



# *Delaware River Water Trail*

## *Concept Plan and Implementation Recommendations*

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## ***Delaware River Water Trail Concept Plan and Implementation Recommendations***

### **Foreword**

A “water trail” is proposed for the Delaware River. When completed, the trail is expected to enhance the recreational boating experience on 220 miles of the Delaware River from Hancock, New York to Trenton, New Jersey, and integrate land and water trails into a comprehensive recreational system. Equally important, the trail and resulting enhanced river experiences are intended to inspire stewardship for the river and its associated landscape, including its cherished scenery and significant natural and cultural resource values.

In 2002, the Delaware River Greenway Partnership was awarded a Community Partnerships Program grant through the Pennsylvania Department of Conservation and Natural Resources (PA DCNR) to prepare a ***Delaware River Water Trail Master Plan and Feasibility Study***. The title of this plan was later changed to reflect more accurately existing river recreation management conditions and objectives.

To accomplish this task, the Delaware River Greenway Partnership (DRGP) worked with a number of partners, including the U.S. Department of Interior, National Park Service’s Rivers, Trails & Conservation Assistance Program, Northeast Region; Delaware River Basin Commission; and the National Park Service at the Upper Delaware Scenic & Recreational River; at the Delaware Water Gap National Recreation Area; and at the Delaware & Lehigh Canal National Heritage Corridor. These organizations and agencies serve on the ***Project Steering Committee***, which continues to provide guidance on the organization and development of the Delaware River Water Trail. Additional participants on the Project Steering Committee include: the American Canoe Association – Delaware Valley Division, Pennsylvania Fish & Boat Commission, and Pennsylvania Department of Conservation & Natural Resources.

The ***Delaware River Water Trail Concept Plan and Implementation Recommendations***, and the other grant products, together are intended to address broad and diverse audiences, including resource managers and officials at all levels of government who would be involved in funding, implementing and managing ongoing water trail operations, and the general public. The water trail plan is one of four products specified by the PA DCNR grant, considered Phase I of an overall trail development program. Other grant products include river recreation maps for boaters; a water trail guide that provides a broad overview of river resources and facilities; and a prototype of an interactive web site with detailed information and updates on current conditions and activities.

The *Delaware River Water Trail Concept Plan and Implementation Recommendations* document contains recommendations that will help river recreation managers address existing and potential recreational paddling. Recommendations came from access owners, public agencies, members of canoe clubs and other interested recreational organizations, and members of the general public. It is primarily intended to provide overall guidance for the development and management of a cohesive and integrated Delaware River Water Trail across the jurisdictional boundaries of three states, New York, New Jersey, and Pennsylvania. It can also provide the recreating public with a framework for using the water trail and becoming involved as a volunteer in maintaining the water trail.

The objectives of the *Delaware River Water Trail Concept Plan and Implementation Recommendations* are to:

- ≈ Identify existing and potential river access locations and determine their adequacy in number and types to accommodate paddlers of different skill levels
- ≈ Propose a means of providing access information to all water trail users
- ≈ Propose a means of distributing resource information to all water trail users
- ≈ Present a program intended to promote an ethic of conservation and responsible use
- ≈ Identify physical connections of land-based trails and other amenities with the water trail
- ≈ Identify additional or upgraded amenities for appropriate locations
- ≈ Develop a program for stewardship and a maintenance strategy for the water trail

The Water Trail Concept Plan is just a starting point that will include implementation recommendations with a general timeframe. Organizations and agencies that may implement the recommendations and their existing roles are indicated. The second phase of the water trail's development, not funded as yet, would consist of producing and/or publishing the trail plan components designed in Phase I and implementing specific recommendations developed in this first phase of planning. Phase II would create a more detailed action plan for the recommendations, including the primary tasks, responsible parties and timeframe for completion.

## ***Acknowledgements***

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# TABLE OF CONTENTS

Foreword	i
Acknowledgements	iii
Executive Summary	vi
Map 1 – Upper Delaware Water Trail	ix
Map 2 – Middle and Lower Delaware Water Trail	x
The Plan	1
Introduction/Background	1
River Resources: Access Points	2
Upper Delaware	2
Middle Delaware	4
Lower Delaware	5
River Resources: Camping and Overnight Trips	6
Upper Delaware	6
Middle Delaware	7
Lower Delaware	8
Programmatic Issues	10
Signage and Wayfinding	10
Safety and Education	12
Boating Regulations and Fees	13
Recommendations for Short-term Plan Implementation (Phase II)	15
Agency Participation	15
Additional Information Needs	15
Public Outreach	16
Sign Plan	17
Marketing strategy	17
Web Site Development	18
Appendices	
A. International Scale of River Difficulty	19
B. Safety Issues in the Upper Delaware	20
Bibliography	22



## Executive Summary

A primary goal of the Delaware River Water Trail Project is to provide newcomers and existing recreational users alike with new tools and sources of information that will make for a safer and more enjoyable river experience, while reducing potential negative impacts on water quality, wildlife, riparian habitat, and private and public property.

The *Delaware River Water Trail Concept Plan and Implementation Recommendations* document (part of Phase I of the project) represents the core of the water trail project. This document provides the conceptual framework and implementation recommendations for a proposed Delaware River Water Trail to be developed for 220 miles of the Delaware River from Hancock, New York to Trenton, New Jersey. This corresponds to the freshwater segment of the Delaware River.

The Plan serves a dual purpose:

- ≈ To guide agencies and organizations in facilities development and recreation management; and
- ≈ To provide the recreating public -- particularly the “do-it-yourselfers” -- with a framework for using the water trail, and for getting involved as a volunteer in maintaining the water trail.

**River Resources: Access Points.** The Upper, Middle, and Lower Delaware River were examined for types and frequency of public access points. For the Upper Delaware it is recommended that a new access point for non-motorized boats be explored within the 12-mile gap between Barryville, NY and Mongaup, NY. For the Middle Delaware, shuttle service between major accesses should be explored to eliminate need for two or more personal vehicles to complete shuttles. For the Lower Delaware, three areas should be explored for either new access points; it is recommended that the Portland Reliant Energy Power Plant access be examined for reopening.

**River Resources: Camping and Overnight Trips.** Given the length of the Delaware River, there are numerous opportunities for camping, mostly in the Upper and Middle Delaware Segments. The Lower Delaware has some camping, but has more opportunities for inns, bed and breakfasts and near towns, motels. In general, recommendations for the Upper Delaware centered on the need for more group camping, and river users should be encouraged to use bed-and-breakfasts as a base to take day trips. In the Middle Delaware, campsite maps should be updated on a regular basis, and education programs on canoe camping and “leave no trace” ethic should be provided. In the Lower Delaware, island camping should be investigated. Inns, bed and breakfasts, and nearby motels should be encouraged to provide shuttles for potential paddler customers.

**Signage and Wayfinding.** It is recommended that the Delaware River Water Trail model its signage system on that of the Delaware & Lehigh National Heritage Corridor, which is based on National Park Service standard sign specifications. Among the recommendations are:

- ≈ The Delaware River Water Trail logo and sign should be at major accesses.
- ≈ Signage marking access points should be established if river conditions require it.
- ≈ Work with PennDOT, NJDOT, NYDOT, Delaware River Joint Toll Bridge Commission (I-80 and south) to place identification signage onto bridge crossings along all river segments.
- ≈ Work with departments of tourism and state DOTs for assistance with directional access signage.
- ≈ Consider basic access and safety information to be included in Spanish as well as English.

**Safety and Education.** Among the recommendations are:

- ≈ Increase the frequency of volunteer safety patrols
- ≈ Increase availability of paddling instruction programs
- ≈ Work with emergency personnel along each river section and large management unit (such as NPS) to receive feedback and input on access locations, GPS points and numbering at both the river access launch/retrieval area and trailhead.
- ≈ Information at access site kiosks can include the skill level recommended to paddle a given stretch of river.
- ≈ Investigate the potential for using solar powered call boxes at river access sites, so information can be received by 911 dispatch with a GPS unit, or NPS in NPS-managed areas.
- ≈ Use a special radio frequency that provides safety information and warns of hazardous river conditions; provide more radio contacts in different regions.
- ≈ Initiate a river user survey, particularly in the Lower Delaware River segment.

**Boating Regulations and Fees.** Boating regulations are inconsistent from state to state, and from state to federal government; they are unevenly applied even among access sites in the same state. New Jersey and Pennsylvania have reciprocal fishing regulations and law enforcement, but not reciprocal boating regulations. Different regulations apply to different classes of boaters in each state. It is recommended that State web sites include information on all state requirements. DRGP will provide links with those agency's sites.

**Recommendations for Short-term Plan Implementation (Phase II)**

With the identification of relevant issues affecting water trail development for the Delaware River completed, the next step will involve implementation of recommendations to make the water trail a reality. Several actions need to take place to make it happen and then provide for long-term management of the facilities that make the water trail a high quality river experience.

**Agency Participation.** Delaware River Greenway Partnership should continue to provide coordination for the water trail project, with participation of the existing Steering Committee and volunteers, especially members of the American Canoe Association. DRGP and its partners will determine who will responsible for the long-term implementation of the Water Trail. Riverfront access owners will also be included in the implementation process.



**Additional Information Needs.** In order to maintain a high level of service as a water trail, it will be necessary to continually monitor river conditions and users. Major recommendations include:



- ≈ Based on the review of access points completed for this project, complete a gap analysis to determine locations and needs for additional access points, and determine feasible locations based on physical, environmental and financial consideration.
- ≈ Based on a review of nearby land trails and public open space, examine potential links between water and land trails and improvements to existing links. Consider where trails:
  - Provide access to natural, scenic, cultural or historic resources
  - Provide an opportunity for resource interpretation or education
  - Provide access to community resources
  - Provide existing facilities that can serve water trail access areas
- ≈ Investigate maritime case law to determine whether or not landowners can be protected from liability if paddlers use their property to portage around a river hazard.

**Public Outreach.** Distributing information about the Delaware River Water Trail, significant natural and cultural resources, safety, access, and other aspects of the river must be an ongoing effort. A Delaware River Water Trail Web Site will be the principal means of providing information to the public. The site can be updated on an as-need basis with current information and safety advisories as required. It is recommended that future outreach actions include:

- ≈ Develop or sponsor educational programs and workshops on water safety, stewardship of the river and its resources
- ≈ Efforts should be made to establish a “leave no trace” program

**Sign Plan.** Managing organizations and agencies along the river corridor should strive to develop a consistent message and signage program using existing resources, even if a consistent appearance cannot be achieved. The immediate needs for a sign plan would be:

- ≈ Develop sign templates using the D & L National Heritage Corridor sign system as a model.
- ≈ Where public agencies require their own designs for signs, develop sign designs incorporating common features of both the agency and the Water Trail.
- ≈ Once the sign system is complete, develop a handbook that includes signage functional types and guidelines/standards for their location, design, installation and maintenance.

**Marketing Strategy.** Publicizing the trail will be important in providing users with crucial information about the Delaware River and trail amenities available to all trail users. Recommendations include:

- ≈ Use free web sites to market the water trail.
- ≈ Work with Pennsylvania Fish and Boat Commission to have the Delaware River Water Trail formally designated into the Pennsylvania Water Trails System.
- ≈ Work with tourism agencies to include the water trail guide in their promotional materials.
- ≈ Distribute guide to liveries and other recreational vendors, canoe groups, magazines such as “Paddler Magazine” and other recreational venues.
- ≈ Hold kickoff event for distribution of guide.
- ≈ Develop Public Service Announcements (PSAs) for cable TV, radio, and print media.

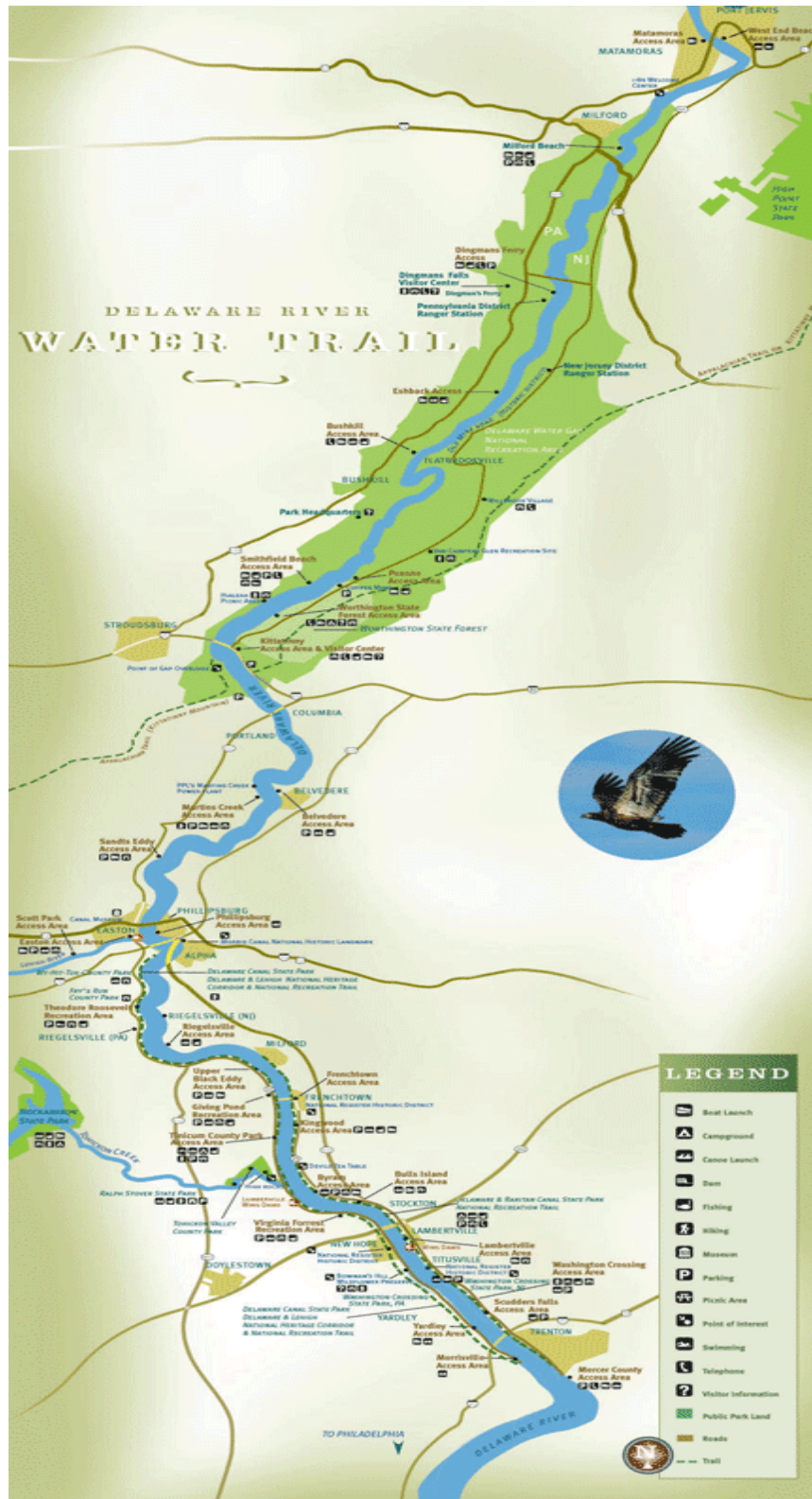
### **Web Site Development**

- ≈ Develop an interactive web site as part of the Delaware River Greenway Partnership site. A prototype was developed and will be upgraded and expanded as needs warrant.
- ≈ Work with the trail Steering Committee to help determine content and links. Besides governmental agencies, include tourism agencies, chambers of commerce, other non-profit organizations active in the region or concerned about trail issues.
- ≈ Obtain permission of private access site owners, liveries, and campgrounds to include information on the web site.

# MAP 1: Upper Delaware Water Trail



Map 2: Middle and Lower Delaware Water Trail







## The Plan

### Introduction/Background

The main stem of the Delaware, 331 miles from Hancock, NY, to its mouth at Cape May Point, NJ, is the longest free-flowing river in the Eastern United States. Although it drains only 1% of the nation's land mass (13,000 sq. miles), the river supplies water to 10% of the American population -- 700 million gallons of water every day for over 20 million people. While the human population in the river basin is larger than that of 40 states, the Delaware supports an astounding array of wildlife, including the largest winter populations of bald and golden eagles in the East. From wilderness and rapids in the Upper Delaware segment, through the natural wonder of the spectacular Delaware Water Gap in the Middle Delaware, to the historic towns and more tranquil flow of the Lower Delaware, there are opportunities for every type of paddling experience, viewing scenic wonders, and appreciating natural and cultural amenities.

The Delaware River has a long history of recreational boating, going back to the late 1800s. Written accounts from this period tell of boaters transporting their canoes by rail to Deposit, New York and describe the many adventures and wonders encountered while paddling back to Philadelphia. These early tales inspired others and spurred the establishment of canoe clubs in the Delaware River watershed. The oldest of these are the Mohawk Canoe Club, founded in 1903, and the Philadelphia Canoe Club, founded in 1905. Both are still active and promote paddling on the river.

The Delaware River offers some of the finest and most accessible paddling in the northeastern United States. The river is remarkably "user friendly," offering a variety of paddling conditions from exciting Class II rapids to long stretches of almost lake-like pools known as eddies. Add in public access, beautiful scenery, a rich natural and cultural history, and excellent water quality, and it is easy to understand why so many people are drawn to the river for recreation. Other popular river-related activities include fishing, swimming, camping, hunting, hiking, bird watching, sightseeing along state-designated scenic byways, and cycling along the extensive system of canal towpaths and bike routes.

Recreational water use appears to be increasing, both on the Delaware River and nationwide. Many parts of the non-tidal Delaware River are heavily used for non-powered boating and other river recreational activities, in no small part because it is located within one of the most densely populated regions in the nation. Over the past decade there has been a noticeable increase in recreational boating on certain sections of the river, including kayaking, canoeing, rafting, tubing and power boating (primarily personal water craft such as jet skis). In the Upper Delaware alone it is estimated that over 100,000 boaters a year visit this section of the river. In addition, the multiplicity of different forms of river recreation, sometimes within the same stretch, more than ever means understanding river users' needs and how the various uses can minimize or avoid impacts to one another as well as the environment.



Changing recreational uses on the Delaware, higher volumes of users, safety issues, and lack of general awareness of how to use the river in low-impact ways, were all cited as reasons for the Pennsylvania Department of Conservation and Natural Resources to fund a conservation and recreation project for a Delaware River Water Trail. Developing a water trail for the Delaware River is seen as a viable approach to tackling these challenges, particularly because of the existing strong water trail program in Pennsylvania and available models such as the Schuylkill River Water Trail and Lehigh River Water Trail.

There are more than 150 designated water trails throughout the United States that connect people to water resources; however, a water trail is hard to define because most people have a vision of a trail as being a visibly discernable trodden path across a meadow or through the woods.

The Steering Committee for the Delaware River Water Trail referenced the American Canoe Association's (ACA) evolving definition of a water trail. The ACA has created a provisional list of water trail criteria that offer a means of gauging plans for the Delaware River Water Trail:

- ≈ A water trail should be a contiguous or semi-contiguous waterway or series of waterways that is open to recreational use.
- ≈ A water trail should have public access points for paddlers.
- ≈ The water trails planners, organizers or sponsors should have
  - A map of the route of the water trail, and/or
  - The route of the water trail should be detailed on a web site.
- ≈ Published materials should communicate low-impact ethics to water trail users and water safety.
- ≈ The trail should be supported and managed by one or more organizations.
- ≈ And to the users – *a water trail is what you make of it!*

The Delaware River Water Trail Steering Committee has developed its own vision for a water trail:

*The primary goal of the Delaware River Water Trail Project is to provide newcomers and existing recreational users alike with new tools and sources of information that will make for a safer and more enjoyable river experience, while reducing negative impacts on water quality, wildlife, riparian habitat, and private and public property.*

## **River Resources: Access Points**

### **Upper Delaware River**

The Upper Delaware River from Hancock, New York to Matamoras, Pennsylvania and Port Jervis, New York is the most heavily used section of the river because of the presence of significant numbers of canoe liveries that organize the river experience for many paddlers. This is the stretch of the river that tens of thousands of first-time paddlers (nearly all livery customers) and experts alike visit each summer for whitewater paddling.

The combined closeness to major metropolitan areas, scenic beauty, and consistent flows due to upstream reservoir releases make the Upper Delaware one of the most popular paddling destinations in the United States.

Canoes, tubes, rafts, kayaks and to a lesser degree motorboats are all used on the Upper Delaware, while personal watercraft (PWCs) and air boats are prohibited. There are many licensed commercial outfitters and fishing guides operating on the river that provide access and camping, and rent canoes, kayaks, rafts, and tubes.

While the National Park Service (NPS) manages recreational use and patrols the Upper Delaware River, over 85% of the river corridor is privately owned and NPS does not own any river access points.

Many of the public access points on the Upper Delaware are managed cooperatively with the National Park Service. Canoe livery services own private accesses, and some are available to the public for a fee. Distances between public access points vary widely from a fraction of a mile to more than 12 miles, the latter reflecting a significant gap in river access from Berryville, New York south to Mongaup, New York.



Due to the location of major roads, more access points are located on the New York side of the river than the Pennsylvania side. Upper Delaware access areas primarily serve non-motorized watercraft and tend to be more primitive beach launches. There are exceptions north of the Lackawaxen access for motor boat access. The access areas vary in terms of the available facilities and amenities.

Parking may include anywhere from 10 to 50 spaces for vehicles, and parking areas may be grass, gravel, paved or along a road. Seasonal comfort facilities (mostly portable toilet units) are available in most sections of the river. Potable water is generally not available, which is acceptable because river users generally carry their own water; however, some river users may not be aware of this condition. Although there is a “carry in, carry out” policy for waste disposal at the access points, some access sites do have waste disposal and recycling containers.

Parking associated with some access sites is limited on the Upper Delaware and is a major concern for paddlers. For example, at the Ten-Mile River Access it is sometimes necessary to park on the town road. Narrowsburg, Lackawaxen and Matamoras have large parking lots. Skinners Falls also has a large parking lot, but it is often crowded due to the popularity of this area for day use. Currently, paddlers need to find a place in town to park if they wish to access the river at Long Eddy.

The Upper Delaware Valley is experiencing a change in its demographics, and the turnover of property will increase dramatically in the coming years. Increasing property values and upscale development may make landowners value a high degree of privacy. There is concern that landowners will be less willing to grant easements or other access to their properties for recreational use in the future, and rising property values may make purchase of potential access points more difficult.

On the other hand, a significant opportunity exists to establish new access points at bridge crossings. For example, the National Park Service and local municipalities are already working with the NY-PA Joint Bridge Commission to develop additional access points at the Barryville and Pond Eddy bridges.

### ***Upper Delaware Recommendations:***

- ≈ *Establish a public access point for non-motorized boats to address a 12-mile gap between Barryville, NY and Mongaup, NY.*
- ≈ *UPDE should continue to explore partnership opportunities with private landowners.*

## **Middle Delaware River**

Within the boundaries of Delaware Water Gap National Recreation Area (DWGNRA), the Delaware River is a series of shallow riffles and quiet pools. Access points are no greater than 8-9 miles apart, allowing for relatively easy day trips, and primitive campsites along both sides of the river and on the islands allow for extended trips.

Although there are eight access sites within the DWGNRA, this stretch of river is only 40 miles long, as compared to about 73 miles for the Upper Delaware, and nearly 80 miles for the Lower Delaware.

The eight river access points within park boundaries include Milford Beach, PA (river mile 246.2); Dingmans Ferry, PA (238.5); Eshback, PA (231.6); Bushkill, PA (228.2); Poxono Boat Access, NJ (220.0); Smithfield Beach, PA (218.0); Worthington State Forest, NJ (214.6); and Kittatinny Point, NJ (211.7). Below Port Jervis and Matamoras the river runs fairly straight and narrow until Eshback, where the river starts to curve and bend. Below Bushkill is the well known S curve of “Wallpack Bend.”

The National Park Service provides maps showing locations of river access points, campsites, tributary streams, islands and riffles, and landmarks such as bridges. The maps can be obtained on the park web site at <http://www.nps.gov/dewa/>. These maps are very useful as trip planning tools for visitors who need to decide where to put in and take out along the 40-mile stretch managed by NPS. River users can get an idea of the distances between river access points and how long a river trip may take. The web site lists possible overnight trips for one to three nights along the river. In addition, the park offers a free River Guide that includes river maps, table of distances between access points, and safety information.

A recreation use fee of ten dollars per day is charged for parking at major accesses. Although parking can be relatively expensive for large caravans, the fees do pay for security, easy access, and comfort facilities.

All but one of the access areas (Eshback) have concrete boat ramps for motorboats. Smithfield Beach, Bushkill, and Milford offer separate launch sites for non-motorized watercraft. Ramp types vary – they may be paved, gravel, or include concrete ties. The Eshback and Poxono accesses can only accommodate a few motor vehicles while other access areas can accommodate 100 or more. Comfort facilities are generally available, and potable water is available at all the larger accesses.

A comprehensive accessibility evaluation has not been completed for the park, including river access sites. The National Park Service makes a brief reference to accessibility in the DWGSNRA brochure “Spanning the Gap,” but not in the park river guide or general park brochure. “Spanning the Gap” includes a number to call for accessibility information and there is a section on accessibility on the park web site.

Major river access sites have handicapped accessible bathrooms that meet ADA standards. The launch points/ramps are not handicapped accessible, although there is an accessible boating pier at Bushkill Access. The NPS is developing a ramp at Smithfield beach for handicapped access.

### ***Middle Delaware River Recommendations:***

≈ *Develop shuttle service between major accesses to eliminate need for two or more personal vehicles to complete shuttles*

## **Lower Delaware River**

There are over thirty public access sites along the nearly 80 miles of the Lower Delaware River between the Delaware Water Gap and the Trenton Boat Access. Sixteen of these are formal accesses with paved boat ramps, the rest are more primitive “car-top” accesses with limited parking and widely varying conditions. Most formal accesses have toilet facilities, typically portable toilets, and most access sites are lacking in handicapped accessible facilities.

Public owners include state agencies - New Jersey Department of Environmental Protection, Pennsylvania Fish and Boat Commission, and Pennsylvania Department of Conservation and Natural Resources, counties (Northampton, Bucks, and Mercer) and municipalities (Easton, Phillipsburg, Frenchtown, Lambertville). PP&L maintains a public boat ramp at its Martins Creek Power Plant, located just below Belvidere, NJ and Foul Rift, a long stretch of Class I and II rapids.

Distance between access points generally ranges from 3 to 6 miles. A gap of over 13 miles appears at the northern end of the Lower Delaware River between Kittatinny Beach (Delaware Water Gap) and Belvidere, New Jersey. There are potential remedies for what is the only significant gap within the entire non-tidal Lower Delaware River. A small “car-top” access exists in Portland Borough on the downstream side of the Pedestrian Bridge, but users of this access are challenged to find a place to park. At best, this access can only handle a few boaters at a time. The aforementioned gap was created in part by the closure of the Reliant Energy Power Plant (PA) access located approximately 1 mile below the Pedestrian Bridge. The distance between the former Reliant Energy access and Belvidere is 8 miles.

The most significant landscape features adjacent to the Lower Delaware below Easton and Phillipsburg are the canal systems. On the Pennsylvania side of the river the Delaware Canal, which is fed by the Lehigh River, runs from Easton to Bristol. On the New Jersey side the Delaware and Raritan Canal is fed by the Delaware River and flows adjacent to it from Bulls Island to Trenton. The canal parks attract bicyclist, paddlers, joggers and hikers who often compete for parking spaces on busy weekends.

There are several river access sites adjacent to both canal parks. Some are formal accesses like Bulls Island and Kingwood, which provide ample parking and well-maintained concrete ramps. Others are relatively small and provide limited space for launching and parking.

Some informal picnic and fishing accesses along the canals see occasional “car-top” use despite the fact that they can present difficult access to the water due to steep and/or long trails. But they are serviceable for individuals and small groups, and provide alternatives to some of the formal access points that are often crowded on weekends with personal watercraft and powerboats.



The Lower Delaware River stretch between Frenchtown and Bulls Island has become a favorite destination for tubers, most of whom use the services of two liveries that specialize in providing tubes and transportation.

### ***Lower Delaware Recommendations:***

- ≈ *Establish public access approximately midway between Delaware Water Gap (Kittatinny Beach) and Belvidere.*
- ≈ *Re-open the Portland Reliant Energy power plant access to the public.*
- ≈ *Develop a mid-point access between Kingwood and Bulls Island, either on the New Jersey or the Pennsylvania side of the river.*
- ≈ *Link canals to the river where feasible.*



## **River Resources: Camping and Overnight Trips**

Given the length of the Delaware River, there are numerous opportunities for camping, mostly in the Upper and Middle Delaware segments. The Lower Delaware has some camping, but more opportunities for inns, bed and breakfasts, and near towns, motels. Due to specific conditions within each river segment, there are no river-wide recommendations for camping and overnight trips.

### **Upper Delaware River**

Within the Upper Delaware camping opportunities are mostly limited to privately owned campgrounds. The only exception is the Buckhorn Natural Area of Delaware State Forest in Westfall Township, PA, near Stairway Rapids. Free permits for this primitive camping area are required and may be obtained at the National Park Service's office in Barryville, New York.

There is a wide range of facilities available at the commercial campgrounds throughout much of the Upper Delaware. The facilities range from modest to those with more amenities -- from lean-to's, to tent sites, to bath houses with showers, hookups for travel trailers, stores and even a swimming pool. Some cater to different user groups, including groups of youngsters and singles, or to families. Some have a quieter, "wilderness" feel, while others allow for more social interaction. Many campgrounds can get crowded on prime weekends during the summer; therefore, it is best for visitors to call ahead for reservations. Weekdays, even during the recreation season, tend to be fairly quiet.

The future of camping on the Upper Delaware is a concern as the commercial campgrounds are all family-owned businesses and depend on succeeding generations being interested in staying in the family business. As land values continue to escalate, there will be a growing temptation to sell these properties for development. Camping is linked to river use and if more there are fewer campgrounds, it can be expected that there will be fewer river users.

North of Skinners Falls, NY, camping for paddlers is very limited. In spite of the limitations, trespass camping is less frequent due to NPS patrols on the Upper Delaware. Public camping is needed in this stretch where there is currently only one public camping area.

### ***Upper Delaware Recommendations:***

- ≈ *Public meeting participants on the Upper Delaware expressed the desire for small group camping and more primitive camping experiences. This type of camping is perceived as less of a negative or even a positive to nearby landowners, due to concerns about the potential for noise.*
- ≈ *Explore establishment of primitive camping on NY and PA lands near the river.*
- ≈ *Identify appropriate location for and support development of family-oriented campsite north of Callicoon, NY that can accommodate paddlers.*
- ≈ *Identify appropriate location for and support development of family-oriented campsite south of Barryville that can accommodate paddlers.*
- ≈ *Work with campgrounds to develop volunteer assistance to keep the facilities clean and well maintained.*
- ≈ *Utilize existing campgrounds differently. As an example, there are plenty of opportunities for small group and individual camping at liveries during weekdays, even during the summer.*
- ≈ *Encourage river users to use bed-and-breakfasts as a base to take day trips. Some B&Bs can offer shuttle service. Look for opportunities to create package trips and market them.*

## **Middle Delaware River**

Unlike the Upper and Lower sections of the Delaware River, on the Middle Delaware the NPS owns and manages numerous primitive camping sites on the river that are open most of the year. The river campsites are available only to boaters and canoeists traveling from one access point to another when the distance is too great to be covered in one day. Campsites are limited to a one-night stay, and are on a first-come, first-served basis. No permits are required and no fee is charged

Camping is permitted only at those sites posted with the NPS campsite sign and having a steel fire grate. Camp stoves are permitted, or campfires only in pre-existing metal fire rings, using only dead and down fallen wood. The NPS has a carry-in, carry-out policy for trash. Latrines may or may not be present—pit toilets are generally associated with riverside camp sites—and if not, burying of waste is encouraged. NPS encourages a quieter, more natural sound environment, and regulations prohibit excessive noise.

Along with NPS-managed campgrounds, there is currently only one state managed campground along the Delaware River within the Middle Delaware. Located in New Jersey 3 ½ miles north of Interstate 80, Worthington State Forest Campground is open from April through December. A boat launch and fishing access is available, and a series of spur trails link to the Kittatinny Ridge and Appalachian Trail. A trailer and car top launch are available to accommodate motor boaters and paddlers. 69 tent and trailer campsites are available for a fee, many with modern toilets and showers. Three group campsites are available for a small fee, each with a capacity of 35. These include picnic tables, fire rings, and modern toilets. In addition, Dingmans Campground is a 133-site campground operated as a privately managed within the Delaware Water Gap National Recreation Area. The campground, which re-opened in the spring of 2005, charges a fee for its campsites. Two group camping areas are available. A permit is required and a fee is charged. One camping area is Rivers Bend Group Campsite near Millbrook, NJ, open year round, and the other is Valley View (PA) Group Campground. Information and permits are available through the Delaware Water Gap National Recreation Area.

#### ***Middle Delaware Recommendations:***

- ≈ *Campsite maps should be updated on a regular basis.*
- ≈ *Provide information on canoe camping and “leave no trace” ethic.*

## **Lower Delaware River**

The only publicly accessible camping facilities available along the Lower Delaware River are Wy-Hit-Tuk Park (Northampton County), Tincum Park (Bucks County) and Bulls Island State Park (New Jersey Division of Parks and Forestry). Each has campsites available by reservation, and Wy-hit-tuk Park is primarily reserved for group camping.

Informal and inappropriate camping on some Lower Delaware River islands is commonplace, especially at Raubs Island, Lynn Island, and Hendricks Island, owned by the PADCNR. The islands are not posted so it is likely that campers are unaware that camping is an illegal use of the islands. The illegal camping occasionally results in extreme littering of the site, but it appears that most campers leave the islands campsites in a reasonably clean state. There is currently no program in place to monitor illegal recreational use or to manage sensitive species.

The positive and negative aspects of camping on islands should be explored. Island camping presents different management concerns because of the isolation from road patrols by state park rangers and staff or police. A volunteer maintenance program can be established modeled after other water trail projects such as the Susquehanna River. These could be established on either publicly or privately owned islands. However, island camping requires constant supervision and maintenance and is recommended only with many cautions.

The cultural landscape of the Delaware River features a number of inns and bed & breakfast establishments that can be used for overnight paddle trips. There are nearly a dozen such places accessible to river travelers between Easton/Phillipsburg and Washington Crossing. On the outskirts of Easton/Phillipsburg and New Hope are several motels that can provide overnight accommodations if arrangements could be made for storage of boats and shuttles to and from nearby access points.

***Recommendations for the Lower Delaware:***

- ≈ Development of primitive camping on river islands should be explored. Reach out to PADCNR and NJDEP Division of Parks and Forestry to clarify the status of the Delaware River islands, better understand the issues related to boat access and enforcement of camping regulations, and identify potential ways to allow for some limited access, possibly for overnight camping. The Middle Susquehanna River Water Trail features public campsites on islands that are maintained by volunteers.*
- ≈ Provide inns, Bed & Breakfast's, and nearby motels with information about the Water Trail and potential for attracting overnight guests who wish to paddle the Delaware River*
- ≈ Access should be explored where inns and B&B's occur along the river.*
- ≈ Take advantage of existing access areas, placing small campsites here that are primitive. These sites may be easier to monitor; however, township zoning and ordinance issues must be addressed. Find out how the Susquehanna River Water Trail has addressed these issues.*
- ≈ Identify opportunities to develop additional camping sites in appropriate locations.*







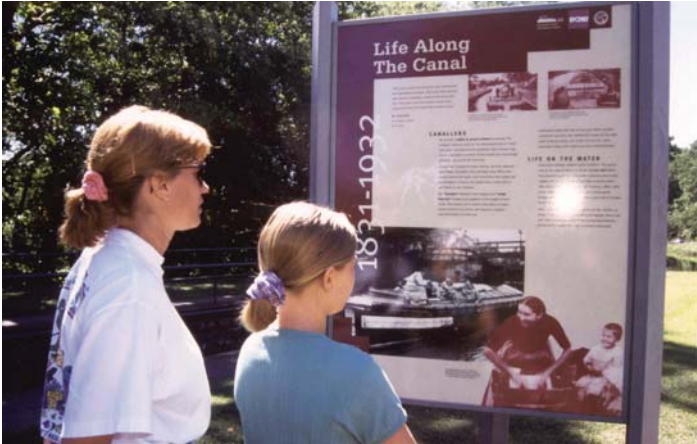
## Programmatic Issues

### Signage and Wayfinding

The state of signage in and along the river varies throughout the Upper, Middle and Lower sections of the river and reflects the management framework. For example, along the Upper and Middle sections of the river that are managed by the National Park Service, signs are in place at formal accesses that show sectional maps, as well as safety and resource information. During the primary boating season (May through October) NPS places warning signs at Skinners Falls and Mongaup. Signage along the Lower Delaware is for the most part limited to posting of state fishing and boating regulations.

Public input on the issue of signage ranged from a minimalist approach with concerns about negative visual impacts of signs, to those who wanted to see more signs placed at access points and potential hazard areas.

Most agreed that signage consisting of directional and safety information is desirable at accesses. Signage marking access sites should also be visible before river users take out, especially for those accesses that are difficult to locate because of physical conditions, or for informal access points. For example, within the DWGNRA Smithfield Beach can be seen from a distance of one mile upstream, while Eshback is easy to miss since it has no formal ramp and is situated below a bend in the river.



In terms of signage standards, it is recommended that the Delaware River Water Trail model its system on the Delaware & Lehigh National Heritage Corridor signage system, which is based on National Park Service standard sign specifications. The Delaware & Lehigh has addressed the need for standards for consistent information and graphic presentation for all water trail and land-based signage from the Delaware Water Gap, to Bristol, PA. Their system includes standards for wayfinding, trailheads, interpretation, and points of interest. The Delaware & Lehigh NHC recently added water trail signage elements to its Visually Speaking signage manual, which includes specifications and designs for four signage components:

- ≈ Portage point markers – riverbank water trail portage and directional signage

- ≈ Trail map signage – off river water trail access point information signs
- ≈ Access point marker – On river water trail access point identification signs
- ≈ Hazard signs – On river hazard markers

It will be important to work with land managing agencies to agree to place signs at their access points and provide for their maintenance. For agencies with their own sign requirements, it will be important to cooperate with them to include at a minimum the trail logo and some design elements.

### ***River-Wide Signage Recommendations:***

- ≈ *Develop standards for river trail signage, based on standards of the Delaware and Lehigh National Heritage Corridor.*
- ≈ *Trailhead signage should be present at all formal access sites and include river maps and safety information; where appropriate, interpretative signs about nearby sites should also be posted.*
- ≈ *Registration and launch permit requirements should be stated where appropriate.*
- ≈ *The Delaware River Water Trail logo and sign should be at major accesses along the length of the trail.*
- ≈ *Signage marking access points should be established if river conditions require it.*
- ≈ *Work with PennDOT, NJDOT, NYDOT, Delaware River Joint Toll Bridge Commission (I-80 and south) to place identification signage onto bridge crossings along all river segments.*
- ≈ *Work with departments of tourism and state DOTs for assistance with directional access signage.*
- ≈ *Consider basic access and safety information to be included in Spanish as well as English..*
- ≈ *Access site managers should work together to determine appropriate level of signage and necessary content at river access points, while discouraging visual clutter. Types of information might include:*
  - *Safety message stressing the use of PFDs and discouraging alcohol use.*
  - *Warn river users about slippery rocks.*
  - *Identify water height, and interpret the meaning of the various levels.*
  - *Mile markers and directional/distance information – How far until the haul-out?*
- ≈ *Identify ways additional partners can be involved in decisions regarding sign location and content – e.g., encourage 50% local match to construct signs, which may encourage public input.*
- ≈ *Coordinate with Upper Delaware Council as important clearinghouse for riverwide issues.*
- ≈ *Coordinate with Pocono Mountains Vacation Bureau in its development of a regional wayfinding signage program.*





## Safety and Education

In terms of sheer numbers, it is probably safe to say that among the millions of people who have had the fortune to paddle down the Delaware River, the majority have only visited once or twice, perhaps never to return. These river users are the customer base of the livery services that provide canoes, kayaks, rafts and tubes for family, school and business outings. The heaviest concentration of “one-timers” is believed to be in the Upper Delaware River, due to the appeal of its whitewater and proximity to the New York metropolitan area. The Middle Delaware sees many fewer “one-timers” and along the downstream segment of the Lower Delaware River, livery-based paddlers tubers have increased dramatically in the past five years.

At the other end of the spectrum, there are many paddlers of advanced and intermediate skill who frequent the Delaware River, as well as its tributaries. Many are affiliated with one of more of the several canoe and kayak clubs in the region, based largely in the lower watershed and surrounding area. The National Canoe Safety Patrol has two chapters (upper and lower) that each offer courses in safety and rescue, as well as basic paddling skills. The Safety Patrols put volunteers on the river to provide rescue services and interact with paddlers to promote safety.

There is undoubtedly a large contingent of new paddlers who use their own boats and would benefit from being able to access information about paddling the Delaware River. Some experienced paddlers could benefit from safety information – not all paddlers that use the Delaware frequently are safe paddlers!

### ***Safety Recommendations:***

- ≈ *General safety information signage should be placed at every access.*
- ≈ *Increase the frequency of volunteer safety patrols.*
- ≈ *Increase availability of paddling instruction programs.*
- ≈ *Work with emergency personnel along each river section and large management unit (such as NPS) to receive feedback and input on access locations; establish GPS points and numbering at both the river access launch/retrieval area and trailhead.*
- ≈ *Within park boundaries, seek authority to make lifejacket wear mandatory for livery customers.*
- ≈ *NPS should provide a list for the public of adult educational programs that conduct training for*



*paddlers on its web site.*

- ≈ Information at access site kiosks can include the skill level recommended to paddle a given stretch of river.*
- ≈ Encourage development of paddling clubs in areas where there are none, but where there is a base of enthusiastic paddlers. There are several canoe clubs based on the Lower Delaware, but not along the Upper Delaware*
- ≈ Investigate the potential for using solar powered call boxes at river access sites, so information can be received by 911 dispatch with a GPS unit, or NPS in NPS-managed areas.*
- ≈ Utilize special radio frequency that provides safety information and warns of hazardous river conditions, and provide more radio contacts in different regions.*
- ≈ Work with NJ Dept of Transportation Office of Maritime Resources – Marine Trades Program includes grants for I Boat NJ. Safety education programs, environmental enhancements, and education on maritime & boating issues are included, all geared towards benefits for the boating public. The Office of Maritime Resources also provides information to New Jersey’s boating public such as [MVC vessel registration information](#), and sponsors the annual Bring a Buddy Boating event, where boat marinas and dealers open their doors to the public for food, fun events, and programs on safe boating principles, such as wearing a life-vest, water based rules of the road, and New Jersey’s new mandatory boating safety certificate.*
- ≈ Ensure that river users understand the dangers of river currents and other river safety hazards through an easily understood safety message that can be communicated in a few minutes.*
- ≈ Initiate a river user survey, particularly in the Lower Delaware River segment. Such a study will analyze the types of river users, i.e., paddlers, tubers, motorized, PWCs, opinions on adequacy of access sites and restrooms, information needs, etc.*

## **Boating Regulations and Fees**

River users are less inclined to pay fees for river access and parking because they are confused by the disparity in fees, permits, and/or registrations at some accesses on the Delaware River. Understanding which of the various agencies are implementing those fees can be overwhelming. There appears to be no interagency cooperation in developing a cohesive, understandable system of permits and registrations.

Boating regulations are inconsistent from state to state, and from state to federal government; they are unevenly applied even among access sites in the same state. New Jersey and Pennsylvania have reciprocal fishing regulations and law enforcement, but not reciprocal boating regulations. Different regulations apply to different classes of boaters in each state.

The National Park Service allows boaters on the Upper Delaware to bring their own boats and equipment to public river access sites. A valid state registration is required for all motorized vessels on the river. Personal watercraft such as jet skis are not permitted within the Upper Delaware Scenic & Recreational River, nor within the boundaries of the Delaware Water Gap National Recreational Area. Use of large motorboats on the Upper Delaware is not feasible, due to generally shallow river depths and enforced speed limits.

In Pennsylvania, all boats, including paddlecraft, must be registered. Pennsylvania Fish and Boat Commission (PFBC) requires a sticker on the boat for those using the agency’s river access sites. PFBC requires permission for group boating access to the agency’s facilities three months in advance. PFBC



used to have an agreement with NPS to waive the sticker requirement within the NPS managed areas, however, this agreement no longer applies.

On the New Jersey side, only motorized boats need to be registered and permitted through the NJDEP Division of Fish and Wildlife. The registration fee depends on the length of the vessel. At the Kingwood Access, boaters need a valid hunting, fishing or trapping license or current NJDEP DFW-issued Boat Ramp Maintenance Permit.

New York State law requires registration of any boat that is motor-driven and is operated on public waterways in that state.

Fees are charged for the use of some state and locally managed river access sites and associated facilities; however, the Delaware & Raritan Canal State Park does not charge a fee.

There is confusion about how boating regulations apply to out-of-state visitors. Out-of-state visitors can park on the Pennsylvania side of the river; however, the actual physical launch of the boat requires a one-time use permit.

***Boating Recommendations:***

*≈ Information on each state's requirements as they affect paddlers should be included in any written information or web site on the water trail. The DRGP web site can link to all states' boating web sites.*

## Recommendations for Short-term Plan Implementation (Phase II)

With the identification of relevant issues affecting water trail development for the Delaware River completed, the next step will involve implementation of recommendations to make the water trail a reality. Several actions need to take place to make it happen and then provide for long-term management of the facilities that make the water trail a high quality river experience.

### Agency Participation

The study process for developing a Delaware River Water Trail was initiated by the Delaware River Greenway Partnership, with participation and guidance of the trail Steering Committee. The National Park Service also provided assistance through its Rivers and Trails Conservation Assistance Program. During implementation, the current agency participation is recommended to continue during Phase II. Delaware River Greenway Partnership will provide coordination as long as funding is possible to provide staff assistance to the project. The National Park Service units at Upper Delaware Wild and Scenic River and Delaware Water Gap National Recreation Area, plus DRBC, PA DCNR, PA Fish and Boat Commission, and NJDEP will be key players in continuing the work of the Steering Committee.

The role of volunteers is crucial to the success of the Delaware River Water Trail. Many recommendations, particularly the request for increased education and safety patrols are dependent on the participation of American Canoe Association members and their programs.

### Additional Information Needs

In order to maintain a high level of service as a water trail, it will be necessary to continually monitor river conditions and users. Recommendations for collecting additional information in the future include:

- ≈ Survey access points for changes in condition, parking availability, and services. This should be done on an annual basis as a cooperative venture with access owners.
- ≈ Evaluate overnight facilities to better serve paddlers' needs (e.g., primitive, basic, basic group, RV camping, full amenities' camping, etc.).
- ≈ Based on the review of access points completed for this project, complete a detailed gap analysis to determine locations and needs for additional access points, and determine feasible locations based on physical,



environmental and financial considerations.

- ≈ Based on a review of nearby land trails and public open space, examine potential links between water and land trails and improvements to existing links. Consider where trails:
  - Provide access to natural, scenic, cultural or historic resources
  - Provide an opportunity for resource interpretation or education
  - Provide access to community resources
  - Provide existing facilities that can serve water trail access areas
- ≈ Investigate maritime case law to determine whether or not landowners can be protected from liability if paddlers use their property to portage around a river hazard. Most states provide some form of landowner liability protection for allowing the public on their property for outdoor recreational uses.
- ≈ Identify funding source and persons with expertise in conducting a comprehensive accessibility evaluation for UPDE and DEWPNRA. This can be used as a basis for recommending where disabled access improvements might be made for river access sites.
- ≈ Research potential market to ascertain if users actually need more access – don't just presume.

## Public Outreach

Information about the Delaware River Water Trail, significant natural and cultural resources, safety, access, and other aspects of the river must be an ongoing effort. A Delaware River Water Trail Web Site will be the principal means of providing information to the public. The site can be updated on an as-need basis with current information and safety advisories as required. It is recommended that future outreach activities include:

- ≈ DRGP is recommended to host the Delaware River Water Trail web site. It is also recommended that other agencies participating on the Steering Committee provide links to the site through their programs' web sites.
- ≈ Distribute the forthcoming Water Trail Guide to all state, county, and local parks along the Delaware River. Tourism councils and other businesses in the region will also receive copies of the guide.
- ≈ Assist DRBC in publicizing its River Recreation Maps. The maps, which will be available for a fee, will be noted on web sites with links to the DRBC web site. Distribution is expected in late Summer/early Fall, 2006.
- ≈ Develop or sponsor educational programs and workshops on water safety, stewardship of the river and its resources. Delaware River Greenway Partnership already sponsors its River Bright Program in the Lower Delaware that provides volunteers to do river cleanups. This type of program can be expanded (or continue) in other segments, either by DRGP or the National Park Service in segments it manages. Canoe clubs can sponsor river safety training to groups and volunteers. Also, efforts should be made to reach out to the motor boat community, who can assist with river cleanups and other stewardship efforts.
- ≈ Efforts should be made to establish a "Leave No Trace" or other stewardship programs in all segments of the Delaware River Water Trail. Leave No Trace is a national and international program designed to assist outdoor enthusiasts with their decisions about how to reduce their impacts on the environment when they hike, camp, paddle, or enjoy any other outdoor activity. Information on the program is available at [www.lnt.org](http://www.lnt.org).

Funding for the guide will be sought from a variety of sources. The National Park Service provided funding for the design of the trail guide through a Challenge Cost Share grant. Printing of the guide will come from funds sought from state recreational trails programs as well as private sources. Costs for printing are estimated to be approximately \$9,000 for 25,000 copies.

## Sign Plan

Managing organizations and agencies along the river corridor should strive to develop a consistent message and signage program using existing resources, even if a consistent appearance cannot be achieved. The signage recommendations in the beginning of this plan address issues and conditions that can be activated at any time in the future. The immediate needs for a sign plan would be:

- ≈ Adopt the Delaware and Lehigh National Heritage Corridor sign system as a model for the Delaware River Water Trail.
- ≈ Using the D&L template, design different types of signs and specifications for size, fonts, construction, etc. For those agencies requiring only their standards for signs, develop designs incorporating agency standards and water trail logo and other desirable information.
- ≈ Once the sign system is complete, develop a handbook that includes signage functional types and guidelines/standards for their location, design, installation and maintenance. These can be used by access owners and managers to adapt their signage systems to their properties.
- ≈ Review and evaluate river sections to determine whether or not existing signage works for the river user.
- ≈ Develop river access database that includes GPS location/UTM coordinates of signs and related amenities in order to better track and monitor their condition – list each sign as part of access area.

Funding for a sign program can come from a variety of sources, including the federally-funded Recreational Trails Programs in all three states. The State of Pennsylvania provides grants to governmental agencies and non-profit organizations for trail-related facilities through its Growing Greener Program, administered by the Department of Conservation and Natural Resources (PA DCNR). The Lower Delaware River is part of the Delaware and Lehigh National Heritage Corridor, and funding is available through PA DCNR for Heritage Corridor projects. Because the Delaware River is a transportation venue, funding may be possible from the states' federally-funded Transportation Enhancement grant programs, administered by each of the Departments of Transportation. Funding can also be sought from the various bridge commissions and agencies that control access across the river.

## Marketing Strategy

Publicizing the Water Trail will be important in providing users with crucial information about the Delaware River and trail amenities available to all trail users. Recommendations for marketing of the trail include:

- ≈ Use free web sites to market the water trail.
- ≈ Work with Pennsylvania Fish and Boat Commission to have the Delaware River Water Trail formally designated into the Pennsylvania Water Trails System and develop trail information for PFBC web site and other materials.
- ≈ Work with tourism agencies such as the Pocono Mountains Vacation Bureau to include water trail guide and information in their promotional materials.
- ≈ Distribute guide to liveries and other recreational vendors, canoe groups, magazines such as “Paddler Magazine” and other recreational venues.
- ≈ Hold kickoff event for distribution of guide.
- ≈ Hold ribbon cutting ceremony for placement of water trail signs at access points.
- ≈ Develop Public Service Announcements (PSAs) for cable TV, radio, and print media



- ≈ Attend tourism industry shows to promote the water trail.

Funding for marketing will be sought from a variety of sources, including private vendors, tourism groups, and private foundation grants. Also, the Water Trail Steering Committee will be asked to participate in all events as well as cooperate in searching for funding opportunities that benefit the marketing of the trail.

## **Web Site Development**

- ≈ Develop an interactive web site as part of the Delaware River Greenway Partnership site. A prototype was developed and will be upgraded and expanded as needs warrant.
- ≈ Work with the trail Steering Committee to help determine content and links. Besides governmental agencies, include tourism agencies, chambers of commerce, other non-profit organizations active in the region or concerned about trail issues.
- ≈ Obtain permission of private access site owners, liveries, and campgrounds to include information on the web site.
- ≈ In order to ensure that the water trail web site is self-sustaining, seek business sponsorships, foundation funding, grants for site.
- ≈ Update the site as needed for current conditions and events. Trail Steering Committee members can provide updates information as needed. Include detailed information on parking conditions, launch types, etc.

Funding for web site development will be made through state trail grant programs and private foundations. Development of the interactive web site for the Water Trail is estimated at \$3,000 to \$5,000, with an additional \$100 to \$400 per month potentially needed for hosting and updating the web site.

## Appendix A

### International Scale of River Difficulty

**Class I: Easy.** Moving water with a few riffles and small waves

**Class II: Novice.** Straightforward rapids with wide, clear channels that are obvious without scouting. Some maneuvering required.

**Class III: Intermediate.** Rapids with high, irregular waves that are difficult to avoid and capable of swamping an open canoe. Eddies and currents are more powerful. Scouting is often advisable for inexperienced groups.

**Class IV: Advanced.** Long, difficult rapids with constricted passages that often require precise maneuvering in turbulent waters. Scouting from shore is often necessary, and conditions make rescue difficult.

**Class V: Expert.** Extremely difficult, long, violent rapids with highly congested routes that nearly always must be scouted from shore. Rescue conditions are difficult, and there is significant hazard to life in the event of a mishap.

**Class VI: Extreme.** Difficulties of Class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts, only after close study has been made and all precautions have been taken.

Source: American Canoe Association, various publications accessible at [www.americancanoe.org](http://www.americancanoe.org).

## Appendix B. Safety Issues in the Upper Delaware

### Submitted by the National Park Service, Upper Delaware Scenic and Recreation River

Individuals planning on visiting Upper Delaware Scenic and Recreational River are urged to conduct pre-trip planning for their own safety and enjoyment, as near-wilderness conditions exist along some sections of river. There is little or no cell phone reception and few public phones available in the area.

Safety hazards typical of the upper river include rock-strewn rapids, cold water, and eel weirs, which are V-shaped rock walls in the river channel that can trap and swamp a boat. Portaging around hazards such as Class II rapids is legal. The Upper Delaware River has swift currents, sudden drop-offs and slippery rocks that have caused serious injuries and death. In addition, glass and rocks can cut a wader's feet. Although the Upper Delaware's depth averages 2 ½ to 4 feet, 12 to 18-foot deep holes are common. The river can rise rapidly after heavy rains and releases from dams on the tributary streams. Swimming or wading to cross the river is particularly dangerous.

People using the river often fail to realize that the water, even in summer, is cold enough to cause hypothermia – lowering of the core body temperature. A change of clothing is recommended for those recreating on the river. Fleece or man-made fiber that wicks moisture away from the skin keeps the body warm.

Life jackets are required to be worn by children 12 and under and should be worn by all river users whether boating, swimming or wading. Never swim alone.

There are many private liveries on the river which rent canoes, rafts, kayaks and tubes and can arrange a river trip suited to individual skill levels. Livery operators serve the majority of recreational users from April to October. Liveries on the Upper Delaware Scenic and Recreational River operate under license to the National Park Service. The liveries are required to present river safety orientation to their customers. They are responsible for providing, a properly fitted life jacket, as well as information on river conditions and hazards, according to the terms of the Commercial Use Authorization (CUA) agreement with the National Park Service. The NPS and the livery operators continue to work together to address public safety and river use issues.

In addition to receiving safety information from liveries, paddlers may have access to NPS rangers or the NPS Upper Delaware web site: <http://www.nps.gov/upde>, which can help alert a potential boater to typical river hazards and current conditions for paddling. The web site includes tips for preparing for a river trip, how to handle a swamped boat, how to safely swim in the river, and contacts for more information on boating regulations. In addition, the Upper Delaware Council provides a River Map and Guide with river safety information. River conditions can vary, making it very difficult at times to direct beginners to safer stretches of river.

River height gauges are posted on some bridges. The Upper Delaware River Hotline at 845-252-7100 provides river height and water temperature information 24 hours per day from April through October. The National Park Service releases media advisories as necessary.

In addition, the National Park Service has informational bulletin boards and panels at all public access sites between Hancock, NY and Sparrowbush, NY. These bulletin boards contain general river orientation and safety information, along with site specific information including the locations of the closest pay phones. State managed access sites include bulletin boards explaining their regulations. At Skinners Falls, Ten Mile River, Lackawaxen and Mongaup, the NPS has information kiosks and NPS rangers available to talk about river safety Wednesday through Sunday during the summer recreational season.

Accidents range from slips and falls to drownings. As of June 2006, fifty drownings have occurred since the NPS began keeping records on the Upper Delaware in 1980. Most drownings are swimming or boating related. A majority of the victims are males, averaging 28.5 years. Drownings generally happen at the height of the summer season, on weekends and the number of drownings averages 2 to 3 per year, even though park visitation levels fluctuate from year to year.

### *Emergency Services*

In the Upper Delaware, emergency services are provided from a variety of sources, including National Park Service Rangers; National Canoe Safety Patrol volunteers; state, county and local police; members of local volunteer fire and ambulance squads. The NPS maintains agreements and coordinates with multiple dive, fire and rescue service providers. National Park Service and National Canoe Safety Patrol coverage focuses on the times of greatest river use.

The Upper Delaware S&RR is a remote area with little cell phone reception in the corridor. Pay phones may be available in the larger towns and emergency 911 service is available in both Pennsylvania and New York. During an emergency, people are advised to get to a phone, dial 911 and direct first responders to your location.

River users need to be aware of the dangers associated with boating and water activities and that they are personally responsible for their own safety. It can't be stressed enough: wear a personal floatation device while boating swimming or wading.



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