

Upper Delaware River Tailwaters



RECREATION PLAN

[Improving Trout Habitat,
River Access and Recreation in the
Upper Delaware River Watershed]

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Upper Delaware River Tailwaters Recreation Plan

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Upper Delaware River Tailwaters Recreation Plan

1.0 Introduction

The goals of this plan are to:

- Create a vision for the future recreational use of the UDR tailwaters that effectively manages its increasing popularity, maximizes its tourism value, and protects the river.
- Provide local municipalities and civic organizations with a voluntary guidance document to assist them in future initiatives associated with the recreational use of the Upper Delaware River watershed.
- Improve public education about the ecological and economic value of the region's natural resources and how to protect and enhance them.



The Upper Delaware River Tailwaters: One of the finest U.S. wild trout fisheries.

The most well known of the region's many natural resource attributes is the wild trout fishery in the tailwaters below the New York City Delaware basin water supply reservoirs. The UDR is one of the few prime cold water wild trout fisheries in the eastern United States. The flow levels of the West Branch, the lower East Branch, and the Upper main stem of the Delaware River are some of the only areas in New York State that are sufficient to accommodate drift boat fishing as well as wading.

The reservoirs at Cannonsville (West Branch) and Pepacton (East Branch) feed the tailwaters (a river below a dam). Construction of these in the 1950s and 1960s changed the UDR fishery in a substantial way. The cold water released from the bottom of the reservoirs significantly lowers stream temperatures in a 78 mile stretch of river below the reservoirs in New York and northeast Pennsylvania. This creates the hospitable habitat conditions necessary for a spectacular wild trout fishery that attracts large numbers of anglers to the region.

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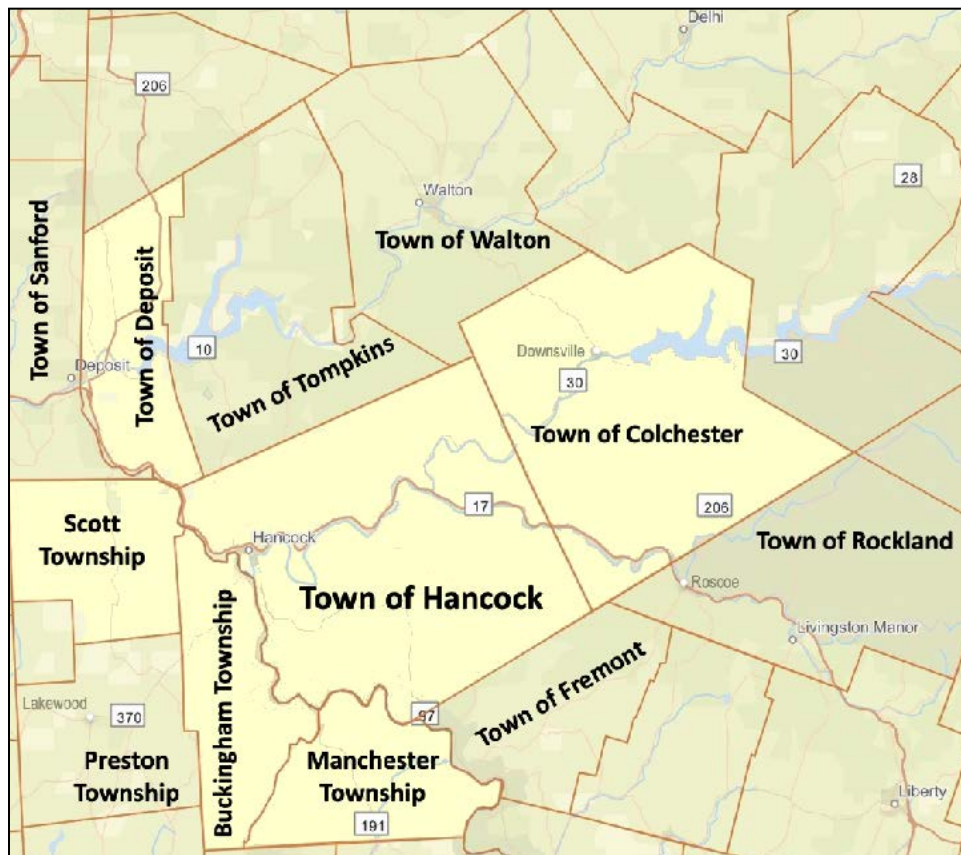
The wild trout fishery is a proven economic driver in the tailwaters region below the reservoirs. An economic study of the river for 2018 indicates a \$500 million minimum in economic value generated from activities associated with river fishing and boating activities.

Decades of management plans for the reservoirs culminated in the 2017 Flexible Flow Management Program (FFMP). It strikes a reasonably effective balance between water supply needs of NYC and the protection of aquatic habitat of the tailwater fishery. While not the purpose, improvements in flow management and increases in water releases from the reservoirs at strategic times, could result in even higher values according to the study.

One of the most important and relatively recent dynamics that creates challenges to developing a management blueprint for the future recreational use of the river is rapidly increasing visitation to the region and the pressure this places on the resource. Historically, a commonly accepted principle of protecting and preserving unique natural places is that increasing exposure to the resource results in higher levels of conservation and stewardship. This notion is now being tested in the UDR watershed. It is an important backdrop to this planning document.

Geographic Scope of the Plan

The study area includes the New York Towns of Colchester, Deposit, and Hancock, and the Pennsylvania Townships of Buckingham, Manchester, and Scott:



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The development of this plan included extensive input from a wide variety of watershed stakeholders via one on one meetings, issue based focus groups, and surveys. It also involved extensive cooperation among local governments at both the municipal and county level, as well as the private sector.

It is intended to lay a foundation for voluntary action by the various involved parties. There are no recommendations for increased regulations, only suggestions for how to collaboratively protect the resource, improve the recreational experience, and enhance tourism in the UDR region.



Upper Delaware River Tailwaters Recreation Plan

2.0 Background Studies

2.1 Recreational Demand

The study area, which includes the towns of Colchester, Deposit, and Hancock in New York State and Buckingham, Manchester and Scott in the Commonwealth of Pennsylvania are characterized by the following demographics:

Table 2.1.1 Upper Delaware River Tailwaters Study Area Demographic Characteristics									
Demographic Characteristic	Colchester	Deposit	Hancock	NY Total/ Average	Buckingham	Manchester	Scott	PA Total/ Average	Study Area Total/ Average
Population 2010	2,077	1,712	3,224	7,013	520	836	593	1,949	8,962
Population 2021	2,152	1,516	3,102	6,770	611	827	583	2,021	8,791
Households 2010	900	709	1,350	2,959	260	359	236	855	3,814
Households 2021	960	637	1,335	2,932	307	355	235	897	3,829
Housing Units 2010	1,822	1,131	2,743	5,696	523	686	472	1,681	7,377
Housing Units 2021	1,971	1,143	2,811	5,925	621	690	475	1,786	7,711
Vacant Units 2010	922	422	1,393	2,737	263	327	236	826	3,563
Vacant Units 2021	1,011	506	1,476	2,993	314	333	240	887	3,880
Median HH \$ 2021	\$53,136	\$43,996	\$51,169	\$50,255	\$54,136	\$55,949	\$61,504	\$56,784	\$51,784
Median Age 2010	49.1	43.3	46.2	46.6	53.1	48.2	46.1	49.1	47.1
Median Age 2021	53.1	44.2	49.3	49.6	57.2	52.4	51.9	53.9	50.6

Note: Data sources are the U.S. Census for 2010 and ESRI for 2021.

This data indicates some key starting factors with respect to recreational demand:

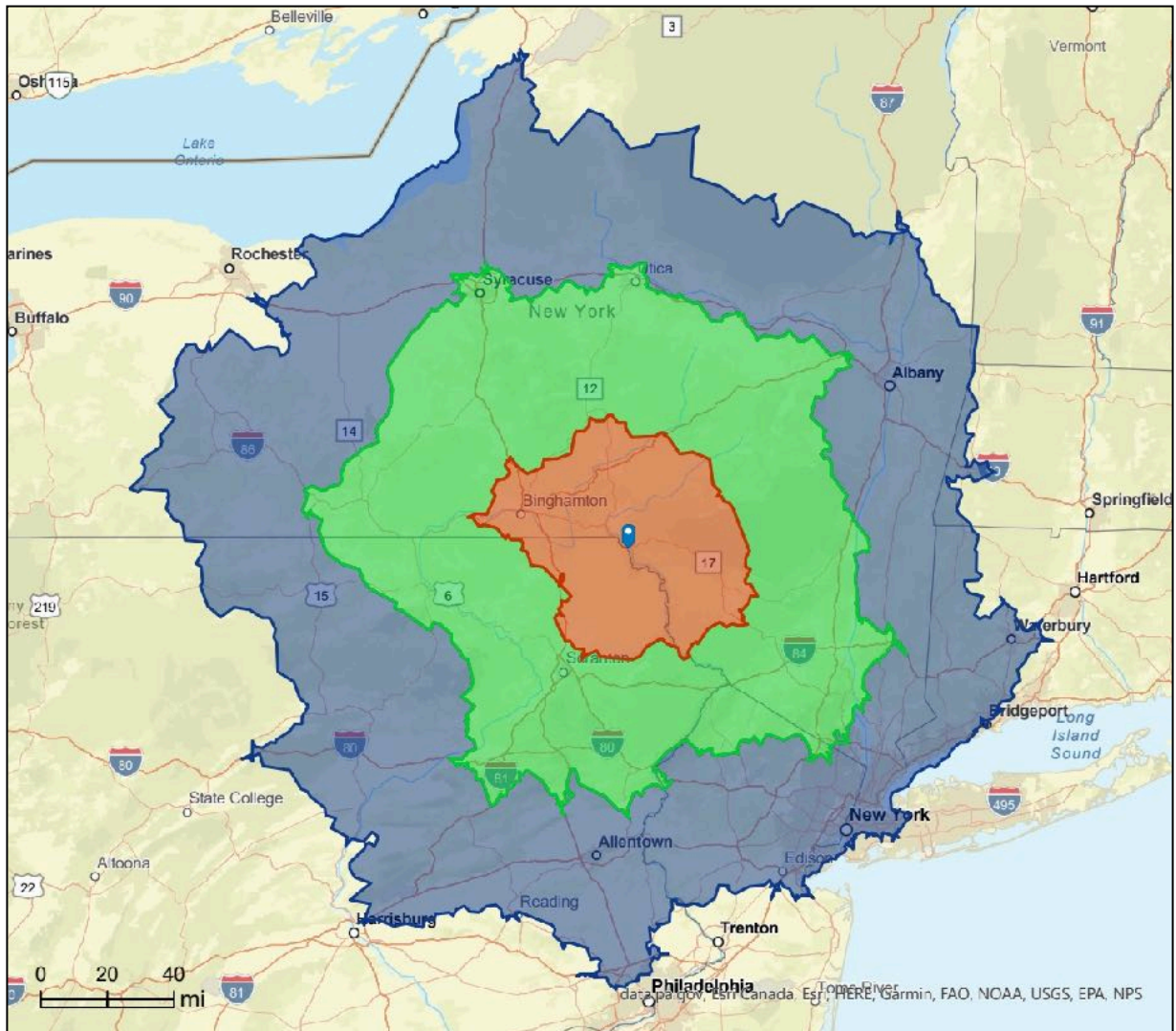
- The study area is generally stagnant with respect to growth, although housing units and vacant units, in particular, are growing, the latter being almost entirely second homes, which itself is a large source of outdoor recreational demand.
- Median household incomes on the Pennsylvania side are roughly 10% higher than those on the New York State side of the study area.
- Median ages are increasing rapidly, and now exceed 50 years for the study area as a whole, a factor that supports more passive recreation such as hiking and fishing.

Upper Delaware River Tailwaters Recreation Plan

Additional insights are provided by the following ESRI data on sports and leisure for 2021. The data is sorted to analyze four distinct parts of the potential market for outdoor recreation within the study area and provides summary totals and averages. These four areas are:

- (1) The six-town study area of Colchester, Deposit, Hancock, Buckingham, Manchester and Scott,
- (2) The area within 60 minutes driving time of Hancock, New York, less than numbers for the six-town study area,
- (3) The area within 60-120 minutes driving time of Hancock, New York, and
- (4) The area within 120-180 minutes driving time of Hancock, New York.

A map depicting the areas represented by the driving times follows:



Upper Delaware River Tailwaters Recreation Plan

The data for these four potential sources of outdoor recreational demand is provided below:

Table 2.1.2 Upper Delaware River Tailwaters Study Area Outdoor Sports and Leisure Market Characteristics					
Outdoor Recreation Category	Six Town Study Area	0-60 Minutes (-Study Area)	60-120 Minutes	120-180 Minutes	Total/Average
Biking (Mountain)					
Adults Participating	279	10,680	88,977	607,725	707,661
% of All Adults	3.8%	3.5%	3.8%	4.2%	4.1%
Market Index	102	93	101	112	110
Biking (Road)					
Adults Participating	543	27,719	229,439	1,511,898	1,769,599
% of All Adults	7.5%	9.0%	9.7%	10.4%	10.3%
Market Index	79	95	103	110	109
Canoeing/Kayaking					
Adults Participating	647	23,410	177,754	969,117	1,170,928
% of All Adults	8.9%	7.7%	7.6%	6.7%	6.8%
Market Index	132	115	113	100	102
Fresh Water Fishing					
Adults Participating	1,328	40,468	271,156	1,145,580	1,458,532
% of All Adults	18.3%	13.4%	11.5%	7.9%	8.5%
Market Index	176	127	111	76	82
Hiking					
Adults Participating	852	36,498	307,254	2,116,817	2,461,421
% of All Adults	11.7%	12.6%	13.1%	14.6%	14.4%
Market Index	92	94	102	115	113
Hunting with Rifle					
Adults Participating	577	15,155	95,766	372,424	483,922
% of All Adults	8.0%	5.0%	4.1%	2.6%	2.8%
Market Index	214	133	109	69	76
Hunting with Shotgun					
Adults Participating	519	13,524	84,377	345,300	443,720
% of All Adults	7.2%	4.5%	3.6%	2.4%	2.6%
Market Index	229	141	115	76	83
Swimming					
Adults Participating	1,284	47,082	378,941	2,346,740	2,774,047
% of All Adults	17.7%	15.5%	16.1%	16.2%	16.2%
Market Index	112	98	102	102	102

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Again, several observations can be drawn from this data:

- The market area for outdoor recreation activities within three hours of the study area includes 17.1 million adults, with nearly 2.5 million participating in hiking, for example. Given the size of the market, even a very tiny share of it can have huge impacts on the study area, if businesses are effectively selling to it and bringing outdoor recreationists to the area.
- Certain activities such as mountain biking, canoeing/kayaking and swimming have broad appeal across all geographies, from the six towns forming the study area to the New York City metro area.
- Other activities such as fishing and hunting have much stronger, even tremendous, appeal locally, but this interest depletes rapidly moving toward the metro area.
- There are also certain activities such as road biking and hiking where interest grows significantly moving toward the metro area. These represent potential alternative or complementary recreational pursuits to fishing, for example. This is important with respect to attracting families with different interests among the members. It is also a way to shift demand during periods of peak activity by those attracted to the study area because they own a second home in it.
- No single activity appears to offer more potential than hiking, which exhibits high interest among a very large population of potential visitors. It also presents the least conflict with fishing, which has grown in interest to extremely high levels locally and within two hours of the study area.
- Road biking shows similar but slightly less potential and there are opportunities to develop or improve bike lanes in several locations as well as utilize low traffic public roads along the river (e.g., Penn-York Road) for biking. The Upper Delaware Scenic Byway provides a very useful platform for promoting this activity.
- Hunting as a sport is extremely popular locally and there is considerable opportunity to develop it further with state lands available for the purpose that directly abut study area streams. Hunting connections with the river from a marketing standpoint are currently almost non-existent and state use management regulations discourage such linkages but the value of alternative recreational outlets to canoeing/kayaking and fishing suggests they need to be pursued as complementary ways to promote tourism.



Upper Delaware River Tailwaters Recreation Plan

Canoeing/kayaking and fishing represent outdoor recreation activities that arguably stretch the carrying capacity of the Upper Delaware tailwaters during certain peak periods when occasional conflicts arise between them.

In 2018, the New York State Department of Environmental Conservation and Pennsylvania Fish and Boat Commission launched a three year “Joint Fisheries Investigation Plan (JFIP)” of the Delaware River tailwaters downstream to Callicoon, New York.

The JFIP included “creel surveys” of anglers with several metrics compiled on fishing practices including hours fished, number and types of fish caught, fish killed or released, type of fishing (fly fishing, spin fishing, etc), guided vs. DIY trips, and the overall quality of the experience. Progress reports to date reveal the following:

- A total of 3,851 angler trips made to the Upper Delaware Tailwaters were documented in angler interviews. Some 2,782 or 72.2 % of these occurred along the West Branch.
- Both boat and wade anglers strongly participated. Some 1,563 or 40.6 % were boat anglers and 2,278 or 59.1 % were wade anglers. A total of 3,325 or 86.3 % of anglers were non-local, based on origin by zip code.
- Relatively few trips were guided. Nearly all guided trips were for boat angling. There were 545 (14.1 %) guided trips and 3,229 (83.8 %) non-guided trips. Considerable participation by non-local guides was documented.
- The 2018 data indicates fishing is focused almost entirely on trout, fly fishing is the predominant technique, and catch and release is widely practiced. Some 2,947 or 76.5 % of anglers used fly tackle and 3,649 or 94.7% specifically targeted trout.
- The overall catch rate was 0.06 trout/hour or 1 trout per 16.6 hours spent fishing. A total of 77% of anglers described themselves as "satisfied" or "very satisfied" with their fishing experience over the last three years. Only 3% of anglers were "dissatisfied" or "very dissatisfied."

This data indicates that while canoeing/kayaking and fishing activity are intense at times and do occasionally conflict (including between boaters and waders), the demand is not so strong that the experiences are irreparably harmed. There remains an opportunity to improve conditions and still grow tourism.

Specifically, there are potential measures that can be taken to reduce conflict, provide alternative outlets to meet outdoor recreation demand and make public improvements or policy changes to spread activity out more so as to maintain high quality experiences for recreationists.

Upper Delaware River Tailwaters Recreation Plan

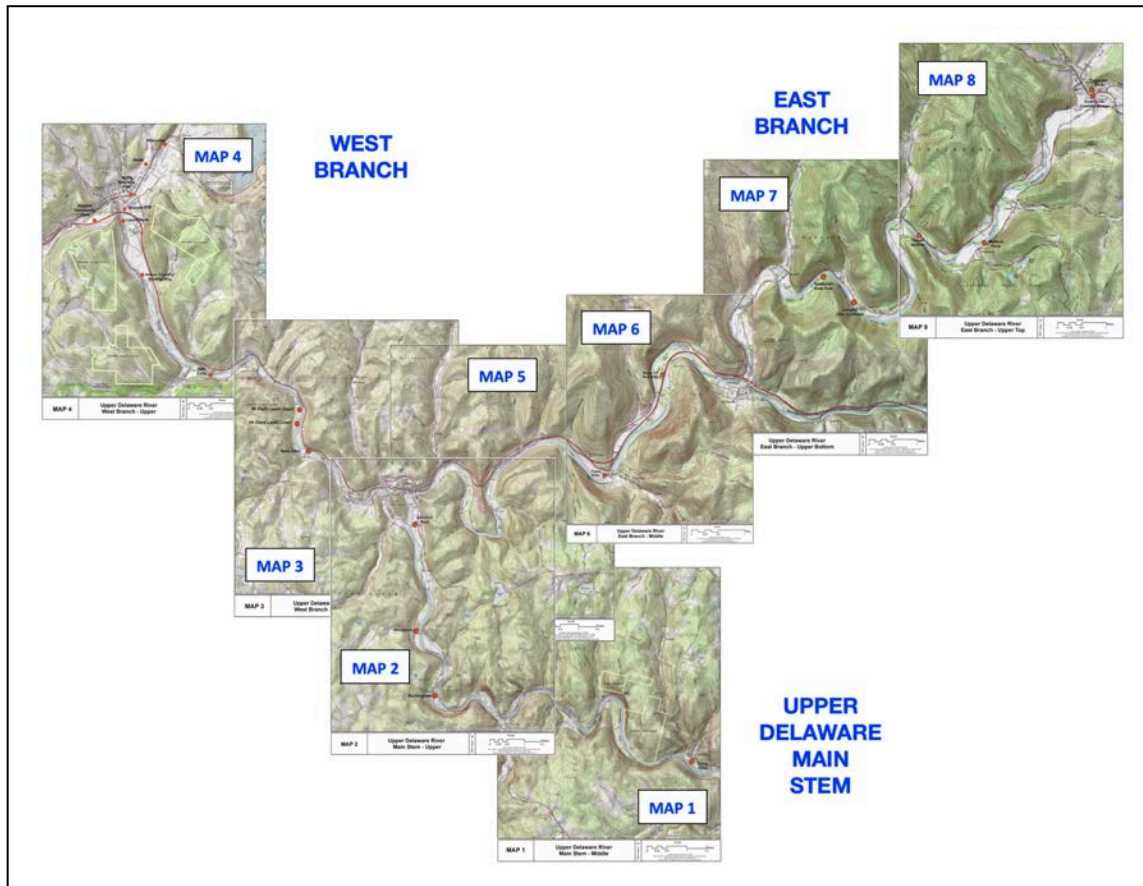
2.2 Upper Delaware River Public Access Analysis

There are opportunities to improve the experiences of all tailwaters users, while respecting private property rights, by mitigating existing user conflicts and increasing capacity for recreational use without negatively impacting the resource. These include:

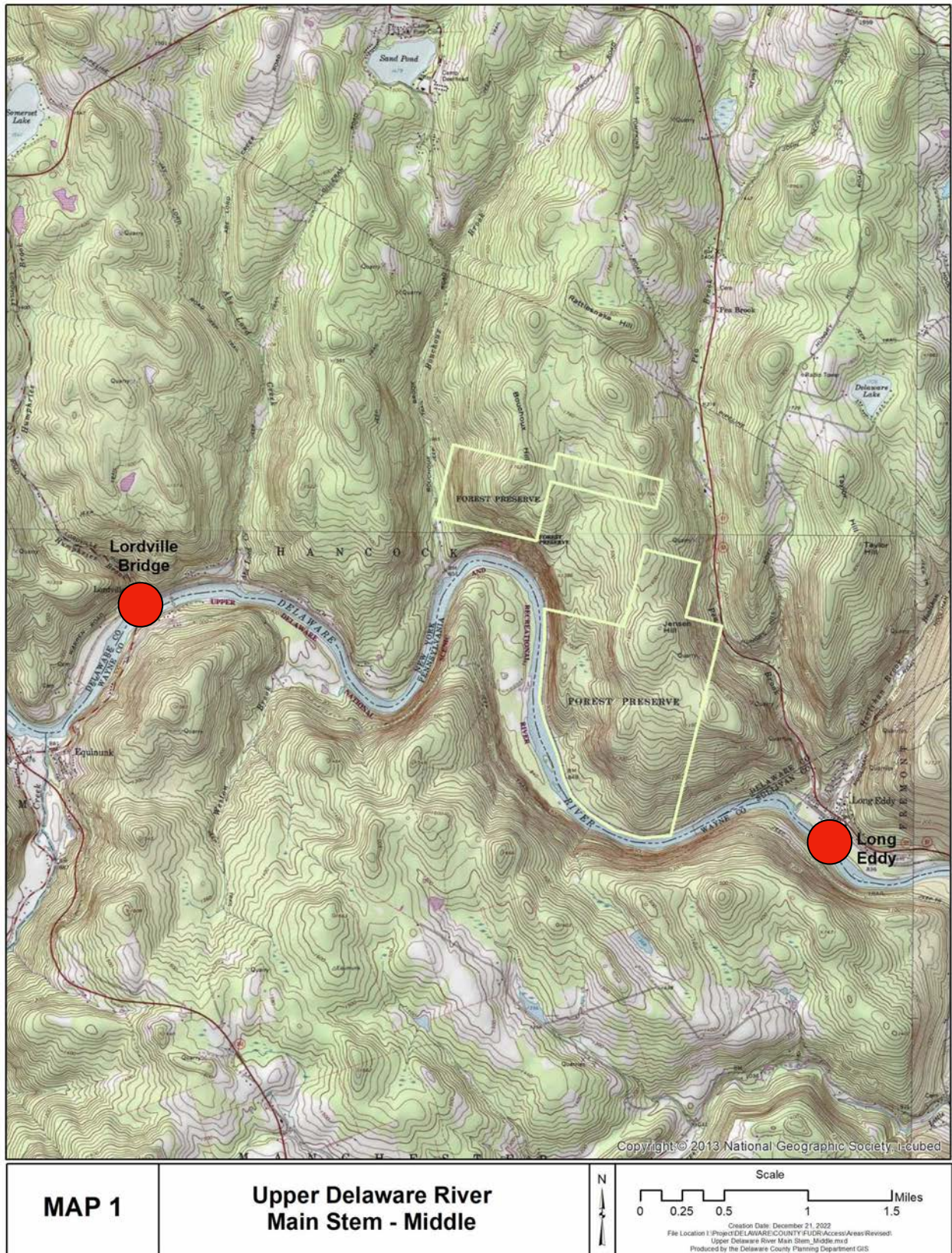
- Improving water releases from the New York City reservoirs.
- Spreading out usage.
- Ensuring parking availability.
- Avoiding trespass onto private property.
- Improving public access.
- Promoting river etiquette.

It is the intent of this plan to promote cooperation among municipalities, government agencies, landowners and river users with a view toward improving river access and implementing a public education program that promotes cooperation and a stewardship ethic among all users, respects private property rights and fosters good river etiquette on the UDR.

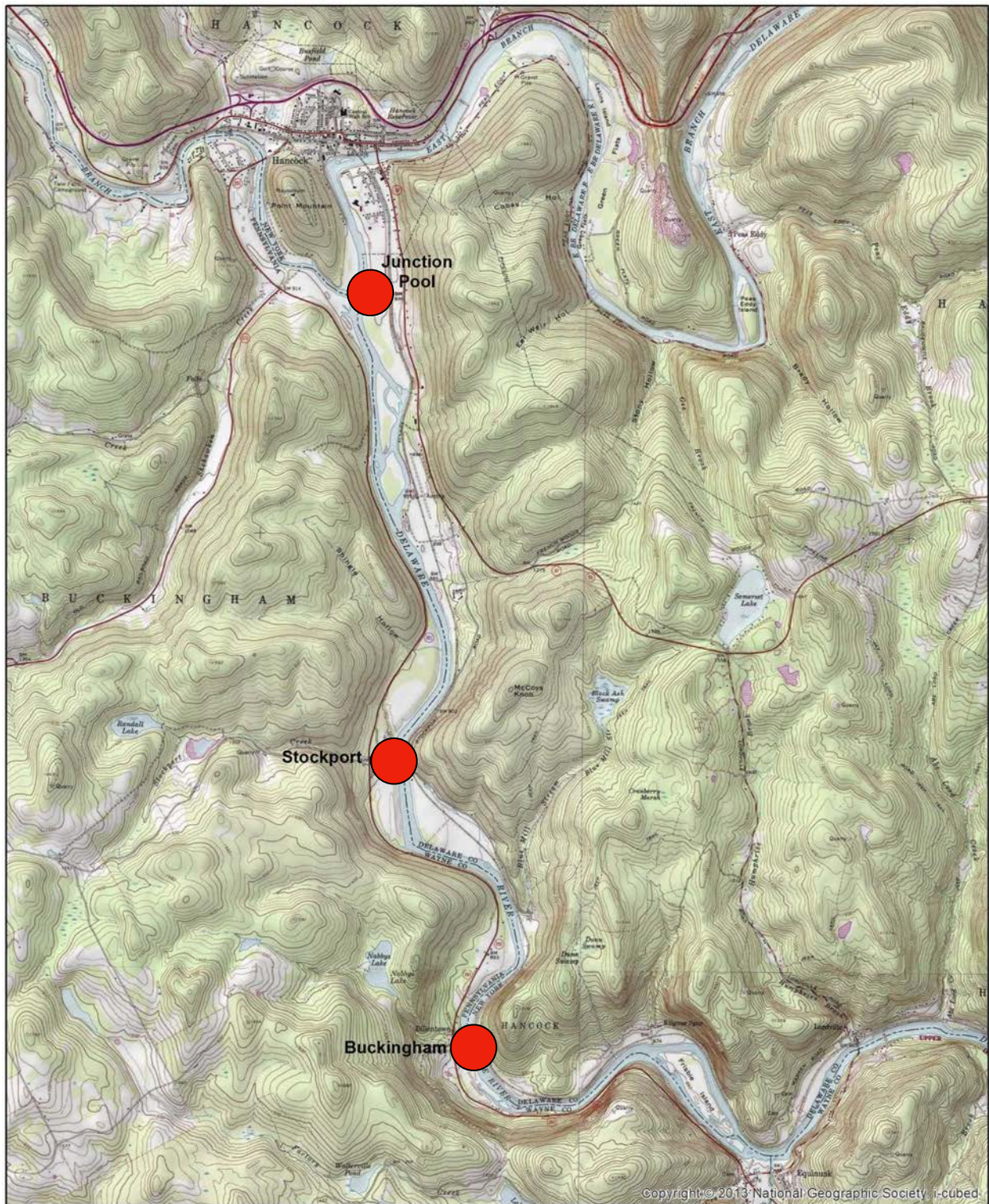
Recreational assets within the study area that have tangible or potential relationships to the river include the following (key map below):



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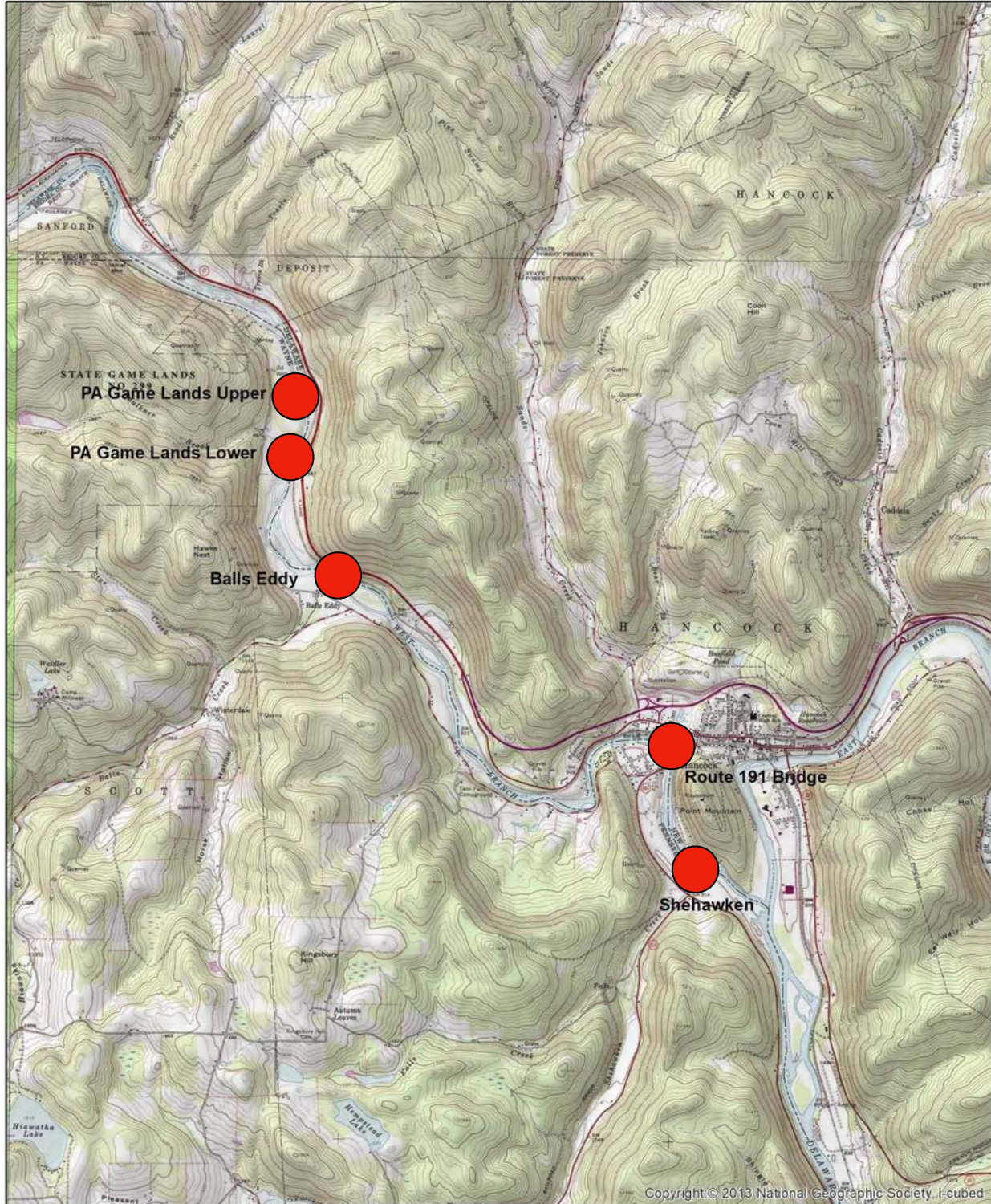


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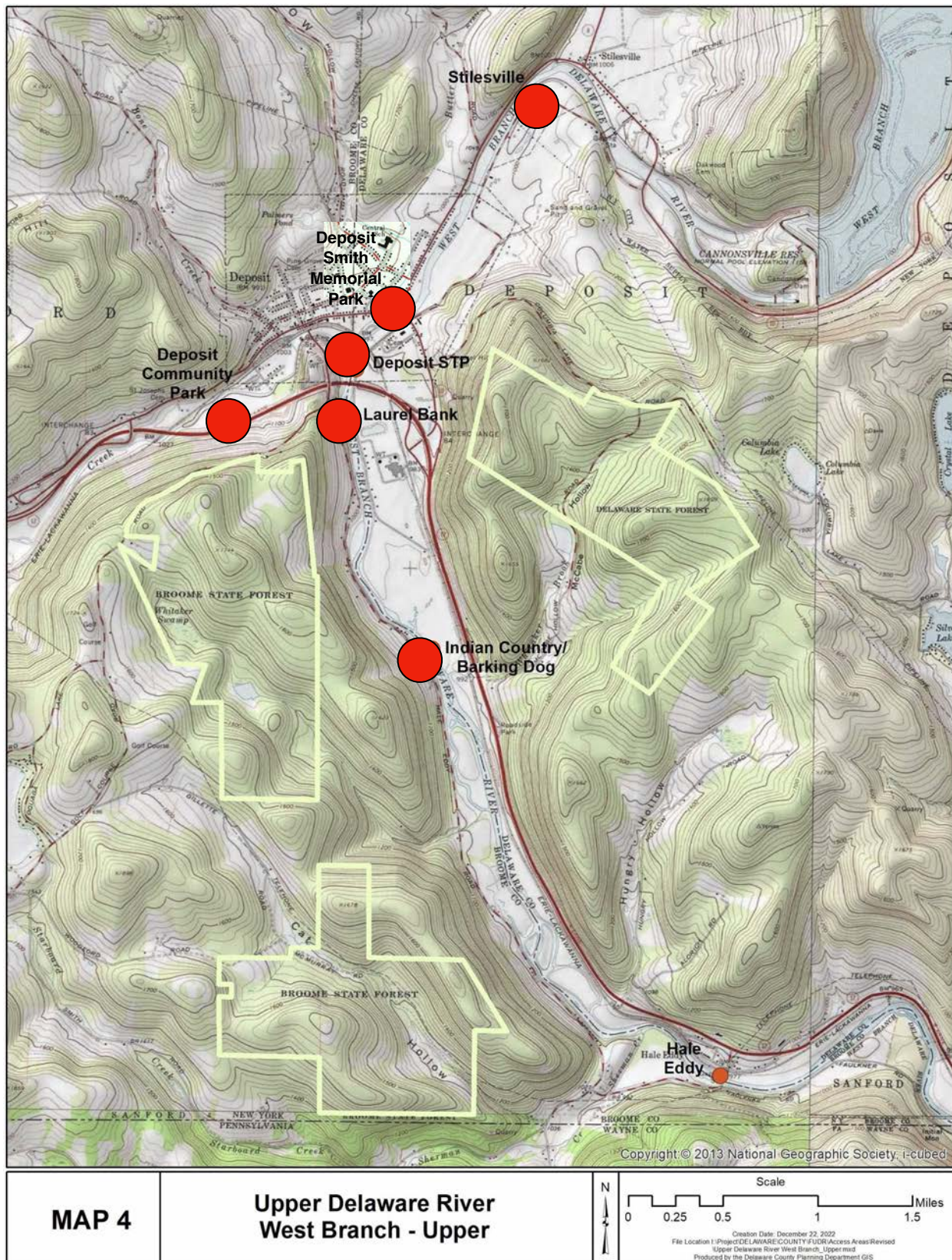
MAP 2	Upper Delaware River Main Stem - Upper		<p>Scale</p> <p>0 0.25 0.5 1 1.5 Miles</p> <p><small>Creation Date: December 22, 2022 File Location I:\Project\DELAWARE COUNTY\FURD\Access Areas Revised Upper Delaware River Main Stem_Upper.mxd Produced by the Delaware County Planning Department GIS</small></p>
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Upper Delaware River Tailwaters Recreation Plan

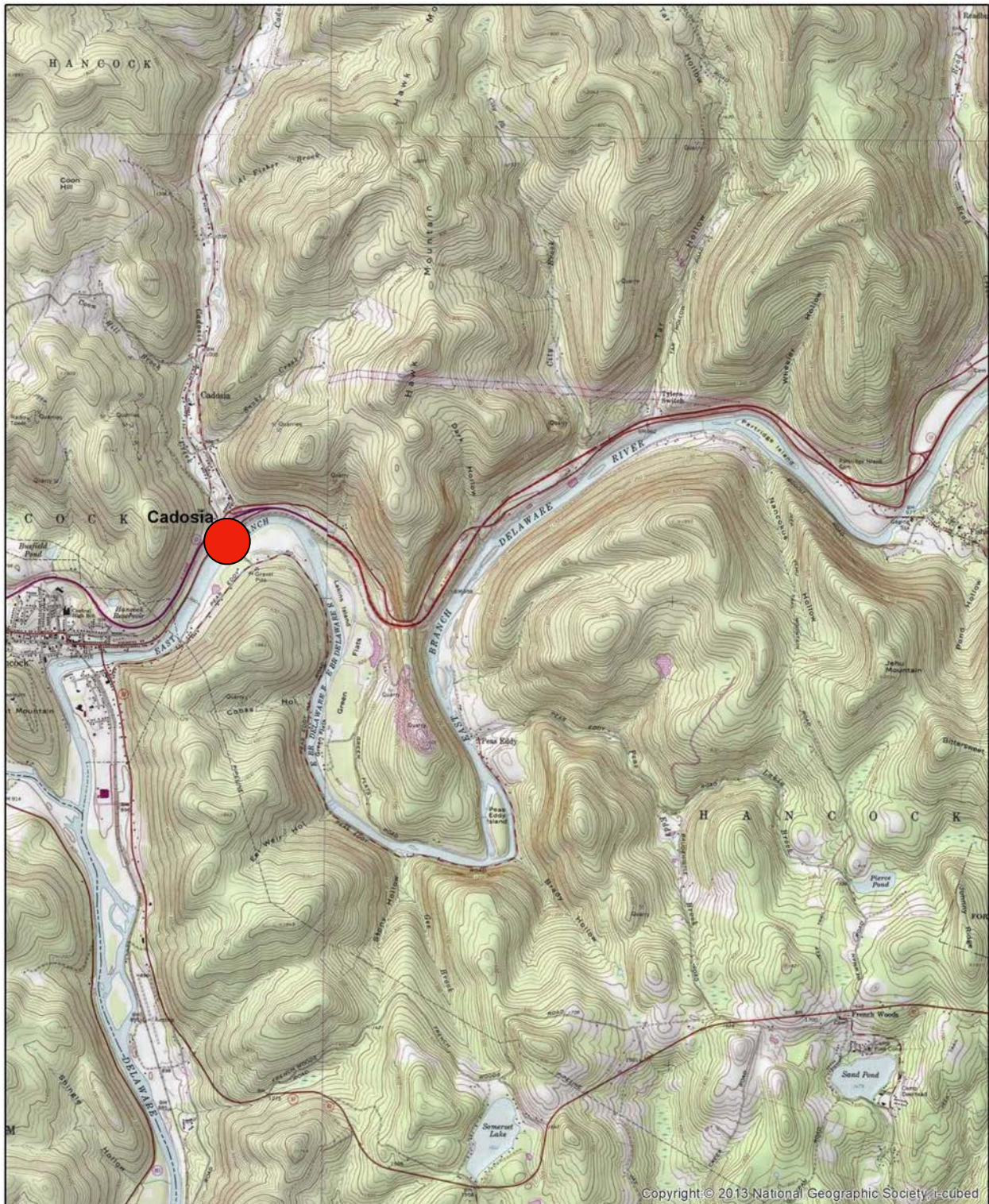


MAP 3	Upper Delaware River West Branch - Lower		<p>Scale</p> <p>0 0.25 0.5 1 1.5 Miles</p> <p><small>Creation Date: December 14, 2021 File Location: I:\Project\DELAWARE COUNTY\FUDR\Access Areas\Revised\ Upper Delaware River West Branch_Lower.mxd Produced by the Delaware County Planning Department GIS</small></p>
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Upper Delaware River Tailwaters Recreation Plan

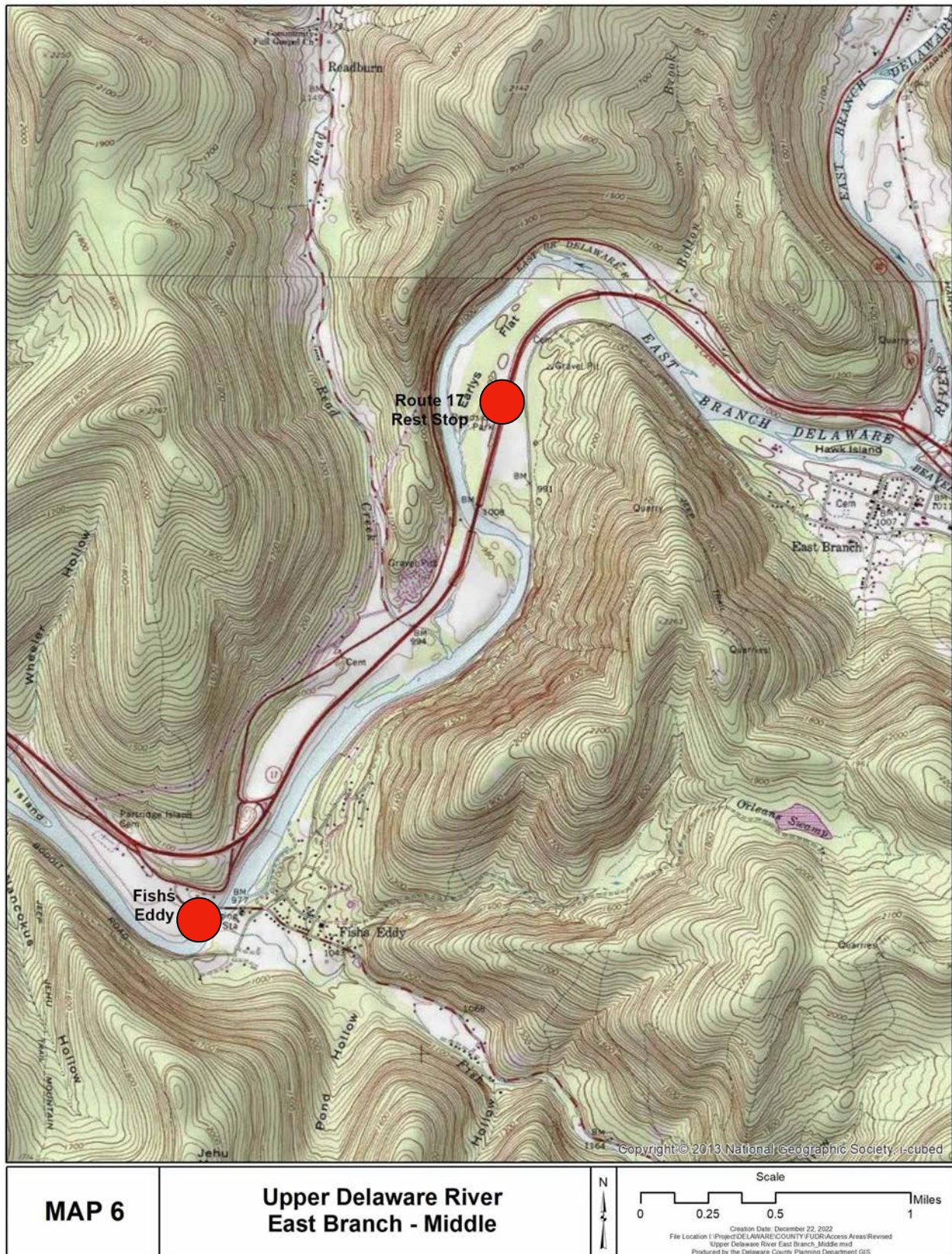


Upper Delaware River Tailwaters Recreation Plan

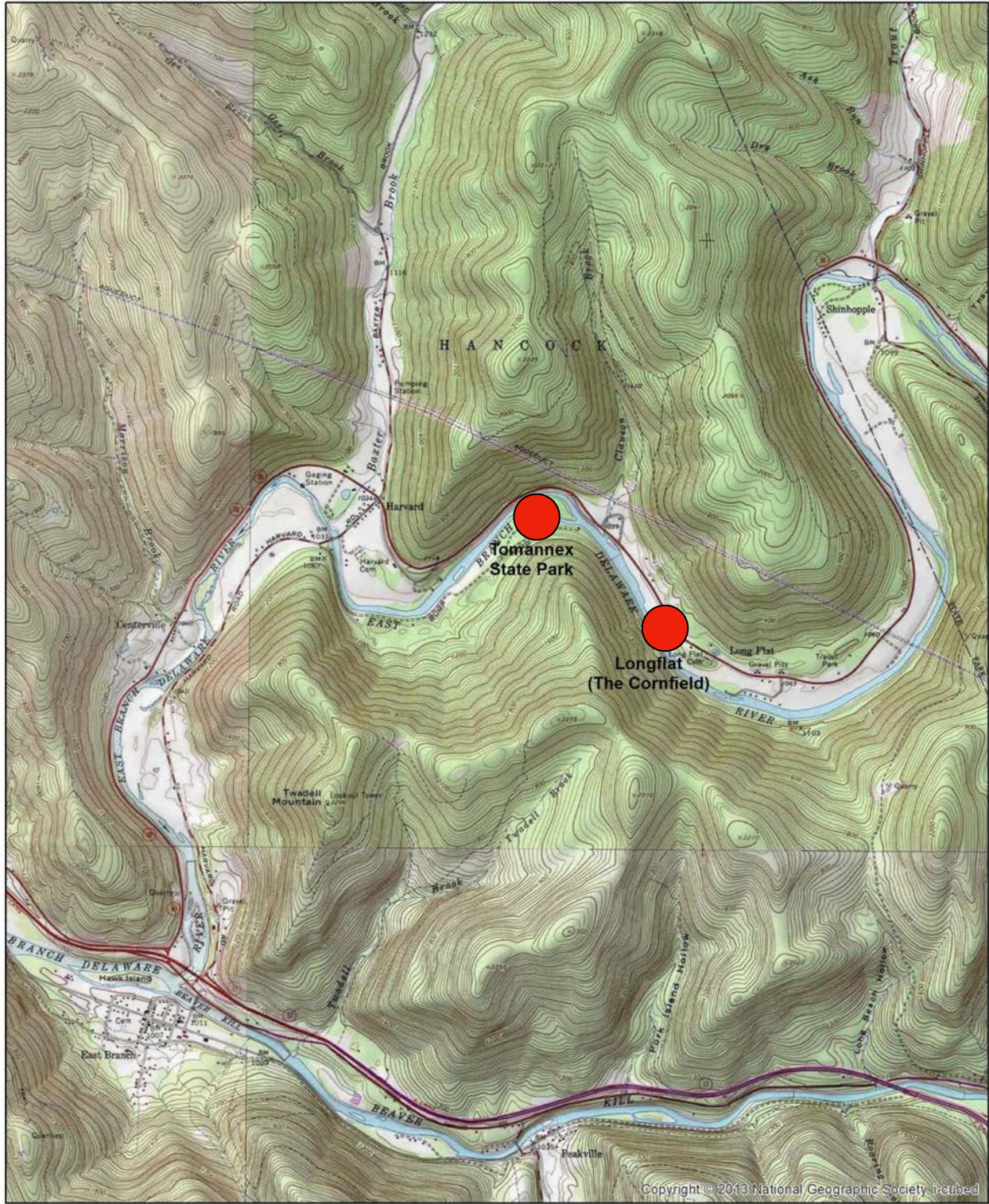


MAP 5	Upper Delaware River East Branch - Lower	<p>N</p> <p>Scale</p> <p>0 0.25 0.5 1 1.5 Miles</p> <p>Creation Date: December 22, 2022 File Location: I:\Project\DELAWARE\COUNTY\FUDR Access Area\Bottom Lower East Branch.mxd Produced by the Delaware County Planning Department GIS</p>
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Upper Delaware River Tailwaters Recreation Plan

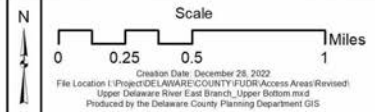


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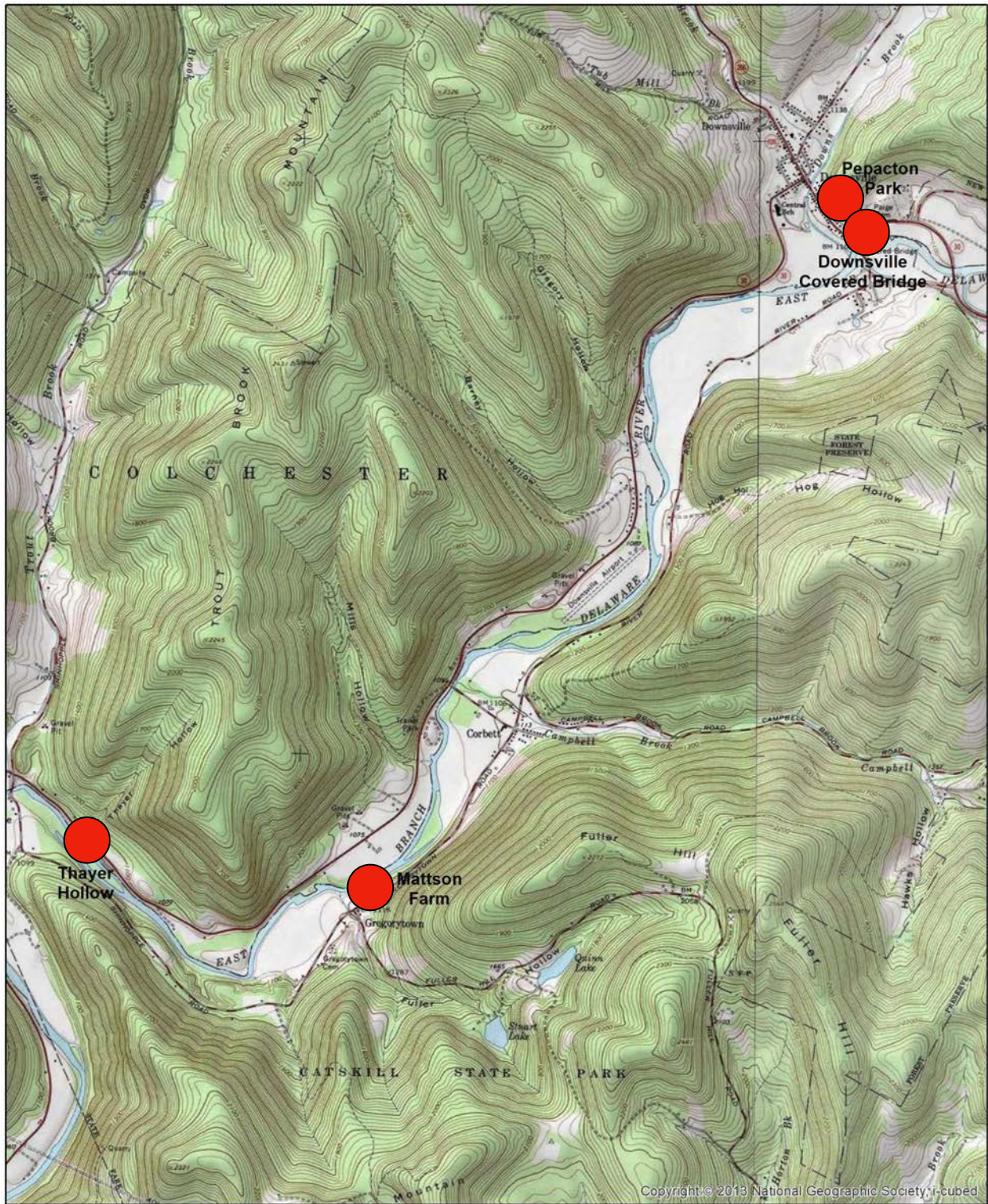


MAP 7

**Upper Delaware River
East Branch - Upper Bottom**

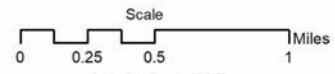


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MAP 8

**Upper Delaware River
East Branch - Upper Top**



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Upper Delaware River East Branch, Upper Top.mxd
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Upper Delaware River Tailwaters Recreation Plan

Table 2.2.1 Upper Delaware River Tailwaters Public River Accesses						
Access Name	Map	Type of Access	Amenities Available	Parking Available	ADA	Additional Notes
Upper Delaware River - East Branch						
Pepacton Park	Map 8	WS, BL/CT, BL/TA	RR	Abundant	No	Due to be completed in 2023.
Downsville Covered Bridge Park	Map 8	WS, BL/CT	RR, Picnic tables	Abundant	No	Well maintained.
Mattson Farm	Map 8	WS	None	Limited	No	Steep hike to river.
Thayer Hollow	Map 8	WS	None	Limited	No	
Long Flat (The Cornfield)	Map 7	WS	None	Abundant	No	Well maintained.
Tomannex State Forest	Map 7	WS	None	Abundant	No	
Route 17 Rest Stop	Map 6	WS	Full service restroom	Abundant	No	Well maintained. Located near Mile Marker 295 on State Route 17 West (between Exits 90 and 89).
Fish's Eddy	Map 6	WS, BL/CT	None	Abundant	No	Approximately 350 feet walk to river.
Cadosia	Map 5	WS, BL/CT	None	Abundant	Yes	Well maintained, constructed in 2022.
Upper Delaware River - West Branch						
Stilesville	Map 4	WS, BL/CT	None	Limited	No	Steep eroded stream bank..
Willis Smith Memorial Park	Map 4	WS, BL/CT, BL/TA	Picnic area, grills, bird blind	Abundant	Yes	Well maintained, constructed in 2022.
Deposit Community Park	Map 4	WS	Park, full service restroom, walking trail, picnic tables	Abundant	No	Well maintained.
Deposit Sewage Treatment Plant	Map 4	WS, BL/CT, BL/TA	Picnic area, camping	Limited	No	Access is being improved by Village of Deposit.
Laurel Bank	Map 4	WS	None	Limited	No	Parking on opposite side of road, no crosswalk, steep eroded bank to access area.
Indian Country/ Barking Dog	Map 4	WS, BL/CT, BL/TA	RR	Abundant	No	Well maintained river access.
Hale Eddy Bridge	Map 4	WS, BL/CT	None	Limited	No	Washed out ramp, steep dropoff to water.
Upper Gamelands	Map 3	WS	None	Limited	No	Narrow/steep forested path to river.
Lower Gamelands	Map 3	WS	None	Limited	No	Narrow forested path to river.
Balls Eddy	Map 3	WS, BL/CT, BL/TA	RR	Abundant	No	Well maintained river access.
Hancock Bridge (Route 191)	Map 3	WS	RR	Limited	No	Steep trail to river.
Shehawken	Map 3	WS, BL/CT, BL/TA	RR, flyshop nearby	Abundant	No	Well maintained.
Upper Delaware River - Main Stem						
Bard Parker (Junction Pool)	Map 2	WS, BL/CT	RR, picnic tables	Abundant		Well maintained.
Stockport	Map 2	WS, BL/CT, BL/TA	None	Limited		Long narrow road, minimal space to turnaround, ramp is in poor shape. Parking is approximately 1/4 mile from river.
Buckingham	Map 2	WS, BL/CT, BL/TA	RR	Abundant		Well maintained.
Lordville	Map 1	WS, BL/CT	RR	Limited		Narrow path to river, rocky/slippery access point.
Long Eddy	Map 1	WS, BL/CT, BL/TA	RR	Limited		New DEC parking area, public road dead ends at river, lengthy trailer backup.

BL/TA = Boat Launch/Trailer Accessible

BL/CT = Boat Launch/Car Top

WS = Wading Site

ADA = ADA Accessible

RR = Rest Rooms Available (Portable Toilet)

Upper Delaware River Tailwaters Recreation Plan

An important premise of this plan is respecting private property rights which represents the larger percentage of riverside land in the UDR region. This plan will address only publicly accessible accesses.

There are several different kinds of public access to the Upper Delaware River: cartop boats such as kayaks and canoes, trailered boat launches, areas for wade fishing areas, and general use access (picnics, birdwatching, etc).

The New York State Department of Environmental Conservation (NYSDEC) administers a “Public Fishing Rights” (PFR) program to increase fishing access for the public on New York waterways. Private landowners sign contracts with NYSDEC where narrow portions of their streambanks are open to the public strictly for the use of fishing only.

The Upper Delaware River fishery in New York has numerous PFR areas. It is important to note the original intention of the NYSDEC was to work with each property owner to ensure public access, such as parking availability and a trail to the PFR, for each PFR they purchased. However, this was not achieved for every PFR. There is need for more connective access in these streamside PFR areas. Maps of Upper Delaware River PFR’s can be found at www.dec.ny.gov/outdoor/9924.html#Find.

These are the areas that need to be addressed:

West Branch Delaware River, New York & Pennsylvania

This section of the Upper Delaware River is very popular with boating anglers; however there is only one NYSDEC public access that accommodates trailered boats on this whole section.

East Branch Delaware River, New York

Typically, river users think about the East Branch in two sections. The upper East Branch is a smaller wild trout stream than the lower section of the river. It offers excellent wading with cold, clean water and prolific insect populations. However, the vast majority of the time the flows are too low to float a drift boat.

In contrast, the lower East Branch (after the confluence with the Beaverkill) generally contains enough water to float a drift boat. This section of the Upper Delaware River is very popular with boating anglers; however there are no NYSDEC public accesses that accommodate trailered boats on this whole section. Trout fishing on the lower East Branch is often constrained by warming air and water temperatures in the late spring and good fishing typically does not return until the cooler autumn months.

Main Stem Delaware River, Pennsylvania and New York

This section of the Upper Delaware River is very popular with boating anglers; however there are no NYSDEC public accesses that accommodate trailered boats on this entire section.

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- The Pennsylvania Fish and Boat Commission possesses a 1.56 acre parcel slightly north of Equinunk opposite Frisbie Island. It has slightly less than 400 feet of river frontage but is only 80-100 feet deep with a steep grade to the river. Adjoining property owned by a forest and quarry owner could potentially provide access via a sloping parallel drive.
- There are multiple parcels in Equinunk with significant river frontage and vacant land area in the rear with dwellings on the public road that potentially could be leased or otherwise acquired for development of an access.
- There are also similar parcels in the vicinity of the Lordville Bridge on the Pennsylvania side and along Riverview Road and River Road (Manchester Township T651).

There is probably a need for additional river access on this whole river system.

Generally, the Pennsylvania side of the river is preferable because of the railroad obstacle on the New York side.

Upper Delaware River Tailwaters Recreation Plan

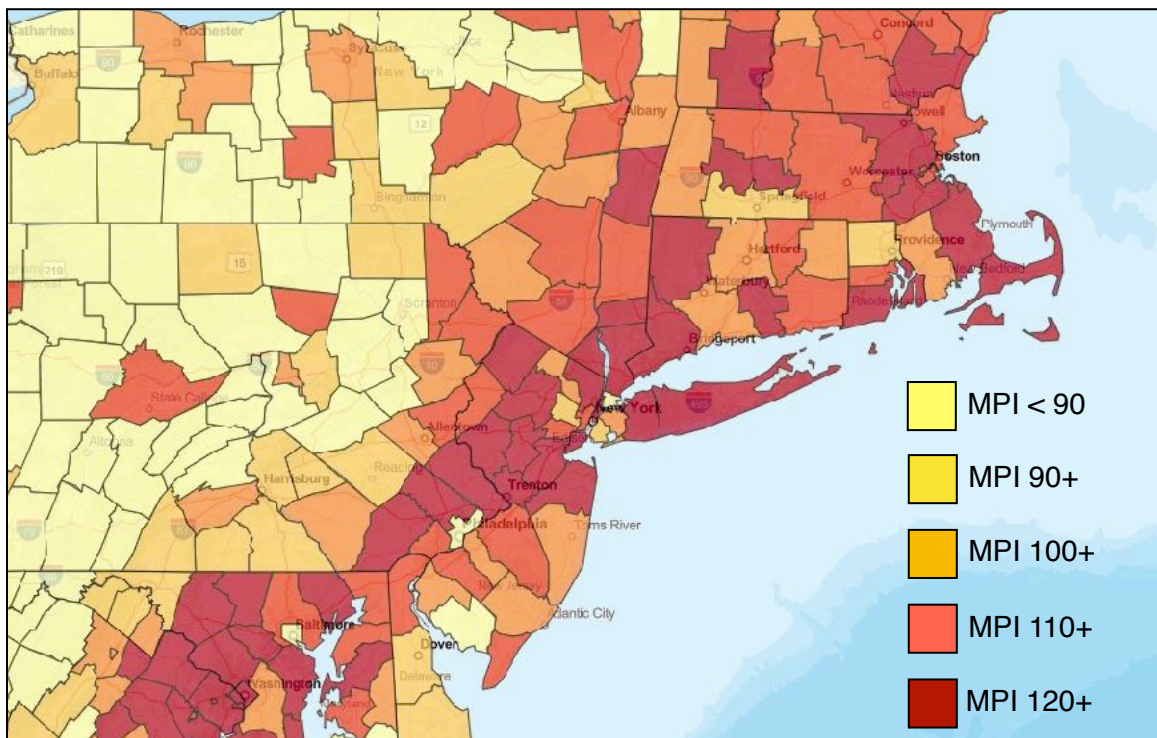
3.0 Recreational Goals

The data from Section 2.1 indicates there are several good opportunities to further develop the study area’s recreational assets, while simultaneously protecting the water resources that give focus to the region and make so much existing tourism possible.

The following are key areas of opportunity, each followed by relevant goals:

- **Hiking:** Development of additional hiking trails through the area offers excellent potential to attract additional tourism and economic development to the area. Improving hiking infrastructure and access will complement existing recreational opportunities, and will potentially attract new visitors to the area.

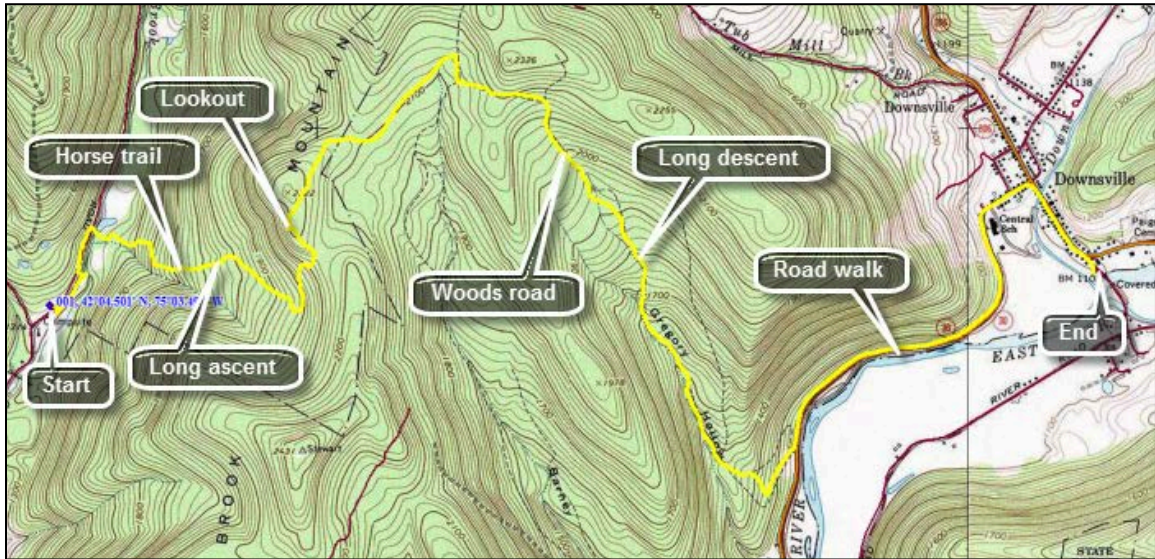
The interest in hiking from relatively nearby urban and exurban areas is high as the following map of counties by the propensity of residents to participate in hiking adventures illustrates:



MPI (Market Potential Index) measures the relative likelihood of households in an area to exhibit certain consumer behavior compared to the U.S. The U.S. average is 100.

The study area possesses numerous opportunities to develop and promote hiking trails in addition to several trails that already exist. These include the existing Bouchoux Trail to Jensen’s Ledges south of Lordville and the Finger Lakes Trail which runs through the Towns of Deposit, Hancock, and Colchester (illustration follows), and proposed trails on the former O & W Railroad right-of-way in both states.

Upper Delaware River Tailwaters Recreation Plan



Map of Finger Lakes Trail section. See catskillhiker.net for detailed Finger Lakes Trail description. This trail section starts at DEC parking area in Bear Springs Mountain Wildlife Area at intersection of East and West Trout Brook Roads and ends in Downsville

Linkage and promotion of hiking trails, along with the development of additional trail infrastructure and/or signage could generate significant new tourism while providing more diverse recreation alternatives for visitors to the region.

These same trails also have multi-use potential in some instances. For example, former rail right-of-ways are generally suitable for mountain biking, horseback riding, snowmobiling, snowshoeing, cross-country skiing and other recreational pursuits.

Bird watching is still another use of certain trails. It enjoys significantly above-average interest within the study area and the region within two hours, with nearly 147,500 adults engaged in this activity.

According to the National Park Service, the Upper Delaware River hosts one of the largest populations of wintering Bald Eagles in the United States and the Pennsylvania Audubon Society designated this as an "Important Bird Area."

Importantly, there are numerous trail management entities who can assist in planning, maintaining and marketing such trails. These include [Northeast Pa Sno-Trails](#), [Pennsylvania Environmental Council](#), the [Rail-Trail Council of NEPA](#), the [Appalachian Mountain Club](#) and the [New York-New Jersey Trail Conference](#).

This is a key factor in why trails are almost certainly the foremost and largely untapped recreational and tourism opportunity in the Upper Delaware Tailwaters region.

Goal: Identify potential trail routes and prioritize development and promotion of these based upon capacity for implementation.

Upper Delaware River Tailwaters Recreation Plan



*Panoramic view from the lookout on the Bouchoux Trail.
Source: National Park Service*

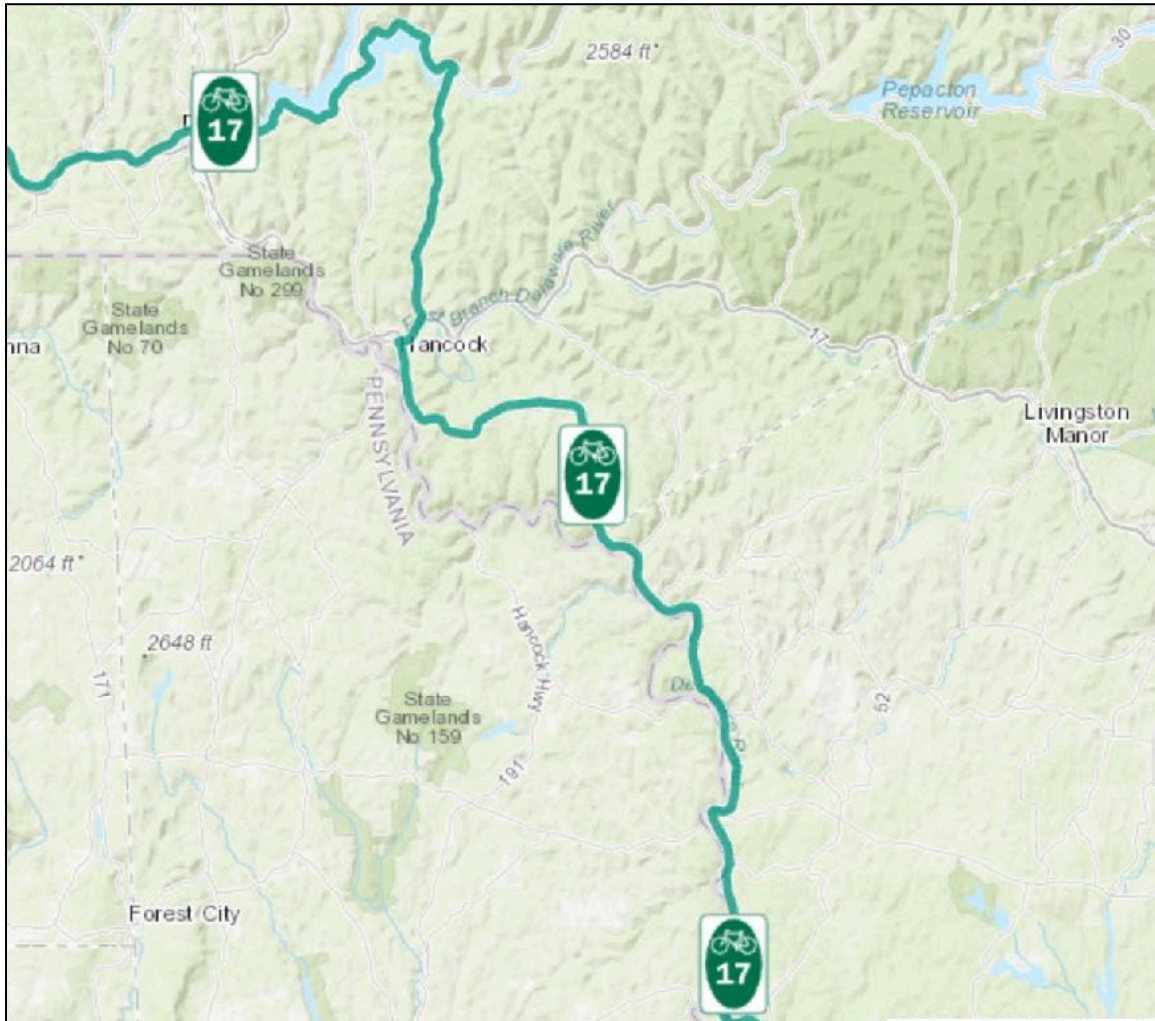
- **Biking:** There are two distinct biking opportunities; mountain biking and road biking. The former is largely addressed in the category of hiking. Road biking offers some of the same advantages as hiking in that it presents alternative or complementary activities to fishing and canoeing/kayaking and has the potential to draw new visitors.

There are existing designated bikeways through the study area, including New York Bicycle Route 17, described by the New York State Department of Transportation, as “a signed, on-road bicycle route that extends 442 miles from State Bicycle Route 9 in the Village of Wappingers Falls to State Bicycle Route 517 in the Village of Westfield on the shores of Lake Erie.”

Locally, the bike route follows Route 17 from the west to Deposit and then traverses Route 10 along the Cannonsville Reservoir to Route 268 which connects back to Route 17 at Cadosia and to Hancock where it goes south on Route 97.



Upper Delaware River Tailwaters Recreation Plan



The nearest bike route on the Pennsylvania side of the study is located to the west and follows Route 171. It is Bike Route L and Route 370 between Hancock and Orson connects with it. Significantly, Route 370 generally parallels the former right-of-way of the New York, Ontario and Western Railroad and eventually also connects with Bicycle Route L.

Buckingham and Preston Townships own the right-of-way today, which includes two former railroad stations and is used for vehicular traffic, snowmobiling, cross-country skiing, snow-shoeing, hiking and biking in various parts. It is mixed-use rail-trail and is depicted as such on the Pennsylvania Department of Transportation bike route map.

The railroad originally crossed the West Branch between Winterdale Road on the Pennsylvania side and Old State Road on the New York State side. Winterdale Road connects to Route 191 and the highway bridge a very short distance away, providing a very safe and easy connection from the O&W Road/Rail-Trail to Hancock and New York State Bicycle Route 17.

Upper Delaware River Tailwaters Recreation Plan

There is, therefore, the framework from which to extend road (as well as mountain) biking opportunities to other parts of the study area. This is important because Pennsylvania's roads tend not to have adequate shoulders for biking (e.g., Route 191), but the O&W rail-trail provides a safe alternative for this recreational opportunity, as do miles of dirt and lightly traveled paved roads on the Pennsylvania side that parallel the West Branch.



Goal: Identify potential bike routes (both mountain and road biking) that can be created to complement existing routes, using the O&W on both sides of the rivers, other low volume roads along water and shoulders of wider highways; promoting these with common signage and marketing draw a river connection and educating the public about the water resource and its value.

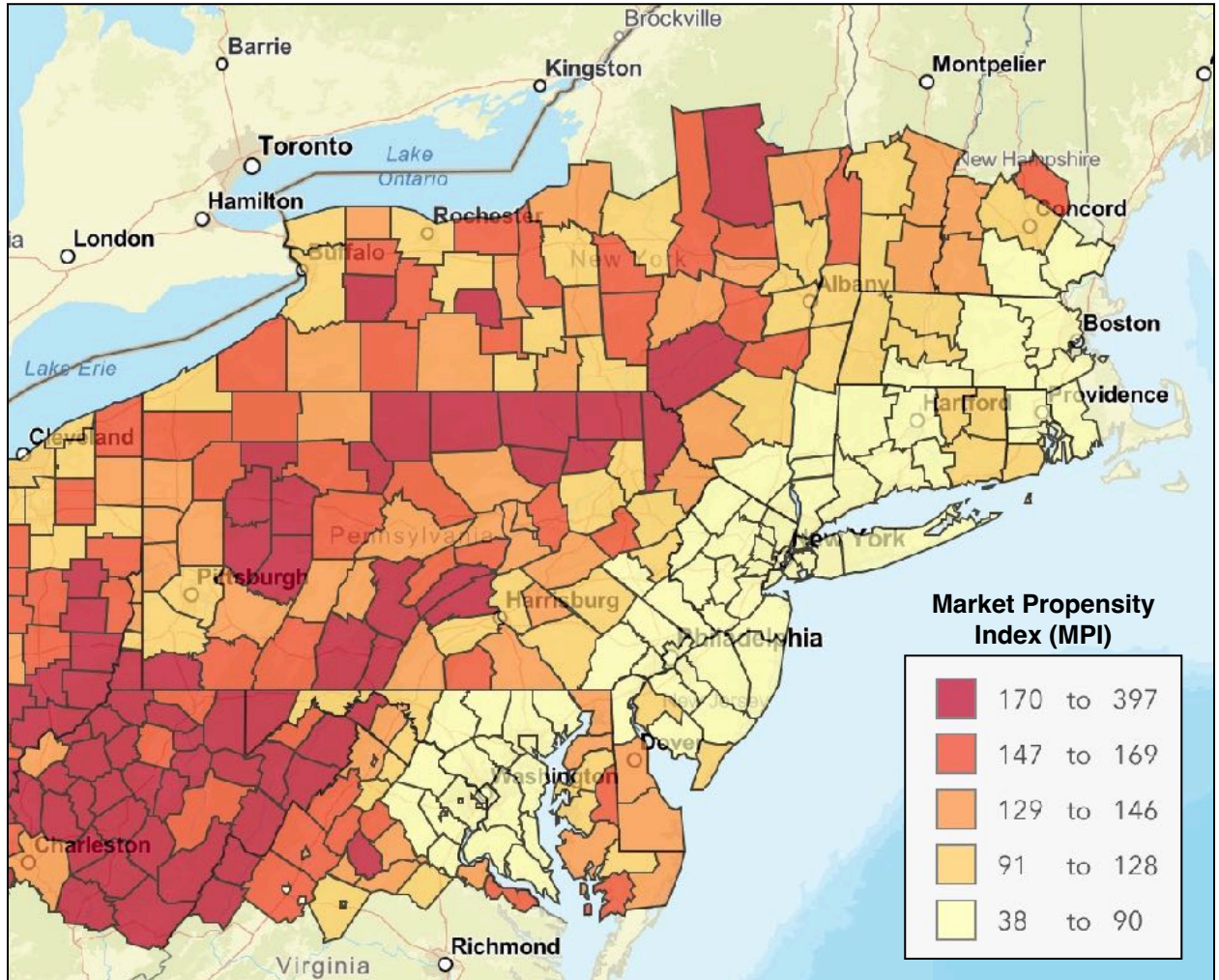


Buckingham Township Building on O&W

Upper Delaware River Tailwaters Recreation Plan

Hunting: The study area exhibits very high participation in hunting and the local culture is strongly tied to both fishing and hunting. The two activities are closely related as elements of an authentic outdoor experience offered locally.

There is an opportunity to strengthen hunting as a corollary recreational pursuit to build on a boating and fishing economy. The following map of market propensity of adults to participate in hunting with a rifle illustrates the study area is in the very top category and Delaware and Wayne are among the closest of such counties to the metro area:



MPI (Market Potential Index) measures the relative likelihood of households in an area to exhibit certain consumer behavior compared to the U.S. The U.S. average is 100.

The 2020 deer harvest in Delaware County, New York was 6,111 and, statewide, the total deer harvest was the largest since 2002, indicating growing popularity. Data from 2016/17 for Delaware County indicates 15% of hunting licenses went to non-residents (not from New York State) and many more came from out-of-county. Therefore, the tourism impact of this recreational activity is major and it complements more popular

Upper Delaware River Tailwaters Recreation Plan

summer activities by largely taking place in different seasons. Moreover, there are more than five times as many hunting licenses issued than fishing in New York.



Pennsylvania data is no longer gathered by county, but statewide data shows 2019 represented the largest deer harvest since 2004, indicating a similar pattern to New York. Also, some 5,840 deer were harvested in Wayne County in 2003 (last county data available), being very comparable to Delaware County and generally confirming the ESRI ratings from the map preceding.

The opportunity in this instance is one of marketing the study area more effectively for hunting to complement fishing and provide a year-round outdoor recreational economy. There is also a potential to grow appreciation of the water resource as part of a marketing campaign. Public hunting areas in both states, in fact, border the Upper Delaware River tailwaters.

Goal: Better develop the natural connections between hunting and fishing in regional marketing materials to help create a year-round outdoor economy and lay a foundation for greater general appreciation of the natural resources of the study area.

Upper Delaware River Tailwaters Recreation Plan

4.0 Recommendations

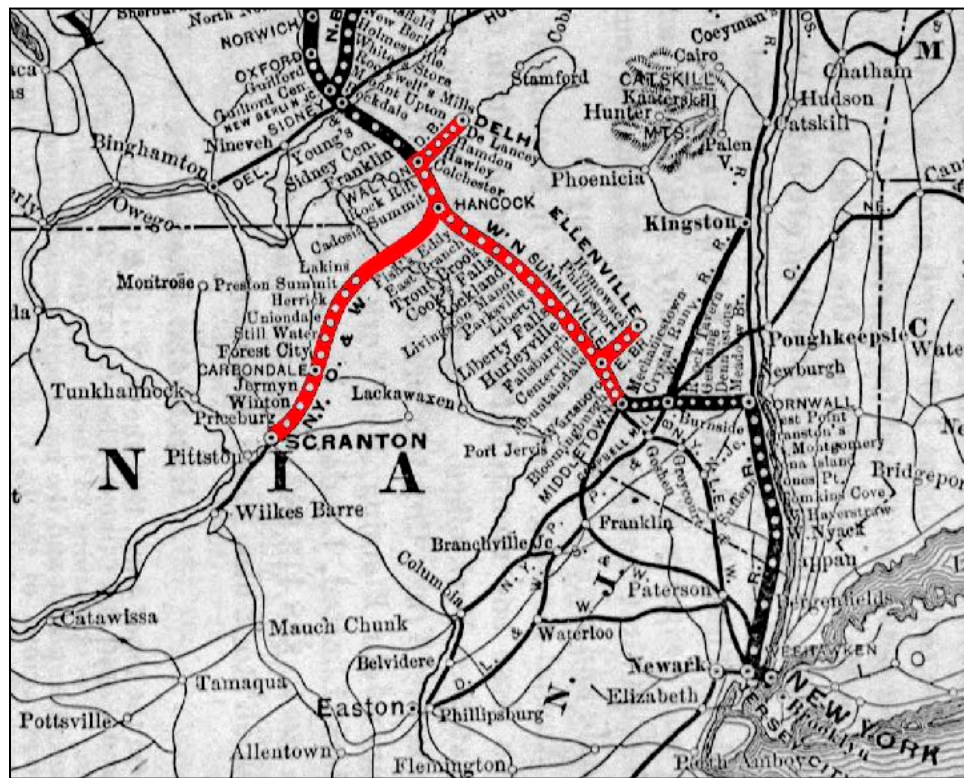
4.1 Recreation Recommendations

Given the foregoing data from research and set of goals based on public input, the following detailed recommendations are offered for meeting recreation needs:

4.1.1 O&W Trail Continuation

The Ontario & Western Railway (O&W), which went out of business in 1957, left many miles of abandoned railroad right-of-way through the study area. The O&W historically served to bring Anthracite coal from the Scranton area to the New York City area and also passengers from both directions to resort locations all along the route in Northern Wayne County and through the lower Catskills, including the Borscht Belt.

Following is an excerpt from a railroad route map highlighting (in red) the local areas involved. Large sections of the right-of-way are owned by Preston and Buckingham Townships in Wayne County as well as non-profit trail groups and private landowners.



The Township sections are legally highways (T743 in Buckingham) but mostly used for snowmobiling and trail activity. Trail groups under the umbrella of the Rail-Trail Council of NEPA, Inc. ([NEPA Rail Trails](#)) have promoted a network of trails starting in Simpson,

Upper Delaware River Tailwaters Recreation Plan

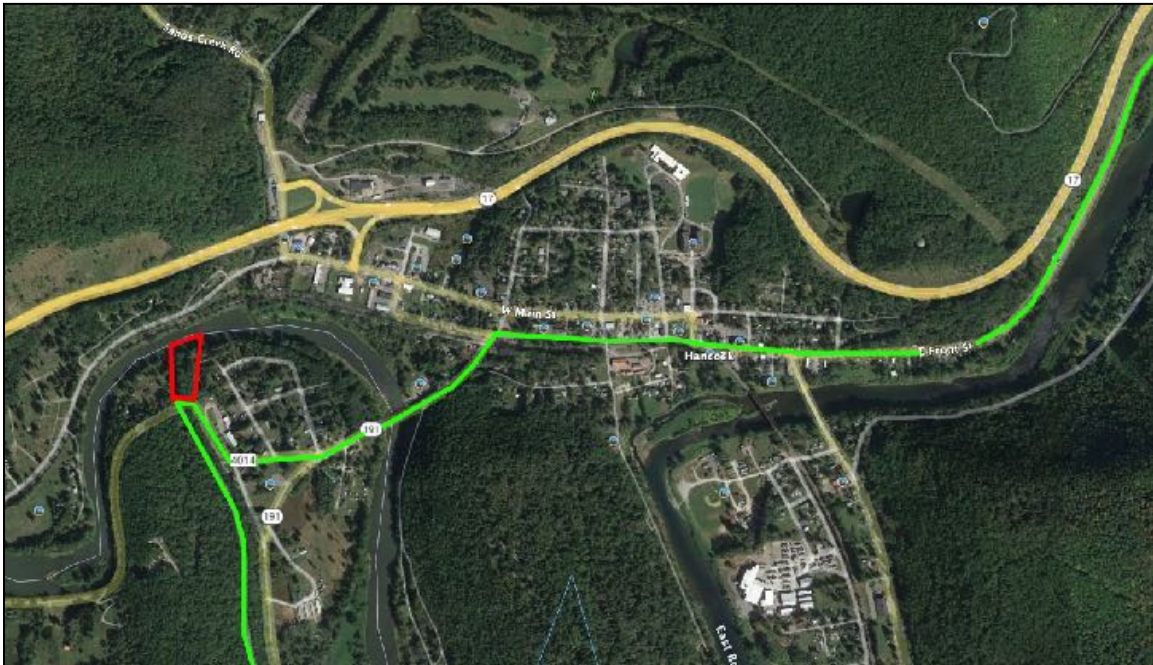
Pennsylvania and running generally along the Susquehanna/Wayne County border with the O&W system, more or less parallel with Pennsylvania Route 370 to Winterdale Road and to the West Branch of the Delaware on the Pennsylvania side of Hancock.

A railroad bridge that took the O&W across the West Branch is gone but the right-of-way to the water's edge remains. It is owned by Buckingham Township and is not a Township road on the east side of Winterdale Road. Therefore, it is a potential new river access. The property is highlighted in red on the map following on the next page.

The route of the O&W was largely obliterated by the construction of Route 17 between Hancock and Cadonia (including both ends of the Hawk Mountain Tunnel). The NYS Department of Transportation has agreed to work with the Town of Hancock to move the guardrail to construct a walking trail along the East Branch to the Cadonia Access.

From the Cadonia Access to the east, along Old Route 17, there are remnants of the O&W right-of-way that have been converted to official as well as unofficial trails through the Town of Hancock and Sullivan County. The hamlet of Roscoe in the Town of Rockland includes an O&W museum. The Town of Hancock and partners are considering a trail system between Cadonia and Fishs Eddy.

Linking of these disconnected segments would create a continuous O&W trail that runs from Simpson, Pennsylvania (outside Carbondale) through Hancock and on into and through Sullivan County. It would be a major source of tourism and a complementary alternative recreational attraction to boating and fishing. It should be a priority and a potential connection between the states is illustrated below:



Upper Delaware River Tailwaters Recreation Plan

4.1.2 Upper Delaware River Main Stem Access

There is limited public access on the Upper Delaware River main stem between the Pennsylvania Fish and Boat Commission’s Buckingham ramp in Equinunk, PA and the public road access in Long Eddy, NY on the Delaware/Sullivan County line. This is one of the most beautiful stretches of the entire Upper Delaware River system. Car top vessels can access the river at the bridge in Lordville, NY (3.5 miles below the Buckingham ramp) but this area is not accessible for vessels that rely on a trailer for transport.

There is a need to explore opportunities in this stretch for increased river access that can satisfy all manners of watercraft while also respecting the rights of private property owners and maintaining the high quality of this relatively remote stretch of river.



Buckingham Access — 9.6 miles — Long Eddy Access

4.1.3 Pennsylvania State Game Lands

There are substantial areas of state lands along the main stem and the tailwaters in both New York and Pennsylvania. State Forest lands managed by New York State DEC adjoin the Upper Delaware from Lordville south and include the Bouchoux Trail to Jensen’s Ledges, for instance. Similar opportunities exist on Pennsylvania State Game Lands No. 299 in Scott Township:

These State Game Lands border the West Branch and both sides of Penn-York Road (Scott Township T780) for much of this distance, with roughly a quarter mile of land between the road and the river.

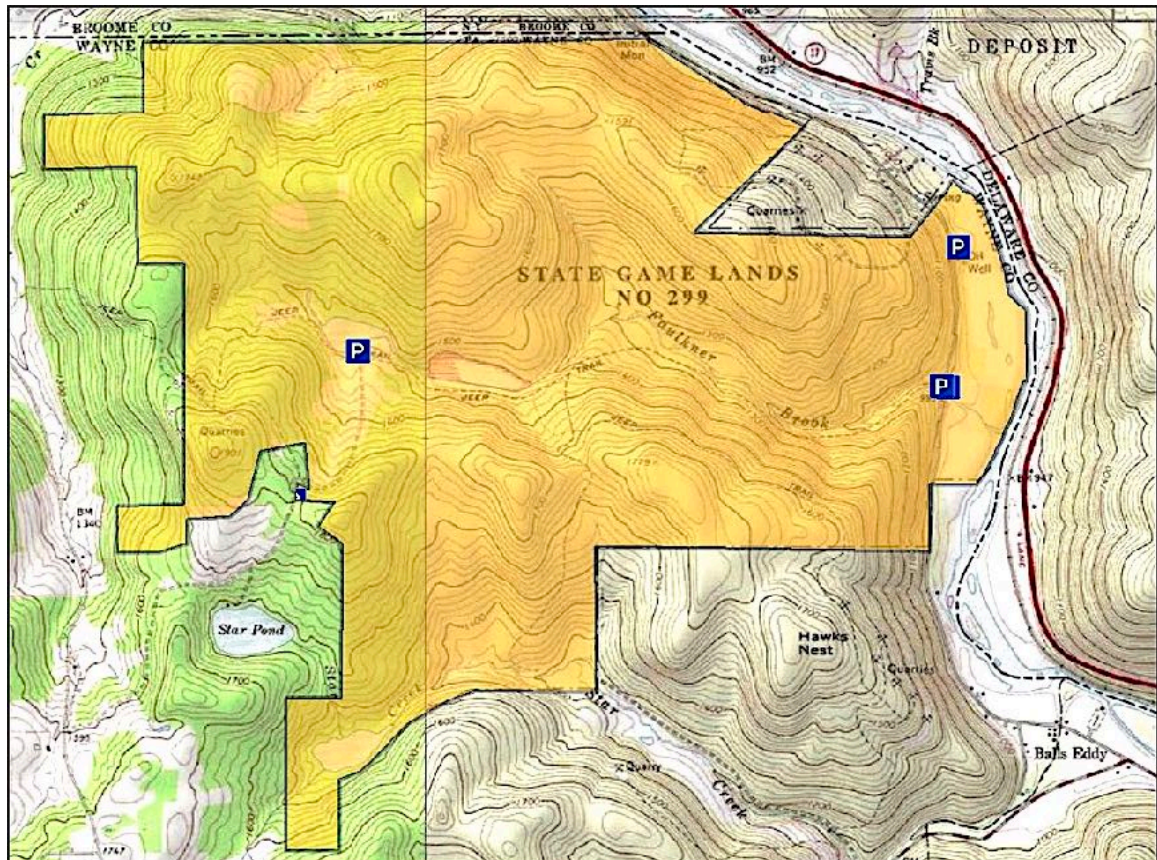
There are two slightly improved parking areas for hunters (Upper and Lower Game Lands). There are crude paths to the river that anglers are able to use but the distance and the roughness of the paths make it impossible to use these for drift boat access.

The Lower Game Lands parking area serves as a trailhead of sorts for a gated jeep trail that follows Faulkner Brook uphill to an unnamed pond and to Star Pond Road (Scott Township T669). It is an excellent trail, although neither motorized vehicles, bikes nor

Upper Delaware River Tailwaters Recreation Plan

horses are permitted to use it under [State Game Lands Regulations](#).

There is, therefore, an opportunity to promote the Game Lands as a recreational asset and there is a procedure for establishing connecting trails, including better access to the West Branch.



Pennsylvania State Game Lands No. 299 borders the West Branch of the Delaware River.

That procedure, [detailed by the Game Commission](#), provides as follows:

A "designated route" is a multi-use road or trail located upon state game lands, which is open to hiking, bicycling and horseback riding at certain times of the year, and under certain restrictions.

Public requests for permanent new trails, trail re-routes and designated routes on state game lands should be made using an Application for State Game Lands Special Use Permit (PDF)...

The permit applicant should have support from an established club or group that is willing to enter into a Trail Maintenance Agreement ... for any proposed new trail, trail re-route or new designated route established on state game lands.

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Agreements typically span a period of five years, with annual extensions after that, unless revoked. The maintenance agreement covers specific issues to that particular trail such as access for trail work, maintained trail width, approved trail signs, road crossings, trail volunteers, contact numbers, authorized equipment for trail maintenance, trail uses, trail closures, cutting of vegetation, etc..

This opens the possibility of working with an established trail group to create improved trails from both of the State Game Lands parking areas to the West Branch for anglers and, perhaps, even creating a trail of sufficient width to accommodate boat transfer to the river.

These possibilities should be actively pursued by working with an established trail organization capable of entering into and implementing a proper trail maintenance agreement.



Gated jeep trail entrance at Lower State Game Lands parking area

4.1.4 Upper West Branch - Stilesville Access Issues

The NYSDEC access at Stilesville is a fishing access site. Boat access of any kind is prohibited, although many boats use this site to launch. The site is narrow, the bank is somewhat steep, and parking is limited. Launching trailered boats is unsafe due to the lack of a proper ramp. There is not sufficient space between the road and river to construct a proper ramp. Consideration should be given to acquiring and developing a more adequate public access in the vicinity..

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4.1.5 Downsville Pepacton Park

Downsville, being located within the Catskill Park and slightly downstream from the New York City Water Supply System's Pepacton Reservoir, defines much of the character of the East Branch.



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The Town of Colchester owns a Downsville property previously used as a town highway shed that is in the process of being converted into a community park (“Downsville Pepacton Park”) with frontage on the East Branch. It will be within eyesight of Covered Bridge Park and a community exercise trail along Downs Creek on school district property.

Significant grant funding has been obtained to develop Downsville Pepacton Park and create a walking bridge connection to the Downs Creek Paddle Trail. The plans provide for a pavilion, boardwalk, floating dock and boat launch, among other features.

This project is important to improving the full recreational and tourism appeal of the tailwaters region and, especially with respect to the East Branch as a complementary alternative to the West Branch, which faces increasing pressure relative to recreational carrying capacity. Additional funding could be required and it is recommended the Town of Colchester and Delaware County work with Friends of the Upper Delaware to help secure such funding, if necessary.

A prospective rendering of the site plan for the area fronting on the East Branch illustrates the concept, which includes a boat launch to the river. This complements proposed downstream accesses.



Key to success of this effort to shift use to East Branch and develop its recreational appeal is improved consistency of flows released from Pepacton Reservoir, an issue needing continuing attention.

4.1.6 Hale Eddy Access Improvements

New York State DEC maintains a fishing access for anglers and those who wish to hand launch watercraft. There is a roughly 15-20% grade driveway off the bridge entrance

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downgrade to a roughly 60 x 40 feet parking area below the railroad tracks.

There is also a very rough pathway to the river. This is occasionally used for unauthorized drift boat access to the water, but there is no area of sufficient size to park a truck and trailer without interfering with others' ability to use the site. The following photos illustrate:



Upper Left – Entrance Drive; Lower Left – Parking Area; and Right – Path to River

The Hale Eddy access is an important one and could easily help relieve pressure on upstream fishing areas by making it far easier to drift boat fish between Hale Eddy and Balls Eddy. There is also a very real opportunity to improve this access, the chief limitation with respect to accommodating more drift boats being the relatively small parking area.

This problem can be addressed in multiple ways. Key to a solution is property ownership. The access itself is owned by Delaware County, which inherited the land as part of bridge construction several years ago. DEC is simply managing the site. Also, the railroad owns considerable land in this immediate vicinity, including at the level of the existing parking area, the track level and on the opposite side of tracks, areas that could be easily be improved for additional parking of lengthy vehicle combinations.

A parcel map follows:

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Site No. 1 above is the land owned by Delaware County, which includes the existing drive and parking area. Site No. 2 is level railroad property suitable for a new larger parking area which would leave the existing parking area for turnarounds and an improved ramp to the river. Site No. 3 is additional railroad property that could also be used for parking. Site No. 4 is simply representative of downstream areas that could serve as accesses. The rendering illustrates a conceptual plan for a possible solution along these lines.



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4.1.7 DEC Laurel Bank Avenue Parking Area

This DEC parking area is located on Laurel Bank Avenue and is surrounded by a quarrying site. It provides a minimum number of parking spaces, lacks aesthetic appeal and is at a very dangerous location for anglers who have to cross the road, climb over a guardrail and proceed down 40-50 feet steep bank to reach the West Branch.

This access is also located within eyesight of a safer access downstream and immediately across the river from poorly maintained Deposit Sewage Treatment Plant access.

4.1.8 East Branch Boat Access

While there are numerous NYSDEC fishing accesses along the East Branch, there are limited hand launch accesses and no public accesses for launching drift boats. Creating one or more such accesses on the East Branch would help relieve pressure on the West Branch.

4.1.9 Stockport Access

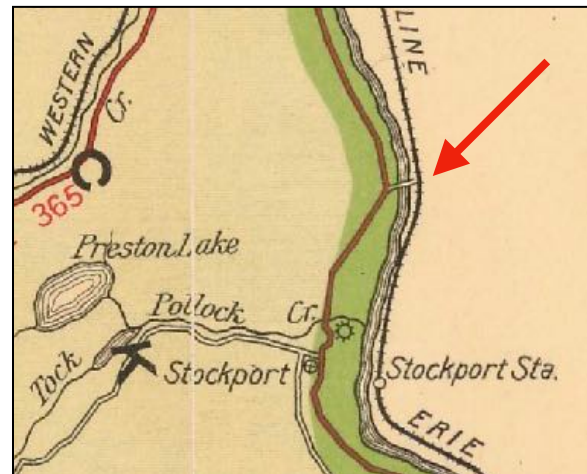
The Stockport access in Buckingham Township is, in reality, simply a public road (Buckingham Township T613, River Road) that connects Route 191 with the Main Stem.

This road has, in fact, been shown on PennDOT maps since 1916, when it was depicted as connecting to New York via a bridge or ford (see the map excerpt to the right).

The T613 right-of-way passes through private property and is, presumably, only a 33 feet (two rods) wide. There is no turn-around at the river end, although a truck and boat trailer can, when the river level is low enough, be turned around using the riparian area.

Otherwise, the boat trailer has to be backed down the road to the river, a distance of 950 feet. There is also no place to park vehicles except along the shoulder on Route 191.

The access is, therefore, not suited to more than light use. During the peak of fishing season, there can be parking issues that create a public safety issue. Investigating the potential for redesign of this site may be warranted, particularly through the lens of public safety.



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4.1.11 Hunting Opportunities

There is, with the increasing subdivision of land and purchase of parcels by out-of-area residents, a decline in the availability of land for hunting. There is a great need to expand hunting opportunities for the general public and the promotion of the same. State Forests in New York are open to hunting and touch both the East Branch and the Main Stem. State Game Lands No. 299, as noted above borders the West Branch in Pennsylvania.

Additional areas need to be identified and promoted for hunting and fishing together as related outdoor recreation enterprises that help define the tourism appeal of the area. This is part of creating alternative venues and creating a year-round recreation atmosphere, trails, bird-watching and the like also being a part of this.

4.1.12 Pedestrian Access Over Bridges

Trail development and river access often involve pedestrian use of highway bridges. While most state bridges do provide such pedestrian access, it is not always safe and local bridges often lack it altogether. The Route 8 bridge over the West Branch, for example, has sufficient area for pedestrians but is not marked or effectively separated from what is fairly heavy and speeding truck traffic. The Hale Eddy bridge lacks any pedestrian features.



The Route 191 bridge to Hancock (photo above) has an excellent pedestrian way, with a sidewalk connection into the Village but on the Pennsylvania side there is only a narrow dirt shoulder that is anything but safe. This will be important to correct if an O&W trail connection is to be made between the states as recommended earlier. Remedying this will require working with the Pennsylvania Department of Transportation to create a viable pedestrian way on that side of the West Branch.

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4.1.13 Trail Promotion

Trail promotion is an important element in rounding out the tailwaters recreation theme, which needs to be more than just angling to achieve the economic benefits desired and to create a sustainable tourism industry.

The following offers an excellent example of an internet web page, on the Pennsylvania Department of Conservation and Natural Resources site, that promotes the O&W Rail-Trail:

O&W Rail-Trail

Find On Map

Difficulty: Easy
Length: 32.9 Miles
County: Lackawanna, Susquehanna, Wayne

Trail Description

The O&W Rail-Trail begins in Simpson and runs parallel to the D&H for eight miles, with the Lackawanna River often running in between the two trails. The O&W passes through Simpson, Vandling, Browndale, Union Dale, Herrick Center, Orson and continues east to Hancock, NY and the Delaware River. The RTC (Rail-Trail Council) controls the first 8-miles of the O&W from Simpson to Stillwater Dam. The mid-section is privately owned and allows ATVs with trail passes. From Poyntelle north it is owned and regulated as low-maintenance roads by Preston and Buckingham Townships. Using both rail-trails, various loop trips are possible. Linkage to hiking trails and Panther's Bluff, a 1,500-acre conservation area is possible from the O&W trail. The O&W is original rail bed surface, graded, but rough in areas.

[Visit Trail Website](#)

Trail Photos (5)

+ Upload Photo

Trail Reviews (0)

Nearby Trails (11)

Nearby Parks / Forests

Delaware County is reportedly developing a “trail app” that will serve to promote trail opportunities. This is an excellent initiative.

Such trail promotion efforts need to be expanded upon with brochures, web pages, videos and other public relations tools that utilize trail development to improve linkage among and between patrons of angling, biking, hiking, bird watching, sightseeing and other forms of passive recreation pursuits.

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4.2 River Protection Recommendations

4.2.1 River Etiquette

Public input received from a diversity of river users indicated more attention is needed to practicing river etiquette as recreational use increases. There is growing pressure on the carrying capacity of the river during some portions of the season. While direct conflict are still relatively uncommon, enjoyment of angling, canoeing, kayaking and other activities can be improved by more educational efforts that promote common courtesy on the river.



Private landowners also deserve more consideration of their rights. Trespassing and littering do occur and can be very frustrating for owners who purchased their properties for privacy and their own recreation.

Most river users generally observe river etiquette, but more attention needs to be paid to private property rights, especially with respect to new visitors to the region who may not be familiar with river usage etiquette. Here are some suggestions for educational initiatives to promote courteous behaviors:

- Posting on websites of businesses, towns, community organizations, recreation groups and other entities.
- Posters and handouts to be displayed and distributed at sites of businesses, towns, community organizations, recreation groups and other entities.
- Displays on bulletin boards at accesses, boat rentals and guide services.
- Public service announcements in media and on signs that refer to where to obtain appropriate guidelines.

Friends of the Upper Delaware River and many of their partners developed a set of river etiquette tips:

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River Etiquette

As the Upper Delaware River becomes increasingly popular with anglers and recreational boaters, it's important to practice proper etiquette and courtesy on the water, and respect for private property, to maximize everybody's enjoyment of this magnificent river system.

Boating Etiquette

- Boaters should only launch at designated public ramps. "Put in" and "Take Out" at the ramp should be done as quickly as possible to avoid delays for other boaters.
- Wade anglers have the "right of way," so make every effort to navigate behind the angler. (opposite of anglers forward cast, if unsure ask angler).
- If navigating behind a wading angler/vessel is impossible, boat operators should move as far away as possible from the wader/vessel and pass through quickly and quietly. Be sure to give ample space between you and the wader/vessel.

Wading Etiquette

- Wading anglers should only enter the water at designated public fishing accesses.
- Wading anglers should not intentionally move to block the natural path of an approaching vessel.
- Wading anglers should walk behind other waders.
- Wading anglers should consider retreating (momentarily) to the shoreline when kayaks and canoes are approaching. These pleasure craft typically pass through quickly with minimal disturbance.
- Respect private property (stay in the water or below high water mark).

Water Temperatures and Flows

- The waters of the Upper Delaware River can warm during summer heat waves and threaten the survival of wild trout. While legal, we do not recommend fishing when water temps reach and exceed 68°F.
- There are times when river flows are too low for vessel use. Fishing from vessels is not recommended when river flows are less than:
 - > 500 cfs in West Branch (Stilesville - Hancock)
 - > 500 cfs in Upper East Br. (Downsville - Harvard)
 - > 700 cfs in Lower East Br. (Harvard - Hancock)
 - > 700 cfs in Main Stem (Hancock - Callicoon)

See fudr.org/river-conditions for flow data.

Safe Handling of Fish

- The practice of catch and release is strongly encouraged to support the long-term sustainability of the fishery.
- Make every effort to land the fish in a timely manner. A stressed trout can die several days after being caught.
- While handling fish, make every effort to keep the fish submerged in the water. Gentle handling (with wet hands) and a quick release maximizes fish survival rates.
- Always strive to "keep them wet" while taking photos.
- Read and obey or follow all DEC and PA Fish and Boat "Trout Plans" and Regulations.

Respect Private Property: Private property dominates both sides of the Upper Delaware River and its islands. Trespassing is illegal. Please respect landowners: always get the landowner's approval before accessing the river, walking or parking on private property. Public accesses are available throughout the course of the river. See nps.gov/upde/planyourvisit/maps.

For Emergencies: Call 911

To Report Incidents on the River:

- NYS Department of Environmental Conservation: 877-457-5680
- PA Fish and Boat Commission Northeast Office Law Enforcement: 570-477-5717
- National Park Service Dispatch: 570-426-2457

This brochure courtesy of: FUDR.org — WhitetailFlyShop.com — EastBranchOutfitters.com

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4.2.2 Joint Fisheries Investigation Plan

The New York State Department of Environmental Conservation (DEC) is engaged in a multi-year study in cooperation with the Pennsylvania Fish and Boat Commission (PAFBC). The project is described on the DEC website:

Problem Statement

The information on the biological and angler use characteristics of the wild trout fishery of the Delaware tailwaters available to New York State Department of Environmental Conservation (NYSDEC) and Pennsylvania Fish and Boat Commission (PAFBC) biologists is outdated. It predates significant changes in the fishery, including current flow management and fishing pressure. The existing information is inadequate to support a scientific evaluation of whether declines in the quality of the fishery have occurred and whether changes in management objectives and strategies are warranted in response to current patterns of angler use and trout population dynamics.

Need Statement

A new trout management plan addressing both the current trout populations supported by enhanced flows since 2010 and current angling pressure and pattern is needed. In the Fisheries Investigation Plan for the Delaware Tailwaters, NYSDEC and PAFBC identify the information most urgently needed to develop a new trout management plan and the strategies necessary to obtain that information over the next three years. While a robust information base is essential to all phases of the management process, it is particularly critical to the development of an effective management plan in which actions can be evaluated relative to explicitly stated goals and objectives. The development of this information base is the subject matter of this investigation plan.

Data from investigations to date indicate the following:

- Roughly 41 % of anglers are boat anglers while 59% are waders.
- Some 86% of anglers are non-local, based on origin by zip code.
- A total of 14% of angling trips were guided trips while 84% were not guided.
- Guides are split evenly between local and non-local guides.
- The fishery is focused almost entirely on trout.
- Fly fishing is the predominant technique.
- Catch and release is widely practiced and less than 3% of trout are harvested.
- The overall catch rate is one trout per four hours spent fishing
- Some 77% of anglers said they were "satisfied" or "very satisfied" with their fishing experience over the last three years only 3% of anglers were "dissatisfied" or "very dissatisfied."
- Harvest of trout is important to only 3% of anglers.

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This data demonstrates the huge tourism impact of fishing on the Upper Delaware Tailwaters region.

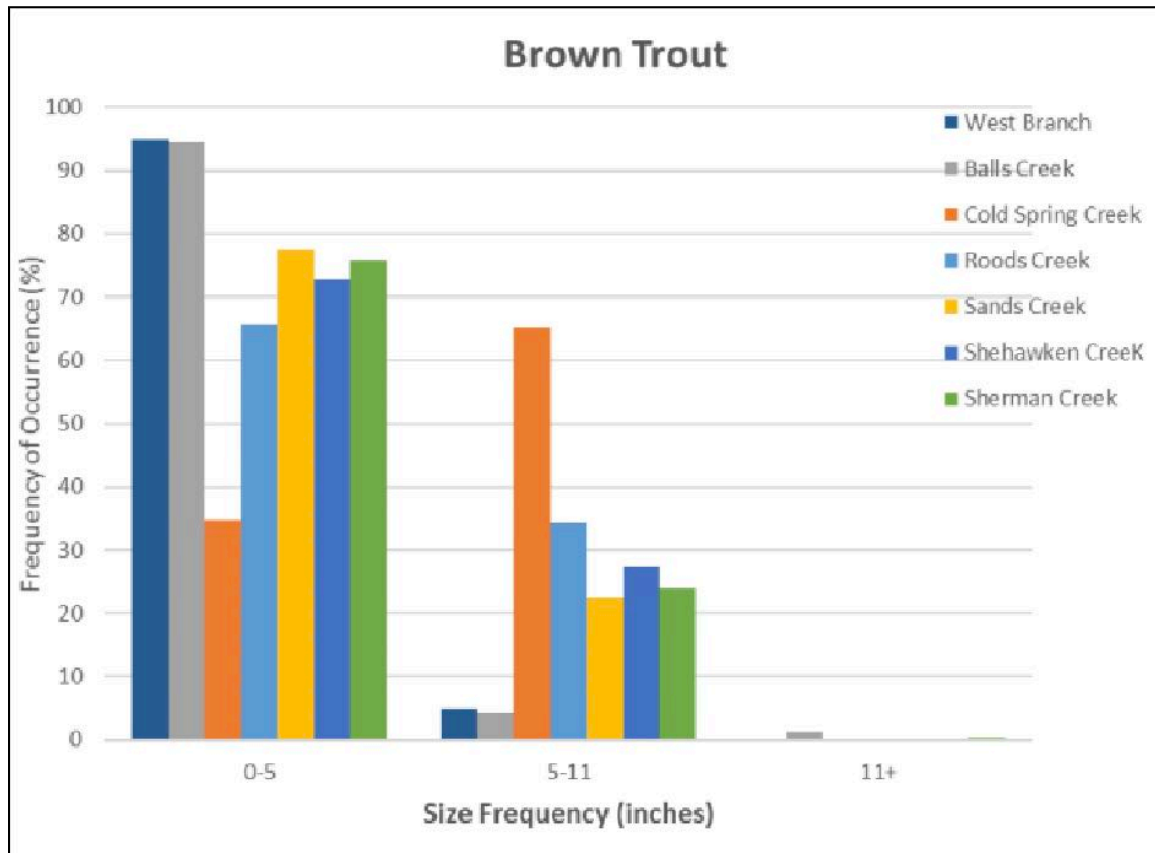
It further indicates that “catch and release” is inherent to the angling culture among both residents and visitors. While there are sections of river that are restricted by regulation to this, it appears the influence and recommendations of angler groups themselves is what is controlling, not the regulations per se.

The reason for this attitude is relatively simply to discern; catch and release practices protect the resource and the long-term future of angling quality.

The importance of the DEC/PFBC studies is obvious. The data being gathered is critical from both an economic and a biological/environmental viewpoint.

The economic value of the river as resource, in fact, arguably approaches a billion dollars (see "[Upper Delaware River Cold Water Fishing & Boating Economic Impact Study](#)" for the details.)

Therefore, it is important for agencies, anglers, guides, landowners, municipalities and others to cooperate and assist with this ongoing research..



Upper Delaware River Tailwaters Recreation Plan

4.2.3 Pennsylvania and New York Trout Management Plans

The Pennsylvania Fish and Boat Commission and the New York State Department of Environmental Conservation adopted new statewide Trout Management Plans in 2020 and 2022 respectively. A sizable portion of the Upper Delaware tailwaters (Monument Pool on the West Branch to Callicoon, NY) is a “border water” trout fishery straddling the two states.

While the two states communicated with one another during plan development, there remain differences in regulatory requirements and fisheries management objectives between the two state plans. These include fishing harvest limits, stream reach characterization and classification, stocking objectives, and long term resource protection philosophies.

Every attempt should be made by the two agencies to harmonize the regulatory and non-regulatory management approaches by both states on the Upper Delaware River tailwaters as quickly as possible to minimize confusion, streamline regulatory enforcement, and to increase collaboration between the two state fisheries management agencies.

4.2.4 Universal Signage

It was noted early in the process of developing this plan that signs are important for public safety, wayfinding, conservation education, services/amenities, and regional identity.

The Upper Delaware River has existing recreational amenities that are not well known because there are few signs or maps to direct people to them. The goals for developing universal signage for the Upper Delaware River tailwaters are:

- Strengthening the regional identity of the Upper Delaware River by using consistent signage.
- Creating maps that can be placed at recreation “hubs” in populated areas that direct users to points of interest.
- Making the signage available to everyone in the region.



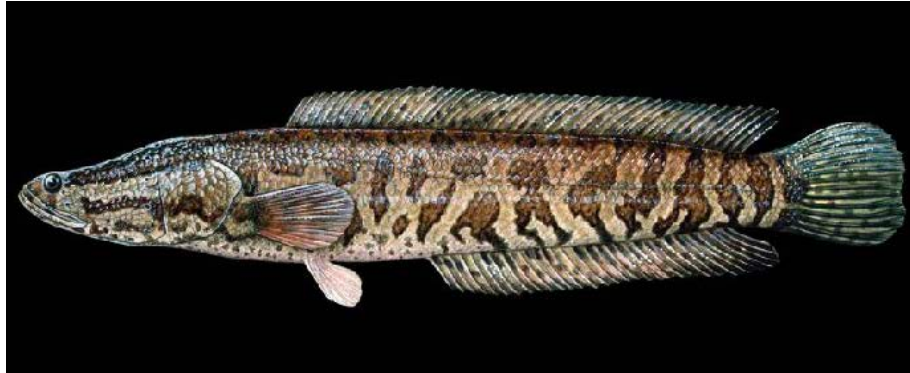
The signs designed as part of this recreational planning process should have a consistently recognizable theme compatible with other existing signage.

See sample signs offered in Appendix D.

Upper Delaware River Tailwaters Recreation Plan

4.2.5 Invasive Species

There are at least two invasive species that threaten the resource. One is the Northern Snakehead, a predatory fish native to Asia, that has been found in the Upper Delaware.



According to DEC, "Northern Snakeheads...can grow up to three feet long...Juveniles feed on a wide variety of microscopic organisms, insect larvae, and crustaceans on which native fish rely. As adults, they feed mostly on other fish species, but also eat crustaceans, reptiles, mammals and small birds. Snakeheads have the potential to reduce or even eliminate native fish populations and alter aquatic communities. Municipalities which rely on tourist dollars from recreational fishing may suffer losses should Northern Snakeheads continue to invade New York waters."

Educational efforts are essential to identifying and killing this fish, which is a huge threat.

A second major issue is Japanese Knotweed. Friends of the Upper Delaware River notes the following on its website:

Japanese Knotweed is present everywhere along the Upper Delaware River and its tributaries. Left unmanaged it continues to spread along the river and everywhere it can find suitable conditions crowding out native riparian vegetation leading to soil loss and bank destabilization.

We are undertaking research to document the extent of knotweed colonization and its impacts on soils and aquatic habitat. We are also establishing 3 demonstration sites where landowners can see different options for you to manage, control or even eradicate knotweed using a variety of low-cost techniques. You will also be able to see what kinds of native riparian vegetation can be seeded or planted to actively compete with knotweed once it is managed.

Some of this research took place at the Willis Smith Memorial Park where multiple plots were treated with different control techniques, including cutting, covering, herbicide spraying, herbicide injection and goat grazing. Research on the effectiveness of each will serve to help educate landowners and should continue.

Upper Delaware River Tailwaters Recreation Plan

FRIENDS OF THE UPPER DELAWARE RIVER

KNOTWEED MANAGEMENT PROJECT

IDENTIFICATION AND IMPACTS

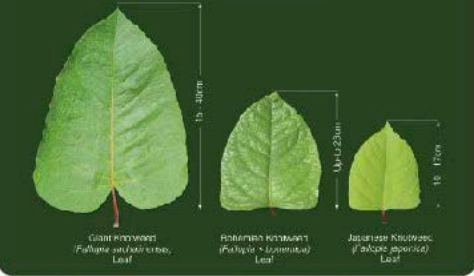
Knotweed is everywhere in the Upper Delaware River watershed. Knotweed emerges in the spring in May—if there is a late frost it will kill off or stunt the emerging plant. It quickly grows into full sized plants by June. Flowering occurs in the latter part of August into the beginning of September. As the plant sets seeds it will begin to senesce turning rusty red by October. There are two species and one hybrid of knotweed present in the upper Delaware River watershed. All 3 types are non-native, highly invasive and similarly managed. This plant spreads rapidly through seeds, rhizomes (roots), and rhizome fragments. It loves to grow in disturbed soils in floodplains, roadsides and construction sites. Where knotweed establishes mature stands it may lead to stream bank destabilization, erosion and soil loss because its root structure doesn't retain soils and sediments. It crowds out native riparian plants, like trees and shrubs that cannot grow fast enough to compete with knotweed, reducing plant diversity. The lack of diversity degrades the habitat for pollinators and other insects and animals which depend on diverse native plants for breeding and nourishment throughout the growing season.

KNOTWEED QUICK FACTS

- Tall, thick stands of knotweed limit river access and impedes views of the river
- Part of this project is to research how and whether knotweed establishment can lead to stream bank destabilization, erosion and soil loss
- Coordinate knotweed management with your neighbors, no matter what you do, it could continue to spread onto your property from adjoining lands
- Where you have successfully managed knotweed plant native species of grasses and trees to provide habitat for pollinators and other insects and animals requiring diverse native vegetation for breeding and nourishment

Here's how you can ID them and recognize the variations:

- **JAPANESE KNOTWEED 8-10 FEET HIGH**
During the summer the knotweed leaves are green and straight at the base and can be 20 cm across. In late summer/early autumn small clusters of white flowers will appear. The stems are mostly hollow and bamboo like.
- **GIANT KNOTWEED 13-16 FEET HIGH**
Leaves are larger than Japanese knotweed. Giant knotweed leaves have white hairs along the main leaf vein (midrib) on the underside of the leaf when present, and they typically require magnification to see. The base of the leaves are deeply lobed, forming a heart shape.
- **BOHEMIAN KNOTWEED 8-10 FEET HIGH**
Bohemian leaves are intermediate between the two in both size and lobing at the base of the leaf as it is a hybrid between the two.



GIANT KNOTWEED (*Fragaria vesicaria*) Leaf BOHEMIAN KNOTWEED (*Fragaria × Lyreoides*) Leaf JAPANESE KNOTWEED (*Albizia japonica*) Leaf

FUDR FRIENDS OF THE UPPER DELAWARE RIVER (FUDR) is the only professionally staffed organization in the UDR watershed working every day to protect and restore this magnificent cold water ecosystem. Their mission is to protect and restore the Upper Delaware River watershed for the benefit of local economies, communities, people, and the environment and FUDR understands that protecting the river must include engaging communities and people, revitalizing local economies, and building strong coalitions at the local, regional, and national level.

PHOTOS (TOP): KNOTWEED (MIDDLE) LEAVES BY EMILY O'NEILL'S LOCAL ACTION RIGHT; KNOTWEED LEAF IDENTIFICATION COURTESY OF JAMES LEE AND WESLEY MILLERS.COM MARKETING BY: SAYSIDE



Upper Delaware River Tailwaters Recreation Plan

4.2.6 Rest Rooms

There is a sufficient number of rest room facilities along certain sections of the tailwaters for use by anglers, canoeists, kayakers or others. Portable toilets are typically available at Lordville, Buckingham, Hancock, Shehawken and Balls Eddy and, presumably, several other sites as well, but there are places within the system where there are not adequate restroom facilities.

The Pennsylvania Fish and Boat Commission has a “Boating Facility Grant Program” that can be utilized as follows:

*Grants cover up to 50% of costs for land acquisition, project design and engineering, development, expansion, and construction of public recreational boat access facilities. Eligible activities include the rehabilitation, expansion or construction of new boat ramps, bulkheads, courtesy floats, access roads, parking areas, **restrooms**, signs and localized landscaping. All construction activities must benefit and directly support recreational boating. Eligible projects must occur on lands owned by the project sponsor, or where the sponsor has a long-term lease or agreement on the site. Grant funds are to be used for major site improvements and are not available for routine maintenance or operational activities.*

Likewise, the recently completed Willis Smith Memorial Park improvements (including a bird-watching blind, picnic/pavilion area and boat launch) and others being upgraded should receive toilets as well. Access maps and guides should also identify where toilets are located, just as [this Upper Delaware Council guide does](#):

Public River Accesses		
Access	River Mile	Facilities
Balls Eddy (PA)	West Branch Delaware	P
Shehawken (PA)	Northern Terminus	P
Hancock (NY)	330	P
Buckingham (PA)	325	P
Lordville (NY)	321	P
Long Eddy (NY)	315	
Basket Creek (NY)	314	
Kellams (NY)	312	
Callicoon (PA)	303.5	P
Cochecton (NY)	298	
Damascus (PA)	298.3	P
Skinners Falls (NY)	295	P
Narrowsburg (NY)	290	P
Darbytown (PA)	289.6	P
Ten Mile River (NY)	284	P
Lackawaxen (PA)	277.7	P
Highland (NY)	276.5	P
NPS Corwin Farm (NY)	272.5	P
Mongaup (NY)	261	P
Sparrowbush (NY)	258	P

Please Note: Some facilities and amenities are seasonal and may only be available during summer months

Parking	Portable Toilets
Boat Launch	Information
Canoe Launch	Fishing

Upper Delaware River Tailwaters Recreation Plan

5.0 Conclusions

The Upper Delaware River Tailwaters region is a special place with a unique opportunity to combine environmental protection with economic development. The keys are:

- Balancing angling with other forms of complimentary recreation (birdwatching, canoeing/kayaking, hiking, hunting, etc.)
- Balancing West Branch use with East Branch and Main Stem use.
- Balancing the distribution of use along each tailwater stream by creating additional drift boat and other access points.
- Balancing tourism development with resource protection.

The specific goals and recommendations of this recreation plan are intended to help realize this opportunity. Friends of the Upper Delaware River, together with municipalities, counties, state agencies, recreation groups and landowners all have a role to play in doing so. This plan, importantly, also depends strictly upon the voluntary cooperation of the parties. The parties have the potential to partner in planning, securing financing and implementing numerous projects identified herein.

The Upper Delaware River Tailwaters Coalition is an appropriate vehicle for coordinating this work. It is comprised of local officials from the tailwater communities below the NYC Delaware River basin reservoirs. Other members include FUDR, Trout Unlimited, and the Upper Delaware River Business Coalition.



APPENDICES

[A. Recreational Survey Results](#)

[B. Landowner Survey Results](#)

[C. Public Input Summary](#)

[D. Sample Signs](#)