

## CHAPTER 7

### CULTURAL RESOURCES

#### Introduction

The Delaware Direct Watershed is full of places to play, learn and relax. This diverse cultural landscape allows residents and visitors to enjoy historic sites such as Independence National Historical Park and the Liberty Bell, fishing and boating on the Delaware River and concerts at Penn's Landing. The Delaware Direct Watershed contains the earliest settled land in the City of Philadelphia and features a wide variety of native, colonial, industrial and modern historic sites. While the expansive green space of Fairmount Park is not located within the watershed, residents can easily access the park on foot or by public transit. Community centers, neighborhood parks and community gardens are a common sight among the densely populated neighborhoods in the watershed. Waterfront redevelopment efforts are at the heart of many plans to improve life in the City and present an opportunity to meet the cultural and recreational needs of residents through a progressive approach to smart development.

#### 7.1 - Recreation Overview

The Delaware Direct Watershed contains a total of 45 parks, covering two square miles, or 3.4% of the land area. There are 108 recreation centers that serve the surrounding communities' recreational needs. In total, recreation facilities amount to more than 4% of the watershed's land use. Several waterfront parks exist along the Delaware River, and more are in development. Currently, Penn Treaty Park, Pulaski Park, Washington Avenue Green and Pleasant Hill Park provide a variety of waterfront experiences. Race Street Pier and the Bridesburg Ecological Restoration Site are reclaiming industrial waterfront property for public recreation. More than a dozen boat launches and marinas along the riverfront provide water recreation opportunities. Figure 7.1 depicts recreation resources within the project area. The National Park Service operates the Independence National Historical Park located in Center City. State parks do not exist within the Delaware Direct Watershed. A collection of local and neighborhood parks make up the remaining open space within the confines of the Delaware Direct Watershed. To find a local park, please visit the Philadelphia Parks Alliance website at [www.philaparks.org](http://www.philaparks.org) and search the Park Directory.

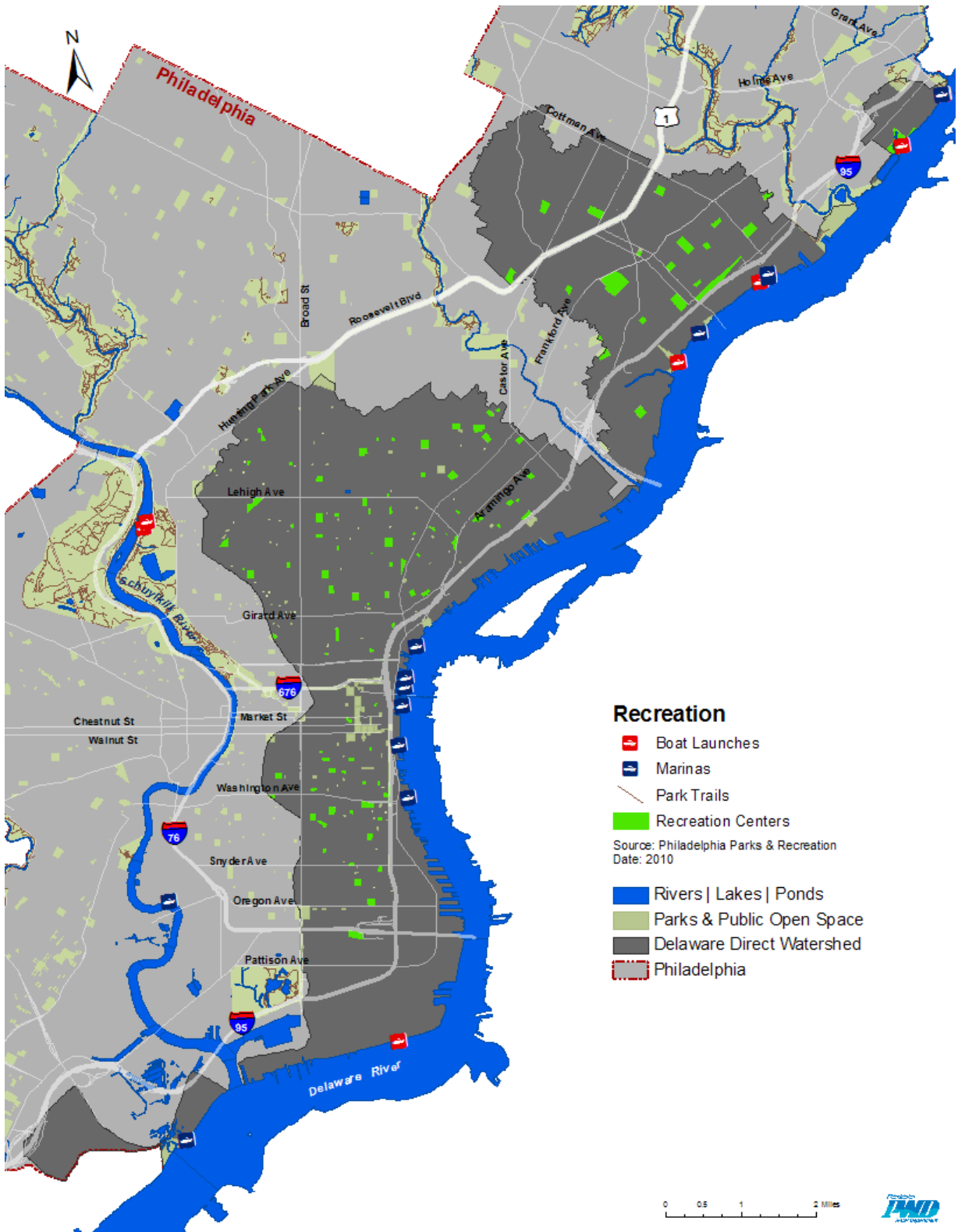


Figure 7.1 – Recreation Resources in the Delaware Direct Watershed

## **Philadelphia Department of Parks and Recreation**

The Philadelphia Department of Parks and Recreation (PP&R) promotes the well-being of the City, its citizens and visitors by offering beautiful natural landscapes and parks, historically significant resources, high quality recreation centers and athletic programs, along with enriching cultural and environmental programs. These programs include athletics such as baseball, basketball, amateur boxing, golf, tennis, rowing and hockey. PP&R also offers summer camp programs in arts and culture as well as programs for individuals with mental and physical disabilities.

PP&R is divided into nine Recreation Districts, which were redrawn in the summer of 2007. The Delaware Direct Watershed is primarily represented by Districts 2, 6 and 7, with portions of the watershed covered by Districts 1, 3, 5 and 9. A district map can be found on the [Department of Parks and Recreation](#) website. The Department website also features a [searchable database](#) to locate resources by recreation center name, zip code, street address or through a clickable map.

### *Fairmount Park*

Fairmount Park is Philadelphia's 9,200-acre citywide park system. The park offers a variety of experiences, including trails, gardens, woodlands, rivers and streams, ball fields and golf courses, picnic areas and playgrounds, historic homes, environmental centers, the Ben Franklin Parkway, the Robin Hood Dell, the Mann Center for the Performing Arts, the Philadelphia Zoo, the Philadelphia Museum of Art and the Fairmount Water Works. A total of 62 parks make up the entire park network within the City. A map of the park can be found at the [Fairmount Park](#) website.

### *PP&R Strategic Objectives*

On July 1, 2010, the Philadelphia Recreation Department and Fairmount Park combined to form Philadelphia Parks & Recreation (PP&R). Building on the vision, mission and goals of the newly merged department, a set of strategic objectives were developed. The web document, [Philadelphia Parks and Recreation Strategic Objectives](#), offers more specific steps to achieve the following core objectives.

- Develop and Equitably Distribute New Urban Green Spaces
- Develop High Level Practices and Expand Leadership in "Out of School Time" Activities
- Implement a National Model for Natural Resource and Urban Forest Management
- Provide High-Quality Facilities to Showcase Urban Outdoor Recreation and the City's Environmental, Cultural and Historic Assets
- Embed "Green" Practices Throughout the Department

In addition to strategic goals, the newly formed department has identified several essential imperatives through extensive community engagement. These are:

- **Safety**  
All facilities, trails, parks and other amenities must be physically safe but also feel safe to all participants and staff.

- **Clean, attractive and fully functional facilities**  
Buildings, fields and parks, along with all other public assets, must be clean and welcoming. All assets must also be maintained in optimum condition for ready use by individuals and groups.
- **Programs for all**  
While acknowledging significant investments in youth development programming, it is incumbent upon the department to provide enriching, relevant and accessible activities for people of all ages and interests.
- **Care for the environment**  
With the new department being responsible for 13% of Philadelphia's land mass, it is of the utmost importance to the city's present and future that we take the appropriate actions to preserve and sustain the city's green space. This holds true for the large wooded areas of the parkland as well as for neighborhood parks and playgrounds.

### **Tidal Delaware River Recreation Survey**

The Tidal Delaware River Recreation Survey was carried out on behalf of the Pennsylvania Environmental Council (PEC) to identify the best ways to promote and further develop recreational opportunities on the Tidal Delaware. The effort involved conducting focus groups to collect data regarding participants' perception of and comfort with recreating on the Tidal Delaware. The study also sought to identify the existing awareness of recreational opportunities along the river and the reasons for the current range of activity levels. The survey included self-identified water recreationalists of varying experience levels. The study also differentiated between Tidal Delaware users and those who do not utilize the Tidal Delaware for recreational purposes. The three groups consisted of 1) experienced and frequent users of the Tidal Delaware, 2) experienced water recreationalists who utilize waters outside of the Delaware Tidal area, and 3) novice boaters interested in learning water sports (it is assumed that this group is not familiar with the Tidal Delaware).

Key findings from this report included several explanations on why current Tidal Delaware users choose the river as a recreation destination. The report yielded responses that suggest that the Tidal Delaware is most often chosen for recreational activities based on location, convenience and the uninterrupted, long stretches of water afforded by the Tidal Delaware. Non-users identified lack of awareness as the number one reason for not boating on the river; in other words, the Tidal Delaware was not at the top of their mind as an option for recreation. In addition to low "top-of-mind" awareness, kayakers voiced safety concerns regarding large commercial traffic. Novice users reported a lack of equipment, lack of information on Tidal Delaware access, and the requirement of boating skills to navigate on "big rivers" as reasons for a lack of involvement on the Tidal Delaware.

All participating groups expressed interest in having a map detailing access points along the Tidal Delaware. The "experienced- non-tidal" users expressed the importance of secure parking. Novice boaters voiced a need for better boating skills prior to going out on the Tidal Delaware. Availability of some kind of boat rental facility was another

request on behalf of the novices. The awareness of existing resources and events was surprisingly low across the focus groups.

## **7.2 - Planning Initiatives Affecting Recreation in the Delaware Direct Watershed**

A number of initiatives seek to create more recreational opportunities in this urban watershed. There is currently significant focus on bringing city residents and visitors to the Delaware Riverfront, encouraging both land-based and water-based recreation. Many of these initiatives seek to protect and enhance the watershed's remaining natural resources through innovative design and planning strategies. Others seek to educate the public on interacting with the river in safe and enjoyable ways.

### **7.2a - Plans**

The following plans create and/or improve recreational features along the waterfront.

#### *Central Delaware Riverfront Master Plan*

The Central Delaware Master Plan is a \$1 million planning effort for the area between I-95 and the Delaware River and between Oregon and Allegheny Avenues. The plan will develop overall recommendations for land use and transportation, including zoning and design guideline recommendations. The plan will also map a new system of parks, trails, streets and development sites, along with phasing recommendations and cost estimates. A key principle of the plan is to utilize public investment in a public realm of parks, trails and streets in order to leverage private investment on adjacent parcels. The parks will be spaced approximately every ½ mile along the riverfront and will be connected by a continuous, multi-use recreational trail. The parks and trails will obviously accomplish recreational goals; however, they will also be designed to accomplish ecological and environmental goals such as stormwater management, shoreline restoration, wetlands creation and flood prevention. Additionally, a comprehensive street network will be identified for circulation and transportation; certain streets will be designated as "connector streets" and will be targeted for improvements such as landscape, lighting, improved pedestrian and bicycle access, and signage.

#### *The North Delaware Riverfront Greenway (NDRG)*

Prepared by the Pennsylvania Environmental Council, Northeast River Task Force and various City agencies in 2006, this plan presents three different scenarios that may impact the riverfront of the Delaware River in Northern Philadelphia. The Delaware River City Corporation (DRCC) was formed to guide implementation of the completed Greenway Plan which includes:

- Eleven miles of riverfront greenway, including trails, parks, green connector streets and trailheads with parking and restrooms.
- Neighbors and visitors using the trails, parks and connector streets comprising the Greenway.
- Neighbors, local civic organizations, businesses and visitors engaged in maintaining and assisting with the security of the Greenway.
- A volunteer infrastructure providing leadership for communications, trail tending, park management and fundraising committees.

The Greenway reflects the ideas and demands of the public expressed through focus groups, planning meetings and public open house meetings. The plan also includes

linking the Delaware River back to the City and its neighborhoods through public transportation and convenient, safe walkways. Open space provides a buffer between the hard city surfaces and will manage stormwater while providing aesthetic improvements. The Greenway Plan is also likely to raise property values in the surrounding areas, create jobs and bring funds into the City, among other benefits.

#### *Green 2015: An Action Plan for the First 500 Acres*

The Mayor's Office of Sustainability has drafted the Greenworks Philadelphia plan, which includes a recommendation to add 500 acres of new publicly accessible green space to the City by 2015. This plan, referred to as Green2015, outlines the approach to meet the 500-acre goal for Philadelphia. Green2015 aims to unite city government and neighborhood residents around the issue of transforming 500 acres of empty or under-used land in Philadelphia into parks for neighbors to enjoy by 2015. Transforming these empty spaces into parks and green places creates important new opportunities for children to play and for neighbors to gather. The Department of Parks and Recreation (PP&R) has identified five areas of significant need. Three of these areas include neighborhoods within the Delaware Direct Watershed.

The Philadelphia Water Department (PWD) is analyzing vacant land in the combined sewer area for stormwater management potential and for the purposes of the Green 2015 planning effort. The goal is to identify vacant lands that are appropriate for stormwater management from adjacent public right of ways (and sidewalks) and to provide new public open space to neighborhoods that lack access to green space.

#### *Philadelphia Pedestrian and Bicycle Plan*

The Pedestrian and Bicycle Plan identifies strategies to increase the number and frequency of people walking and bicycling in the City by improving the connectivity, safety, convenience and attractiveness of Philadelphia's pedestrian and bicycle networks. The plan includes physical infrastructure recommendations, as well as recommendations for policies, regulations, design standards and programs that affect walking and bicycling citywide. Active modes of transportation such as walking and biking provide many people with an affordable way of incorporating physical exercise into their daily routine, helping to fight obesity and related chronic diseases. This plan builds on and will support several major City policy and planning initiatives.

### **7.2b - Project Designs**

Various other organizations, such as the [Delaware River City Corporation](#) and the recently formed [Delaware River Waterfront Corporation](#), are working to create new recreational amenities along the waterfront, particularly a Delaware Riverfront trail, which will eventually run the entire length of the Delaware River in Philadelphia. Another focus is the redevelopment of dilapidated piers, such as Pier 53 (recently completed), into parks and ecological enhancement zones.

#### *Washington Green Park (Pier 53)*

<http://www.delawareriverwaterfrontcorp.com/index.php?pageID=64&image=64a>

As one of the City's first new green public spaces in decades, the former asphalt-clad land and in-land portion of Pier 53 has been transformed into a one-acre collection of gardens, "embryonic woodlands," and meadows. With a limited budget, Washington Green Park incorporates trees, dendritic decay gardens, 2-foot tall "sitting" walls for visitors, benches with a waterfront view, floating wetlands, a rain garden and a rubble meadow. This project was led by the Delaware River Waterfront Corporation.

*Bridesburg Ecological Restoration Project*

<http://www.pecpa.org/ecological-restoration/bridesburg-ecological-restoration-project-0>

The Bridesburg Ecological Restoration Project site consists of two parcels located in Bridesburg, a historic Philadelphia neighborhood. The project was led by the Pennsylvania Environmental Council (PEC). The first site is an approximately 9-acre parcel owned by the City of Philadelphia and the second is an approximately 7.5-acre parcel owned by National Grid, locally known as the "Philly Coke site." The two parcels are ranked as high-priority restoration sites under PEC's Philadelphia North Delaware River Greenway Ecological Assessment and Prioritization Report. The preliminary design utilizes both parcels to create a restored riverfront, upland habitat areas and public recreation amenities. The amenities include a low-impact trail that could offer access to the Delaware River for local residents and East Coast Trail users, benches at vantage points along the trail, and a park, if the area permits. The project would also restore and enhance existing wetlands that benefit the community and create a habitat for wildlife.

*Pleasant Hill Park Plan*

<http://www.dcnr.state.pa.us/brc/keystone/cameos/1pleasanthillparkplanphila.pdf>

The Pleasant Hill Park Plan will transform an unused space in Northeast Philadelphia into a park with a constructed wetland that integrates open space, education and recreation, while restoring the historic fish hatchery. Access to the Delaware River will be improved as a result of the design. An environmental education center will also be added to the site. The hope is that children will fish in the ponds and/or play on the playground, protected by a tree-lined boulevard with a bioswale median and a riparian buffer to protect the park from floods while establishing habitats for many species.

*Lardner's Point Park*

<http://www.dcnr.state.pa.us/sust-lands/studies/lardners-point-park.pdf>

Lardner's Point is a five-acre City-owned parcel along the river that was formally used as a storage and landing site for the historic Lardner's Point pump station. The final design envisions a combination of green building amenities that will consist of a river overlook of the park, the restoration of the riparian buffer, new meadow plantings with native species, the restoration of the pier for fishing and sitting, the creation of new wetlands and marsh meadows, an incorporation of picnic areas, pedestrian paths and bike trails along the river, and interpretative signage. The focus of the signage would be on the park's historical and environmental elements.

*Race Street Pier*

<http://www.delawareriverwaterfrontcorp.com/index.php?pageID=59&image=59a>

Race Street Pier, also known as Pier 11, will be one of the first public space projects in the City to create and maintain a vibrant green public space under the new Civic Vision for the Central Delaware Riverfront. The goal is to develop a publicly accessible amenity for residents and tourists. Funding for this new park has been provided by the City of Philadelphia, Pennsylvania Department of Conservation and Natural Resources, William Penn Foundation, a Pew Charitable Trusts challenge grant, Pennsylvania Horticultural Society and Pennsylvania Department of Environmental Protection (Coastal Zone Management).

### **7.2c - Trails**

*Tidal Delaware River Water Trail*

A water trail is a recreational route in a lake, river or ocean that identifies access points to the water body and day-use and/or camping sites for the boating public. Water trails emphasize low-impact use and promote resource stewardship. The Tidal Delaware Water Trail identifies a 56-mile stretch of the Delaware River that has been checked and mapped to guide a variety of river experiences for users of all levels of expertise. [TidalTrail.org](http://TidalTrail.org) offers safety information, events information and interactive maps that can be downloaded and printed. These maps show points of interest, such as historic sites, fishing locations, kayak rentals and public park facilities.

*East Coast Greenway*

The Delaware River City Corporation (DRCC) is creating the North Delaware Riverfront Greenway, an eight-mile link in the East Coast Greenway in Philadelphia. The East Coast Greenway (ECG) is a project to create a 3,000-mile urban path that links the major cities of the Atlantic coast of the United States from Calais, Maine to Key West, Florida. The path is for non-motorized human transportation (i.e., biking and walking). DRCC works with the Pennsylvania Committee for the East Coast Greenway, which is comprised of volunteers, to coordinate route selection in the state.

The East Coast Greenway enters Morrisville, Pennsylvania from Trenton over the Calhoun Street Bridge. It currently enters PA Bicycle Route E for much of the 55-mile route, through Bucks, Philadelphia, and Delaware counties. The route ends in Delaware, near Marcus Hook.

***For additional information:***

- [Official Visitor Site for Philadelphia](#) (interactive map of recreational resources)
- [Fairmont Park Conservancy](#)
- [North Delaware Riverfront Greenway Plan](#)
- [Philadelphia Parks Alliance](#)



## 7.3 – Historical and Archeological Resources

### Introduction

Development in the Delaware Direct took place over several centuries. Swedish and Dutch settlers in the area from the 1630s predated William Penn’s founding of Philadelphia in 1682. In Penn’s original city (which consisted of the two square miles between Vine and South Streets running from the Delaware to the Schuylkill), the area around Dock Creek was settled first. Almost simultaneously, however, German immigrants were settling in Frankford and Germantown. By the 19<sup>th</sup> century, shipping and industrial enterprises spread the length of the waterfront, evidenced today by the large number of abandoned wharves, warehouses and factories now found along the river. The areas south and north of the original city were settled early and included the neighborhoods of Southwark, Northern Liberties and Kensington. Residential development in South Philadelphia, which included large areas of swampland, could not begin until major draining and land filling was undertaken beginning at the end of the 19<sup>th</sup> century. Some areas of Northeast Philadelphia remained mostly rural farmland until the residential housing boom that accommodated soldiers returning after the end of World War II. With the current redevelopment of the Delaware River waterfront taken into consideration, the Delaware Direct is still in a state of flux and transformation today, as it has been for more than 350 years.

### 7.3a – Historic Resources

The Delaware River waterfront is rich in historical resources. It contains the site where William Penn purportedly made his treaty with the Indians, as well as several Native American archaeological sites. The watershed contains some of the oldest neighborhoods in the city, such as [Old City](#), [Southwark](#), [Northern Liberties](#), [Fishtown](#), and [Kensington](#), as well as some of its wealthiest sections and some of its most impoverished. It was the heart of industrial Philadelphia, the focus of the massive manufacturing effort that, in the 19<sup>th</sup> century, gave Philadelphia the nickname “[Workshop of the World](#).” The Delaware Direct Watershed contains [Independence Hall](#) and City Hall, [Christ Church](#) and [Old Swedes Church](#), the [United States Navy Yard](#), the Frankford Arsenal, and many other significant government, religious, commercial, industrial and residential buildings and public spaces. One site that no longer exists, but figured prominently in the lives of many immigrants to the United States, was the [Washington Avenue Immigration Station](#)

#### *Historic Districts*

This watershed contains all or parts of dozens of historic districts, listed both on the [National Register of Historic Places](#) (administered by the National Park Service of the U.S. Department of Interior) and the Philadelphia Register of Historic Places (maintained by the [Philadelphia Historical Commission](#)). These listings recognize historical and cultural significance, qualifies them for historic preservation grants when available. Most of the historic districts in Philadelphia represent residential housing, but several also encompass commercial and industrial sites. Aside from these designated

sites, there are many other historic structures in the Delaware Direct that are worthy of preservation but not listed on either register.

It is beyond the scope of this report to list every historically significant structure in this large area; for example, the Queen Village (formerly Southwark) neighborhood claims more than 900 buildings on the Philadelphia register. Table 7.1 lists selected national districts and includes links to detailed online maps of some of the districts and Figure 7.2 shows all local historic districts overlaid on the watershed. These detailed maps are for informational purposes only; some distortion may have occurred in the reproduction process. The Philadelphia Historical Commission maintains inventories of historic buildings for some, but not all, the listed districts. Also, an excellent [Wikipedia page](#) has information on more than 520 individual historic buildings in Philadelphia listed on the National Register, with photographs and interactive maps to help locate each property.

*Table 7.1 – National Register Historic Districts in the Delaware Direct Watershed*

<b>National Register of Historic Places Historic Districts</b>
Only districts that are all or partially within the Delaware Direct Watershed are listed. Links lead to online PDF maps of the districts.
<a href="#">Broad Street, South</a> (Juniper to Pine)
<a href="#">Callowhill Street</a> (eligible only as of 11-29-2010)
<a href="#">Clinton Street</a> (900 and 1000 blocks)
Dropsie University Complex (2321-29 N. Broad)
East Center City (6th St. to Juniper St., Market St. to Locust St.)
Elfreth's Alley
<a href="#">Fairmount Avenue</a> (Fairmount Ave.; Melon, North, 15th, 16th, and 17th Sts.)
Fort Mifflin
Four Public Squares of Philadelphia (Franklin, Washington, Rittenhouse and Logan)
<a href="#">Frankford Arsenal</a> (Tacony & Bridge Sts.)
<a href="#">Girard Avenue</a> (1415-2028 Girard and 1700 block of Thompson)
Independence National Historical Park
Lit Brothers Department Store
<a href="#">Lower North Philadelphia Speculative Housing</a> (Jefferson, 19th, Berks, Broad Sts.)
<a href="#">Navy Yard</a>
<a href="#">North Broad Mansion District</a> (1400,1500 Blocks N. Broad, 15th & 16th Sts.)
<a href="#">Northern Liberties</a> (Green-Brown, 3rd-5th Sts., American St., Fairmount Ave.)
<a href="#">Old City</a> (Front St. to 5th St., Walnut St. to Wood St.)
Portico Row (900-30 Spruce)
<a href="#">Rittenhouse</a> (around Rittenhouse Square)
<a href="#">Society Hill</a> (Walnut to Lombard, 8th to Delaware River)
South Front Street (700 Block)
<a href="#">Southwark</a> (Front to 5th; Washington to Lombard, also section to Del. River)
<a href="#">Spring Garden</a> (Fairmount Ave., 19th, 18th, Mellon, 15th Sts.)
Stewart Development Houses (1020-1028 Spruce St.)
Strickland (William) Row (215-227 S 9th St.)
<a href="#">Washington Avenue</a> (10th to Broad, Carpenter to Washington)
<a href="#">Washington Square West</a> (Juniper, 9th thru 13th, Lombard, Locust, Pine)
<a href="#">West Center City Commercial</a> (1500-1700 bl. Walnut, 1500-2000 bl. Chestnut)
West Diamond Street (3008-3215 Diamond St. 3008-3146, 3011-3215 Diamond St.)

## Philadelphia Register Historic District Boundaries

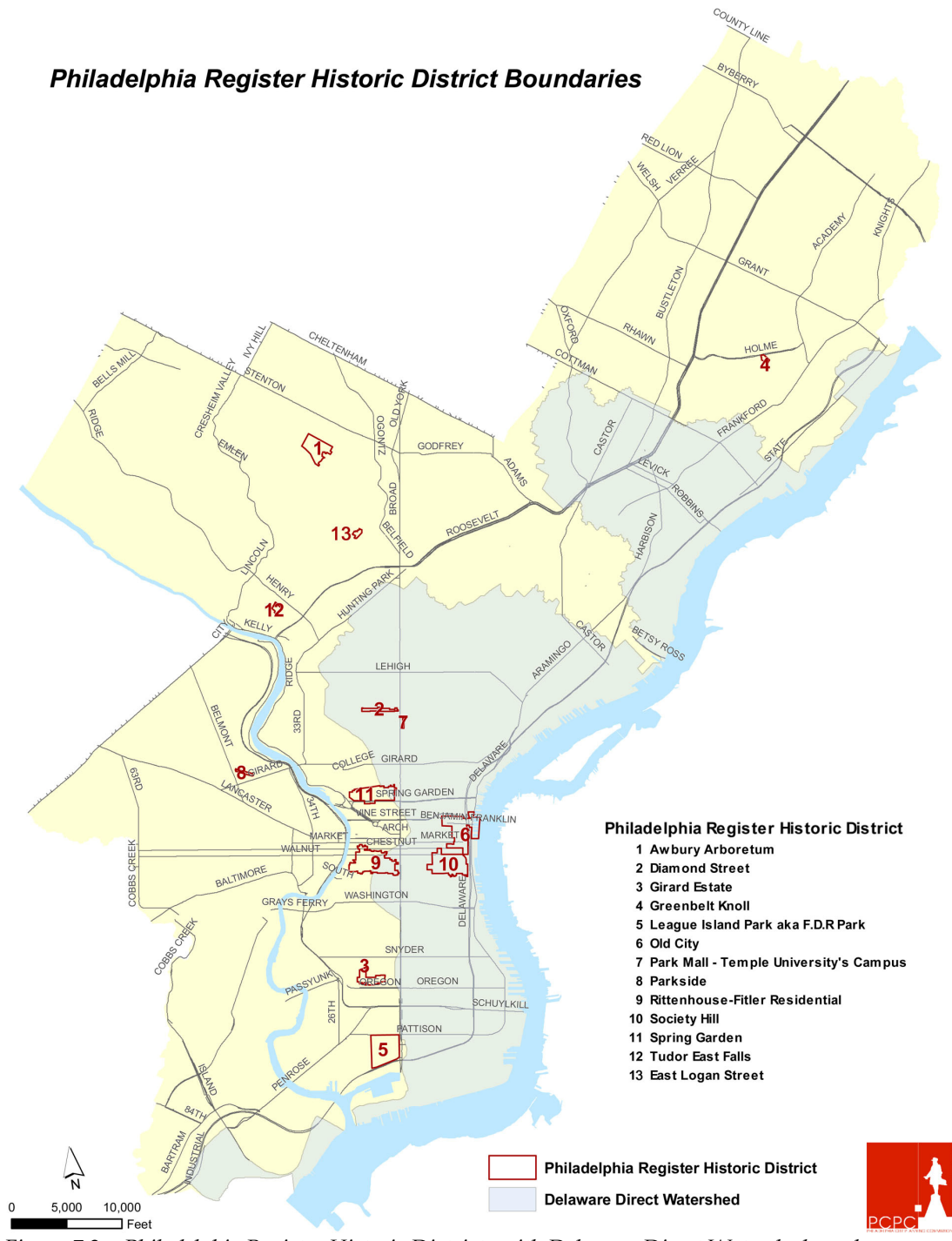


Figure 7.2 – Philadelphia Register Historic Districts with Delaware Direct Watershed overlay

### *Archaeological Sites*

The Delaware Direct Watershed is rich in discovered and potential archaeological sites, especially in riverfront areas. Recent excavations have uncovered pieces of the area's industrial history along the [Aramingo Canal](#), [Revolutionary War history](#) in Kensington, and history of slavery at the [President's house](#) on Independence Mall. At the so-called "[Hertz Lot](#)" at Vine Street and Delaware Avenue, remnants of both the Penny Pot Tavern and a shipyard slipway were uncovered; the site is listed on the national register of Historic Places. The Philadelphia Archaeological Forum (PAF), a group of professionals and laypeople dedicated to the protection and preservation of archaeological resources in the Philadelphia, has an excellent web page covering both [Native American history and archaeology](#) in Philadelphia. The group has also posted an interesting 20-minute video, "[The River and the City: Archaeology of the Delaware Riverfront](#)," focusing on an archeological dig in the Southwark section of South Philadelphia but also providing a basic historical overview of riverfront development.

### **7.3b - Watershed History**

The Delaware Direct Watershed includes several watersheds whose hydrology has been greatly altered over the past 300 years. In these watersheds, the streams no longer run on the surface, but in underground combined sewer pipes built in the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries. These "combined sewers" still carry stream flow, stormwater runoff and sewage from surrounding businesses and residences. A description of the reasoning and process used to justify the burying of urban streams in underground sewers can be found on PWD historical consultant Adam Levine's [Creek to Sewer](#) page of his PhillyH2O website.

Streams in this watershed that were eliminated in this manner include Hollander's Creek and other meandering tidal streams that once drained the marshland of South Philadelphia, Dock Creek in Center City, Pegg's Run and Cohocksink Creek in Northern Liberties, Gunner's Run (or Aramingo Canal) in Kensington, Wissinoming Creek, which runs through the neighborhood of the same name, and other smaller streams. Most of the land in the watersheds of the three remaining surface streams draining into the Delaware – Frankford Creek, Pennypack Creek and Poquessing Creek – are not included in the Delaware Direct. River conservation plans have been completed for each of these three watersheds and are available at the Philadelphia Water Department's [Office of Watersheds website](#).

Even when they were built properly, these early sewers often proved inadequate to drain the neighborhoods around them, resulting in the flooding of low-lying areas during storms. To provide additional drainage capacity, so-called "relief" sewers were built to capture flow from upstream of the flood-prone areas and carry this flow directly to the Delaware River. Examples of relief sewers in the Delaware Direct Watershed (and their associated historic streams) are those along Wakeling and Van Kirk streets (Little Tacony Creek), Fairmount Avenue and Shackamaxon Street (Cohocksink Creek), Walnut Street (Dock Creek), McKean Street and Snyder Avenue (South Philadelphia tidal streams), and others. This system of underground drainage, in which some sewers followed the original stream beds and others simply carried flow in a straight line to the

riverfront outfall, drastically altered the natural hydrology of this area, overlaying it with a system engineered by man to serve the needs of a growing urban population.

#### *South Philadelphia Marshland*

To divide the southern section of the city into two halves (one in the Delaware Direct, the other draining into the tidal portion of the Schuylkill River watershed) makes sense from a modern sewer drainage point of view. However, the entire "Neck" (as the section of the city below South Street, now called South Philadelphia, was once known) historically encompassed thousands of acres of tidal marsh, with creeks that flowed with the rising and falling tides back and forth between the two rivers.

This area included large tracts of low land, some of it barely above water and much of it marshy ground inundated with every high tide. Several streams meandered through the marshland, the largest being Hollander's Creek and Shackamining (sometimes called Shackhanson or Chickhausing) Creek. Earthen dikes were built around much of South Philadelphia in the 18<sup>th</sup> century to keep out the high tide, and drainage canals were cut through the low-lying land to help dry it out. These changes made it both more habitable and more amenable to agriculture. "The Neck" was once an area full of small farms, producing vegetables and hay, and meat from piggeries and other livestock, for sale in the markets of the nearby city.

Much of the area remained marshy until the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, when major landfilling operations were undertaken. One major filling project was undertaken to make land for League Island (now FDR) Park and the Sesquicentennial Exposition in 1926. This required millions of cubic yards of fill, some of which came from the concurrent excavation for the section of the Broad Street Subway north of center city. Other material used to fill South Philadelphia lowlands consisted of material dredged from the Delaware and Schuylkill rivers in various channel deepening projects. Coal ash, the residue from burning coal (which was the main form of heat for many households from the 1830s through the 1940s) also was collected and used to fill low ground and build up street embankments through the marshland.

#### *Bulkheading and Filling of Riverfront Land*

Besides the extensive lowlands of South Philadelphia, other areas of tidal marshland once existed in areas all along the Delaware riverfront. Dikes similar to those built in South Philadelphia were also used to keep out the high tide. Gradually, in South Philadelphia and elsewhere in the city, the riverfront marshes were filled in to create wharves, to extend various streets (such as Delaware Avenue in the early 20<sup>th</sup> century, and Interstate 95 at the end of the same century), and to create new land, most of it for industry. One common way to fill land was to create bulkheads by driving either logs or sheets of metal into the bed of the river, and then filling in the landward side of the piles until solid ground was created. The material used for the filling could come either from excavations on land or from dredging operations in the river.

Figure 7.3 shows a number of historic drainage areas that are part of the Delaware Direct Watershed. Each area is described below. The PhillyH2O website includes much

information about many of these individual watersheds, which can be found on the [Archives](#) page.

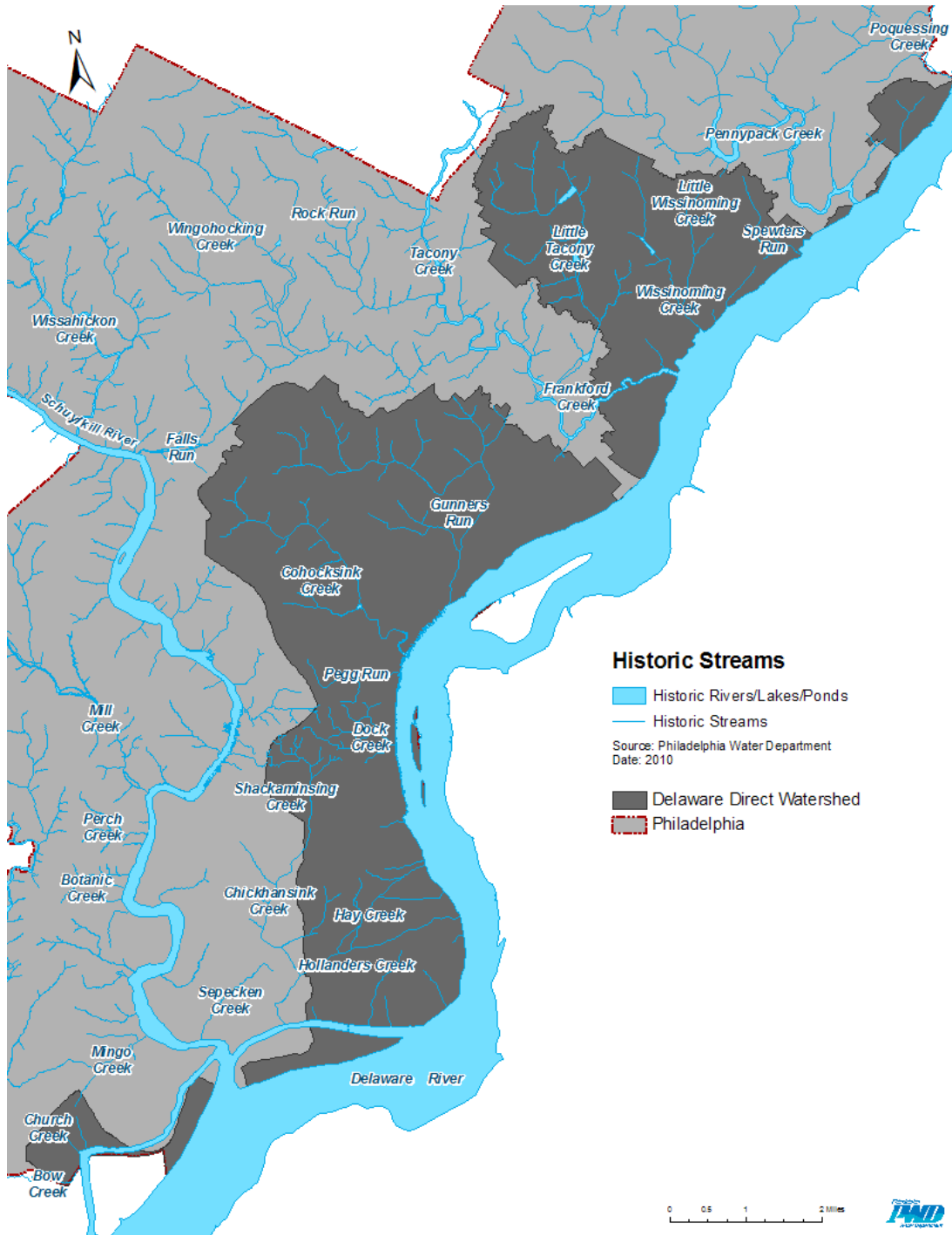


Figure 7.3 – Historic Streams in the Delaware Direct Watershed

**Dock Creek** (1765-1810) had its mouth at Spruce Street, and with several tributaries drained much of the eastern half of the original Philadelphia. (The city originally

covered only the two square miles from the Delaware to the Schuylkill, and between Vine and South streets. In 1854, Philadelphia absorbed the other 28 municipalities of the County of Philadelphia, creating the 129-square-mile city we know today.) Dock Street, below Second Street, winds over part of the original course of this stream.

**Pegg's Run** (about 1830) entered the Delaware at about Willow Street, and this winding street still marks the course of this small stream.

**Cohocksink Creek** (1840s to about 1920s) drained a large watershed that reached almost to 33<sup>rd</sup> and Diamond streets, with the mouth of the creek where Poplar Street now meets the Delaware River. The lower reaches of the creek were converted into a canal before the sewer encapsulation began. A series of winding streets, including Laurel Street and Canal Street, still trace the stream's meandering course through the Northern Liberties neighborhood.

**Gunner's Run** (1900-1930s) had several tributaries that ran through North Philadelphia and emptied into the Delaware River at Dyott Street. The lower stretch became the Aramingo Canal in the 1840s, which became polluted with industrial waste and sewage and was covered beginning in 1900.

**Frankford Creek's** original lower reach (at Bridge Street) is part of the Delaware Direct. As part of a flood control project, a new, straightened channel was constructed in 1956. The old meandering channel ran through the heart of the Bridesburg neighborhood, emptying into the Delaware just south of the Frankford Arsenal. A small leg of this channel is still open, up to Bridge Street, where it serves as an outlet for a storm sewer that was built in the upper section of the original stream bed, as well as the Wakeling Street Sewer (see below).

Much of the watershed of the **Little Tacony Creek** (1900-1930s), which once entered Frankford Creek at about Torresdale Avenue, is also included in the Delaware Direct. This is because two large sewers, in Wakeling Street and Van Kirk Street, capture much of the flow that would otherwise follow the old course of the Little Tacony, carrying it directly to the Delaware River.

**Wissinoming Creek** (1920s to 1930s) drained an area between Frankford and Holmesburg, with a system that included the main stream and Little Wissinoming Creek.

**Spewter's Run** (1930s?) drained a small area adjacent to the Delaware River, between the Pennypack and Poquessing creeks.

### **Other Online Resources**

[Workshop of the World](#) website includes historical surveys of more than 150 industrial sites in Philadelphia, from "Workshop of the World" (1990), "Workshop of the World Revisited" (2007), and other sources. The surveys are organized in 17 neighborhoods by

[industry classification](#) or [alphabetically](#). Links are included to the [Hexamer General Surveys](#), the Historic American Engineering Records, historic and contemporary photos, plus extensive footnotes and bibliographies. Based on wide-ranging research by members of the Oliver Evans Chapter of the Society for Industrial Archaeology and others, the site is designed and managed by Torben Jenk.

[Greater Philadelphia Geohistory Network](#), hosted by The Athenaeum of Philadelphia, is the best online source for maps of Philadelphia. It includes maps of the entire city as well as detailed atlases that show the city block by block, ranging from the city's founding into the 20<sup>th</sup> century. Special collections include historic aerial photographs and more than 2,000 [Hexamer General Surveys](#), created to provide insurance companies with detailed plans and information about industrial properties. The surveys are searchable in a number of ways, including by location and type of industry, and many of them are in the Delaware Direct Watershed. These surveys, as well as many of the maps and aerial photographs, are from the Free Library of Philadelphia Map Collection. For anyone who needs to see the "real thing" and not just an online image, this collection, located on the second floor of the Central Library at 1901 Vine Street, is the most comprehensive and most accessible collection of printed maps in the city and includes many maps not available online.

Other online sources for maps include:

- [American Philosophical Society](#) "Realms of Gold" Collection
- [Library of Congress](#) American Memory Project
- [NOAA](#) (National Oceanographic and Atmospheric Administration) - Collection of historic navigation charts.
- [Maptech](#) - historic topographical maps of Pennsylvania, New Jersey and other states

The [ushistory.org](#) website includes a [Virtual Tour](#) covering nearly 100 historic and cultural sites within the Old City neighborhood centered around Independence Hall. A brief history of each site is provided, along with a photograph. It also features an excellent 12-minute video about the city's religious, political and cultural history, which places many of these historic sites in their chronological and social context.

[Philaplace](#), from The Historical Society of Pennsylvania and various partners, is a collection of online neighborhood histories and contemporary stories that focuses on the Southwark (Queen Village), Northern Liberties, and Kensington neighborhoods. An interactive map provides a useful interface for this wealth of information.

[Places in Time](#), a website created by architectural historian Jeffrey A. Cohen (and his students) and hosted at Bryn Mawr College, contains a wealth of visual and documentary information about Philadelphia and the surrounding counties.

Ken Milano's online [Encyclopaedia Kensingtoniana](#), covering the Kensington and Fishtown neighborhoods and vicinity, is an excellent historical resource for the so-called "river wards" of the city. Along with Rich Remer, Torben Jenk and others, he is one of



the founders of the Kensington History Project, which contributed to an excellent issue of [Pennsylvania Legacies](#) magazine on Old Kensington in 2002.

A wide range of information related to the Delaware Direct Watershed, including photographs, maps and government reports, can be found on [PhillyH2O](#), the website of PWD historical consultant Adam Levine.

[Harry Kyriakodis](#) has done extensive research and writing about his neighborhood of Northern Liberties, just north of Vine Street. He is especially interested in the fate of [Pegg's Run](#), which now runs underneath Willow Street, and the industrial history of the neighborhood. He gives occasional tours of the neighborhood through various venues; contact him for more information.

The [Queen Village Neighbors Association](#) has an excellent historical section about the neighborhood once known as Southwark. The Queen Village Historic Preservation Committee, co-chaired by Al Dorof and Jean Barr, has also produced a pictorial guide to the roughly 950 buildings in the neighborhood that are listed Register of Historic Places of the Philadelphia Historic Commission. This represents one of the largest concentrations of 18th- and 19th-century historically significant homes in the nation.

The [Northeast Philadelphia History Network](#) includes histories of many neighborhoods in this area, as well as forums on various historical topics. The site also provides links to other historical societies and watershed groups.

Gloria Dei (Old Swedes) Episcopal Church has an [online collection of newsletters](#), some of which contain articles about the history of the church and the Delaware River waterfront.

The [Navy Yard](#) website includes information about its history and architecture, as well as a [walking tour brochure](#) (12 MB, PDF) to guide visitors through the open areas of the 1,200-acre site.

[Independence Seaport Museum](#)'s J. Welles Henderson Archives and Library has a selection of online exhibits celebrating the history of the city's riverfront.

The [Preservation Alliance for Greater Philadelphia](#) is a good source for information on local historic preservation issues. This organization also offers a number of [walking tours](#) of historic neighborhoods, several of which are in the Delaware Direct Watershed.

[PhillyHistory](#), from the City of Philadelphia Department of Records, features photographs from City Archives, the Free Library, Library Company of Philadelphia, Philadelphia Water Department, and elsewhere. Photos are searchable by location or keyword.

A search in Google Books, the Internet Archives, or other online archives will find numerous old publications about this area; many of these texts may be downloaded for free. One of particular interest is Frank Taylor's 1895 [Handbook of the Lower Delaware](#)

[River](#), with informative text and many photographs that describe the riverfront and the bay from Trenton, NJ to Cape Henlopen, DE.