/facilitate partnership coordination, coordinate work plans and all activities (trail and site development, fundraising, volunteer coordination, communications/marketing, event) with site owners				
Lead activity scheduling (monthly, weekly, daily)				
Dashboard/monitor on activity progress				
Define overall project phasing/timing (annual and long-term capital improvement planning)				
Coordinate management plans with site owners				
Correspondence/administrative tasks				
Financial management and reporting				
Safety plan and coordination with local public safety agencies				
Access-site monitoring and management (seasonally, monthly, weekly, daily). Cleaning trash, cleaning bathrooms, mowing lawns, parking lot maintenance, removal, and replacement of equipment, etc.				
<b>Fundraising</b>				
Lead private campaign planning and feasibility study and form campaign cabinet.				
Develop funding plan				
Prepare case for support				
Research prospective private donors				
Research and write public grants				
Host in-home visits				
Cultivate major donors				
Solicit major gifts				
Manage direct mail/membership mailings				
<b>Volunteer Coordination</b>				
Identify volunteer roles				
Prepare volunteer job descriptions				

Recruit volunteers				
Train volunteers				
Coordinate monthly, weekly, daily volunteer activities, including work-days				
Steward/thank volunteers				
<b>Communications &amp; Marketing</b>				
Lead communications/audience engagement planning				
Prepare audience-specific communications and marketing materials				
Manage media relationships, prepare press release				
Prepare content and update website				
Prepare content and post social media				
<b>Events</b>				
Plan and coordinate public events (festivals, marketed and guided programs and activities)				
Plan and coordinate private events (invitation-only events)				



# WATER TRAIL SITE ASSESSMENT TOOL<sup>68</sup>

## Water Trail Site Assessment Tool

Launch/Access Site Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Agency / Outfitter Info**  
Park/Area Name: \_\_\_\_\_

Managing Agency: \_\_\_\_\_

Resource Type:  Lake/Reservoir  Ocean  River

Launch/Access Site Description: (please give potential users a general description of this launch/access site)  
\_\_\_\_\_

Please describe the Location of the Launch/Access Site  
\_\_\_\_\_

Are Boats Provided at this site?  
 Canoes  Kayaks  Paddleboats  Rowing Boats  Other:

Is an Essential Eligibility statement provided?  
 Yes  No  Unknown

Is Adaptive Equipment Available at this site?  
 Seating  Transfer  Mobility  Signage  Other: \_\_\_\_\_  
 Paddling  Boat Transport  Communication  None available  Unknown

Are Staff Trained in working with disabilities?  
 Cognitive  Visual/hearing  Physical  Emotional  Unknown

**Exposure - Wind, Waves, Current**  
Direction of Greatest Exposure to Wind and Waves? [circle direction(s)]  
NW N NE E  
W ↻ S SE

Fetch in this direction? (Distance wind can travel over water without encountering land)  
 < 0.25 mile  .25-1.0 mile  > 1.0 mile

Average Wave Height?  
 < 1ft  1-3 ft  3-5 ft  > 5 ft  Unknown

Maximum Wave Height? \_\_\_\_\_ (ft m)

Is there Exposure to Current? [if yes, circle direction(s)]  Yes  Unsure  No

Maximum Current in this direction? \_\_\_\_\_ ( knots mph cfs)

Is there potential for wind and current to be in opposition?  
if yes, please explain: \_\_\_\_\_  Yes  No

Is this site exposed to open water swells or breaking waves?  
If yes, where? \_\_\_\_\_  Yes  No

**Transfer Site (the available space immediately adjacent to the boat)**  
Method of Entry/Exit from boat:  
 Dock  Beach/soil shoreline  Cement Ramp  Other (specify) \_\_\_\_\_  
 Bedrock  Loose Rock/cobble  Stairs

**Characteristics of Transfer Site Options:**

Transfer site Location(s)	Boat Orientation (restricted, unrestricted)	Surface Type (I.e. soil, sand, rock)	Surface Firmness (D, h, f, s, vs)	Slope of site (%)		Dimensions	
				L	W	H	
1							
2							
3							

<sup>68</sup> "WaterSiteAssessment.Pdf," accessed August 24, 2020, <https://www.americantrails.org/files/pdf/WaterSiteAssessment.pdf>.

**Access Routes (paths of travel throughout launch area)**

	From _____ to _____	From _____ to _____	From _____ to _____
Length ( ft m )			
Max Grade			
Typical Grade			
Max X-slope			
Typical X-slope			
Surface Type			
Surface Firmness			
Min Width			
Typical Width			
Obstacles			

Additional Access Route Notes:

**Facilities Available**

Please check all available facilities at this site:

- Parking
- Accessible Toilet
- Picnic Table
- Fishing Pier
- Boat Ramp
- Inaccessible Toilet
- Bench
- Shade
- Signage
- Showers
- Changing Rooms
- Public Beach
- Other (please specify): \_\_\_\_\_
- Visitor Center
- Trailer Parking
- Grills

Additional Facility Notes:

**Obstacles**

Is there potential to have wind and current in opposition?  Yes  No  Unsure

Describe the Wind and Current Orientation that could cause this:

Is there Motorized Vessel Traffic present?  Yes  No  Unsure

Proximity? \_\_\_\_\_

Frequency? \_\_\_\_\_

Vessel Types? \_\_\_\_\_

Are there Reef or other Submerged Hazards?  Yes  No  Unsure

Proximity? \_\_\_\_\_

Describe: \_\_\_\_\_

Does the Water Level Fluctuate?  Yes  No  Unsure

If yes, what is the source of fluctuation?

Tidal

Rain/runoff

Dam Controlled

Other (specify)

Magnitude of fluctuation: \_\_\_\_\_ ( ft or m )

What is the Water Temperature? Highest \_\_\_\_\_ ( C or F ) Lowest: \_\_\_\_\_ ( C or F )

Additional Notes:

# ALTERNATIVE SITE ASSESSMENT TOOL<sup>69</sup>

<b>Location Name:</b>	
Address or Community:	
<b>Latitude:</b>	<b>Longitude:</b>
Miles from Last Access:	Miles from Start:
Site Ownership: (City, county, state, etc.)	
Location Contact (person):	
Location Phone:	
Location Email:	
Location Website:	
Location Amenities (add notes if applicable): <ul style="list-style-type: none"> <li><input type="checkbox"/> ADA Compliant</li> <li><input type="checkbox"/> Boat Storage ___ rack ___ secured rack with lock</li> <li><input type="checkbox"/> Fee ___ parking ___ entrance/launch Amount? _____</li> <li><input type="checkbox"/> Camping ___ rustic (area for tents and restrooms) ___ improved (electric, running water, showers)</li> <li><input type="checkbox"/> Lighting</li> <li><input type="checkbox"/> Parking ___ parking lot ___ dead end/road end ___ on-street ___ on road shoulder</li> <li><input type="checkbox"/> Picnic Area</li> <li><input type="checkbox"/> Power</li> <li><input type="checkbox"/> Restrooms ___ pit ___ flush</li> <li><input type="checkbox"/> Shelter (not overnight use)</li> <li><input type="checkbox"/> Potable Water</li> <li><input type="checkbox"/> WiFi</li> </ul>	
Boat Access Type (if Water Access): <input type="radio"/> Developed <input type="radio"/> Carry-In <input type="radio"/> Alternate	
Length/Ease: ___ more than 50 yards ___ less than 50 yards Notes on significant encumbrances (hills, sand, vegetation, rocks) from parking area to launch area:	
Access Site Sign: ___ in the water/on shore/bank (visible from water) ___ along road (visible from road)	
Nearby Local Outfitter: ___ just rentals ___ just rentals, including transport of boat ___ rentals and tours	

<sup>69</sup> "Water\_trail\_manual\_20170609\_web.Pdf."



**Description (interesting or unique features about the access site other amenities, things to note, and anything else important about this location):**

**Environmental & Conservation Concerns (e.g., shoreline erosion, phragmites):**

**Potential Improvements:**

<b>Name:</b>	
<b>Date &amp; Time:</b>	
<b>Contact:</b>	<b>Phone:</b>
	<b>Email</b>

# PUBLIC ENGAGEMENT STRATEGIES

## Increasing Level of Public Impact\*

\*Table adapted from IAP2 content provided through the UNC SOG Community Development Academy

Inform	Consult	Involve	Collaborate	Empower
<p><b>Goal:</b> Provide the public with objective information to aid them in understanding the problems, alternatives, and/or solutions of proposed change.</p>	<p><b>Goal:</b> Obtain public feedback on analysis, alternatives, and/or decisions.</p>	<p><b>Goal:</b> Work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered.</p>	<p><b>Goal:</b> Partner with the public in each aspect of the decision, including development of alternatives and identification of the preferred solution.</p>	<p><b>Goal:</b> Place final decision-making in the hands of the public.</p>
<p><b>Promise:</b> Local government will keep citizens informed.</p>	<p><b>Promise:</b> Local government will keep citizens informed, listen to, and acknowledge concerns and provide feedback on how public input influenced the decision.</p>	<p><b>Promise:</b> Local government will work with citizens to ensure that their concerns and issues are directly reflected in the alternative developed and provide feedback on how public input influenced the decision.</p>	<p><b>Promise:</b> Local government will look to citizens for direct advice and innovation in formulating solutions and incorporate their advice and recommendations into the decisions to the maximum extent possible.</p>	<p><b>Promise:</b> Local government will implement what the public decides.</p>

# KAYAK FLOAT PLAN<sup>70</sup>

Blueway planners can add this to the website to help visitors safely plan their trip. Visitors can complete this form and leave with a trusted friend or relative.

Contact your friend in case of a delay, and always when you return.

## Operator of Boat:

Name	Age	Medical Conditions
Phone	Address	

Operator's Experience: \_\_\_\_\_

## Description of Boat:

Make	Type
Registration/Documentation No.	Length
Color	Distinguishing Features

## Survival Equipment:

#	PFD's	Flares	Mirror	Smoke signal
---	-------	--------	--------	--------------

Flashlight	Water	Food	EPIRB	Other
------------	-------	------	-------	-------

## Communication:

Marine radio	Yes	No	Cell phone	Other
--------------	-----	----	------------	-------

## Trip Expectations:

Depart from	Departure date	Time	
Going to	Arrival date	Time	
If operator has not arrived/returned by:		Date	Time

Call the Coast Guard or local authority at the following number:

## Vehicle Description:

License no.	Make	Model
Color	Where is vehicle parked?	

## Other person on board?

Name	Age
Phone	Medical conditions

## Additional information:

<sup>70</sup> "Boat-Float-Plan.Pdf," accessed August 26, 2020, <https://www.nps.gov/piro/planyourvisit/upload/Boat-Float-Plan.pdf>.



# APPENDIX C: CASE STUDIES

Economic Development		
	<a href="#">Bakersville and Hayesville</a>	Two small rural communities in the mountains of North Carolina build civic infrastructure and partnerships and boost tourism by elevating heritage and cultural assets and revitalizing downtown. <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/bakers_hayes.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/bakers_hayes.pdf</a>
	<a href="#">Bakersville and Hayesville-Update</a>	A 2019 update on Bakersville and Hayesville. Bakersville's ongoing cultivation of the arts community and the resulting galleries and shops has helped to keep the tax base from declining.  Hayesville has leveraged its cultural heritage and natural assets to promote tourism, which has allowed local businesses to flourish.  <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/Bakersville_Hayesville-NC_ID_Case-Study-Update.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/Bakersville_Hayesville-NC_ID_Case-Study-Update.pdf</a>
	<a href="#">Big Stone Gap, VA</a>	This town's choice to embrace ecotourism and to support local entrepreneurs is transforming the local economy and providing residents with a sense of accomplishment and independence from the control of industry outsiders.  <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/big_stone_gap.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/big_stone_gap.pdf</a>
	<a href="#">Black Mountain</a>	This small town bridges a thriving local arts scene with economic development to restore its cultural identity and enlarge the tax base.  <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/black_mountain.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/black_mountain.pdf</a>
	<a href="#">Chimney Rock</a>	A downtown makeover and the construction of a river walk, joining Chimney Rock's business district to the Rocky Broad River, spurs the creation of new businesses.  <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/chimney_rock.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/chimney_rock.pdf</a>
	<a href="#">Columbia</a>	The ecotourism strategy in Columbia is characterized by an innovative approach to governance and dogged protection of natural resources. <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/columbia-1.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/columbia-1.pdf</a>
	<a href="#">Columbia-Update</a>	Over the last ten years, Columbia has continued to make the most of the resources it has been given.  <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/Columbia-case-study-update_Final.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/Columbia-case-study-update_Final.pdf</a>
	<a href="#">Economic Development in Lincoln Montana</a>	Lincoln has several options when considering its economic future. This report, informed by interviews and public meetings with many Lincoln residents, outlines several ways to pursue local economic development.  <a href="https://headwaterseconomics.org/wp-content/uploads/lincoln-montana-report.pdf">https://headwaterseconomics.org/wp-content/uploads/lincoln-montana-report.pdf</a>
	<a href="#">Economic Diversification in Bonner County</a>	Headwaters Economics analyzed the potential of trails to contribute to Bonner County's ongoing economic diversification. <a href="https://headwaterseconomics.org/wp-content/uploads/report-bonner-county-economic-diversification.pdf">https://headwaterseconomics.org/wp-content/uploads/report-bonner-county-economic-diversification.pdf</a>

	<a href="#">Regional Economic Impacts of Grand Canyon River Runners</a>	This report used Economic Impact Analysis to assess the regional economic impacts of rafting in Grand Canyon National Park. <a href="https://www.sciencedirect.com/science/article/pii/S0301479706002416">https://www.sciencedirect.com/science/article/pii/S0301479706002416</a>
	<a href="#">Understanding 8A Certification for the Coharie Tribe's River Restoration Project</a>	This report outlines the process of acquiring the 8 (a) Certification for River Restoration. The Coharie Tribe also sees a business opportunity for river-based tourism once the cleanup is complete. <a href="https://ncgrowth.unc.edu/wp-content/uploads/2017/04/Coharie-Tribe-Deliverable-October-2016-FINAL.pdf">https://ncgrowth.unc.edu/wp-content/uploads/2017/04/Coharie-Tribe-Deliverable-October-2016-FINAL.pdf</a>
	<a href="#">Webster Springs, WV</a>	A rural community creates a program to harness the town's volunteer spirit. <a href="http://homegrowntools.unc.edu/wp-content/uploads/2017/07/webster_springs.pdf">http://homegrowntools.unc.edu/wp-content/uploads/2017/07/webster_springs.pdf</a>
<b>Water Trails</b>		
	<a href="#">An Economic Argument for Water Trails</a>	This report summarizes notable findings from three economic impact studies produced by experts using data specific to the particular water trail, measured and reported using accepted analytical methods. Surveys and analysis of collected data specific to the economic benefits of water trails are brought to life by success story commentaries. <a href="https://www.americantrails.org/images/documents/economic-argument-for-water-trails.pdf">https://www.americantrails.org/images/documents/economic-argument-for-water-trails.pdf</a>
	<a href="#">Case Studies of Water Trail Impacts on Rural Communities</a>	This comprehensive report outlines economic impacts of water trails, landowner relationships and highlights outdoor recreation trends. <a href="https://headwaterseconomics.org/wp-content/uploads/Trail_Study_6-water-trail-impacts-on-rural-communities.pdf">https://headwaterseconomics.org/wp-content/uploads/Trail_Study_6-water-trail-impacts-on-rural-communities.pdf</a>
	<a href="#">Economic Benefits of Water Trails-Video</a>	This video highlights paddler trends in outdoor recreation and gives an overview of water trail definitions and benefits. Also gives examples of amenity-rich towns and strategies to leverage water trails for economic impact. <a href="https://www.youtube.com/watch?v=VbkAAeskur8">https://www.youtube.com/watch?v=VbkAAeskur8</a>
	<a href="#">Lower Grand River Water Trail</a>	An example of a water trail assessment report and improvement plan. <a href="https://wmeac.org/wp-content/uploads/2016/11/Water_Trails_Report_digital.pdf">https://wmeac.org/wp-content/uploads/2016/11/Water_Trails_Report_digital.pdf</a>
	<a href="#">Lower Juniata Water Trail</a>	A map and guide for the Lower Juniata River Water Trail Section. Provides an example for information to include in marketing and trip planning materials. <a href="https://mainlinecanalgreenway.org/wp-content/uploads/2015/06/Lower-Juniata-Water-Trail.pdf">https://mainlinecanalgreenway.org/wp-content/uploads/2015/06/Lower-Juniata-Water-Trail.pdf</a>
	<a href="#">Michigan Water Trails Planning Manual</a>	A water trail planning manual for communities. Covers basic definitions, planning and organizing, river access amenities, and marketing for the water trail. <a href="http://www.michiganwatertrails.org/downloads/water_trail_manual_20170609_web.pdf">http://www.michiganwatertrails.org/downloads/water_trail_manual_20170609_web.pdf</a>
	<a href="#">Roanoke River Report</a>	NCGrowth Report highlighting the economic impact of the Roanoke River Paddle Trail. <a href="https://ncgrowth.unc.edu/wp-content/uploads/2016/09/RoanokeRiverReport_08252016.pdf">https://ncgrowth.unc.edu/wp-content/uploads/2016/09/RoanokeRiverReport_08252016.pdf</a>

Watersheds		
	<a href="#">Best Practices for Watersheds Recreation-Report</a>	<p>The report highlights four case studies and how each community engaged with partners, created management plans, and incorporated recreation.</p> <p><a href="https://headwaterseconomics.org/wp-content/uploads/best-practices-watersheds-recreation-report.pdf">https://headwaterseconomics.org/wp-content/uploads/best-practices-watersheds-recreation-report.pdf</a></p>
	<a href="#">Economic Case for Watershed Planning – Chapel Hill, NC</a>	<p>Highlights economic benefits of watershed planning and stormwater management practices.</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2016/06/Economic-Case-for-Watershed-Mngmt.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/06/Economic-Case-for-Watershed-Mngmt.pdf</a></p>
	<a href="#">Goals of Sample Watershed Plans</a>	<p>Highlights the goals for Ellerbe Creek, Morgan and Little Creeks, Bolin Creek, South Fork Tolt-Seattle, and Mohawk River-New York</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2016/11/goals-of-sample-watershed-plans.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/11/goals-of-sample-watershed-plans.pdf</a></p>
	<a href="#">Little River Watershed Restoration Project – Kinston, NC</a>	<p>Provides a detailed example of watershed restoration in Eastern North Carolina.</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2016/06/Little_River_Watershed_June_16_2016.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/06/Little_River_Watershed_June_16_2016.pdf</a></p>
	<a href="#">New River Conservancy Case Study</a>	<p>Highlights several restoration projects in NC, VA, and WV and shows the importance of community engagement.</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2018/06/New-River-Conservancy-Case-Study.pdf">http://ncwatershednetwork.org/wp-content/uploads/2018/06/New-River-Conservancy-Case-Study.pdf</a></p>
	<a href="#">Oconaluftee Watershed Plan Development 2010</a>	<p>Highlights a watershed planning case study by the Eastern Band of Cherokee Indians.</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Oconaluftee_QAPP.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Oconaluftee_QAPP.pdf</a></p>
	<a href="#">River Link Case Study</a>	<p>This project highlights the importance of stakeholder engagement and innovative stormwater control measures.</p> <p><a href="http://ncwatershednetwork.org/wp-content/uploads/2018/06/River-Link-Case-Study.pdf">http://ncwatershednetwork.org/wp-content/uploads/2018/06/River-Link-Case-Study.pdf</a></p>

# APPENDIX D: FUNDING RESOURCES

FUNDING MECHANISMS		
	<a href="#">Best Practices for States to Fund Outdoor Recreation</a>	A report detailing best practices for states to fund outdoor recreation. Complete with case studies located at the bottom of the page. <a href="https://headwaterseconomics.org/economic-development/state-recreation-funding/">https://headwaterseconomics.org/economic-development/state-recreation-funding/</a>
	<a href="#">Funding Sustainable Paddle Trail Development Paddler Perspectives, Willingness to Pay, and Management Implications</a>	Paddler willingness to pay <a href="https://libres.uncg.edu/ir/asu/f/Kline_Carol_2011_Funding%20sustainable%20paddle.pdf">https://libres.uncg.edu/ir/asu/f/Kline_Carol_2011_Funding%20sustainable%20paddle.pdf</a>
	<a href="#">North Carolina Parks and Rec Trust Fund</a>	<a href="https://rrs.cnr.ncsu.edu/partf/">https://rrs.cnr.ncsu.edu/partf/</a>
	<a href="#">State Funding Mechanisms for Outdoor Recreation</a>	<a href="https://headwaterseconomics.org/wp-content/uploads/state-rec-fullreport.pdf">https://headwaterseconomics.org/wp-content/uploads/state-rec-fullreport.pdf</a>
	<a href="#">US EPA Urban Waters Grant</a>	<a href="https://www.epa.gov/urbanwaters">https://www.epa.gov/urbanwaters</a>

FUNDING SOURCE	AGENCY/ ORGANIZATION	NOTES
<b>National-Level</b>		
<b>Better Utilizing Investment to Leverage Development (BUILD)</b>	U.S. Department of Transportation	Formerly known as TIGER. Applicant must be state, local, or tribal governments. At least 30% must be used in rural areas. Must have significant impact on nation, region, or metro area. Historically 6% of TIGER funds go to bike/ped projects. Eligible applicants are state or local governments. Applications require cost/benefit analysis. Minimum project size of \$1 million in rural areas; \$5 million in metro. <b>Match:</b> 20% non-federal match required, but can be less in rural areas. <b>Link:</b> <a href="https://www.transportation.gov/BUILDgrants/about">https://www.transportation.gov/BUILDgrants/about</a>
<b>Federal Land Access Program (FLAP)</b>	Federal Highway Administration (FHWA)	Applicant must be state, county, tribal, or city government that owns or maintains the transportation facility. Project must be located on, adjacent to, or provide direct access to federal lands. <b>Match:</b> 20% non-federal match required. <b>Link:</b> <a href="http://flh.fhwa.dot.gov/programs/flap/">http://flh.fhwa.dot.gov/programs/flap/</a>
<b>Land and Water Conservation Fund- State Side</b>	National Park Service (NPS) State and Local Assistance Program Division	Eligible applicants include cities, counties, or district authorized to acquire, develop, operate, and maintain park and recreation facilities. LWCF funding is federal but allocated to states to provide matching grants to help communities protect parks and recreation resources. Federal funding is in state of flux and program future is unknown. <b>Match:</b> 50/50 <b>Link:</b> <a href="https://www.nps.gov/orgs/1600/index.htm">https://www.nps.gov/orgs/1600/index.htm</a>



<p><b>NPS Challenge Cost Share Program</b></p> <p><b>NPS Rivers, Trails, and Conservation Assistance</b></p>	<p>National Park Service (NPS), Outdoor Foundation</p> <p>National Park Service (NPS)</p>	<p>The Challenge Cost Share Program supports local projects that promote conservation and recreation, environmental stewardship, education, and engaging youth in the outdoors. Local project partners work with National Park Service (NPS) staff to achieve mutually beneficial outcomes.</p> <p>Applications are submitted by NPS staff in collaboration with project partners. Project should be completed within the fiscal year.</p> <p><b>Match:</b> 50/50 (Cash, goods, or services from non-federal sources as match.)</p> <p><b>Link:</b> <a href="https://www.nps.gov/ncrc/programs/ccsp/">https://www.nps.gov/ncrc/programs/ccsp/</a></p> <p>Technical assistance for projects demonstrating tangible conservation and recreational results in the near future. Assistance qualifies for in-kind match for many grants.</p> <p><b>Link:</b> <a href="https://www.nps.gov/orgs/rtca/index.htm">https://www.nps.gov/orgs/rtca/index.htm</a></p>
<p><b>Recreational Trails Program (RTP)</b></p> <p><b>Transportation Alternatives (TAP or TA Set-Aside)</b></p>	<p>State agencies vary by state. See <a href="https://www.fhwa.dot.gov/environment/recreational_trails/rtpstate.cfm">https://www.fhwa.dot.gov/environment/recreational_trails/rtpstate.cfm</a></p> <p>State Departments of Transportation</p>	<p>Federal funding administered through state agencies via the Surface Transportation Block Grant Program in the Fixing America's Surface Transportation (FAST) Act. RTP provides funds to the States to support a wide variety of trail activities and related facilities, as well as <u>environmental education and safety programs</u>. Eligible applicants include <u>local government and non-profit organizations</u>. Annual cycle typically closes early in calendar year. Funding tied to federal transportation bill. Paved paths typically discouraged.</p> <p><b>Match:</b> Varies, cash and in-kind supported.</p> <p><b>Link:</b> <a href="https://www.fhwa.dot.gov/environment/recreational_trails/">https://www.fhwa.dot.gov/environment/recreational_trails/</a></p> <p>Federal funding administered through state DOTs via the Surface Transportation Block Grant Program in the Fixing America's Surface Transportation (FAST) Act. Eligible applicants include local governments. Provides funding for programs/ projects defined as transportation alternatives, including on- and off-road pedestrian/bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation. Rails-to-Trails Conservancy maintains a website with detailed information: <a href="http://trade.railstotrails.org/index">http://trade.railstotrails.org/index</a> <b>Match:</b> Cash match required.</p> <p><b>Link:</b> <a href="https://www.fhwa.dot.gov/environment/transportation_alternatives/">https://www.fhwa.dot.gov/environment/transportation_alternatives/</a></p>
<p><b>Private Foundations and Opportunities</b></p>		
<p><b>American Greenways Grants</b></p> <p><b>Doppelt Family Trail Development Fund</b></p> <p><b>BF Goodrich Tires Outstanding Trails Grant</b></p>	<p>Kodak &amp; The Conservation Fund</p> <p>Rails-to-Trails Conservancy</p> <p>BF Goodrich Tires</p>	<p>Non-profits eligible. Mapping, ecological assessments, surveying, conferences and design activities, public information.</p> <p><b>Link:</b> <a href="http://www.rlch.org/funding/kodak-american-greenways-grants">http://www.rlch.org/funding/kodak-american-greenways-grants</a></p> <p>Grants to build and improve multi-use trails. Grants range from \$5,000 to \$30,000.</p> <p><b>Link:</b> <a href="https://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/">https://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/</a></p> <p>For sustainable and responsible off-roading clubs to help preserve local off-road trails.</p> <p><b>Link:</b> <a href="https://garage.bfgoodrichtires.com/db/special-projects/record/outstanding-trails">https://garage.bfgoodrichtires.com/db/special-projects/record/outstanding-trails</a></p>

<b>NFF Matching Awards Program (MAP)</b>	National Forest Foundation (NFF)	On-the-ground projects that enhance forest health and outdoor experiences on or near National Forests and Grasslands. Can be used to improve recreation resources like trails and bridges, and to engage youth or volunteers in stewardship work. Does not have to be on National Forest or Grassland but must benefit those lands. <b>Match:</b> 50/50 nonfederal cash match required. <b>Link:</b> <a href="https://www.nationalforests.org/grant-programs/map">https://www.nationalforests.org/grant-programs/map</a>
<b>REI Stewardship Grants</b>	REI	Stewardship grants for outdoor access. Must be invited to apply by local REI store. <b>Link:</b> <a href="https://www.rei.com/stewardship/creating-access">https://www.rei.com/stewardship/creating-access</a>
<b>Local-Level</b>		
<b>Businesses</b>	<ul style="list-style-type: none"> <li>• Corporate foundations: grants, volunteers</li> <li>• Small businesses or business partnerships: co-branding, events, sponsorship</li> </ul>	
<b>Non-Profit Organization</b>	<ul style="list-style-type: none"> <li>• Community foundations</li> <li>• Non-profit collaborators</li> </ul>	
<b>Local Government</b>	<ul style="list-style-type: none"> <li>• Ballot initiative: bonds, levies</li> <li>• Granting programs</li> <li>• Tax districts, such as resort tax, tax increment finance districts (TIF), improvement districts, renewal districts</li> </ul>	

## USDA FUNDING RESOURCES

Program	Agency	Eligible Applicants	Authorized Purposes	Typical Funding Amount
<b>Community Facilities Guaranteed Loan Program</b>	RHS	<p>Lenders: Banks and credit unions</p> <p>Borrowers: Public bodies, community-based nonprofit corporations, Federally-recognized Tribes.</p>	<p>Improve, develop, or finance essential community facilities for rural communities in rural areas and cities and towns of fewer than 50,000.</p> <p>Example: This program can be used to develop museums, public restrooms, and multi-use trails in recreation areas.</p>	\$100,000-\$5 million
<b>Water and Waste Loans and Grants</b>	RUS	State and local government entities, private nonprofits, Federally-recognized Tribes.	<p>Build, repair, and improve public water systems and waste collection and treatment systems in rural areas and cities and towns of fewer than 10,000.</p> <p>Example: This program has been used in a historic mining town and tourist destination to build a wastewater treatment plan and new water systems.</p>	<p>Long-term, low-interest loans.</p> <p>Grants may be available to keep user costs reasonable.</p>

<b>Rural Business Development Grants</b>	RBS	Towns, state agencies, nonprofit corporations, authorities, Federally-recognized Tribes, rural cooperatives.	<p>Targeted technical assistance, training, and other activities leading to the development or expansion of small and emerging private businesses in rural areas. Feasibility studies or economic impact studies for a recreation activity may be eligible.</p> <p>Example: This program can help small towns develop an economic impact analysis to evaluate the area's capacity to become a recreational destination.</p>	\$10,000-\$500,000
<b>Rural Cooperative Development Grant</b>	RBS	Nonprofit organizations, institutions of higher learning.	<p>Provide support to centers for cooperatives. Eligible work plans can include trail development/maintenance, feasibility studies, marketing, lodging development, business development, strategic planning.</p> <p>Example: Nonprofit organizations can use this program to develop a business plan for a cooperative focused on recreational activities such as rock climbing, guided tours, mountain biking, skiing, and hiking.</p>	Maximum-\$200,000
<b>Community Connect Grants</b>	RUS	Most state and local governments, Federally-recognized Tribes, nonprofits, for-profit corporations.	<p>Helps fund broadband deployment into rural communities as anchor sites for rural communities.</p> <p>Example: Rural libraries and tribal computing centers can use this program to provide internet service and computer access to their residents.</p>	<p>Minimum: \$50,000</p> <p>Maximum: \$1 million Amounts are published in Notices of Funding Availability and may vary.</p>
<b>ReConnect Program Grants and Loans</b>	RUS	State and local government entities, Federally-recognized Tribes, nonprofits, for-profit businesses.	<p>Financing to construct, maintain, improve, and expand telephone service and broadband in rural areas.</p> <p>Example: Broadband e-Connectivity can help individuals access wireless internet while participating in outdoor activities like hiking a trail or touring a rural community.</p>	Availability may vary for 100% loan, 50% loan/ 50% grant, or 100 % grant. Given the varying closing dates for each funding type, applicants will be limited to ONE application for this Funding Opportunity Announcement.
<b>Business and Industry Guaranteed Loans</b>	RBS	<p>Lenders: Banks and credit unions</p> <p>Borrowers: For-profit businesses, nonprofits, cooperatives, Federally-recognized Tribes, public bodies, individuals.</p>	<p>Business conversion, enlargement, repair, modernization or development; purchase and development of land, easements, rights-of-way, buildings, or facilities.</p> <p>Example: Lodges and hotels can use this program to upgrade facilities and improve visitor experience.</p>	\$1 million-\$25 million

<b>Rural Microentrepreneur Assistance Program</b>	RBS	Organizations eligible to become Microenterprise Development Organizations including nonprofits, Federally-recognized Tribes, higher education institutions	Microloans for microenterprise startups and growth through rural microloan revolving funds.  Example: This program can provide loans to small rural businesses, such as restaurants, dry cleaners, or automotive repair shops.	\$50,000-\$500,000
---	-----	---	--	--------------------

## APPENDIX E: ADDITIONAL RESOURCES

Category	Name	Additional Information
<b>Example Events &amp; Festivals</b>		
	<a href="#">Folk Art Center</a>	Located along the Blue Ridge Parkway, the Folk Art Center hosts a variety of events throughout the year that bring together craft, arts, and the outdoors.  <a href="https://www.romanticasheville.com/folk_art.htm">https://www.romanticasheville.com/folk_art.htm</a>
	<a href="#">Lake Lure Olympiad</a>	A multisport destination event.  <a href="https://www.lakelureolympiad.com/">https://www.lakelureolympiad.com/</a>
	<a href="#">Love Your River Festival</a>	An Elizabeth City event that celebrates the river and features local food and vendors. Benefits a local organization.  <a href="https://visitelizabethcity.com/love-your-river-2021">https://visitelizabethcity.com/love-your-river-2021</a>
	<a href="#">Mermaid Parade</a>	A themed parade in Marshall, NC, that includes a treasure hunt and cookoff. Local vendors are featured, and event celebrates the French Broad River, crafts, and the town of Marshall.  <a href="http://www.downtownmarshallnc.com/events/2018/6/2/mermaids-in-marshall-wccbl-grcxg">http://www.downtownmarshallnc.com/events/2018/6/2/mermaids-in-marshall-wccbl-grcxg</a>
	<a href="#">Oskar Blues Brewery-Burning Can Festival</a>	A festival that brings together food and outdoor gear vendors, crafts, music, and local beer.  <a href="https://www.romanticasheville.com/oskar_blues_brevard.htm">https://www.romanticasheville.com/oskar_blues_brevard.htm</a>
	<a href="#">Riverfest and Anything that Floats Parade</a>	A themed floating parade and musical concert with local vendors. Benefits a local nonprofit.  <a href="https://www.romanticasheville.com/riverfest">https://www.romanticasheville.com/riverfest</a>
	<a href="#">Upper French Broad RiverFest</a>	Highlights the unique history and natural characteristics of the Upper French Broad River  <a href="https://transylvaniafrenchbroadstewards.org/upper-french-broad-riverfest/">https://transylvaniafrenchbroadstewards.org/upper-french-broad-riverfest/</a>
<b>Popular Platforms</b>		Use these platforms to increase awareness and connection between visitors and businesses.



	<a href="https://www.campgroundreviews.com/">Campground Reviews.com</a>	Popular Platforms: Camping <a href="https://www.campgroundreviews.com/">https://www.campgroundreviews.com/</a>
	<a href="https://freecampsites.net/">Free Campsites</a>	Popular Platforms: Camping <a href="https://freecampsites.net/">https://freecampsites.net/</a>
	<a href="https://frenchbroadpaddle.com/">French Broad Paddle Trail</a>	Paddling: Popular Platform <a href="https://frenchbroadpaddle.com/">https://frenchbroadpaddle.com/</a>
	<a href="https://www.hikingproject.com/">Hiking Project</a>	Popular Platform: Hiking <a href="https://www.hikingproject.com/">https://www.hikingproject.com/</a>
	<a href="https://thedyrt.com/">TheDyrt.com</a>	Campground finder and trip planner. <a href="https://thedyrt.com/">https://thedyrt.com/</a>
<b>Wayfinding Guides</b>		
	Paonia Signage & Wayfinding Plan	<a href="https://northforkcreative.org/wp-content/uploads/2018/08/Paonia-Signage-Summary-Booklet-web-2018.08.08.pdf">https://northforkcreative.org/wp-content/uploads/2018/08/Paonia-Signage-Summary-Booklet-web-2018.08.08.pdf</a>
	Truckee River Master Signage Plan	<a href="http://onetruckeeriver.org/wp-content/uploads/2018/06/RFQ-Truckee-River-Signage-Plan-update-6_6_18.pdf">http://onetruckeeriver.org/wp-content/uploads/2018/06/RFQ-Truckee-River-Signage-Plan-update-6_6_18.pdf</a>
	Rails to Trails	<a href="https://www.railstotrails.org/build-trails/trail-building-toolbox/design/signage-and-surface-markings/">https://www.railstotrails.org/build-trails/trail-building-toolbox/design/signage-and-surface-markings/</a>
	West Branch, MI Wayfinding Plan	<a href="http://mirisingtide.org/wp-content/uploads/West-Branch-Township-Wayfinding-Plan.pdf">http://mirisingtide.org/wp-content/uploads/West-Branch-Township-Wayfinding-Plan.pdf</a>
	Row River Nature Park Wayfinding Plan	<a href="https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/f/16594/files/2018/09/RowRiverNatureParkWayfindingPlanFinal-133kqsv.pdf">https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/f/16594/files/2018/09/RowRiverNatureParkWayfindingPlanFinal-133kqsv.pdf</a>
	Water Trail Signage Plan	<a href="https://www.nrtdatabase.org/trailDocuments/3914_41_ARWT_Sec2_5_SignagePlan.pdf">https://www.nrtdatabase.org/trailDocuments/3914_41_ARWT_Sec2_5_SignagePlan.pdf</a>
	Naugatuck River Greenway	<a href="https://nvcogct.gov/wp-content/uploads/2016/12/Signage_Manual-Final.pdf">https://nvcogct.gov/wp-content/uploads/2016/12/Signage_Manual-Final.pdf</a>
	Niagara River Greenway	<a href="https://www2.erie.gov/environment/index.php?q=NRG_Signage">https://www2.erie.gov/environment/index.php?q=NRG_Signage</a>
	Alderson, West Virginia River Enhancement Plan	<a href="https://www.downstreamstrategies.com/sitenew/wp-content/uploads/2018/09/alderson-plan.pdf">https://www.downstreamstrategies.com/sitenew/wp-content/uploads/2018/09/alderson-plan.pdf</a>
<b>Stormwater Management</b>		
	<a href="https://storymaps.arcgis.com/stories/daf9f616eba4402cab1cc88400e9d685">American Rivers: Invest in Rivers</a>	Stormwater Management: Job Creation <a href="https://storymaps.arcgis.com/stories/daf9f616eba4402cab1cc88400e9d685">https://storymaps.arcgis.com/stories/daf9f616eba4402cab1cc88400e9d685</a>
	<a href="https://deq.nc.gov/about/divisions/energy-mineral-land-resources">DENR Stormwater BMP Manual</a>	Stormwater Management: Job Creation <a href="https://deq.nc.gov/about/divisions/energy-mineral-land-resources">https://deq.nc.gov/about/divisions/energy-mineral-land-resources</a>
<b>Environmental Programming</b>		

	<a href="#">Girls in Science – Wetland Cookies</a>	Watershed educational activity for children. <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Wetland-Cookie.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Wetland-Cookie.pdf</a>
	<a href="#">Glossary of Watershed Terms</a>	Overview of watershed terms and their definitions. <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/11/glossary-of-watershed-terms.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/11/glossary-of-watershed-terms.pdf</a>
	<a href="#">Key to Macroinvertebrate Life in the River</a>	Environment <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/key_macro.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/key_macro.pdf</a>
	<a href="#">Living Water – Learning Experience for Middle Grades</a>	A programming packet related to the ENO river. <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Living-Water.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Living-Water.pdf</a>
	<a href="#">NC Environmental Educator Certification Resources</a>	<a href="https://www.eenorthcarolina.org/">https://www.eenorthcarolina.org/</a>
	<a href="#">PBS Learning Media</a>	<a href="https://unctv.pbslearningmedia.org/">https://unctv.pbslearningmedia.org/</a>
	<a href="#">PBS Learning Media: Watersheds</a>	<a href="https://unctv.pbslearningmedia.org/search/?q=watershed">https://unctv.pbslearningmedia.org/search/?q=watershed</a>
	<a href="#">Project WET</a>	<a href="https://www.projectwet.org/">https://www.projectwet.org/</a>
	<a href="#">Rock Around the Clock – Learning Experience for Grade 5</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Rock-around-the-clock.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Rock-around-the-clock.pdf</a>
	<a href="#">Scout Conservation Badge Stream Work Day</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Scout-Conservation-Badge-Stream-Work-Day.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Scout-Conservation-Badge-Stream-Work-Day.pdf</a>
	<a href="#">Testing the Waters – Learning Experience for Grades 4-8</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Testing-the-Waters.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Testing-the-Waters.pdf</a>
	<a href="#">US EPA Watershed Education and App</a>	<a href="https://www.epa.gov/aboutepa/about-office-water#wetlands">https://www.epa.gov/aboutepa/about-office-water#wetlands</a>
<b>Paddlesports</b>		
	<a href="#">ACA Beginners Guide</a>	<a href="https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/beginners_guide_aca.pdf">https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/beginners_guide_aca.pdf</a>
	<a href="#">ACA Paddling 101</a>	<a href="https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/paddling_101-aca.pdf">https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/paddling_101-aca.pdf</a>
	<a href="#">ACA Resources</a>	<a href="https://www.americancanoe.org/page/Resources">https://www.americancanoe.org/page/Resources</a>
	<a href="#">ACA Videos</a>	<a href="https://www.americancanoe.org/page/Ed_videos">https://www.americancanoe.org/page/Ed_videos</a>
	<a href="#">Know Your Limits: Paddling Safety</a>	<a href="https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/know_your_limits-aca.pdf">https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-educational-resources/know_your_limits-aca.pdf</a>
	<a href="#">Safety Series: Infographics</a>	<a href="https://www.americancanoe.org/page/Infographics">https://www.americancanoe.org/page/Infographics</a>
<b>Responsible Recreation</b>		
	<a href="#">Leave No Trace</a>	Rules for responsible practices in the backcountry and the frontcountry. <a href="https://lnt.org/">https://lnt.org/</a>
<b>Landowner &amp; Community Resources</b>		

	<a href="#">Assessing the Attitudes of Landowners Along the Luling Paddle Trail</a>	<a href="https://digital.library.txstate.edu/bitstream/handle/10877/3533/fulltext.pdf?sequence=1&amp;isAllowed=y">https://digital.library.txstate.edu/bitstream/handle/10877/3533/fulltext.pdf?sequence=1&amp;isAllowed=y</a>
	<a href="#">Land Ownership Liability and the Law in North Carolina</a>	<a href="https://content.ces.ncsu.edu/land-ownership-liability-and-the-law-in-north-carolina">https://content.ces.ncsu.edu/land-ownership-liability-and-the-law-in-north-carolina</a>
	<a href="#">Public Access Guide for Landowners</a>	<a href="https://www.river-management.org/assets/WaterTrails/landowner%20guidance_final_final_revised_1-21-2016.pdf">https://www.river-management.org/assets/WaterTrails/landowner%20guidance_final_final_revised_1-21-2016.pdf</a>
<b>Fishing</b>		
	<a href="#">2017 Special Report on Fishing</a>	User Data & Trends: Fishing <a href="https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Special-Report-on-Fishing_final.pdf">https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Special-Report-on-Fishing_final.pdf</a>
	<a href="#">2019 Special Report on Fishing</a>	User Data & Trends: Fishing <a href="https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing_RBFF_FINAL1.pdf">https://outdoorindustry.org/wp-content/uploads/2015/03/2019-Special-Report-on-Fishing_RBFF_FINAL1.pdf</a>
	<a href="#">Mountain Trout Fishing Economic Impacts on and Contributions to North Carolinas Economy</a>	User Data & Trends: Fishing <a href="https://www.ncwildlife.org/Portals/0/Fishing/documents/Mountain%20Trout%20Fishing%20Economic%20Impacts%20on%20and%20Contributions%20to%20North%20Carolinas%20Economy.pdf">https://www.ncwildlife.org/Portals/0/Fishing/documents/Mountain%20Trout%20Fishing%20Economic%20Impacts%20on%20and%20Contributions%20to%20North%20Carolinas%20Economy.pdf</a>
	<a href="#">French Broad Paddle Trail Design Guide Report</a>	Blueway Design <a href="https://www.americantrails.org/files/pdf/French-Broad-Paddle-Trail-Ogletree2011.pdf">https://www.americantrails.org/files/pdf/French-Broad-Paddle-Trail-Ogletree2011.pdf</a>
	<a href="#">Keys to Establishing a Paddling Trail or Blueways System</a>	Blueway Guide <a href="https://floridadep.gov/sites/default/files/Keys%20to%20Establishing%20a%20Paddling%20Trail%20or%20Blueways%20System.pdf">https://floridadep.gov/sites/default/files/Keys%20to%20Establishing%20a%20Paddling%20Trail%20or%20Blueways%20System.pdf</a>
	<a href="#">NPS Find Assistance for Your River</a>	<a href="https://www.nps.gov/subjects/rivers/find-assistance-for-your-river.htm">https://www.nps.gov/subjects/rivers/find-assistance-for-your-river.htm</a>
	<a href="#">NPS National Water Trails System</a>	<a href="https://www.nps.gov/subjects/nationaltrailssystem/national-water-trails-system.htm">https://www.nps.gov/subjects/nationaltrailssystem/national-water-trails-system.htm</a>
	<a href="#">NPS: Rivers, Trails, and Conservation Assistance Program</a>	<a href="https://www.nps.gov/orgs/rtca/index.htm">https://www.nps.gov/orgs/rtca/index.htm</a>
	<a href="#">Planning for a Water Trail</a>	<a href="http://flinriver.org/blog/watertrail/resources/">http://flinriver.org/blog/watertrail/resources/</a>
	<a href="#">Prepare to Launch</a>	<a href="https://www.river-management.org/prepare-to-launch">https://www.river-management.org/prepare-to-launch</a>
	<a href="#">River Access Planning Guide</a>	<a href="https://rms.memberclicks.net/assets/RiverAccessGuide/River%20Access%20Planning%20Guide%20(2019).pdf">https://rms.memberclicks.net/assets/RiverAccessGuide/River%20Access%20Planning%20Guide%20(2019).pdf</a>
	<a href="#">Site Design for Six River Access Points</a>	River Put-In Design Guide <a href="http://webapps.co.sullivan.ny.us/DOCS/DPEM/river_access/Delaware_River_Accesses_Draft_Report_12_15_2014.pdf">http://webapps.co.sullivan.ny.us/DOCS/DPEM/river_access/Delaware_River_Accesses_Draft_Report_12_15_2014.pdf</a>
	<a href="#">Three Steps to a Desired Launch</a>	River Put-In Design Guide <a href="https://rms.memberclicks.net/assets/PreparetoLaunch/Prepare%20to%20Launch!%20Update%20April%202018%20JH_Chapter2.pdf">https://rms.memberclicks.net/assets/PreparetoLaunch/Prepare%20to%20Launch!%20Update%20April%202018%20JH_Chapter2.pdf</a>
	<a href="#">Water Trail Development Tools</a>	<a href="https://www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/Water-Trail-Development">https://www.iowadnr.gov/Things-to-Do/Canoeing-Kayaking/Water-Trail-Development</a>

<b>Planning &amp; Community Engagement</b>		
	<a href="#">Building Successful Partnerships</a>	Planning <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Building-Partnerships-Perrin-April2016.compressed.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Building-Partnerships-Perrin-April2016.compressed.pdf</a>
	<a href="#">Community Interviews</a>	Planning: Community Engagement <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/interviews.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/interviews.pdf</a>
	<a href="#">Consensus</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/2b5bc57f-db57-4aee-b0a5-bd71f02c72e3">https://npgallery.nps.gov/RTCA/GetAsset/2b5bc57f-db57-4aee-b0a5-bd71f02c72e3</a>
	<a href="#">Displays</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/53645e65-0ef3-42de-ae97-6aa9278ffa89">https://npgallery.nps.gov/RTCA/GetAsset/53645e65-0ef3-42de-ae97-6aa9278ffa89</a>
	<a href="#">Facilitation</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/53645e65-0ef3-42de-ae97-6aa9278ffa89">https://npgallery.nps.gov/RTCA/GetAsset/53645e65-0ef3-42de-ae97-6aa9278ffa89</a>
	<a href="#">Focus Groups</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/2d3f6d9b-5bde-454e-8d4b-10462db7b656">https://npgallery.nps.gov/RTCA/GetAsset/2d3f6d9b-5bde-454e-8d4b-10462db7b656</a>
	<a href="#">Health Workbook</a>	Community Engagement & Planning <a href="https://www.nps.gov/orgs/rtca/upload/Parks-Trails-and-Health-Workbook_2020.pdf">https://www.nps.gov/orgs/rtca/upload/Parks-Trails-and-Health-Workbook_2020.pdf</a>
	<a href="#">Local Watershed Planning: Getting Citizens Involved</a>	Community Engagement <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Guide-to-getting-citizens-involved-NCCES.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Guide-to-getting-citizens-involved-NCCES.pdf</a>
	<a href="#">Networking</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/861e9b4f-e241-4033-883c-78fae5c91efd">https://npgallery.nps.gov/RTCA/GetAsset/861e9b4f-e241-4033-883c-78fae5c91efd</a>
	<a href="#">Participatory Asset Mapping</a>	<a href="https://www.communityscience.com/knowledge4equity/AssetMappingToolkit.pdf">https://www.communityscience.com/knowledge4equity/AssetMappingToolkit.pdf</a>
	<a href="#">Partnerships</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/73cd4d94-7834-4151-87dd-6bca052f7d81">https://npgallery.nps.gov/RTCA/GetAsset/73cd4d94-7834-4151-87dd-6bca052f7d81</a>
	<a href="#">Pride Guide</a>	Community Engagement <a href="https://www.nps.gov/orgs/rtca/upload/prideguide_all-508-compliant-2.pdf">https://www.nps.gov/orgs/rtca/upload/prideguide_all-508-compliant-2.pdf</a>
	<a href="#">Print Material</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/7718b0b7-7259-451a-ac52-c48f3608977b">https://npgallery.nps.gov/RTCA/GetAsset/7718b0b7-7259-451a-ac52-c48f3608977b</a>
	<a href="#">Public Events</a>	Community Engagement <a href="https://npgallery.nps.gov/RTCA/GetAsset/0fc7ad61-c348-426b-adde-b8b33458ff72">https://npgallery.nps.gov/RTCA/GetAsset/0fc7ad61-c348-426b-adde-b8b33458ff72</a>



	<a href="#">The Logic Model for Program Planning and Evaluation</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/LogicModel_Overview.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/LogicModel_Overview.pdf</a>
	<a href="#">Tools for Effective Outreach</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Outreach_USDA_2009_fact-sheet.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Outreach_USDA_2009_fact-sheet.pdf</a>
	<a href="#">Tuckman's Team Development Model</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/11/Tuckmans-team-development-model.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/11/Tuckmans-team-development-model.pdf</a>
	<a href="#">Volunteer Monitoring</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Volunteer_Monitoring.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Volunteer_Monitoring.pdf</a>
	<a href="#">Volunteer-Toolkit</a>	Community Engagement <a href="https://www.nps.gov/orgs/rtca/upload/RTCA-Volunteer-Toolkit.pdf">https://www.nps.gov/orgs/rtca/upload/RTCA-Volunteer-Toolkit.pdf</a>
<b>Watersheds</b>		
	<a href="#">A Citizen's Guide to Watershed Planning</a>	Planning & Engagement: Watersheds <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Watershed_Planning_in_Wisconsin.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Watershed_Planning_in_Wisconsin.pdf</a>
	<a href="#">A Primer on Watershed Management</a>	Planning & Engagement: Watersheds <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/JCWRE_154_Full_Issue.compressed.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/JCWRE_154_Full_Issue.compressed.pdf</a>
	<a href="#">A Quick Guide to Developing Watershed Plan to Restore and Protect Our Waters</a>	Planning & Engagement: Watersheds <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/EPA-quick-guide-to-developing-watershed-plans.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/EPA-quick-guide-to-developing-watershed-plans.pdf</a>
	<a href="#">A Simplified Guide to Writing Watershed Restoration Plans</a>	Planning & Engagement: Watersheds <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/A-SIMPLIFIED-GUIDE-TO-WRITING-WATERSHED-RESTORATION-PLANS-AND-NORTH-CAROLINA-9-ELEMENT-PLAN-CHECKLIST_DEC2014.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/A-SIMPLIFIED-GUIDE-TO-WRITING-WATERSHED-RESTORATION-PLANS-AND-NORTH-CAROLINA-9-ELEMENT-PLAN-CHECKLIST_DEC2014.pdf</a>
	<a href="#">Block Leader Program</a>	Planning: Community Engagement <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Block-leader.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Block-leader.pdf</a>
	<a href="#">Buffer and Wetland Plantings</a>	Watershed Planning <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer_wetland-plantings.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer_wetland-plantings.pdf</a>
	<a href="#">Building Watershed Partnerships – a cheat sheet</a>	Planning <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/11/Building-partnerships-cheat-sheet.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/11/Building-partnerships-cheat-sheet.pdf</a>
	<a href="#">Collaborative Watershed Planning – problem-solving</a>	Planning: Watershed <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Collab-watrshed_Collab-problem-solving_2p-handout_color-1.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Collab-watrshed_Collab-problem-solving_2p-handout_color-1.pdf</a>

	<a href="#">Collaborative Watershed Planning – searching for agreement</a>	Planning: Watershed <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Collab-watrshed_Searching-for-agrmnt_4-p_use-11x17_color-2.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Collab-watrshed_Searching-for-agrmnt_4-p_use-11x17_color-2.pdf</a>
	<a href="#">DWQ Guidance for Preparing Watershed Plans</a>	Planning: Watershed <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/NC-Guidance-for-preparing-watershed-plans1.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/NC-Guidance-for-preparing-watershed-plans1.pdf</a>
	<a href="#">Eight Tools of Watershed Protection in Developing Areas</a>	Planning: Watershed <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/eight-tools-of-watershed-protection1.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/eight-tools-of-watershed-protection1.pdf</a>
	<a href="#">Engaging Stakeholders in Your Watershed</a>	Community Engagement <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/stakeholderguide.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/stakeholderguide.pdf</a>
	<a href="#">EPA Full Handbook for Developing Watershed Plans</a>	Planning: Watershed <a href="https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters">https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters</a>
	<a href="#">Funding Technical &amp; Peer Support</a>	Planning: Funding Watershed Programming Overview <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Funding-Technical-and-Peer-Support-Final_April12132016wkshp-print.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Funding-Technical-and-Peer-Support-Final_April12132016wkshp-print.pdf</a>
	<a href="#">Guidelines for Riparian Buffer Restoration</a>	Planning: Watershed <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer-restoration.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer-restoration.pdf</a>
	<a href="#">Keys to Success for Watershed Management Organizations</a>	Planning <a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Keys-to-success-water-shed-orgs-Uoregon.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Keys-to-success-water-shed-orgs-Uoregon.pdf</a>
	<a href="#">NC Coastal Federation Watershed Restoration Planning Guidebook</a>	<a href="https://www.nccoast.org/protect-the-coast/stormwater/watershed-restoration-planning-guidebook/">https://www.nccoast.org/protect-the-coast/stormwater/watershed-restoration-planning-guidebook/</a>
	<a href="#">NC DEQ Department of Mitigation Services</a>	<a href="https://deq.nc.gov/about/divisions/mitigation-services">https://deq.nc.gov/about/divisions/mitigation-services</a>
	<a href="#">NC DEQ Low Impact Development &amp; Stormwater-EZ</a>	<a href="https://deq.nc.gov/about/divisions/energy-mineral-land-resources">https://deq.nc.gov/about/divisions/energy-mineral-land-resources</a>
	<a href="#">NC Watershed Network: Resources</a>	<a href="https://ncwatershednetwork.org/resources/watershed-resources/">https://ncwatershednetwork.org/resources/watershed-resources/</a>
	<a href="#">NCSU Stream Restoration Institute</a>	Programming <a href="https://www.bae.ncsu.edu/extension/srp/">https://www.bae.ncsu.edu/extension/srp/</a>
	<a href="#">Neuse &amp; Tar-Pamlico Riparian Buffer Rule Changes 2012</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Buffer-summary-2012.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Buffer-summary-2012.pdf</a>
	<a href="#">North Carolina's Riparian Buffer Protection Rules (brochure)</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer-pamphlet.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/buffer-pamphlet.pdf</a>
	<a href="#">Small-scale Solutions to Eroding Streambanks</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Backyard-Stream-Repair-Guide.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Backyard-Stream-Repair-Guide.pdf</a>

	<a href="#">Stream Survey Data Sheet</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Stream-Survey-Data-Sheet-new.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Stream-Survey-Data-Sheet-new.pdf</a>
	<a href="#">US EPA STEPL</a>	<a href="https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-step1">https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-step1</a>
	<a href="#">Visual Stream Diagnosis</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/Stream-Diagnosis.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/Stream-Diagnosis.pdf</a>
	<a href="#">Watershed Stressors, Sources, and Indicators</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/11/Watershed-stressors-sources-and-indicators.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/11/Watershed-stressors-sources-and-indicators.pdf</a>
	<a href="#">Why Work at the Watershed Level?</a>	<a href="http://ncwatershednetwork.org/wp-content/uploads/2016/05/WSN-WPiedmont-wksp_Stober.pdf">http://ncwatershednetwork.org/wp-content/uploads/2016/05/WSN-WPiedmont-wksp_Stober.pdf</a>