



Ohio Department of
**NATURAL
RESOURCES**

Pymatuning Creek State Wild and Scenic River Designation Study September 2018



Pymatuning Creek State Wild and Scenic River Designation Study

A Study of the Pymatuning Creek
for Inclusion into Ohio's Scenic Rivers System

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Ohio Department of Natural Resources
Division of Parks and Watercraft

Cover Photo Credit: Ryan Moss, ODNR

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Introduction

Ohio pioneered the river preservation movement with the enactment of Senate Bill 345 by the 107th General Assembly on February 28, 1968. The Ohio Wild, Scenic and Recreational River Act was the first of its kind and predated the National Wild and Scenic River Act. The purpose of establishing scenic rivers is to help protect and preserve the few remaining, high-quality natural rivers in the state.

The Ohio Department of Natural Resources (ODNR), Division of Parks and Watercraft administers the Ohio Scenic Rivers Program. The program's mission is to work cooperatively with local governments, businesses, landowners, non-profit organizations and other state and federal agencies to protect the aquatic resources and terrestrial communities dependent on healthy riparian habitats. The state's Scenic River Act (see page 95) provides for three categories of designation.

Wild rivers are those which are generally inaccessible, the flood plain is undeveloped, the river is free flowing and 75 percent of the adjacent corridor is forested to a depth of at least 300 feet.

Scenic river designation is representative of a waterway which still retains much of its natural character for the majority of its length. Shorelines are for the most part undeveloped, but the river may exhibit signs of disturbance by human activities. The adjacent corridor must be forested to a minimum depth of 300 feet for 25 percent of the stream's length.

Recreational rivers are those rivers which do not possess the same degree of natural quality found in wild or scenic rivers yet warrant protection due to unique cultural and/or important historical attributes. The influence of human activities is much more apparent on rivers with this classification.

Ohio currently has 14 designated Wild, Scenic and/or Recreational rivers comprising 26 stream segments. More than 800 river miles are protected in Ohio's scenic rivers system. Three state designated streams, the Big and Little Darby Creek, Little Beaver Creek and Little Miami River are also designated as national scenic rivers.

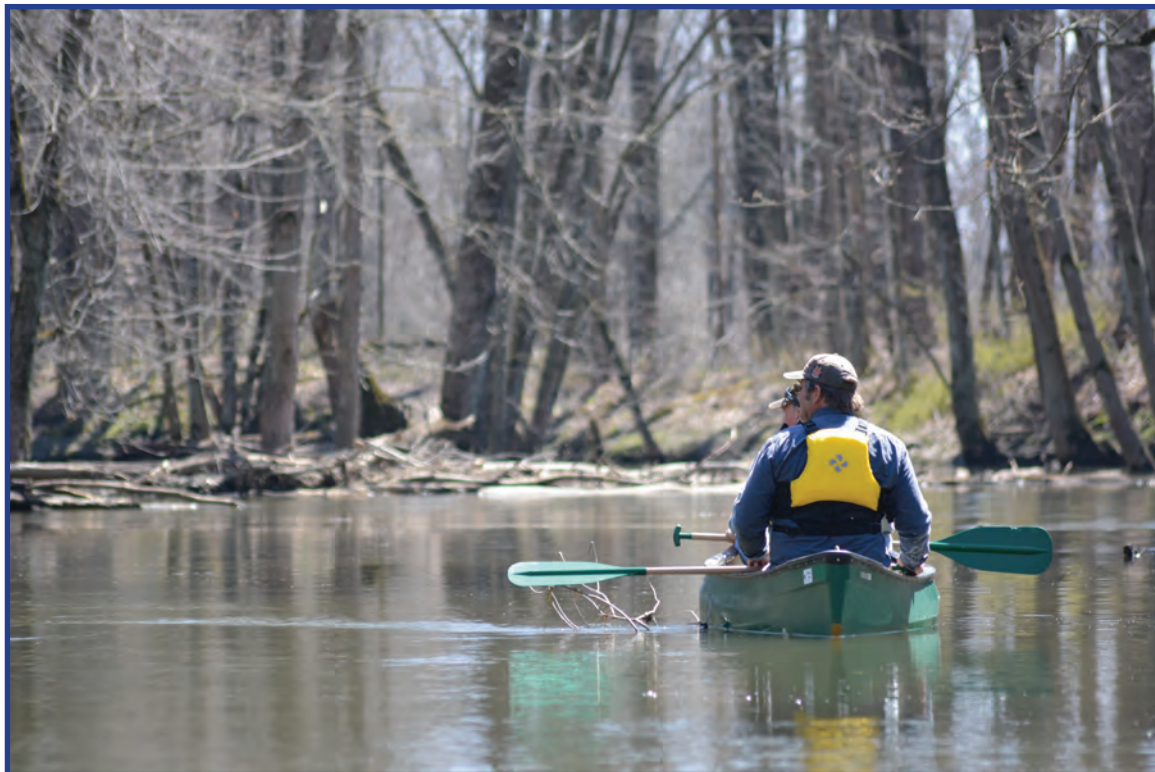
ODNR recognizes that partnerships and local cooperation are key to effective river preservation efforts. Rivers are studied for possible designation only after receiving resolutions of support from a majority of local governments adjacent to the river. Designation studies incorporate extensive field investigations and data review with the assistance and input of numerous local organizations and individuals.

Upon designation of a river as Wild, Scenic or Recreational, the director of ODNR appoints a 10-member Scenic River Advisory Council which represents local interests within the watershed. Members often include private citizens, local government officials, conservation organizations and property owners. Scenic River advisory councils advise ODNR on local interests and areas of concern related to the preservation of a designated river.

Designation as a Wild, Scenic or Recreational river is not a river restoration tool designed to successfully restore a degraded stream to an improved natural condition. It is much more effective as a means of recognizing the unique characteristics of a stream and coordinating river preservation activities among diverse state and local governments, organizations and individuals. When combined with statutory authority to review and approve publicly funded projects on designated rivers, designation helps ensure that decisions and activities which may impact a river are conducted in an environmentally sensitive and responsible manner.

To best understand the context of the information provided in this report, it is important to recognize that the role of Ohio's Wild, Scenic and Recreational Act is to identify and protect those rivers and streams possessing characteristics of state significance. The Division of Parks and Watercraft's Scenic Rivers Program seeks to identify and designate the few remaining river systems which have retained their most natural characteristics and possess uniquely important historical values.

The purpose of this examination of the Pymatuning Creek watershed is to determine whether Pymatuning Creek meets state Wild, Scenic or Recreational river designation criteria. Additionally, this report represents a recommendation related to whether any of the watershed should be recognized as a component of Ohio's scenic rivers system.



Executive Summary

Located in northeast Ohio, the Pymatuning Creek watershed supports an exceptionally beautiful riverine and wetland complex system. This stream system features a contiguous wooded riparian corridor, as well as diverse populations of plants and wildlife. This forested river corridor provides Pymatuning Creek with the filtering capability to remove potential pollutants resulting in excellent water quality attributes. Comparable to other high-quality streams in the Ohio Scenic Rivers Program, Pymatuning Creek features superb natural characteristics and a variety of recreational opportunities.

According to the 2011 Ohio Environmental Protection Agency (EPA) report, "2008 Biological and Water Quality Study of the Ohio Tributaries to the Shenango River (Ohio EPA 2011)," of the eight sites that were monitored on Pymatuning Creek, only two are in full attainment of warmwater habitat (WWH) water quality standards. Two sites were listed as partial attainment and three were listed as non-attainment of WWH water quality standards. The report attributes wetland habitat and low dissolved oxygen, both due to naturally occurring conditions. The remaining site, located at the Ohio-Pennsylvania line, is listed as non-attainment due to a combination of low dissolved oxygen, wetland habitat and flow alterations due to natural conditions and a dam impoundment. Except for the low-head dam in Orangeville, any of the sections that are in either partial or non-attainment of water quality standards is due to naturally occurring low gradient stream wetland complex habitat. Despite these low gradient, stream wetland complex conditions, Pymatuning Creek is still performing to its highest potential.

The Pymatuning Creek, from river mile 32.6 downstream to river mile 4.7, meets and surpasses all the criteria (listed on page 11) for a Wild designation except it only partially meets Criteria 4, which states that "no commercial or industrial development is permitted within 300 feet of the stream or within the visual corridor, whichever is closer. No more than 5 percent of the river's watershed may be covered with impervious surfaces of the Wild river segment." There are six commercial buildings within 300 feet of the proposed Wild river segment which does not meet the criteria, however, it does meet the impervious surface requirement as there is only 1.4 percent of impervious surface.

Ohio Scenic Rivers staff considered the six commercial buildings which are located along a tenth of a mile section near State Route 7 in the Kinsman Square. This tenth of a mile consists of 0.2 percent of the entire 300-foot corridor evaluated on both banks (55.8 miles of riverfront) of the proposed Wild section of Pymatuning Creek. Given this small percentage of riverfront, the impact of this area was considered negligible with regard to the overall Wild river designation for this section of stream. Combined with the fact that all other lands adjacent to Kinsman Square are permanently protected and owned by the U.S. Army Corps of Engineers, and under management by ODNR's Division of Wildlife as the Shenango Wildlife Area. With this land being protected through these agencies, the possibility of any additional commercial development within 300 feet of the creek is virtually eliminated. Currently, this land is used by the U.S. Army Corps of Engineers as a floodwater holding basin and no further development is allowed within the property.

Pymatuning Creek, from river mile 4.7 downstream to the Ohio-Pennsylvania state line at river

mile 1.94, partially meets or exceeds all the criteria for Scenic River designation except for Criteria 1. Criteria 1 requires that “the proposed Scenic River segment must be 75 percent free flowing, existing or flowing in a natural channel without low head dams, diversions, straightening or other modifications of the river channel. The river must have connectivity to its natural floodplain along a majority of its length. Where such impacts have occurred, the river channel shall have been restored to a point of being capable of supporting warmwater or coldwater habitat community.” Along, the entire proposed 2.76-mile segment, flow is influenced by a low head dam at the Ohio-Pennsylvania line.

Further, Criteria 6 requires that “100 percent of the Scenic River segment must equal or exceed the Ohio EPA’s warmwater or coldwater habitat aquatic life use designation unless natural conditions, such as gradient or flow, within the river segment limit the stream’s ability to attain such use designation.” According to the Ohio EPA Technical Support Document EAS/2011-1-2, this segment is in non-attainment due to low dissolved oxygen, wetland habitat and flow alterations; the source of the non-attainment is related to natural conditions and dam impoundment.

Staff have considered both Criteria 1 and 6 in the proposed designation of this 2.76-mile segment. If a Scenic River designation was proposed from river mile 1.94 all the way to river mile 32.6, Pymatuning Creek far exceeds the Scenic River criteria, and would not recognize the fact that the vast majority of it is worthy of a Wild River designation. To recognize the stream for meeting and exceeding Wild River designation criteria, we recommend that Criteria 1 be waived since this section still meets water quality related to low gradient wetland habitat in addition to the impoundment.

As documented in this Wild and Scenic River designation study, the Pymatuning Creek watershed harbors exceptional biological communities. The following has been documented in the watershed: 90 rare species, including 26 endangered and threatened species. Of all documented species, there are populations of the following: 44 mammals; 127 breeding bird species and an additional 53 migrant or wintering bird species; 50 species of fish; 26 reptiles and amphibians; 267 aquatic macro-invertebrates; 37 species of dragonflies and damselflies; 11 species of mollusks; and 219 plants including trees, shrubs, ferns, lichens, fungus, other plants, grasses and sedges.

Pymatuning Creek has an exceptional forested and wetland corridor, with a minimum depth of 300 feet for 90 percent of its reach. Pymatuning Creek also has unique recreational opportunities afforded by the creek and the adjacent Shenango Wildlife Area. Shenango Wildlife Area offers approximately 19 continuous miles of protected public lands offering a variety of hunting, fishing, birdwatching, paddling and other outdoor pursuits. The highly pristine natural qualities of Pymatuning Creek’s surroundings warrant its protection as an Ohio Wild River from river mile 32.6 downstream to river mile 4.7 and an Ohio Scenic River from river mile 4.7 to 1.94.

Two segments of Pymatuning Creek meet or exceed the qualifying criteria and is recommended for designation as an Ohio Wild and Scenic River:

Pymatuning Creek – from Ayers Road Bridge in Ashtabula County crossing at river mile 32.6 downstream to river mile 4.7 in Trumbull County. The total distance recommended for Wild River designation on Pymatuning Creek is 27.9 miles.

Pymatuning Creek – from river mile 4.7 downstream to the Ohio-Pennsylvania state line at river mile 1.94 downstream. The total distance recommended for Scenic River designation on Pymatuning Creek is 2.76 miles.

A total of 30.66 miles of Pymatuning Creek is recommended for designation as an Ohio Wild and Scenic River.

Pymatuning Creek Proposed Designation Segments

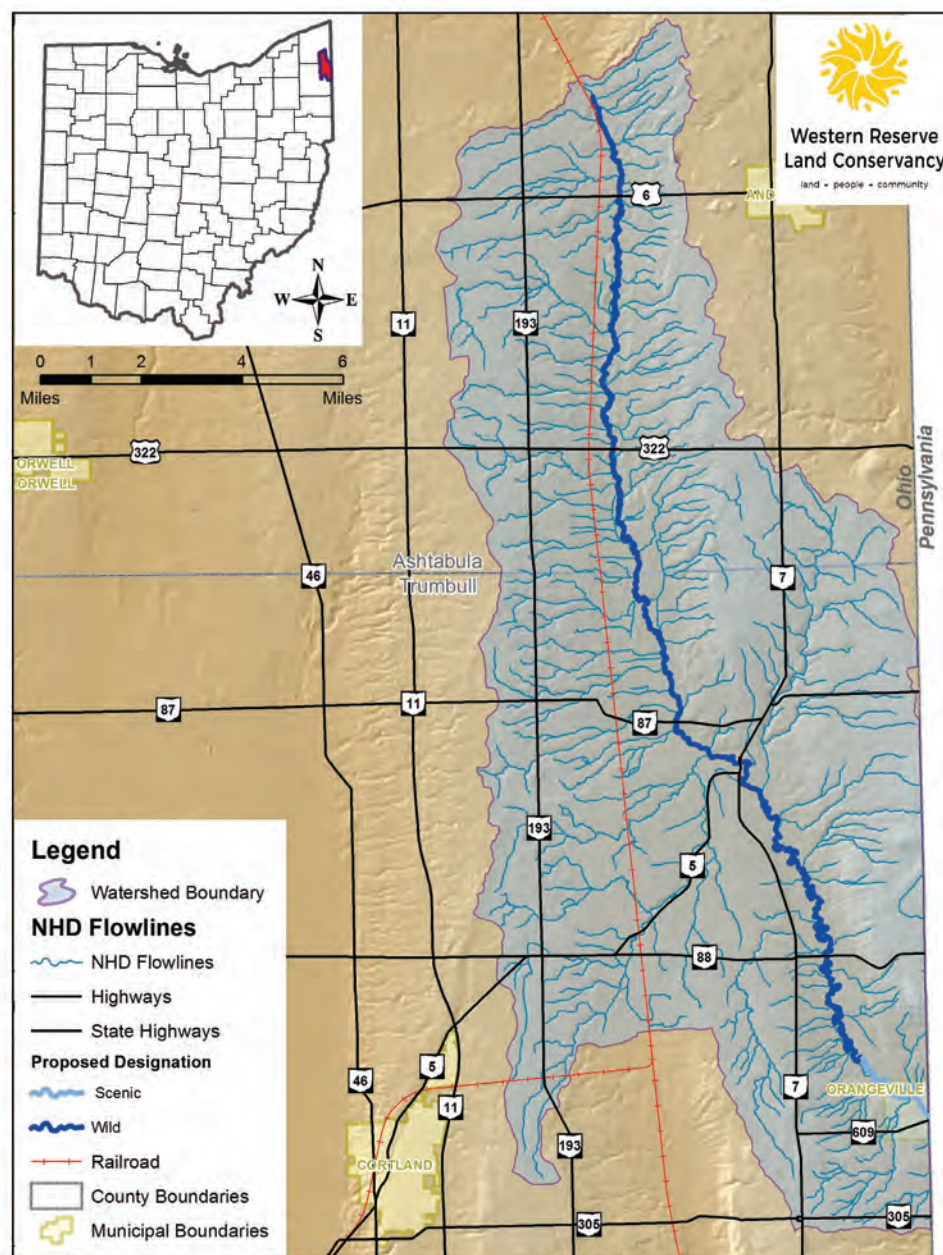




Photo Credit: Ryan Moss, ODNR

Criteria for Wild, Scenic and Recreational River Designation

The following criteria (under authority of Ohio Revised Code 1547.81) are used to determine whether a stream meets the standards for Wild, Scenic or Recreational river designation.

To obtain **Wild River Designation**, the following criteria must be met:

1. The proposed Wild river segment must be 100 percent free flowing (i.e. existing or flowing in a natural channel condition without impoundments, diversions, straightening or other modifications of the river channel).
2. Roads are permissible within 300 feet of the river but may not comprise more than 10 percent of the Wild river segment length. Limited access highway crossings are permitted but no more than one crossing per 15 miles of river. Other bridge crossings are permitted, but no more than an average of two bridges per 5 miles of river. No more than an average of two residential dwellings are permitted within 300 feet of the river per mile of river length.
3. For maximum benefit, the total length of the designated section of the Wild river segment may be no less than 15 continuous river miles.
4. No commercial or industrial development is permitted within 300 feet of the stream or within the visual corridor, whichever is less. No more than 5 percent of the river's watershed may be covered with impervious surfaces upstream of the Wild river segment.
5. The area adjacent to at least 75 percent of the stream length, considering both banks, shall be in native forest or wetland outward from the river to a depth of 300 feet or greater. In addition, 50 percent of the remaining corridor shall be in native forest or wetland outward from the river to a depth of 120 feet or greater.
6. All of the Wild river segment must equal or exceed the Ohio Environmental Protection Agency's (Ohio EPA) exceptional warmwater habit or coldwater habitat standards unless natural conditions (i.e. gradient or flow) within the river segment limit the stream's ability to attain these standards. The stream segment, however, must be performing to its highest potential with regard to biological diversity and water quality given the naturally occurring limitations. If the quality of the waters at any time falls below these criteria, a means to meet the criteria must be readily available and a pollution control and abatement plan must be developed to meet the criteria and be approved by the Ohio EPA.

To obtain **Scenic River Designation**, the following criteria must be met:

1. The proposed Scenic river segment must be 75 percent free flowing, (i.e. existing or flowing in a natural channel condition without impoundments, diversions, straightening or other modifications of the river channel). The river must have connectivity to its natural floodplain

along a majority of its length. Where such impacts have occurred, the river channel shall have been restored or recovered to the point of being capable of supporting a warmwater or coldwater habitat community.

2. Roads are permissible within 300 feet of the river but may not comprise more than 25 percent of the Scenic river segment length.
3. For maximum benefit, the total length of the designated section of the Scenic river segment may be no less than 20 continuous river miles unless connected with segments bearing other designations.
4. Some commercial, industrial and other types of development may occur within 300 feet of the river. However, this development shall not negatively impact the habitat and quality of the stream and its floodplain. No more than 10 percent of the river's watershed upstream and adjacent to the Scenic river segment may be covered with impervious surfaces at the time of designation. If the upstream and adjacent watershed is at 10 percent impervious cover and is contained within an urbanizing area then that river segment may not be considered for designation.
5. The area adjacent to at least 25 percent of the stream length, considering both banks, shall be in native forest or wetland outward from the river to a depth of 300 feet or greater. In addition, 50 percent of the remaining corridor shall be in native forest or wetland outward from the river to a depth of 120 feet or greater.
6. All of the Scenic river segment must equal or exceed the Ohio EPA's warmwater or coldwater aquatic life use designations unless natural conditions (i.e. gradient or flow) within the river segment limit the stream's ability to attain these standards. The stream segment, however, must be performing to its highest potential with regard to biological diversity and water quality given the naturally occurring limitations. If the quality of the waters at any time falls below these criteria, a means to meet the criteria must be readily available and a pollution control and abatement plan must be developed to meet the criteria and be approved by the Ohio EPA.

To obtain **Recreational River Designation**, the following criteria must be met:

1. The proposed Recreational river segment must be 60 percent free flowing (i.e. existing or flowing in a natural channel condition without impoundments, diversions, straightening or other modifications of the river channel). The river must have connectivity to its natural floodplain along a majority of its length. Where such impacts have occurred, the river channel shall have been restored or recovered to a point of being capable of supporting a warmwater or coldwater habitat community.
2. Roads are permissible within 300 feet of the river, but may not comprise more than 50 percent of the Recreational river segment.

3. For maximum benefit, the total length of the designated section of the Recreational river segment may be no less than 20 continuous miles unless connected with segments bearing other designations.
4. Some commercial, industrial and other types of development may occur within 300 feet of the river. However, this development shall not negatively impact the habitat and quality of the stream and its floodplain. No more than 10 percent of the river's watershed upstream and adjacent to the Recreational river segment may be covered with impervious surfaces at the time of designation. If the upstream and adjacent watershed is at 10 percent impervious cover and is contained within an urbanizing area then that river segment may not be considered for designation.
5. The area adjacent to at least 50 percent of the stream length, considering both banks, shall be in native forest or wetland, outward from the river to a depth of 120 feet or greater.
6. All of the Recreational river segment must equal or exceed the Ohio EPA's warmwater or coldwater aquatic life use designations unless natural conditions (i.e. gradient or flow) within the river segment limit the stream's ability to attain these standards. The stream segment, however, must be performing to its highest potential with regard to biological diversity and water quality given the naturally occurring limitations. If the quality of the waters at any time falls below these criteria, a means to meet the criteria must be readily available and a pollution control and abatement plan must be developed to meet the criteria and be approved by the Ohio EPA.

Scenic River Designation Process

Step 1: Determine if the river proposed for designation meets the minimum length and width requirements.

The portions of the Pymatuning Creek proposed for study exceed the minimum length of 5 miles and has a mean surface width greater than 10 feet.

Step 2: Obtain resolutions of support for the designation study from at least 50 percent of the local political subdivisions located within 1,000 feet of the area proposed for designation.

Between October of 2015 and March of 2018, resolutions of support were passed by 100 percent of the local political subdivisions within 1,000 feet of the area proposed for designation. These resolutions were gathered and presented to ODNR by the Pymatuning Creek Scenic River Committee. In Ashtabula County, resolutions were passed supporting the designation study by Cherry Valley Township, Wayne Township and the Ashtabula County board of commissioners. In Trumbull County, resolutions were passed by Gustavus Township, Hartford Township, Kinsman Township, Vernon Township, village of Orangeville and the Trumbull County Board of Commissioners.

There has been additional support expressed by the following agencies: Ashtabula County Metroparks, Trumbull Canoe Trails Paddling Club, Trumbull County Metroparks, Trumbull County Tourism Bureau and Trumbull County Township Trustees Association.

The following public officials have also provided support: Michael J. O'Brien, 64th district of the Ohio House of Representatives, John Patterson, 99th district of the Ohio House of Representatives, Sean J. O'Brien, 32nd district of the Ohio Senate and Randy Smith, P.E., P.S., Trumbull County Engineer.

Step 3: Collect background and resource information on the natural and cultural history of the watershed.

Data was gathered using United States Geological Survey (USGS) 7.5-minute series topographic maps (Leon, Cherry Valley, Andover, Gustavus, Kinsman, Orangeville and Dorset quadrangles) obtained from the ODNR Division of Geological Survey. River mile maps from the Ohio EPA were also used as references for this study.

Geographic Information System (GIS) mapping technology was extensively utilized for this study. A variety of GIS layers were used including: 2017 aerial photography, the National Land Cover Database 2011 (NLCD 2011), as well as wetlands, soils, and endangered and threatened species.

Biological studies were acquired from the following agencies: Cleveland Museum of Natural History, Ohio Breeding Bird Survey, Ohio Department of Transportation and Ohio EPA. In some cases, new field work was scheduled to confirm or update biological data.

Information was also obtained by conducting private interviews and researching local historical books. Scenic Rivers Program staff conducted meetings, workshops and tours to discuss the Ohio Scenic Rivers Program and scenic river designation process, as well as provide additional information regarding the study.

Step 4: Conduct a river inventory to document the existing condition of the river's corridor within 300 feet of the river.

Field work for the Pymatuning Creek designation study included three trips by canoe covering approximately 11.5 miles of the creek to evaluate the river and its corridor on the ground. With landowner permission, staff conducted surveys by foot when low water conditions made survey by canoe impossible. Staff used digital photographs to document the quality of the stream, its riparian corridor and any potential areas of concern. Aerial photography from 2017 was used when field observation was not possible.

Step 5: Complete the designation study report including a recommendation to the Director of ODNR as to whether the river qualifies and should be considered for designation.

As documented in this Wild and Scenic River designation study, the Pymatuning Creek watershed harbors exceptional biological communities. The following has been documented in the watershed: 90 rare species including 26 endangered and threatened species. Of those species, there are documented populations of the following: 44 mammals; 127 breeding bird species and an additional 53 migrant or wintering bird species; 50 species of fish; 26 reptiles and amphibians; 267 aquatic macro-invertebrates; 37 species of dragonflies and damselflies; 11 species of mollusks; and 219 plants including trees, shrubs, ferns, lichens, fungus, other plants, grasses and sedges.

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Pymatuning Creek – from river mile 4.7 downstream to the Ohio/Pennsylvania state line at river mile 1.94 downstream. The total distance recommended for Scenic River designation on Pymatuning Creek is 2.76 miles.

A total of 30.66 miles of Pymatuning Creek is recommended for designation as an Ohio Wild and Scenic River.

Step 6: The Director of ODNR may then declare his intent to designate a river as Wild, Scenic or Recreational by issuing notice in the newspaper of general circulation in each county included within the area and by notifying all appropriate government agencies and public officials in writing as provided for in Ohio Revised Code (ORC) Section 1547.81.

Step 7: After 30 days have elapsed and any additional public outreach has been conducted as necessary, the Director shall enter a declaration in the director's journal that the area is a wild river area, scenic river area or recreational river area.



Photo Credit: Ryan Moss, ODNR

General Description of the Pymatuning Creek Watershed

The following description of the Pymatuning Creek corridor is based on field observations made from foot, car and canoe, as well as review of United States Geological Survey (USGS) 7.5-minute series topographical maps and 2017 aerial photographs.

River miles are derived from Ohio EPA river mile maps. River miles are measured from the mouth of a river moving upstream, generally in tenth mile increments, following the turns in the river as closely as possible. So, river mile 5.5 on a particular waterway would be located 5.5 miles upstream from that river's mouth, or confluence with another river.

Pymatuning Creek is geographically located in southeastern Ashtabula County and northeastern Trumbull County in Ohio and a small portion of the stream is contained within northwestern Mercer County in Pennsylvania. Its watershed covers 171 square miles or 109,440 acres.

Pymatuning Creek flows in a southeasterly direction into the Shenango River Reservoir, which outlets into the Shenango River, ultimately combining with the Mahoning River to form the Beaver River. The Beaver River then flows into the Ohio River downstream of Pittsburgh. Pymatuning Creek has an average gradient of 6.2 feet per mile, dropping in elevation from 1,080 to 870 feet above sea level from its headwaters to its mouth (ODNR, 1960). The principal Ohio tributaries to Pymatuning Creek are Clear Creek, Sugar Creek, Stratton Creek and Mill Creek. The two tributaries in Pennsylvania are Booth Run and Chestnut Run.

In the vicinity of Kinsman Swamp in Trumbull County, the Pymatuning Creek channel varies in structure from well-defined creek beds with riffle run complexes, to more diffuse stream wetland complexes with many beaver dams, tree snags and a great deal of rooted aquatic vegetation. Downstream of Kinsman Swamp, the stream increases flow and the channel increases in width with adjacent oxbow wetland complexes and side channels. Large woody debris blocks the channel in many areas as the high sinuosity and low gradient of Pymatuning Creek contributes to the stream's ability to hold woody debris. These attributes also make the stream difficult to paddle since the woody debris, beaver dams and wetland complexes create significant obstacles to portage a canoe or kayak around.

Headwaters downstream to Ayers Road

Pymatuning Creek starts as a very small stream flowing southwest toward the intersection of Stanhope-Kelloggsville Road and Mells Road. From there, the creek continues in a southwesterly direction flowing under Creek Road at river mile 34.02, downstream to river mile 33, where it enters a wetland complex just north of Ayers Road.

The north end of this wetland complex is also the headwaters of the Mill Creek, which is a tributary of the Grand State Wild and Scenic River. Located



at the top of the watershed divide, this wetland complex actually drains into the Pymatuning Creek (Ohio River) and the Grand River (Lake Erie) watersheds. As Pymatuning Creek leaves this wetland, it flows south and crosses under Ayers Road at river mile 32.6.

Ayers Road downstream to Mill Road

As Pymatuning Creek flows under Ayers Road, a communications tower is located approximately 212 feet from the west bank. The creek is parallel to the Ohio Penn Railroad approximately 440 feet to the west. As it continues to flow south to Mill Road, the creek transitions from a defined channel to a wetland stream complex. At river mile 32.3, the (USGS) 7.5 minute topographic map, Dorset, Ohio 1994 quadrangle, indicates that a pipeline crosses the creek.



The section from Ayers Road to Mill Road has wooded and wetland riparian area on the west bank ranging in width from 260 to 590 feet in depth. On the east bank of the creek, the wooded and wetland riparian zone ranges in width from 95 to 3,000 feet deep. There has been some logging near Ayers Road, east of the creek. This section has portions of widened stream channels and enhanced wetland stream complexes due to many beaver dams. Approaching Mill Road, an agricultural field lies east of the creek just beyond a wooded riparian buffer ranging from 95 to 320 feet in depth.

Mill Road downstream to U.S. Route 6

Pymatuning Creek continues to flow south under Mill Road at river mile 31.72. On the southeast corner of the Mill Road bridge lies an agricultural field with a wooded riparian buffer which ranges from 45 to 165 feet deep. In this section, the creek starts to flow southeast with a very sinuous, meandering channel. The Ohio Penn Railroad continues to parallel the Pymatuning, but the creek is typically flowing away from the railroad at a distance of 800 feet or greater. The wooded corridor, on the west side of the creek, ranges from 66 feet in depth to 2,300 feet deep. On the east bank of the creek, the wooded corridor varies from 45 feet in depth, just downstream of Mill Road, to 1,900 feet in depth. At river mile 30.7, west of the creek, lies an agricultural field with a wooded buffer ranging from 66 to 215 feet. The creek flows under U.S. Route 6 at river mile 30.38.

U.S. Route 6 downstream to Mann Road

Just downstream of the U.S. Route 6 bridge is a beaver dam, an agricultural field located above the east bank of the creek and a single-family residence with a small business to the west. The wooded riparian buffer ranges from 450 to 890 feet in depth through this area.

Moving downstream, another agricultural field lies to the east of the creek, set back by a wooded buffer varying from 315 to 1,000 feet in depth. There is also another large agricultural field to the east of the creek, slightly farther down, with a wooded buffer between this field and the creek varying from 50 to 660 feet.

From U.S. Route 6 to Mann Road, the wooded corridor on the west side of the creek typically extends from 1,300 to 2,200 feet in depth. At river mile 30, oil and gas well storage tanks are located more than 1,100 feet west of the creek. From U.S. Route 6 to Mann Road, the wooded corridor on the east side of the creek varies from 50 to 1,200 feet wide. Throughout this section of stream, small riffles with sand, gravel and some cobble are present providing additional habitat for stream life. This section of the stream has high sinuosity with a large amount of woody debris and a total of two beaver dams.

Mann Road downstream to Woodworth Road

Pymatuning Creek flows under Mann Road at river mile 29.08. This section of the creek continues to be very sinuous. From river mile 29.08 to 28.56, the creek has a wooded riparian corridor to both the east and west, ranging 160 to 510 feet in width, with agricultural fields beyond. Downstream, from river mile 28.56 to 28.45, there is an agriculture field bordering the creek to the west offset by a wooded riparian corridor ranging from 30 to 180 feet in width.

At river mile 28.45, a ford crosses the creek from east to west connecting two agriculture fields. The ford has also been modified by beavers resulting in a large pool just upstream of the ford. The creek then flows south for 350 feet, with wooded riparian corridors on both sides before reaching and flowing alongside an agriculture field to the east. From river mile 28.42 to 28.15 the creek continues to flow beside an agriculture field to the east with very little wooded riparian corridor. The west bank continues to have a substantial wooded riparian corridor. At river mile 28.15, there is a second ford crossing the creek, which connects two agriculture fields. The creek flows south 400 feet to river mile 28.08, where a third ford crosses the creek. Timbering has occurred on both banks from river mile 28.08 to 27.87, with a large area being timbered to the west, measuring 1,100 feet long and 1,500 feet wide.

From river mile 27.87 to 27.4, the riparian corridor becomes heavily wooded on both sides and there is a significant amount of woody debris littering the creek before arriving at Woodworth Road.

Woodworth Road downstream to State Route 322

Pymatuning Creek flows south under Woodworth Road at river mile 27.4. and into the William C. McCoy State Nature Preserve owned by the Cleveland Museum of Natural History. The preserve is 108 acres, extends downstream to river mile 26.9 and contains the Pymatuning Creek Fen, which is home to many rare plant species.

This section of the creek has a deep wooded corridor on both sides with extensive wetland complexes, including one measuring 2,530 feet long and 1,010 feet wide on the east bank from Woodworth Road, that continues downstream to river mile 26.9.

There are also large wetland complexes on the west bank of the creek at river mile 27,



approximately 1,800 feet long and 1,390 feet wide, extending downstream to river mile 26.55. From river mile 26.55 to river mile 25.5 the riparian corridor, both west and east of the creek, remains heavily wooded and includes many small wetlands.

From river mile 25.67 to river mile 25.5 there is a large wetland located 500 feet east of the creek measuring about 1,500 feet long and 800 feet wide. A portion of this wetland is separated from Pymatuning Creek by an agriculture field. However, this field is still set back from the creek by a wooded riparian corridor, measuring 1,310 feet in length and varying in depth from 50 to 450 feet from the bank of Pymatuning Creek.

The creek continues to flow south and has a wooded riparian corridor to river mile 24.88. To the west, a riparian corridor from river mile 24.88 to Route 322 consists of marshy grasslands. To the east, the riparian corridor is wooded, ranging 100 to 400 feet wide. There is a long driveway parallel to the creek and a home is located 300 feet from the creek at river mile 24.8. Williamsfield Valley Veneer is also 400 feet east of the creek off State Route 322.

State Route 322 downstream to Underwood Road

Pymatuning Creek flows under State Route 322 at river mile 24.46. There are a few homes off of State Route 322 located on each side of the creek, one of which is within 80 feet of the creek.

Traveling downstream a short distance, the riparian corridor becomes heavily wooded on both sides of the creek. This section is very sinuous and undeveloped until river mile 23.75 where a small stream flows into the creek from the west.

Kinsman Material Sand and Gravel is located about 1,110 to 1,500 feet west of the creek and extends downstream to river mile 23.45. On the east side of the river, an agriculture field extends from river mile 23.77 to 23.55 but is separated from the creek by a wooded riparian corridor ranging between 230 to 540 feet in depth.

The creek continues to flow south and is heavily wooded until river mile 23.7. To the west, a wetland complex, measuring 700 feet in length and 270 feet in width, continues until river mile 22.93. On the east of the creek, the riparian corridor is a marshy grassland habitat ranging from 80 to 1,500 feet wide.

At river mile 22.76, an old modified channel enters the creek from the north. The creek then turns south toward Underwood Road. On the east bank, the riparian corridor becomes very narrow, measuring 30 to 87 feet wide, and is bordered by an agriculture field south to Underwood Road. There is also a house and farm located 150 feet east of the creek at river mile 22.63. The western riparian corridor consists of marsh wetland habitat bordered by agriculture fields 440 to 990 feet beyond the creek to the west.

Underwood Road downstream to State Route 87

Pymatuning Creek flows south under Underwood Road at river mile 22.59. For the first 100 feet, the creek has a narrow riparian corridor on the east bank and is bordered by an agricultural field. Downstream from Underwood Road, the creek flows south through marshy grassland habitat

with some wooded vegetation bordered by agriculture fields to river mile 21.8.

From river mile 21.8 to 20.8, the riparian corridor on the west side of the creek is very wide, with woody vegetation and marshy/grassland habitat present. On the east bank, the riparian corridor from river mile 21.8 to 21.3, is wooded and ranges from 45 to 650 feet deep, bordered by agriculture fields. The Shenango Wildlife Area begins at approximately river mile 21 and borders the creek until the Ohio-Pennsylvania state line at river mile 1.94.



At river mile 20.79, there is an old abandoned road bridge, which is a remnant of the Wakefield Creek Road crossing of Pymatuning Creek running north to south. The creek remains wooded to river mile 20 and is bordered by agriculture fields to the west and a large wetland complex to the east. Pymatuning Creek flows through a large wetland complex at river mile 20, which is about 3 miles in length and ranges in width from 300 to 4,100 feet. This section of the creek features widened stream channels and extensive wetland complexes, including several large areas of open water at river mile 19.8-19.5 and river mile 19.2-19. There are several bald eagles' nests present and many beaver lodges and dams present. Clear Creek flows into Pymatuning Creek at river mile 18.

State Route 87 downstream to Kinsman State Route 7

Pymatuning Creek flows south under State Route 87 at river mile 17.78 and flows through a vast wetland complex which continues downstream to river mile 16.7. This wetland complex measures 1,200 feet at its widest point and is 5,000 feet long.

At river mile 17.31, there is an old railroad bed that approaches the creek from north to south, however the bridge crossing the creek has been removed. The railroad bed offers access to the creek from State Route 87 and a small parking area. The riparian corridor is heavily forested containing wetlands throughout and a bald eagle's nest is located in this vicinity.



From river mile 16.7 south, the creek's riparian corridor becomes heavily wooded. Sugar Creek flows into Pymatuning Creek from the west at river mile 16.65 and a large wetland complex is located just downstream of the confluence.

At river mile 16.13, there is a business located 680 feet to the south of the creek. An oxbow is present at river mile 15.97, which loops south and reconnects with Pymatuning Creek at river mile 15.89. There is some development at river mile 15.9 to the north in Kinsman, which includes a residence and business.

State Route 7 Kinsman downstream to State Route 88

After crossing under State Route 7 at river mile 15.88, Pymatuning Creek flows east, approximately 210 feet south of, and parallel with, Kinsman Nickerson Road for about 1,000 feet. The creek then turns south, paralleling State Route 7 to the west and Orangeville Kinsman Road to the east. The riparian corridor west of the creek is 625 feet at its widest point and 282 feet at its narrowest. The riparian corridor east of the creek is 620 feet wide, then becomes agriculture fields. The creek turns again, flowing west toward State Route 7. The stretch of creek from river mile 15.23 to 15.1 flows south parallel to State Route 7, coming within 15 to 70 feet from the road.

From this point, the creek flows about 2,200 feet southeast to the confluence with Stratton Creek at river mile 14.69 and then continues south from river mile 14.69 to 8.37 winding through the Shenango Wildlife Area. Several small streams flow into the Pymatuning Creek, including one at river mile 13.55 and another at river mile 11.78. The Shenango Wildlife Area provides an excellent protected corridor for Pymatuning Creek with riparian corridors extending from 300 to 2,400 feet in depth. Several small and large wetland complexes are also present throughout this section of the creek. Mill Creek flows into Pymatuning Creek at river mile 8.44 just north of State Route 88.

State Route 88 downstream to Milligan Road

Pymatuning Creek crosses under State Route 88 at river mile 8.37 and continues to flow south through the Shenango Wildlife Area parallel to State Route 7 to the west, and Orangeville Kinsman Road to the east. The west side of the creek is bordered by a deep, heavily wooded riparian corridor varying from 960 to 2,230 feet wide and the creek turns away from State Route 7, creating more distance between it and the road. The east side of the creek is also bordered by a forested riparian corridor ranging 800 to 2,200 feet in depth. There are several wetlands to the east of the creek at river mile 8.3 and 7.4.

Milligan Road crosses Pymatuning Creek at river mile 5.6. Milligan Road, which is vacated in the wildlife area, is closed but has foot trail access from both the east and west sides of the creek. A large, 78-acre wetland complex lies 1,100 feet east of the creek and is divided by Milligan Road.

There are two parking areas located on Milligan Road. The Milligan east lot is located 2,100 feet east of the creek. The Milligan west lot is located 890 feet west of the creek. The old road bed can be used on both sides to access the creek.

Milligan Road downstream to Orangeville-end of designation

The creek flows under Milligan Road at river mile 5.96 and continues to flow south. This section of Pymatuning Creek is also very sinuous. A vast wetland complex, located 1,100 feet east of the creek, is intermixed with woody vegetation and continues to river mile 5. The riparian corridor to the west has several small wetland complexes and is heavily wooded, ranging from 450 to 1,800 feet wide.

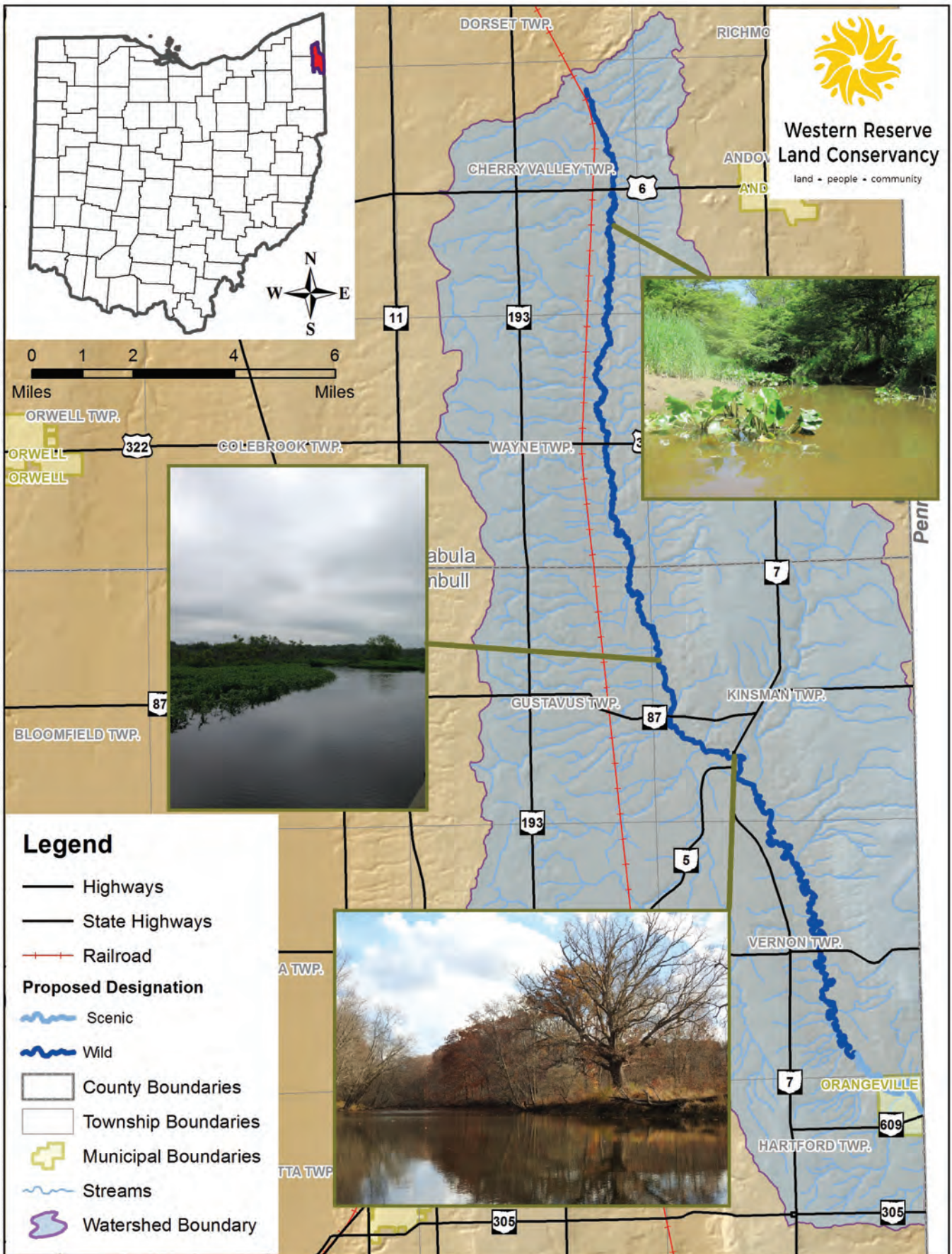
In the village of Orangeville, a small lowhead dam extends across the river just under State Route 718, which is also the Ohio-Pennsylvania state line. This dam impounds water upstream to approximately river mile 4.7. At river mile 4.3, there is a large oxbow present on the west side of the creek. From river mile 4.1 to river mile 4, the riparian corridor on the west side of the creek becomes narrow, with only 50 feet of woody cover separating the creek from agriculture fields. At river mile 3.93, a small stream enters the creek on the west side.

The upstream end of the village limits of Orangeville is at river mile 3.8. The forested riparian corridors narrow in these sections varying from 75 to 200 feet on the west bank between river miles 3.6-3.15, with agriculture fields present beyond the corridor.

Downstream, at river mile 2.65, the creek comes within 250 feet of Carlisle Road to the northeast, with narrower riparian corridors downstream, to river mile 2.2 bordered by agricultural fields. At river mile 2.17, the creek flows southeast, parallel to Vernon Street, maintaining a 130 feet distance with a wooded riparian corridor. There is access to the creek from both sides at river mile 2 through Andy Dorick Park, which features a boat launch on the western side and a small drive and parking area on the eastern side. The Pymatuning Creek designation ends at the lowhead dam below State Route 718, which separates Ohio from Pennsylvania at river mile 1.94.



Photo Credit: Ryan Moss, ODNR



Natural Features of the Pymatuning Creek Corridor

Geology

The Pymatuning-Shenango watershed is in the Allegheny Plateau Province. The area is mostly underlain by sandstones and shales deposited during the Paleozoic era (approximately 300-400 million years ago) and subsequently uplifted, then carved by pre-glacial streams into deeply cut valleys separating broad uplands. The glaciers, which covered the landscape from 2 million to approximately 10,000 years ago, modified the surface, scraping off the old soil, deepening bedrock valleys up to 300 feet, and depositing till and outwash in the valleys, across flat land and on topographic high points.

- **Till** is a poorly sorted mix of clay, silt, sand, gravel and boulders which was deposited directly by glacial ice and is often compacted by the weight of the ice. Sorting describes the distribution of grain size of sediments. Poorly sorted till does not allow water to travel through or be stored easily, as pore spaces between larger particles are filled with smaller particles. Till is usually deposited as ground moraine, which are thin layers on flat or gently rolling topography, or end moraines, which are stationary ice sheets deposited in linear, hummocky mounds at the ice margin.
- **Outwash** is a well-sorted mixture, usually of sand and gravel but also silt, deposited by streams leaving the glaciers and in glacial lakes. Outwash deposits may be nearly level or terraced. Often, outwash deposits follow pre-existing and post-glacial valleys. Because the glaciers did not radically alter the pre-existing topography, glacial streams flowed through ancient valleys, and modern streams and rivers flow through the same valleys, now further deepened but partially filled with glacial sediment. Some outwash deposits can be tens of feet thick. Sandy and gravelly outwash allows water to travel through the sediment easily, storing tremendous amounts of groundwater, especially in thick deposits. Glacial lake deposits, which are siltier, may not drain as well as glacial stream-channel deposits.

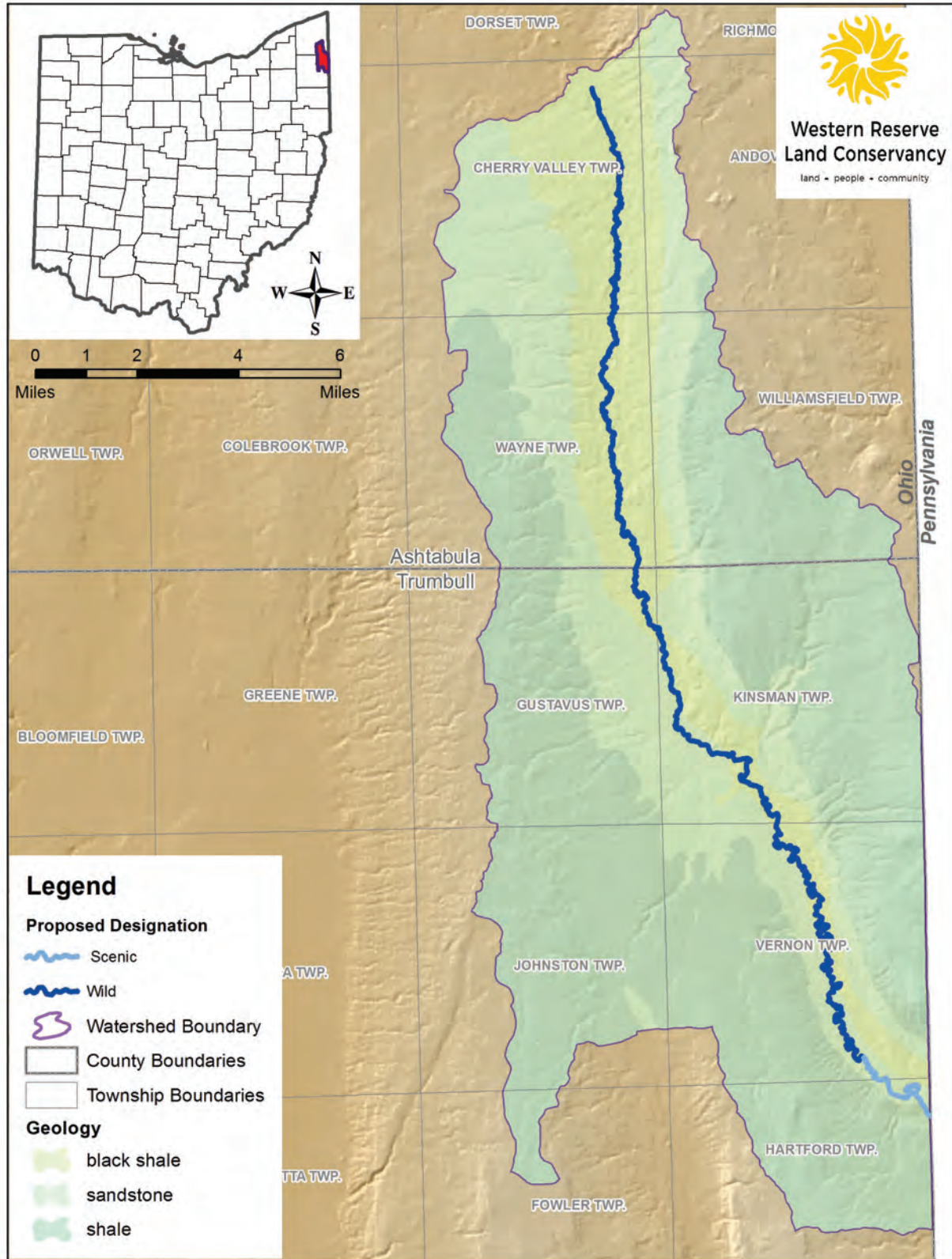
During the most recent glaciation, the Wisconsinian, a major glacial lobe advanced into the Pymatuning-Shenango area from Lake Erie in several periods of advance and retreat, depositing several layers of till on top of each other. While the glaciers did not radically modify the ancient bedrock surface, they reversed the direction of drainage flow in the watershed, from pre-glacial northwest flow to post-glacial southwest flow, by depositing sediment in the valleys.

Much of the watershed is underlain by till, often with one layer of till covering another. End moraines arc across the watershed, north of the Pymatuning Reservoir, resulting in a band of hummocky or undulating till deposits from 5 to 15 miles wide. The end moraine may contain local outwash (kame) deposits in depressions. Outwash deposits are confined to the valleys and valley walls of the major drainages and cut through the end moraine.

The remainder of the watershed is largely covered with ground moraine, ranging from under 5 to 20 feet thick in some valleys. The ground moraine (the Kent Moraine) in the southeastern portion of the watershed is variable in texture, with some thin inclusions of outwash material. The ground moraine in the western and northernmost portions of the watershed is silty and clayey.

The most productive drinking wells are generally limited to the outwash channels. The underlying glacial material likely influences drainage of the soils above. The most poorly draining soils are on silty or clayey sediment (e.g., lake deposits, certain tills), and the more well to moderately drained soils are on more gravelly sediment.

Pymatuning Creek Watershed Geology Map



Plant Communities

Ashtabula and Trumbull counties were largely forested when European settlers first arrived. In 1796, while directing the survey of the Connecticut Western Reserve eastern line, Mr. Holley the tree species of the eastern edge of the Pymatuning Creek watershed were described as “chestnut, white oak, maple, beech, whitewood, black oak, pepperidge (black tupelo), cucumber, white walnut, grape vines.” (Williams, 1882).

The Pymatuning Creek watershed supports many plant community types. The following is a list of 12 plant communities found in the watershed (Bissell, 2018):

Beech-Sugar Maple-Red Maple-Basswood-American Elm-Black Cherry Forest

Small remnants of this forest type, which are dominated by beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), basswood (*Tilia americana*), American elm (*Ulmus americana*) and black cherry (*Prunus serotina*), are present on valley slopes, uplands and high floodplain terraces throughout the Pymatuning Creek valley. Today, this forest type is fairly uncommon within the valley.

White Oak-Black Cherry-Lowbush Blueberry Forest

This forest type, heavily dominated by white oak (*Quercus alba*), black cherry and lowbush blueberry (*Vaccinium pallidum*), is present on isolated kame knobs within the Pymatuning Creek valley from Cherry Valley Township into Kinsman Township.

Northern Rich Beech-Basswood-Black Cherry-Sugar Maple-White Ash Forest

Small remnants of this forest type, dominated by beech, basswood, black cherry, sugar maple and white ash (*Fraxinus americana*), are widely scattered throughout the basin on high floodplain terraces and valley slopes. Ongoing studies by the U.S. Forest Service, in northwestern Ohio and southeastern Michigan, where emerald ash borer (EAB) was accidentally introduced into the U.S. from China, have shown that only 1 percent of white ash is resistant to this invasive insect. Any white ash that demonstrates EAB resistance, when possible, should be left uncut.

Green Ash-American Elm-Bitternut Hickory Floodplain Forest

This forest type is still abundant on low floodplain terraces throughout the valley. Nearly all the green ash, which show no resistance to EAB, have been decimated. Herbaceous floodplain and emergent marsh plants are currently spreading into openings created by the dying ash. Unfortunately, non-native phragmites (*Phragmites australis subsp. australis*) and non-native canary grass (*Phalaris arundinacea*) are also rapidly spreading into those openings.



Photo Credit: Leslie Woodward

Bur Oak-Shellbark Hickory Swamp Forest

This forest type, dominated by a savannah of large bur oak (*Quercus macrocarpa*) and shellbark hickory (*Carya laciniosa*), is well represented within the broad floodplain and beaver pond openings downstream from the headwaters of the creek in southern Dorset Township. Both species are widely scattered throughout the entire valley, south into the Shenango Wildlife Area.

Speckled Alder-Poison Sumac-Highbush Blueberry-Interior Sedge Shrub Fen

Small pockets of this natural wetland community, dominated by speckled alder (*Alnus incana* subsp. *rugosa*), poison sumac (*Toxicodendron vernix*), highbush blueberry (*Vaccinium corymbosum*) and interior sedge (*Carex interior*), and considered rare in Ohio, are widely scattered in the valley from 6 miles above the U.S. Route 6 bridge, to 6 miles below the bridge. These fens are typically underlain by fairly deep peat. Massive sand and gravel deposits along both sides of the Pymatuning Creek valley, from northern Cherry Valley Township, through Wayne Township and into Kinsman Township, provide continuous flows of high pH waters into the shrub fens.

Several state-endangered and state-threatened species are present within several of the high-quality fen openings. Active management is necessary to prevent native and invasive shrub encroachment from choking out the rare fen species. Glossy buckthorn (*Frangula alnus*) is widespread throughout the valley and poses a severe threat to all glacial fens throughout the valley. This community is less common south of State Route 87, but some glacial fens are present on the valley slopes south of Kinsman.

Yellow Sedge-White Beak Rush-Interior Sedge Fen Meadow

This uncommon glacial fen community is dominated by yellow sedge (*Carex flava*), white beak rush (*Rynchospora alba*) and small cranberry (*Vaccinium macrocarpum*). It is known at only one location in the river valley.

Large-leaf Pondweed-Ribbon Pondweed-Coontail Aquatic Bed Community

Floating and submersed aquatic bed communities, dominated by large-leaf pondweed (*Potamogeton amplifolius*), ribbon pondweed (*Potamogeton epihydrus*), coontail (*Ceratophyllum demersum*) and small pondweed (*Potamogeton pusillus* var. *tenuissimus*) are fairly common within beaver dam ponds throughout the valley. A globally rare and state-endangered pondweed, Hill's pondweed (*Potamogeton hillii*), is present here in Wayne and Cherry Valley townships.

Bluejoint Reed-Grass-Swamp Loosestrife-Robust Smartweed-Yellow Pond Lily-Greater Bur-reed Emergent Marsh Community

This emergent marsh community, dominated by bluejoint reed grass (*Calamagrostis canadensis*), swamp loosestrife (*Decodon verticillatus*), robust smartweed (*Persicaria robustior*), yellow pond-lily (*Nuphar advena*) and greater bur-reed (*Sparganium eurycarpum*), is frequent throughout the broad floodplain of Pymatuning Creek where beaver ponds have flooded and killed speckled alder fens or green ash-American elm-bitternut hickory floodplain forest.

Buttonbush-Swamp Loosestrife-Shrub Swamp Community

This natural community, dominated by buttonbush (*Cephalanthus occidentalis*) and swamp loosestrife, is frequent throughout the middle section of Pymatuning Creek, from the Mill Road

Bridge in Cherry Valley Township, downstream to northern Trumbull County. A good example of this community is present along the south side of U.S. Route 6, in Cherry Valley Township, just east of the U.S. Route 6 bridge over Pymatuning Creek. Another large opening of this community is located on the north side of U.S. Route 6, on the east side of the creek.

Speckled Alder-Nannyberry-Steeplebush-Weak Bog Sedge Community

This community, dominated by speckled alder (*Alnus incana subspecies rugosa*), nannyberry (*Viburnum lentago*), steeplebush (*Spiraea tomentosa*) and weak bog sedge (*Carex seorsa*) is apparently rare within the basin. Only one example has been found, in the central section of the basin, south of U.S. Route 6. Weak bog sedge is a low pH sedge that is confined to acidic swamps and sphagnum bog mats in northern Ohio.

Beech-Yellow Birch-Shumard Oak-Witch-hazel-Weak Bog Sedge Swamp Forest

This swamp forest community, dominated by American beech, yellow birch (*Betula alleghaniensis*), shumard oak (*Quercus shumardii*), witch-hazel (*Hammelis virginiana*), cinnamon fern (*Osmunda cinnamomea*), evergreen wood fern (*Dryopteris intermedia*), spicebush (*Lindera benzoin*) and weak bog sedge, is very rare within the river valley. It is currently known at a single location within Shenango Wildlife Area, several miles south of Kinsman. Each of these community types provide specific habitat necessary to sustain plant and animal diversity within the watershed.

The following is a list of 223 documented trees, shrubs, ferns, lichens, fungus and other plants that have been documented in the Pymatuning Creek watershed (Semroc and Rosche, 2017; ODNR Division of Wildlife, 2016; ODOT, 1985).

Fungi

- | | |
|---|---|
| <i>Clavicornia pyxidate</i> (crown coral) | <i>Phellinus igniarius</i> (bracket fungus) |
| <i>Ganoderma applanatum</i> (artist conk) | <i>Polyporus squamosus</i> (dryad's saddle) |
| <i>Laetiporus sulphureus</i> (chicken of the woods) | <i>Trametes versicolor</i> (turkey tail) |

Lichens

- | | |
|--|---|
| <i>Cladonia bacillaris</i> (matchstick lichen) | <i>Flavoparmelia caperata</i> (common greenshield lichen) |
| <i>Cladonia chlorophaea</i> (pixie cup lichen) | |

Key: Endangered – (E), Threatened - (T), Potentially Threatened – (PT), Presumed Extirpated – (X) – Non-native/Invasive (N/I)

Ferns and Lycophytes

Botrychium dissectum (cutleaf grape fern)
Dryopteris carthusiana (spinulose wood fern)
Dryopteris intermedia (evergreen wood fern)
Dryopteris marginalis (marginal shield fern)
Equisetum arvense (field horsetail)
Equisetum sylvaticum (woodland horsetail)
(PT)
Lycopodium clavatum (running ground-pine)
Onoclea sensibilis (sensitive fern)
Osmunda cinnamomea (cinnamon fern)
Osmunda regalis (royal fern)
Polystichum crostichoides (Christmas fern)
Thelypteris noveboracensis (New York fern)



**Woodland
Horsetail**

Plants

Achillea millefolium (yarrow) (N/I)
Actaea pachypoda (white baneberry or doll's eyes)
Actinomeris alterniflora (common wingstem)
Ageratina altissima (white snakeroot)
Agrimonia gryposepala (common agrimony)
Alisma subcordatum (water plantain)
Alliaria petiolata (garlic mustard) (N/I)
Ambrosia artemisiifolia (common ragweed)
Amphicarpa bracteata (hog peanut vine)
Antennaria sp. (field pussytoes)
Apocynum cannabinum (dogbane)
Ariasema triphyllum (Jack-in-the-pulpit)
Artemisia vulgaris (mugwort) (N/I)
Asclepias syriaca (common milkweed)
Bidens bipinnata (Spanish needles)
Blephila hirsute (hairy wood mint)
Callitriche verna (vernal water-starwort) (T)
Caulophyllum thalictroides (blue cohosh)
Chelone glabra (turtlehead)
Cichoreium intybus (chicory) (N/I)
Circaea quadrisulcata (enchanter's nightshade)
Cirsium arvense (Canada thistle) (N/I)
Cirsium muticum (swamp thistle)
Clematis virginiana (virgin's bower)
Clintonia borealis (bluebeard lilly) (E)
Convolvulus arvensis (field bindweed) (N/I)
Cuscuta grovonii (common dodder)
Daucus carota (Queen Anne's lace) (N/I)
Dipsacus sylvestris (common teasel) (N/I)
Drosera rotundifolia (round-leaved sundew)
Epifagus virginiana (beechdrops)
Epilobium strictum (simple willow-herb) (T)
Epilobium hirsutum (hairy willow-herb) (N/I)
Epipactis helleborine (helleborine orchid)
(N/I)
Erigeron annuus (fleabane daisy)
Euonymus obovatus (running strawberry-bush)
Eupatorium fistulosum (hollow-stemmed Joe-pye weed)
Eupatorium maculatum (spotted Joe-pye weed)
Eupatorium perfoliatum (boneset)
Galium aparine (cleavers)
Galium spp. (bedstraws)
Gentiana andrewsii (closed gentian)
Geranium maculatum (wild geranium)
Geum canadense (white avens)
Geum rivale (water avens) (PT)
Hesperis matronalis (dame's rocket) (N/I)

Plants (continued)

- Hypericum perforatum* (common saint johnswort) (N/I)
Impatiens capensis (spotted touch-me-not)
Isoetes engelmannii (Appalachian quillwort) (E)
Laportea canadensis (wood nettle)
Lemna minor (common duckweed)
Lobelia cardinalis (cardinal flower)
Lobelia inflata (Indian tobacco)
Lotus corniculatus (birdsfoot trefoil)
Lysimachia nummularia (moneywort) (N/I)
Maianthemum canadense (Canada mayflower)
Melilotus alba (white sweet-clover) (N/I)
Mitchella repens (partridgeberry)
Monotropa uniflora (Indian pipe)
Myosotis laxa (smaller forget-me-not)
Oenothera biennis (common evening primrose)
Orobanche uniflora (one-flowered cancer-root)
Osmorhiza claytoni (sweet cicely)
Packera aurea (golden ragwort)
Parthenocissus quinquefolia (Virginia creeper)
Peltandra virginica (arrow arum)
Pernanthes altissima (wild lettuce)
Persicaria robustior (coarse smartweed) (PT)
Persicaria setacea (bristly smartweed) (E)
Phytolacca americana (pokeweed)
Pilea pumila (clearweed)
Plantago lanceolate (English plantain) (N/I)
Plantago major (common plantain) (N/I)
Platanthera psycodes (small purple-fringed orchid) (PT)
Podophyllum peltatum (mayapple)
Polygonatum spp. (solomon's seals)
Polygonum arifolium (halberd-leaved tearthumb)
Polygonum persicaria (lady's thumb)
Polygonum sagittatum (arrow-leaved tearthumb)
Polygonum spp. (smartweeds)
Polygonum virginianum (Virginia knotweed)
Potamogeton hillii (Hill's Pondweed) (E)
Potentilla simplex (common cinquefoil)
Prenanthes altissima (tall white lettuce)
Ranunculus spp. (buttercups)
Ribes spp. (gooseberries)
Rubus allegheniensis (common blackberry)
Rubus hispidus (swamp dewberry)
Rubus spp. (blackberries and dewberries)
Rudbeckia laciniata (green-headed coneflower)
Rumex acetosella (field sorrel) (N/I)
Rumex crispus (curled dock) (N/I)
Rumex obtusifolius (bitter dock) (N/I)
Saxifraga pensylvanica (swamp saxifrage)
Smilacina racemose (false solomon's seal)
Smilax rotundifolia (common greenbrier)
Smilax tamnoides (bristly greenbrier)
Solanum dulcamara (bittersweet nightshade) (N/I)
Solidago altissima (tall goldenrod)
Solidago caesia (blue-stemmed goldenrod)
Solidago juncea (early goldenrod)
Solidago flexicaulis (zigzag goldenrod)
Spiranthes cernua (nodding ladies-tresses orchid)
Spiranthes romanzoffiana (hooded ladies'-tresses) (T)

**Hooded
Ladies'
Tresses**

Photo Credit:
Judy Semroc



Key: Endangered – (E), Threatened - (T), Potentially Threatened – (PT), Presumed Extirpated – (X) – Non-native/Invasive (N/I)

Plants (continued)

Symphotrichum divaricatus (white woodland aster)
Symphotrichum macrophyllum (wide-leaved woodland aster)
Symplocarpus foetidus (skunk cabbage)
Taraxacum officinale (common dandelion) (N/I)
Thalictrum polygamum (tall meadow rue)
Tiarella cordifolia (foamflower)
Toxicodendron radicans (poison ivy)
Trillium grandiflorum (great white trillium)
Trollius laxus (spreading globeflower) (E)
Tussilago farfara (coltsfoot) (N/I)

Grasses & Sedges

Brachyelytrum aristosum (northern short husk grass)
Carex brunnescens (brownish sedge) (T)
Carex cristatella (crested sedge)
Carex flava (yellow sedge) (PT)
Carex gynandra (nodding sedge) (E)
Carex hystricina (porcupine sedge)
Carex laxiculmis (weak-stemmed wood sedge)
Carex pallescens (pale sedge) (PT)
Carex plantaginea (wide-leaved woodland sedge)
Carex seorsa (weak bog sedge)

Trees and Shrubs

Acer nigrum (black maple)
Acer rubrum (red maple)
Acer saccharinum (silver maple)
Acer saccharum (sugar maple)
Alnus serrulate (common alder)
Amelanchier laevis (serviceberry)
Carpinus caroliniana (American hornbeam)
Carya ovata (shagbark hickory)
Carya cordiformis (bitternut hickory)
Catalpa speciosa (northern catalpa) (N/I)

Urtica dioica var. *dioica* (stinging nettle) (N/I)
Uvularia sessilifolia (sessile-leaved bellwort)
Verbascum thapsus (common mullien) (N/I)
Verbascum blattaria (moth mullien) (N/I)
Verbena hastata (blue vervain)
Vernonia gigantea (tall ironweed)
Viola sororia (common blue violet)
Viola primulifolia (primrose-leaved violet) (E)
Vitis aestivalis (summer grape)
Vitis riparia (riverbank grape)
Vitis vulpina (frost grape)

Elymus trachycaulus (bearded sheat grass) (T)
Eriophorum viridicarinatum (green cotton-grass) (PT)
Leersia oryzoides (rice cutgrass)
Luzula bulbosa (southern wood rush) (PT)
Panicum clandestinum (deer-tongue grass)
Poa saltuensis ssp. *Languida* (weak spear grass) (PT)
Rhynchospora alba (shite beak-rush) (PT)
Scirpus atrovirens (dark green bulrush)
Scirpus cyperinus (wool grass)
Sphenopholis pensylvanicum (swamp oats)

Cephalanthus occidentalis (buttonbush)
Cornus amomum (silky dogwood)
Cornus racemose (gray dogwood)
Corylus americana (American hazel)
Crataegus spp. (hawthorns)
Fagus grandifolia (American beech)
Fraxinus pennsylvanica (green ash)
Fraxinus profunda (pumpkin ash)
Hamamelis virginiana (American witch-hazel)
Juglans nigra (black walnut)

Trees and Shrubs (continued)

Ligustrum vulgare (common privet) (N/I)

Lindera benzoin (spicebush)

Liriodendron tulipifera (tuliptree)

Lonicera japonica (Japanese honeysuckle)
(N/I)

Magnolia acuminata (cucumber magnolia)

Malus sp. (apple)

Malus sp. (crabapple)

Nyssa sylvatica (black gum)

Ostrya virginiana (American hophornbeam)

Physocarpus opulifolius (ninebark)

Prunus serotina (black cherry)

Quercus alba (white oak)

Quercus bicolor (swamp white oak)

Quercus palustris (pin oak)

Quercus rubra (red oak)

Rhamnus frangula (glossy buckthorn) (N/I)

Rhus typhina (staghorn sumac)

Robinia pseudoacacia (black locust)

Rosa palustris (swamp rose)

Rosa multiflora (multiflora rose) (N/I)

Salix discolor (pussy willow)

Salix petiolaris (slender willow) (T)

Salix sericea (silky willow)

Salix nigra (black willow)

Sambucus canadensis (common elderberry)

Sassafras albidum (sassafras)

Spiraea alba (meadowsweet spiraea)

Tilia americana (American basswood)

Tsuga canadensis (Eastern hemlock)

Ulmus americana (American elm)

Ulmus rubra (Slippery elm)

Vaccinium corymbosum (highbush blueberry)



Hobblebush

Photo Credit: Judy Semroc

Viburnum alnifolium (hobblebush) (T)

Viburnum acerifolium (mapleleaf viburnum)

Viburnum cassinoides (witherod viburnum)

Viburnum dentatum (arrowwood viburnum)

Viburnum lentago (nannyberry viburnum)

Viburnum opulus var. americanum
(highbush-cranberry) (T)

Key: Endangered – (E), Threatened - (T), Potentially Threatened – (PT),
Presumed Extirpated – (X) – Non-native/Invasive (N/I)

Invertebrates

Macroinvertebrate Community

A 2008 Ohio EPA study (Ohio EPA, 2011), which evaluated macroinvertebrates, found a total of 267 taxa at 12 sites in the basin. The macroinvertebrate community quality ranges from fair to excellent according to Ohio EPA criteria. Stratton Creek supports the highest quality and harbored several rare or intolerant taxa including mayfly (*Dipheter hageni*) and caddisfly (*Psychomyia flavida*) and caddisfly (*Trienodes ignites*). A summary of results from the Ohio EPA macroinvertebrate stream data are found in Table 2 on page 67.

Molluscs

The following freshwater mussels have been found in Pymatuning Creek, list compiled from Huehner, M.K and Corr, C.L. 1994:

Unionidae

- Amblema plicata* (three ridge)
- Anodontoides ferussacianus* (cylindrical papershell)
- Anodonta imbecillis* (paper pondshell)
- Elliptio dilatate* (spike)
- Lampsilis radiata luteola* (fatmucket)
- Lasmigona complanate* (white heelsplitter)
- Lasmigona compressa* (creek heelsplitter) (SC)
- Lasmigona costata* (fluted shell)



Clubshell

- Pleurobema clava* (clubshell) (E)
- Pyganodon grandis grandis* (giant floater)
- Villosa iris iris* (rainbow)

Dragonflies and Damselflies

The Cleveland Museum of Natural History has documented 37 species of dragonflies along Pymatuning Creek, where the McCoy Preserve is located (Semroc and Rosche, 2017).

Odonata

Aeshnidae (Darners)

- Aeshna umbrosa* (shadow darner)
- Anax junius* (common green darner)
- Epiaeschna heros* (swamp darner)
- Rhionaeschna mutata* (spatterdock darner)

Gomphidae (Clubtails)

- Gomphus exilis* (lancet clubtail)
- Gomphus lividus* (ashy clubtail)

Key: Endangered – (E), Threatened - (T), Potentially Threatened – (PT), Presumed Extirpated – (X) – Non-native/Invasive (N/I)

Odonata (continued)

Corduliidae (Emeralds)

- Epithea cynosura* (common baskettail)
- Epithea princeps* (Prince baskettail)
- Somatochlora linearis* (mocha emerald)
- Somatochlora tenebrosa* (clamp-tipped emerald)
- Somatochlora walshii* (brush-tipped emerald) (E)

Libellulidae (Skimmers)



Halloween Pennant

- Celithemis eponina* (halloween pennant)
- Erythemis simplicicollis* (eastern pondhawk)
- Leucorrhinia intacta* (dot-tailed whiteface)
- Libellula luctuosa* (widow skimmer)
- Libellula pulchella* (twelve-spotted skimmer)
- Pachydiplax longipennis* (blue dasher)
- Pantala flavescens* (wandering glider)
- Pantala hymenaea* (spot-winged glider)
- Perithemis tenera* (eastern amberwing)

- Plathemis lydia* (common whitetail)
- Sympetrum obtrusum* (white-faced meadowhawk)
- Sympetrum rubicundulum* (ruby meadowhawk)
- Sympetrum semicinctum* (band-winged meadowhawk)
- Sympetrum vicinum* (autumn meadowhawk)
- Tramea lacerata* (black saddlebags)

Calopterygidae (Broad-winged Damselflies)

- Calopteryx maculata* (ebony jewelwing)

Lestidae (Spreadwings)

- Lestes naequalis* (elegant spreadwing)
- Lestes rectangularis* (slender spreadwing)

Coenagrionidae (Pond Damsels)

- Amphiagrion saucium* (eastern red damsel)
- Argia fumipennis violacea* (violet dancer)
- Chromagrion conditum* (aurora damsel)
- Enallagma aspersum* (azure bluet)
- Enallagma civile* (familiar bluet)
- Ischnura posita* (fragile forktail)
- Ischnura verticalis* (eastern forktail)
- Nehalennia gracilis* (sphagnum sprite)
- Nehalennia irene* (sedge sprite)

Fish

The following list of 50 fishes have been documented in the Pymatuning Creek watershed by ODNR, 1954; ODNR, 1961; Ohio EPA, 2011; Matson, 2016:

Clupeidae (Herrings)

Dorosoma cepedianum (eastern gizzard shad)

Umbridae (Mudminnows)

Umbra limi (central mudminnow)

Esocidae (Pikes)

Esox americanus vermiculatus (grass pickerel)

Esox Lucius (northern pike)

Esox masquinongy (muskellunge)



Northern Pike

Cyprinidae (Minnows)

Camptostoma anomalum (stoneroller minnow)

Clinostomus elongates (redside dace)

Cyprinella spiloptera (spotfin shiner)

Cyprinus carpio (common carp) (N/I)

Luxilus cornutus (central common shiner)

Lythrurus umbratilis (redfin shiner)

Nocomis biguttatus (hornyhead chub)

Notemigonus crysoleucas (golden shiner)

Notropis buccatus (silverjaw minnow)

Luxilus chrysocephalus (striped shiner)

Chrosomus erythrogaster (southern redbellied dace)

Pimephales notatus (bluntnose minnow)

Rhinichthys obtusus (western blacknose dace)

Semotilus atromaculatus (creek chub)

Catostomidae (Suckers)

Catostomus commersoni (common white sucker)

Hypentelium nigricans (northern hog sucker)

Minytrema melanops (spotted sucker)

Moxostoma anisurum (silver redhorse)

Moxostoma erythrurum (golden redhorse)

Ictaluridae (Catfishes)

Ameriurus catus (white bullhead)

Ameriurus melas (black bullhead)

Ameriurus natalis (yellow bullhead)

Ameriurus nebulosus (brown bullhead)

Noturus gyrinus (tadpole madtom)

Atherinidae (Silversides)

Labidesthes sicculus (brook silverside)

Centrarchidae (Sunfishes)

Ambloplites rupestris (northern rockbass)

Lepomis cyanellus (green sunfish)

Lepomis gibbosus (pumpkinseed sunfish)

Lepomis gulosus (warmouth sunfish)

Lepomis macrochirus (bluegill)

Fish (continued)

Lepomis megalotis peltastes (northern longear sunfish)

Micropterus dolomieu dolomieu (northern smallmouth bass)

Micropterus salmoides (northern largemouth bass)

Pomoxis annularis (white crappie)

Pomoxis nigromaculatus (black crappie)

Percidae (Perches)

Etheostoma blennioides (greensided darter)

Etheostoma caeruleum (rainbow darter)

Etheostoma flabellare (barred fantail darter)

Etheostoma nigrum (Johnny darter)

Etheostoma zonale (banded darter)

Perca flavescens (yellow perch)

Percina caprodes (logperch darter)

Percina maculate maculate (blackside darter)

Cottidae (Sculpins)

Cottus bairdi bairdi (central mottled sculpin)

Gasterosteidae (Sticklebacks)

Culaea inconstans (brook stickleback)



Yellow Perch

Amphibians and Reptiles

The following species have been identified as occurring in the Pymatuning Creek Watershed by: Matson, 2016; Semrock and Rosche, 2017; ODOT, 1986 (TRU 5-32 45) and (TRU 88-24 78) and field work during the designation study.

Salamanders

Proteidae

Necturus maculosus (common mudpuppy)

Salmandridae

Notophthalmus viridescens (eastern newt)

Plethodontidae

Desmognathus fuscus (northern dusky salamander)

Desmognathus ochrophaeus (Allegheny mountain dusky salamander)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Species of Interest – (SI)

Salamanders (continued)

Eurycea bislineata (northern two-lined salamander)

Plethodon cinereus (eastern red-backed salamander)

Plethodon glutinosus (northern slimy salamander)

Pseudotriton ruber ruber (northern red salamander)

Frogs and Toads

Bufonidae

Anaxyrus americanus americanus (eastern American toad)

Hylidae

Hyla versicolor (grey treefrog)

Pseudacris crucifer crucifer (northern spring peeper)

Ranidae

Lithobates catesbeianus (American bullfrog)

Lithobates clamitans melanota (northern green frog)

Lithobates pipiens (northern leopard frog)

Lithobates sylvaticus (wood frog)

Turtles

Chelydridae

Chelydra serpentina (common snapping turtle)

Emydidae

Chrysemys picta marginata (midland painted turtle)

Clemmys guttata (spotted turtle) (T)

Glyptemys insculpta (wood turtle)

Kinosternidae

Sternotherus odoratus (common musk turtle)



Common Snapping Turtle

Snakes

Colubridae

Lampropeltis triangulum (milk snake)

Nerodia sipedon sipedon (northern water snake)

Pantherophis alleganiensis (eastern ratsnake)

Storeria dekayi (DeKay's brown snake)

Storeria occipitomaculata (redbellied snake)

Thamnophis sirtalis (eastern garter snake)

Birds

The Pymatuning Creek corridor is listed by the National Audubon Society as an Important Bird Area (IBA). The following is a list of 128 bird species identified as confirmed or potentially breeding in the Pymatuning Creek watershed by Rodewald, Shumar, Boone, Slager and McCormac (eds), 2016. Second Atlas of Breeding Birds of Ohio. 600 pp. and Hochadel 2017.

Anatidae (Ducks, Geese, Swans)

Aix sponsa (wood duck)

Anas platyrhincos (mallard)

Anas discors (blue-winged teal)

Branta canadensis (Canada goose)

Cygnus buccinator (trumpeter swan) (T)

Lophodytes cucullatus (hooded merganser)

Odontophoridae (New World Quail)

Colinus virginianus (northern bobwhite)
(SC)

Phasianidae (Partridges, Pheasants)

Bonasa umbellus (ruffed grouse) (SC)

Meleagris gallopavo (wild turkey)

Phasianus colchicus (ring-necked pheasant)
(N/I)

Columbidae (Pigeons, Doves)

Columbia livia (rock pigeon) (N/I)

Zenaida macroura (mourning dove)

Cuculidae (Cuckoos)

Coccyzus americanus (yellow-billed cuckoo)

Apodidae (Swifts)

Chaetura pelagica (chimney swift)

Trochilidae (Hummingbirds)

Archilochus colubris (ruby-throated hummingbird)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Non-native/Invasive – (N/I)

Birds (continued)

Rallidae (Coots, Rails)

Gallinula gaeata (common gallinule) (SC)

Porzana carolina (sora) (SC)

Rallus elegans (king rail) (E)

Rallus limicola (Virginia rail) (SC)

Gruidae (Cranes)

Antigone canadensis (sandhill crane) (T)



Sandhill Crane

Photo Credit: Ryan Moss, ODNR

Charadriidae (Plovers)

Charadrius vociferous (killdeer)

Scolopacidae (Sandpipers, Phalaropes)

Actitis macularius (spotted sandpiper)

Gallinago delicata (Wilson's snipe) (SI)

Scolopax minor (American woodcock)

Ardeidae (Bitterns, Herons)

Ardea Herodias (great blue heron)

Botaurus lentiginosus (American bittern) (E)

Butorides virescens (green heron)

Ixobrychus exilis (least bittern) (T)

Cathartidae (New World Vultures)

Cathartes aura (turkey vulture)

Accipitridae (Hawks, Eagles, Kites)

Accipiter cooperii (cooper's hawk)

Buteo lineatus (red-shouldered hawk)

Buteo platypterus (broad-winged hawk)

Buteo jamaicensis (red-tailed hawk)

Circus cyaneus (northern harrier) (E)

Haliaeetus leucocephalus (bald eagle)

Pandion haliaetus (osprey)

Strigidae (Owls)

Bubo virginianus (great horned owl)

Megascops asio (eastern screech-owl)

Strix varia (barred owl)

Alcedinidae (Kingfishers)

Megaceryle alcyon (belted kingfisher)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Non-native/Invasive – (N/I)

Birds (continued)

Picidae (Woodpeckers)

Colaptes auratus (northern flicker)

Dryocopus pileatus (pileated woodpecker)

Melanerpes erythrocephalus (red-headed woodpecker) (SC)

Melanerpes carolinus (red-bellied woodpecker)

Picoides pubescens (downy woodpecker)

Picoides villosus (hairy woodpecker)

Sphyrapicus varius (yellow-bellied sapsucker) (SI)

Falconidae (Falcons, Caracaras)

Falco sparverius (American kestrel)

Tyrannidae (Tyrant Flycatchers)

Cyanocitta cristata (eastern wood-pewee)

Empidonax virescens (acadian flycatcher)

Empidonax alnorem (alder flycatcher)

Empidonax traillii (willow flycatcher)

Empidonax minimus (least flycatcher) (SI)

Myiarchus crinitus (great crested flycatcher)

Sayornis phoebe (eastern phoebe)

Tyrannus tyrannus (eastern kingbird)

Vireonidae (Vireos)

Vireo griseus (white-eyed vireo)

Vireo flavifrons (yellow-throated vireo)

Vireo solitarius (blue-headed vireo)

Vireo gilvus (warbling vireo)

Vireo olivaceus (red-eyed vireo)

Corvidae (Crows, Jays,)

Contopus virens (blue jay)

Corvus brachyrhynchos (American crow)

Alaudidae (Larks)

Eremophila alpestris (horned lark)

Hirundinidae (Swallows)

Hirundo rustica (barn swallow)

Petrochelidon pyrrhonota (cliff swallow)

Progne subis (purple martin)

Riparia riparia (bank swallow)

Stelgidopteryx serripennis (northern rough-winged swallow)

Tachycineta bicolor (tree swallow)

Paridae (Titmice)

Poecile atricapillus (black-capped chickadee)

Baeolophus bicolor (tufted titmouse)

Sittidae (Nuthatches)

Sitta carolinensis (white-breasted nuthatch)

Birds (continued)

Certhiidae (Creeper)

Certhia americana (brown creeper) (SI)

Troglodytidae (Wrens)

Cistothorus platensis (sedge wren) (SC)

Cistothorus palustris (marsh wren) (SC)

Thryothorus ludovicianus (Carolina wren)

Troglodytes aedon (house wren)

Poliophtilidae (Gnatcatchers)

Poliophtila caerulea (blue-gray gnatcatcher)

Turdidae (Thrushes)

Catharus fuscescens (veery)

Hylocichla mustelina (wood thrush)

Sialia sialis (eastern bluebird)

Turdus migratorius (American robin)

Mimidae (Mockingbirds, Thrashers)

Dumetella carolinensis (gray catbird)

Mimus polyglottos (northern mockingbird)

Toxostoma rufum (brown thrasher)

Sturnidae (Starlings)

Sturnus vulgaris (European starling) (N/I)

Bombycillidae (Waxwings)

Bombycilla garrulous (cedar waxwing)

Passeridae (Weaver Finches)

Passer domesticus (house sparrow) (N/I)

Fringillidae (Finches)

Haemorhous mexicanus (house finch) (N/I)

Haemorhous purpureus (purple finch) (SI)

Spinus tristis (American goldfinch)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Non-native/Invasive – (N/I)

Birds (continued)

Passerellidae

Ammodramus savannarum (grasshopper sparrow) (SC)

Pipilo erythrophthalmus (eastern towhee)

Pooecetes gramineus (vesper sparrow) (SC)

Melospiza melodia (song sparrow)

Melospiza georgiana (swamp sparrow)

Passerculus sandwichensis (savannah sparrow)

Spizella passerine (chipping sparrow)

Spizella pusilla (field sparrow)

Icteriidae (Chat)

Icteria virens (yellow-breasted chat)

Icteridae (Blackbirds, Orioles)

Agelaius phoeniceus (red-winged blackbird)

Dolichonyx oryzivorus (bobolink) (SC)

Icterus spurius (orchard oriole)

Icterus galbula (Baltimore oriole)

Molothrus ater (brown-headed cowbird)

Quiscalus quiscula (common grackle)

Sturnella magna (eastern meadowlark)

Parulidae (Wood Warblers)

Geothlypis trichas (common yellowthroat)

Mniotilta varia (black-and-white warbler)

Parkesia motacilla (Louisiana waterthrush)

Protonotaria citrea (prothonotary warbler) (SC)

Seiurus aurocapilla (ovenbird)

Setophaga americana (northern parula)

Setophaga cerulean (cerulean warbler) (SC)

Setophaga citrina (hooded warbler)

Setophaga magnolia (magnolia warbler) (SI)

Setophaga petechia (yellow warbler)

Setophaga pensylvanica (chestnut-sided warbler)

Setophaga pinus (pine warbler)

Setophaga ruticilla (American redstart)

Setophaga virens (black-throated green warbler) (SI)

Vermivora cyanoptera (blue-winged warbler)



Prothonotary Warbler

Photo Credit: Judy Semroc

Cardinalidae (Cardinal and Allies)

Cardinalis cardinalis (northern cardinal)

Passerina cyanea (indigo bunting)

Phueticus ludovicianus (rose-breasted grosbeak)

Piranga rubra (summer tanager)

Piranga olivacea (scarlet tanager)

Fifty-three additional bird species are identified as migrants or wintering species in the Pymatuning Creek watershed by ODNR Scenic River Designation Field Surveys, ODNR Division of Parks and Watercraft, 2016; Hochadel, 2017 and eBird, 2017.

Winter/Migrant Birds

Anatidae (Ducks, Geese, Swans)

Anas acuta (northern pintail) (SI)
Anas americana (American wigeon)
Anas clypeata (northern shoveler) (SI)
Anas crecca (green-winged teal) (SI)
Anas rubripes (American black duck) (SI)
Anas Strepera (gadwall) (SI)
Aythya affinis (lesser scaup)
Aythya americana (redhead) (SI)
Aythya collaris (ring-necked duck)
Aythya marila (greater scaup)
Aythya valisineria (canvasback)
Bucephala albeola (bufflehead)
Cygnus columbianus (tundra swan)

Cygnus olor (mute swan) (N/I)
Mergus serrator (red-breasted merganser)
Oxyura jamaicensis (ruddy duck) (SI)



Ruddy Duck

Rallidae (Coots, Rails and kin)

Fulica americana (American coot) (SC)

Charadriidae (Plovers)

Charadrius semipalmatus (semipalmated plover)

Scolopacidae (Sandpipers, Phalaropes)

Calidris melanotos (pectoral sandpiper)
Calidris minutilla (least sandpiper)
Calidris pusilla (semipalmated sandpiper)
Limnodromus griseus (short-billed dowitcher)

Tringa flavipes (lesser yellowlegs)
Tringa melanoleuca (greater yellowlegs)
Tringa solitaria (solitary sandpiper)

Laridae (Gulls)

Chroicocephalus Philadelphia (Bonaparte's gull)

Hydroprogne caspia (Caspian tern)
Larus delawarensis (ring-billed gull)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Non-native/Invasive – (N/I)

Birds (continued)

Ardeidae (Bitterns, Herons)

Ardea alba (great egret) (SC)

Accipitridae (Hawks, Eagles etc.)

Accipiter striatus (sharp-shinned hawk) (SC)

Troglodytidae (Wrens)

Troglodytes troglodytes (winter wren)

Regulidae (Kinglets)

Regulus satrapa (golden-crowned kinglet)

Regulus calendula (ruby-crowned kinglet)

Turdidae (Thrushes)

Catharus guttatus (hermit thrush) (SI)

Catharus ustulatus (Swainson's thrush)

Fringillidae (Finches)

Plectrophenax nivalis (snow bunting)

Passerellidae (Sparrows)

Junco hyemalis (dark-eyed junco) (SI)

Passerella iliaca (fox sparrow)

Spizella arborea (American tree sparrow)

Zonotrichia albicollis (white-throated sparrow)

Zonotrichia leucophrys (white-crowned sparrow)

Icteridae (Blackbirds, Orioles, Etc.)

Euphagus carolinus (rusty blackbird)

Sturnella neglecta (western meadowlark) (SI)

Parulidae (Wood Warblers)

Oreothlypis peregrina (Tennessee warbler)

Oreothlypis ruficapilla (Nashville warbler) (SI)

Setophaga caerulescens (black-throated blue warbler) (SI)

Setophaga castanea (bay-breasted warbler)

Setophaga coronata (yellow-rumped warbler)

Setophaga fusca (blackburnian warbler) (SI)

Setophaga magnolia (magnolia warbler) (SI)

Setophaga palmarum (palm warbler)

Setophaga striata (blackpoll warbler)

Setophaga tigrina (Cape May warbler)

Mammals

The following is a list of mammals likely found in the Pymatuning Creek watershed based on ODNR Division of Wildlife range maps (ODNR Division of Wildlife, 2016).

Marsupiala

Didelphidae

Didelphis virginiana (Virginia opossum)

Insectivora

Talpidae

Condylura cristata (star-nosed mole) (SC)

Parascalops breweri (hairy-tailed mole)

Soricidae

Blarina brevicauda (northern short-tailed shrew)

Sorex cinereus (masked shrew)

Sorex fumeus (smoky shrew) (SC)

Chiroptera

Vespertilionidae

Eptesicus fuscus (big brown bat) (SC)

Lasionycteris noctivagans (silver-haired bat) (SC)

Lasiurus borealis (eastern red bat) (SC)

Lasiurus cinereus (hoary bat) (SC)

Myotis lucifugus (little brown bat) (SC)

Myotis sodalis (Indiana bat) (E)

Nycticeius humeralis (evening bat) (SI)

Perimyotis subflavus (tri-colored bat) (SC)

Lagomorpha

Leporidae

Sylvilagus floridanus (eastern cottontail)

Rodentia

Castoridae

Castor canadensis (American beaver)

Sciuridae

Glaucomys volans (southern flying squirrel)

Marmota monax (woodchuck)

Sciurus carolinensis (eastern gray squirrel)

Sciurus niger (eastern fox squirrel)

Key: Endangered – (E), Threatened - (T),
Species of Concern – (SC), Non-native/Invasive – (N/I)

Rodentia Sciuridae (Continued)

Tamias striatus (eastern chipmunk)

Tamiasciurus hudsonicus (red squirrel)

Muridae

Mus musculus (house mouse) (N/I)

Rattus norvegicus (brown rat) (N/I)

Cricetidae

Microtus pennsylvanicus (meadow vole)

Microtus pinetorum (woodland vole) (SC)

Ondatra zibethicus (common muskrat)

Peromyscus leucopus (white-footed deer mouse)

Synaptomys cooperi (southern bog lemming) (SC)

Dipodidae

Napaeozapus insignis (woodland jumping mouse) (SC)

Zapus hudsonius (meadow jumping mouse)

Carnivora

Canidae

Canis latrans (coyote)

Urocyon cinereoargenteus (gray fox) (SC)

Vulpes vulpes (fox)

Ursidae

Ursus americanus (American black bear) (E)

Procyonidae

Procyon lotor (Raccoon)

Mustelidae

Lontra canadensis (North American river otter)

Mustela erminea (short-tailed weasel or ermine) (SC)

Mustela frenata (long-tailed weasel)

Mustela nivalis (least weasel)

Neovison vison (American mink)



American Mink

Photo Credit:
Ryan Moss, ODNR

Mephitidae

Mephitis mephitis (striped skunk)

Felidae

Lynx rufus (bobcat)

Artiodactyla

Cervidae

Odocoileus virginianus (white-tailed deer)

Rare and Endangered Species

ODNR has classified and listed the following 90 species, within the Pymatuning Creek watershed as endangered, threatened, potentially threatened, species of concern, and special interest, or presumed extirpated as of 2017. Plants are listed under the authority of the ODNR Division of Natural Areas and Preserves (ODNR Division of Natural Areas and Preserves, 2016) with advice from the Ohio Rare Plants Advisory Committee pursuant to ORC 1518. Species other than plants are listed under the authority of ODNR Division of Wildlife (ODNR Division of Wildlife, 2017) pursuant to ORC 1531.25. Additionally, Ohio EPA lists three species found in the Pymatuning Creek watershed as declining.

One of the most recognized federally endangered species in the Pymatuning Creek is the clubshell mussel *Pleurobema clava*. In 1993, Dr. Marty Huehner of Hiram College discovered a previously unknown population of this mussel in the Pymatuning. A year later, an Ohio recovery plan was developed for the clubshell by Dr. Tom Watters of the Ohio State University and ODNR's Division of Wildlife for the U.S. Fish and Wildlife Service, that included Pymatuning Creek. In 2015, a pilot study was initiated with 50 tagged clubshell mussels being released in the Pymatuning by Envirosience Incorporated. Follow-up survey work, a year later, found that all 50 released individuals were thriving in the creek. This prompted the U.S. Fish and Wildlife Service, the Pennsylvania Department of Transportation and Envirosience to relocate an additional 1,000 clubshell mussels, found beneath a bridge over the Allegheny River in Pennsylvania that is scheduled for demolition, to the Pymatuning Creek.

Endangered

Botaurus lentiginosus (American bittern)
Carex gynandra (nodding sedge)
Circus cyaneus (northern harrier)
Clintonia borealis (bluebead lily)
Isoetes engelmannii (Appalachian quillwort)
Myotis sodalist (Indiana bat)
Persicaria setacea (bristly smartweed)

Pleurobema clava (clubshell) (FE)
Potamogeton hillii (Hill's pondweed)
Rallus elegans (king rail)
Somatochlora walshii (brush-tipped emerald)
Trollius laxus (spreading globeflower)
Ursus americanus (American black bear)
Viola primulifolia (primrose-leaved violet)

Threatened

Antigone canadensis (sandhill crane)
Callitriche verna (vernal water-starwort)
Carex brunnescens (brownish sedge)
Clemmys guttata (spotted turtle)
Cygnus buccinator (trumpeter swan)
Elymus trachycaulus (bearded wheat grass)
Epilobium strictum (simple willow-herb)

Ixobrychus exilis (least bittern)
Salix petiolaris (slender willow)
Spiranthes romanzoffiana (hooded ladies'-tresses)
Viburnum alnifolium (hobblebush)
Viburnum opulus var. americanum (highbush-cranberry)

Key: Federally Endangered – (FE)

Potentially Threatened

Carex flava (yellow sedge)
Carex pallescens (pale sedge)
Equisetum sylvaticum (woodland horsetail)
Eriophorum viridicarinatum (green cotton-grass)
Geum rivale (water avens)
Luzula bulbosa (southern wood rush)

Persicaria robustior (coarse smartweed)
Platanthera psycodes (small purple-fringed orchid)
Poa saltuensis ssp. *Languida* (weak spear grass)
Rhynchospora alba (white beak-rush)

Species of Concern

Accipiter striatus (sharp-shinned hawk)
Ammodramus savannarum (grasshopper sparrow)
Ardea alba (great egret)
Bonasa umbellus (ruffed grouse)
Cistothorus palustris (marsh wren)
Cistothorus platensis (sedge wren)
Colinus virginianus (northern bobwhite)
Condylura cristata (star-nosed mole)
Dolichonyx oryzivorus (bobolink)
Eptesicus fuscus (big brown bat)
Fulica americana (American coot)
Gallinula gaeata (common gallinule)
Lasionycteris noctivagans (silver-haired bat)
Lasiurus borealis (eastern red bat)
Lasiurus cinereus (hoary bat)
Lasmigona compressa (creek heelsplitter)

Melanerpes erythrocephalus (red-headed woodpecker)
Microtus pinetorum (woodland vole)
Mustela ermine (ermine)
Myotis lucifugus (little brown bat)
Napaeozapus insignis (woodland jumping mouse)
Perimyotis subflavus (tri-colored bat)
Poocetes gramineus (vesper sparrow)
Porzana Carolina (sora)
Protonotaria citrea (prothonotary warbler)
Rallus limicola (Virginia rail)
Setophaga cerulea (cerulean warbler)
Sorex fumeus (smoky shrew)
Sphyrapicus varius (yellow-bellied sapsucker)
Synaptomys cooperi (southern bog lemming)
Urocyon cinereoargenteus (gray fox)

Special Interest

Anas acuta (northern pintail)
Anas clypeata (northern shoveler)
Anas crecca (green-winged teal)
Anas rubripes (American black duck)
Anas strepera (gadwall)
Aythya americana (redhead)
Catharus guttatus (hermit thrush)
Certhia americana (brown creeper)
Dendroica caerulescens (black-throated blue warbler)
Dendroica fusca (blackburnian warbler)
Dendroica magnolia (magnolia warbler)

Empidonax minimus (least flycatcher)
Gallinago delicata (Wilson's snipe)
Haemorhous purpureus (purple finch)
Junco hyemalis (dark-eyed junco)
Nycticeius humeralis (evening bat)
Oxyura jamaicensis (ruddy duck)
Setophaga magnolia (magnolia warbler)
Setophaga virens (black-throated green warbler)
Sphyrapicus varius (yellow-bellied sapsucker)
Sturnella neglecta (western meadowlark)
Vermivora ruficapilla (Nashville warbler)

Declining Species

Ohio has listed the following species, which are currently found in the Pymatuning Creek watershed, as declining (Ohio EPA, 2011).

Declining Species

Chrosomus erythrogaster (southern red-belly dace)

Clinostomus elongates (redside dace)

Nocomis biguttatus (hornyhead chub)



Hornyhead Chub

Cultural History of the Pymatuning Creek Watershed

Pymatuning Creek has shaped the human experience of those living near its banks since the first Native Americans settled in today's northeast Trumbull County. From the early days of settlement to the present, the creek has contributed to the livelihood and success of the people who have called this area home.

Approximately 3,000 years ago, the Adena and Hopewell cultures populated most of Ohio. Primarily following the Ohio River, they settled along the tributaries and branched out through the state, settling also in present-day West Virginia, Tennessee and Indiana. Pymatuning Creek marked the northern-most terrain they occupied. Colloquially known as "mound builders," the Hopewell and Adena people left behind projectile points (arrow/spear points) which can still be found today.

Some scholars speculate that the Erie, first encountered by Europeans in Northeast Ohio, were descendents of the Adena and Hopewell people. An Iroquois-speaking tribe located south of Lake Erie, the Erie, or "Erielhonan" were defeated in battle by the Iroquois during the Beaver Wars of the 1680s. Their name roughly translates to "long tail." The Erie were known to wear puma and cougar tails as ceremonial accessories.

While the Iroquois used this land primarily as hunting grounds, other non-native peoples including French traders, missionaries and occasional soldiers, built temporary housing along the Pymatuning to benefit from the area's trade networks. The salt springs in Mineral Ridge, along with the various local waterways, allowed for established trade between Native American tribes and European pioneers.

Pymatuning Creek was first known by European settlers as Smith Creek, named after General Martin Smith of Vernon, Ohio. It was later called Venango, a name that appears on early township deeds. However, it quickly became known as Pymatuning after the band of Native Americans found living on its banks. A sect of the Seneca tribe, they planted corn, fished and hunted for food. Their housing was found on the west bank of the river and their hunting grounds extended from the junction of the Pymatuning and Shenango rivers in Orangeville and went as far north as Gustavus, Ohio. Their name, "Pymatuning," meant "The home of the man with the crooked mouth."

The chief of the Pymatuning tribe, Quindashiwa, was documented by William Clark, an early settler to Orangeville. He arrived with his family in 1816, and details incidents between Quindashiwa and the early immigrants to Orangeville. Not long



*Orangeville, showing the Imperial Roller Mills.
Courtesy of the Trumbull County Historical Society*

after Clark's arrival, the Pymatuning tribe moved up the creek and subsequently to a reservation in northern Pennsylvania near the New York state line.

The earliest settlers to utilize the creek in Orangeville did so for domestic and economic reasons. Families gathered water for cooking and washing clothes, as well as for powering mills. The first settler is generally documented as a German man by the name of Jacob Loutzenhiser, who built a small house on the Pennsylvania side of Orangeville in Mercer County. He built a hewed log grist mill and not long after sold the mill to Adam Haun, who carried on the business for many years. It operated under the name of Fell Milling Company and was one of the longest lasting mills in the area. It was demolished in 1964 when the U.S. Army Corp of Engineers made way for a portion of the Shenango River Reservoir.

In total, there have been four water-powered and one motor-powered grist mills in the history of Orangeville, built due to easy access to running water. By 1887, with a population of 350, Orangeville's residents relied on the Pymatuning for their day-to-day livelihoods.



*Mill in Orangeville, Mercer County, PA.
Property of Shafer Bros & Phillips.
Courtesy of the Trumbull County Historical Society*

Vernon Township also relied on the river for the success of its first settlers. In 1798, Thomas Giddings and Martin Smith paddled up the Pymatuning to survey the lands purchased by Dr. Jeremiah Wilcox of the Connecticut Land Company. Giddings and Smith made camp on the west bank of the Pymatuning Creek, and one-quarter of a mile from the bridge on Route 88. The next day, they successfully found a spring, cut down trees to begin settlement, and began surveying the land from the Hartford line.

Not long after Giddings and Smith began the settlement of Vernon, other families arrived to purchase parcels of land. At least 10 families settled in Vernon the first year, and Vernon became known for its location on the highlands along each side of Pymatuning Creek. The creek played an instrumental role in the placement of the town, although it proved to be a dangerous crossing for the first settlers. In 1798, Jeremiah Emmons drowned in the river, the first night he arrived in town.

Agriculture ruled the economy and most settlers planted crops for their livelihood. Reliable drainage created an agricultural economy that, by 1853, brought the Atlantic and Great Western Railroad to Vernon. Although the township officially incorporated in 1806, the town hall was built in 1855 which demonstrates the economic success of the time.

By 1895, the Pelton Cider Mill built its second building, S.N. Hewitt operated a dry goods store, and clothing was readily available in stores, once woven and dyed in local mills. Agriculture

still served as the primary occupation for most residents, but technology allowed for effective progress. After World War I, milking was done by machine, steam threshing machines proved a great change from pounding sheaves on barn floors, and men drove wagons of milk to factories before being shipped to market.

Kinsman Township, situated in the most northeast corner of Trumbull County, perhaps thrived the most from the river's influence. The township was founded in 1799 by a band led by John Kinsman, the town's namesake. John Kinsman had purchased 16,664 acres of land for \$12,903.23, through the Connecticut Land Company, and had targeted this area due to his understanding that two creeks, the Stratton and the Pymatuning, flowed through the land.



The Mill Race, Kinsman.

Courtesy of the Trumbull County Historical Society

Kinsman hired surveyor Alfred Wolcott of Pittsburgh to lay out the township's boundary lines. Wolcott arrived in Kinsman and with his partners chose a clear and level spot on the bank of the Pymatuning to build a log cabin. Kinsman returned to Connecticut, and later, in 1804, permanently settled in the area.

Author Harriet Taylor Upton writes in her work, "The History of Trumbull County," that Kinsman was "possibly the most picturesque township" due to the "several streams running through it," and was attractive to early settlers from New England.

By 1805, 50 families called Kinsman home. John Kinsman built the first store, a log house and the first sawmill on the bank of Pymatuning Creek. In 1804 the first distillery was erected, and by the time of his death in 1813, John Kinsman saw his town flourish due to the natural resources readily available and the growing economy they created.



Iron bridge over Pymatuning Creek in Kinsman.
Courtesy of the Trumbull County Historical Society

Power from the Stratton and Pymatuning creeks proved a great asset for many of the early industries and mills. Saw and grist mills operated by the Grillis Brothers were prominent from 1806-1862. Tanneries, asheries (factories for converting hardwood ashes into lye or potash) and a fulling mill were just a few of the mills which were powered by water.

For many years, Trumbull County was known for its cheese and dairy products. Kinsman had two cheese factories until 1863, when the Civil War caused one to be turned into an armory. After the war, the Reick Company of Pittsburgh collected milk from Kinsman farms and assisted in the growth of creameries across the region.

Clarence Darrow, the criminal lawyer known for the Scopes trial, lived in Kinsman, and his childhood home, the Octagon House, still stands as a testament to his family's past. His father, Amirus Darrow, moved the family to Kinsman in 1864, and worked as a cabinet maker and undertaker out of a shop on their property. Chairs made in this shop are still on display at the Trumbull County Historical Society. Clarence Darrow passed away in Chicago in March 1938, but his remains were cremated and cast into Pymatuning Creek upon his death.



Kinsman, c. 1895.

Courtesy of the Trumbull County Historical Society

After several large flooding events, the Flood Control Act of 1938 was passed and authorized by U.S. Congress for the Shenango River Lake project. In 1957, the general design memorandum of the Shenango River Reservoir in Pennsylvania and Ohio was approved.

The proposed reservoir would impound both the Shenango River and Pymatuning Creek (a major tributary to the Shenango). Land acquisition began in 1960 for all lands that would be impacted for flood control purposes. Approximately 5,500 acres along Pymatuning Creek was purchased in Ohio for the project. In 1963 construction began and just over two years later, it was completed in July 1965. The total cost of the dam and reservoir was \$39,888,562.00.

The final construction of the Shenango Reservoir in Pennsylvania did not result in the creation of a reservoir in Ohio's portion of Pymatuning Creek. The Ohio land is used for flood control storage during extreme flood conditions. Since 1968, the ODNR Division of Wildlife has held a management license with the U.S. Army Corps of Engineers which created the Shenango Wildlife Area. This wildlife area encompasses approximately 4,820 acres of land and runs along 19 miles of Pymatuning Creek, and offers recreational opportunities for hunting, fishing, trapping, birding, hiking and paddling.

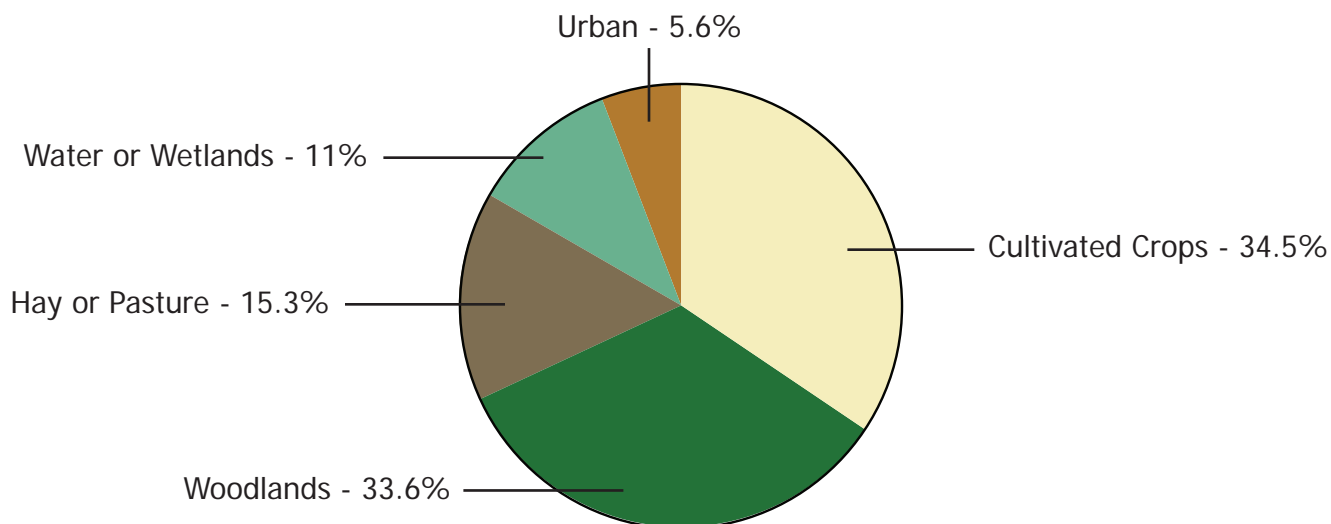
Land and Water Resources

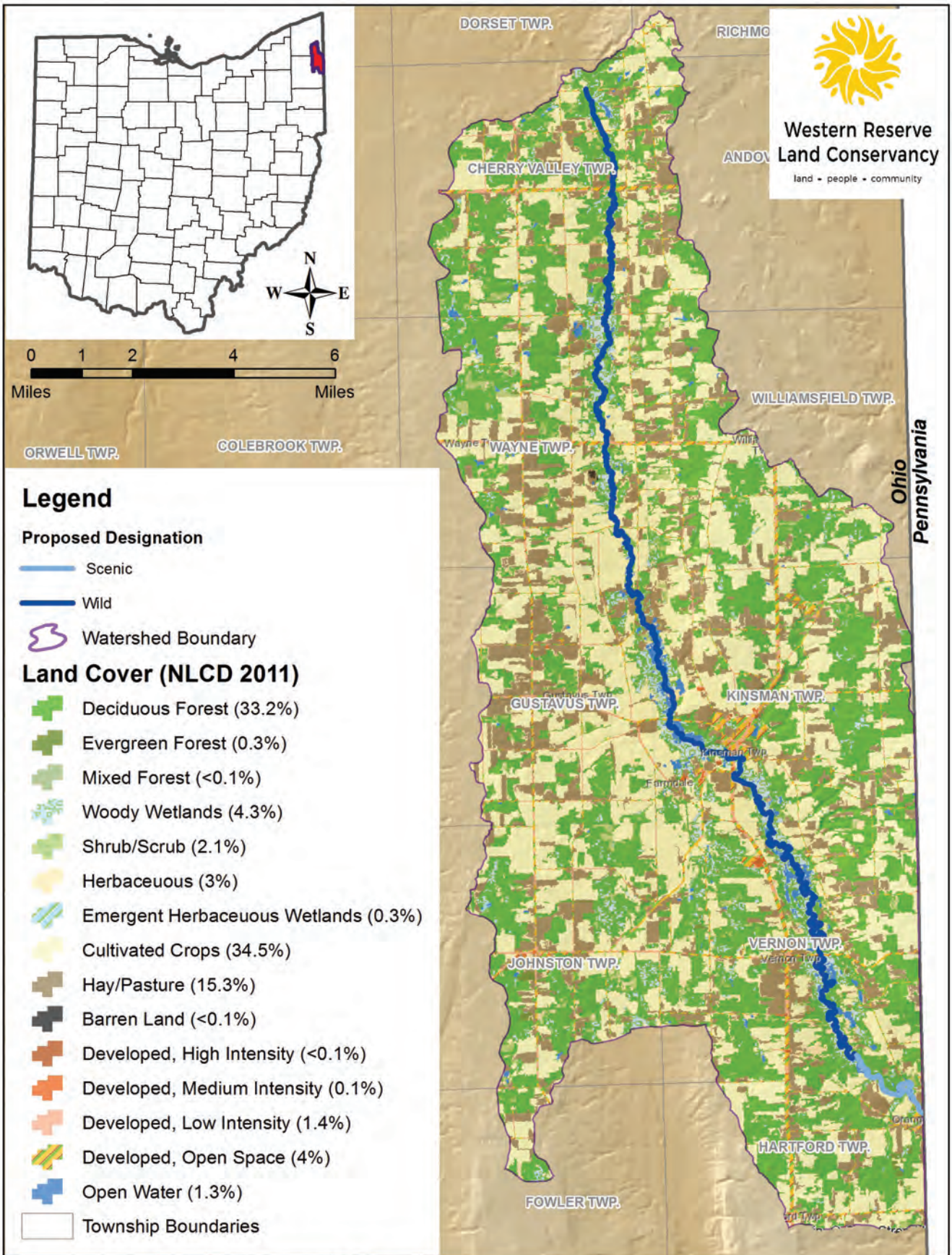
The Pymatuning Creek watershed lies between the Pymatuning Reservoir and Yankee Creek watersheds and incorporates two counties, Ashtabula and Trumbull. Agriculture is the predominate land use in the watershed, some of which incorporates effective agricultural practices, including modest to moderate riparian forest buffer areas along the Pymatuning Creek.

A patchwork of woodlands is interspersed throughout the watershed and Pymatuning Creek itself supports a system of wetlands and forests throughout the river's corridor. A majority of these areas are protected by the Shenango Wildlife Area. The wildlife area spans 5,440 acres and is only one of several protected areas. Private land conservation efforts increased the watershed's protected space by an additional 7,209 acres, while other parks and managed facilities offer another 5,025 acres of protected lands. Overall, the Pymatuning watershed is a good example of resource protection, conservation and land management.

Land use in a river or stream's watershed directly impacts its water quality, biological diversity and overall natural character. Stormwater carries pollutants associated with land use directly into surface waters. Runoff from impervious surfaces, such as roadways, parking lots and driveways, contains metals, petroleum products, sediment, pathogens and nutrients. Impervious surfaces increase the volume and rate of stormwater runoff, resulting in more flash floods and frequent flooding and channel instability. The filling in of wetlands and floodplains reduces flood-storage capability of the landscape, in addition to altering stream habitat. Certain rural and agricultural land practices can impair water quality by increasing erosion and sedimentation and contributing nutrients and pesticides to waterways. Fortunately, there are many best management practices which can reduce impacts to local waterways from development and agriculture, and also enable continued land use.

There is a small amount of urban landscape within the Pymatuning Creek watershed. Most of it is concentrated in Kinsman and Orangeville, both located in Trumbull County. Beyond these two villages, the watershed is primarily rural, agricultural and woodlands. Major land-use categories within the Pymatuning watershed include:





Surface Water Resources

The Ohio EPA describes Pymatuning Creek as a sluggish, low-gradient flowing swamp stream type, with upland areas (north of Kinsman) having a slightly higher gradient and developed flow. Although scenic, the northern uplands are spotted with isolated farm and rural lands. Low surface flows and wetland or marshy environments limit the extent of recreational opportunities for the entire reach of the designation area to only seasonal recreation.

Shenango Wildlife Area envelopes Pymatuning Creek from Orangeville north to the Trumbull and Ashtabula county line. The wildlife area offers a variety of recreational activities including hunting, fishing, canoeing and kayaking and supports abundant wildlife populations including deer, turkey, beaver, waterfowl, furbearers and songbirds. Pymatuning Creek provides ample fishing opportunities for northern pike, largemouth bass, white crappie, sunfish, catfish, carp and suckers. Spring is the best time to fish in Trumbull County and the best bass fishing can be done by canoe and casting lures.

Paddlers using Pymatuning Creek often start in the southern portion of Kinsman, follow the creek through the wildlife area and Orangeville, and to Shenango Reservoir. The 2009 Trumbull County MetroParks Comprehensive Plan discussed expanding the existing Pymatuning Creek Canoe Trail north of Orangeville into the designation plan area. Currently the trail begins at a small dam in Orangeville and traverses Pymatuning Creek southeast into the Shenango Reservoir.

Groundwater

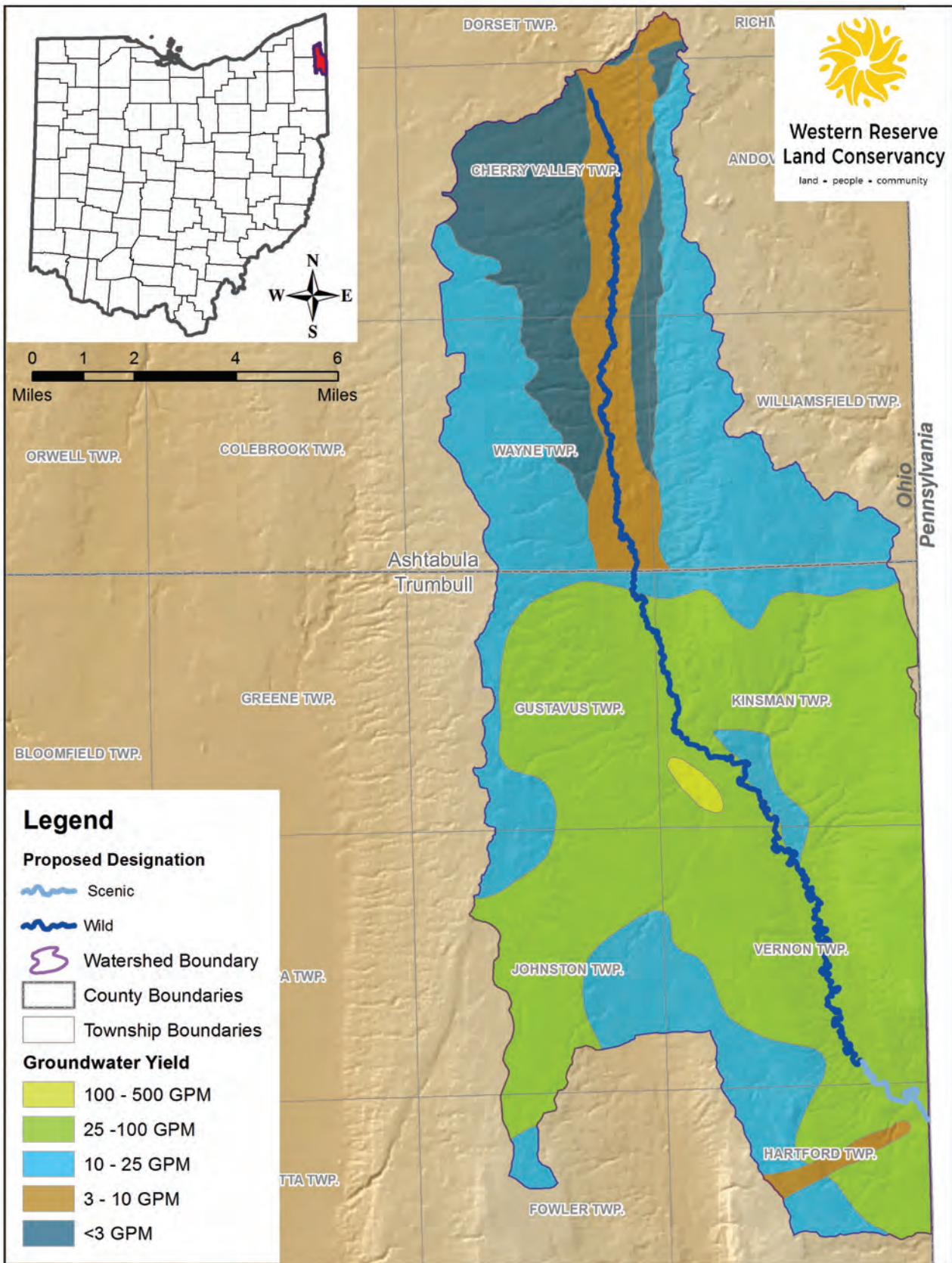
Groundwater in Ashtabula County is obtained from both unconsolidated glacial till and consolidated sandstone and shale formations. Groundwater recharge is relatively quick (7-10 inches per year) and depth to water is 5 to 15 feet. The coarse alluvium (sand and gravel) aquifer is usually in contact with the surface stream, thus feeding the wetland and saturated ground environment.

Groundwater in Trumbull County is obtained from both glacial (unconsolidated) and bedrock (consolidated) aquifers. Glacial aquifers in Trumbull County are highly variable, particularly within the buried valleys. Groundwater yield varies through the county due to the number and type of rock formations.

Understanding the shallow depth to groundwater resources, and the aquifer's contact with surface water in this region, land use activities should be conducted in a manner so as not to impair the quantity (recharge) and quality of groundwater.

Landowner protection of the Pymatuning Creek's riparian forest corridor outside of the Shenango Wildlife Area will be essential over the long term with regard to improving and maintaining the water quality and natural integrity of the Pymatuning Creek and its surrounding watershed.

Pymatuning Creek Watershed Groundwater Yield Map



Corridor Protection

Riparian Forest Buffers

The riparian area is the land area adjacent to a river or stream bank which includes the floodplain. It plays a vital role in protecting and enhancing the water quality, natural character and overall ecology of these waterways. When left in its natural state, covered by vegetation and trees, it provides the last layer of protection between the stream and surrounding land use. Whether trees, woody shrubs or grasses, stream bank vegetation plays a vital role in keeping nonpoint source pollution from entering a stream system.

The diverse wildlife habitats of the Pymatuning Creek watershed can be attributed to several ecological features, including forests, wetlands and natural stream channels. One of the most important is the presence of an intact, contiguous system of deciduous riparian forest buffers along the creek, particularly within the Shenango Wildlife Area. Protecting a continuous riparian forest buffer of the maximum depth possible along Pymatuning Creek should be one of the highest priorities for the long-term protection of this high-quality stream system.

Studies have determined that in relatively flat areas with slopes of 4 percent or less, a buffer strip, as narrow as 50 feet, can remove much of the sediments containing nitrogen and phosphorous from surface and subsurface runoff (Decamps, 1993; Klapproth and Johnson 2000). This should be considered the minimum width needed for small tributary streams. Forest buffers with a minimum width of 120 feet are needed on steeper slopes and for rivers like Pymatuning Creek. This is measured on each river bank in a horizontal plane outward from the ordinary high-water mark (also known as the bank full elevation) and has been determined to be the minimum width buffer necessary for trees to be wind firm and create a continuous forest habitat.

A forested riparian buffer width of 120 feet or greater also improves wildlife diversity by providing a greater diversity of habitat types along the edge and interior of the forest buffer. This along with a greater variety of plants and trees in these areas provides wildlife with needed food and shelter.

A riparian forest buffer width of 300 feet or more is preferable where maximum water quality protection and wildlife diversity benefits are desired. This width is needed in areas where steep slopes or highly erodible soils are present. The exceptional water quality of Pymatuning Creek and its pending status as a state wild and scenic river warrants protecting the riparian forest buffer to widths of at least 300 feet. The linear nature of riparian forest buffers is preferred by wildlife over fragmented woodlots because they provide contiguous travel corridors allowing wildlife to move from area to area.

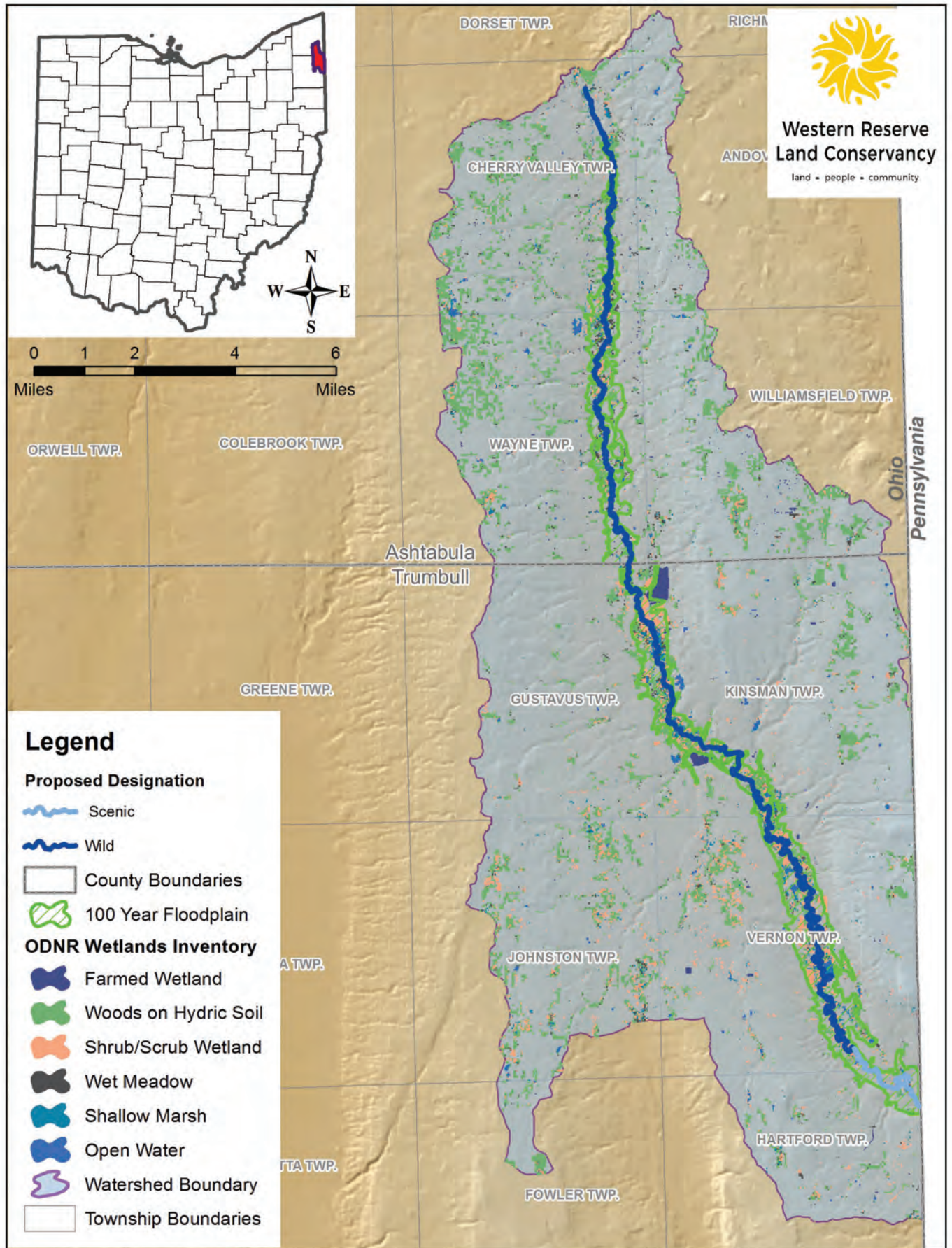
Protecting the riparian forest buffers along streams in the Pymatuning Creek watershed and outside the Shenango Wildlife Area will provide additional benefits related to maintaining healthy and diverse aquatic populations within the Pymatuning Creek system. Riparian tree roots help to stabilize the stream banks and provide shelter for fish and aquatic invertebrates as they extend into the stream (Fetherston et al., 1995 and Swanson and Franklin, 1992).

Leaves that fall into the stream are a primary food source for some aquatic invertebrates which feed on the leaves and shred them into smaller pieces. This process is the foundation for the aquatic food chain as the invertebrates are in turn food for small fish such as minnows and darters. These minnows and darters become food for larger fish such as sunfish, bass and pike. Higher in the food chain, birds, snakes, turtles and ultimately mammals may all feed on the fish.

Forested buffer zones also help moderate water temperatures (Fetherston et al., 1995; Swanson and Franklin, 1992; and Thibault, 1997). Shade reduces water temperature fluctuation throughout the day. As water temperature increases, the amount of dissolved oxygen it can hold decreases. Also, as water temperature increases, respiration requirements for aquatic organisms also increase. This decrease in dissolved oxygen and increase in respiration can cause great stress on aquatic organisms (Boyd, 1990). Some coldwater fish species, such as trout, red-bellied dace and mottled sculpins, cannot tolerate higher water temperatures. Reducing a stream's exposure to direct sunlight reduces daily temperature fluctuations and ultimately the demand for dissolved oxygen by aquatic organisms.

Forested riparian buffers perform the vital function - they filter out excess sediment originating from disturbed and unvegetated land surfaces, such as cropland and construction sites. The Ohio EPA considers sediment as a nonpoint source pollutant and is one of the top five water quality impairments in Ohio's streams. Sediment, when left exposed to rainwater will be subject to erosion and ultimately be carried in stormwater to rivers and streams where it then settles out of the water column. As sediment settles to the bottom of the stream bed, it fills in critical substrate void spaces. These void spaces are essential for the reproductive and survival functions of fish and macroinvertebrate populations. Suspended sediment in the water column increases water turbidity, which reduces the ability of fish to take in oxygen through their gills. Increased turbidity also impedes photosynthesis, a necessary process for aquatic plants, which are in turn important components in stream habitat and the aquatic food chain.

Other major nonpoint pollutants removed by forest buffers are excess nutrients, such as nitrogen and phosphorus (Decamps, 1993 and Peterjohn & Correll, 1984). If excess amounts of these nutrients are discharged in a river, they can negatively impact water quality (Peterjohn and Correll, 1984) and cause excessive algae growth. Overabundant algal growth reduces light penetration through the water column which can cause submerged, rooted aquatic vegetation to die thus reducing photosynthesis. Aquatic plants are essential to the survival of fish and other aquatic organisms by providing habitat for fish and invertebrates and oxygen to the water. Dissolved oxygen levels decrease at night in water because of the lack of photosynthesis (Boyd 1990 and Schmitz 1996). This diurnal variation of dissolved oxygen shows declining concentrations from approximately 6 p.m. reaching a daily low at around 6 a.m. Once sunlight is available, photosynthesis can take place, and dissolved oxygen levels increase from 6 a.m. to 6 p.m. The naturally low oxygen levels at night are compounded by the use of available oxygen during the subsequent decomposition process of organic matter and by the reduced photosynthesis resulting from algal or sediment turbidity. Fish kills can result in these situations.



Floodplains

A stream's floodplain provides vital water storage capacity and regulates velocity during periods of flooding. Floodplains include the riparian area and any associated wetlands. When a stream spills over onto its floodplain, pollutants, such as sediment, can settle out onto the land prior to the waters receding. A forested floodplain provides stream channel stabilization, nutrient uptake and water temperature regulation. Continued floodplain protection is an important goal for the future preservation of the river.

Wetlands

Wetlands are defined as areas inundated or saturated by surface or groundwater at a frequency and duration to support a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands must have hydric soils, hydrophytic vegetation and wetlands hydrology to be considered jurisdictional.

Several different types of wetlands are found within the Pymatuning Creek watershed including:

Wet Meadows. Small, isolated areas with saturated soils or standing water for a limited time, dominated mostly by herbaceous plants and typically occur within old fields and other recently disturbed habitats.

Marshes. Marshes are dominated by herbaceous vegetation, such as cattails and other species, and typically have standing water for significant portions of the growing season. They provide important habitat for a wide variety of insects, amphibians, birds and mammals.

Scrub and Shrub Wetlands. Scrub and shrub wetlands, dominated by a mixture of shrubs, saplings and herbaceous vegetation, are common wetland types found within the watershed.

Lowland Woods. Lowland woods, dominated by trees, are very common wetland types in the watershed and range from small isolated wetlands to extensive wetlands on floodplains. Many lowland woods have depressions that hold water during the winter and spring (vernal pools), providing breeding areas for many insects and amphibians.

Bogs and Fens. Bogs and fens are the rarest types of wetlands found in this area. A bog is a wetland with little or no water flow and typically feature a mat of sphagnum moss, which creates acidic conditions with pH between 3.5 and 5.5. A fen is a wetland fed by calcareous springs and seeps with a pH between 5.5 and 8. Both wetland types are nutrient poor, and their vegetation has adapted to these harsh conditions. Bogs and fens usually contain a high number of endangered species.

Wetlands serve as nature's sponge by retaining water, reducing the impacts of flooding and filtering excess nutrients from surface runoff. Wetlands contribute to groundwater recharge and provide the critical base flow level to Pymatuning Creek. They produce some of the most diverse habitat for both plants and animals, and often harbor rare species. Forested buffers around wetlands shade the water and reduce both water temperature and evaporation.

Some wetlands provide open water habitat and standing water year-round. These wetlands are often connected to a permanent water supply, such as a stream or groundwater seep or spring, and are often home to invertebrates, fish, salamanders, frogs, turtles, snakes, birds and mammals. Other wetlands may be seasonally wet and depend on snow melt and seasonal rainfall to maintain water levels. They are isolated from permanent water supplies and are often called vernal pools. Many forest dwelling amphibians and invertebrates depend on vernal pools for reproduction, such as mole salamanders, wood frogs, dragonflies and damsel flies. Some invertebrates, such as the fairy shrimp, live their entire life in the short, wet season of a vernal pool. The initial identification of wetlands along Pymatuning Creek, for possible future protection, can be accomplished through observation, referral and national wetland inventory maps.

Tributary Streams

The role of tributary streams in protecting the water quality of Pymatuning Creek cannot be minimized. Land use activities on the tributaries will either contribute or detract from the overall quality of the river. Due to their relatively small size, these streams are more easily impacted than larger rivers. Protecting riparian forest buffers, floodplains, wetlands and steep slopes along the tributary streams is also important to maintain a healthy, stable river with excellent water quality and aquatic habitat.

Corridor Protection Conclusion

The recurring point discussed in each one of these corridor habitat types is the importance of forested riparian buffers. Identifying these habitat types and associated wooded buffers should be the primary focus of protection efforts in the Pymatuning Creek watershed. Protecting the forested buffers will help reduce sediment and nutrient loadings, reduce water temperature, reduce evaporation in wetlands, stabilize stream banks and steep slopes, protect groundwater recharge, protect flood storage areas, reduce water velocity, increase stream channel stability, and provide habitat for all types of wildlife.

Stream Biological Diversity and Water Quality

Overview

Some of the most important factors influencing a scenic river designation determination include the water quality, free flowing character, stream habitat and biological diversity of a candidate stream. The designation criteria states that at least 100 percent of the scenic river segment must equal or exceed the Ohio EPA's warmwater habitat (WWH) or coldwater habitat (CWH) aquatic life use designation unless natural conditions (i.e. gradient or flow) within the river segment limit the stream's ability to attain such use designation.

The Ohio EPA performs surveys on Ohio's rivers, streams and lakes to determine if a watercourse meets the goals of the Clean Water Act and to assign corresponding appropriate aquatic life use designations. Due to their sensitivity to water quality, stream habitat alteration and other in-stream factors, fish and aquatic insect populations are evaluated to determine the overall aquatic health of Ohio's rivers and streams. The following indices are used to evaluate the health of Ohio's water bodies:

Qualitative Habitat Evaluation Index (QHEI). Physical habitat conditions of a stream and its riparian area are measured by examining and assigning a numerical value to various physical attributes, such as substrate type, stream channel condition, instream cover, geomorphology, and pool and riffle development.

Index of Biologic Integrity (IBI). This biological community performance index is based on the overall structure and diversity of the fish community within a river or stream. The fish community is evaluated on the parameters such as the total number of fish species found, number of each species found, the weight or biomass of each species found, the presence of indicator species and the overall condition of the fish sampled.

Modified Index of Well being (MIwb). The MIwb measures the numbers of individuals, biomass and species diversity of fish species.

Invertebrate Community Index (ICI). Like IBI, the ICI measures the overall structure and diversity of the macroinvertebrate community within a river or stream. The macroinvertebrate community is evaluated on the parameters such as the total number of species found, number of each species found, the presence of indicator species and the overall quality of a stream's macroinvertebrate community.

The following tables are taken from the 2008 Biological and Water Quality Study of the Ohio Tributaries to the Shenango River (Technical Support Document EAS/2011-1-2) (TSD) which illustrates the biological performance of the fish and macroinvertebrate communities in the watershed.

Table 1. Fish community and descriptive statistics for Pymatuning Creek watershed, 2008

River Mile	Mean Species	Total Species	Mean Rel. No. (No./km) ^a	Mean Rel. Wt. (Wt./km) ^a	Mean IBI	Mean MIwb	QHEI	Narrative ^b																								
Pymatuning Creek [18-550]																																
30.4 ^H	15.0	15	187.5	9.53	34*	NA	55.0	Fair																								
29.1 ^H	20.0	20	616.5	5.97	38 ^{ns}	NA	65.5	Marginally good																								
24.5 ^W	18.5	22	759.8	4.41	37 ^{ns}	7.2*	46.0	Marginally good/fair																								
22.7 ^W	21.5	24	1004.3	21.84	36 ^{ns}	7.6 ^{ns}	46.0	Marginally good																								
15.8 ^B	16.0	17	346.0	83.86	27*	6.4*	61.0	Fair																								
6.1 ^B	16.5	17	456.0	39.24	34*	8.1*	64.0	Fair/good																								
1.9 ^B	15.5	17	409.0	45.95	31*	8.1*	60.5	Fair/marginally good																								
Sugar Creek [18-556]																																
5.7 ^H	13	13	898.50	39.22	<u>24*</u>	NA	54.0	Poor																								
0.9 ^H	20	20	397.50	6.66	44	NA	77.0	Good																								
Stratton Creek [18-554]																																
4.2 ^H	18	18	618.0	11.56	44	NA	61.5	Good																								
0.7 ^H	21	21	499.50	3.84	52	NA	68.5	Exceptional																								
Gravel Run [18-572]																																
1.3 ^H	18	18	382.0	75.64	38 ^{ns}	NA	65.0	Marginally good																								
Wade Creek [18-575]																																
1.8 ^H	9	9	1446.0	8.84	28*	NA	69.0	Fair																								
Black Creek [18-571]																																
1.4 ^H	12	12	278.0	8.86	28*	NA	70.5	Fair																								
McMichael Creek [18-570]																																
1.3 ^H	13	13	850.0	8.08	38 ^{ns}	NA	70.5	Marginally good																								
<p>a - Relative abundance and relative weight estimates are normalized to 0.3 km for headwaters and wading sites and to 1.0 km for boat sites</p> <p>b - Biological narratives</p> <p>H - Headwaters: sites draining areas ≤ 20 miles²</p> <p>W - Wadable streams: sites draining > 20 miles²</p> <p>ns - Nonsignificant departure from the biocriteria (≤4 IBI units or ≤0.5 MIwb units)</p> <p>* - Significant departure from the biocriteria (>4 IBI units or >0.5 MIwb units). Poor or very poor results are underlined.</p>																																
<p>Ecoregional Criteria (ORC 3745-1-07, Table 7-14)</p> <p>Erie-Ontario Lake Plain (EOLP)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><u>Index Site Type</u></th> <th><u>EWH</u></th> <th><u>WWH</u></th> <th><u>MWH^d</u></th> </tr> </thead> <tbody> <tr> <td>IBI-Headwaters</td> <td>50</td> <td>40</td> <td>24</td> </tr> <tr> <td>IBI-Wading</td> <td>50</td> <td>38</td> <td>24</td> </tr> <tr> <td>MIwb-Wading</td> <td>9.4</td> <td>7.9</td> <td>6.2</td> </tr> <tr> <td>IBI-Boat</td> <td>48</td> <td>40</td> <td>24</td> </tr> <tr> <td>MIwb-Boat</td> <td>9.6</td> <td>8.7</td> <td>5.8</td> </tr> </tbody> </table>									<u>Index Site Type</u>	<u>EWH</u>	<u>WWH</u>	<u>MWH^d</u>	IBI-Headwaters	50	40	24	IBI-Wading	50	38	24	MIwb-Wading	9.4	7.9	6.2	IBI-Boat	48	40	24	MIwb-Boat	9.6	8.7	5.8
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Table 2. Summary of macroinvertebrate data collected from artificial substrates (quantitative data) and natural substrates (qualitative data) in the Pymatuning Creek watershed, July-September, 2008.

Location	River Mile	Drain. (mi ²)	Total Taxa	Qual EPT	Total Sens	Total Tol.	CW Taxa	Substrate Density ^a	ICI ^b	Narrative Evaluation	Observations ^c
HUC 0503010203 - Pymatuning Creek											
Pymatuning Creek at U.S. Route 6	30.38	11.8	48	7	6	14	0	Moderate	n/a	Fair	Hydropsychid (F) and philopotamid (MI) caddisflies and midges (F-T) predominant. Wetland habitat.
Pymatuning Creek at Dodgeville Road	29.1	15.9	47	11	11	11	0	Moderate	n/a	Marginally good	Hydropsychid (F) and philopotamid (MI) caddisflies predominant. Wetland habitat with a couple fine substrate riffles.
Pymatuning Creek at U.S. Route 322	24.5	35.0	73	14	25	10	1	Moderate	52	(Exceptional)	Baetid mayflies (F) predominant. Pycnopsyche cased caddisflies (MI) and three-ridge mussels abundant in pools.
Pymatuning Creek at Underwood Road	22.7	43.0	55	13	14	11	0	High	n/a	Good	Baetid mayflies (F, I) water boatmen (F) predominant. Three-ridge mussels common. Sparse riparian cover and silt substrates.
Pymatuning Creek at S.R. 87	17.76	66.0	28	2	2	14	0	High	4	(Very poor)	Sowbugs (MT), scuds (F) predominant. Site not free-flowing due to large beaver dam.
Pymatuning Creek at S.R. 7 downstream storm sewer #2	15.8	96.0	46	4	9	11	0	Low	18	(Fair)	Sowbugs (MT), scuds (F, MT), heptageniid mayflies (F), and sponge (F) predominant. No detectable current in sampling reach.
Pymatuning Creek at S.R. 88	8.4	135.0	57	3	8	17	0	Moderate	34	(Good)	Alderfly larva (F) and scuds (F) predominant. Heptageniid mayflies (<i>Stenacron</i> sp. - F) and <i>Pycnopsyche</i> sp. common in shallows. No detectable current in sampling reach.
Pymatuning Creek at PA-OH line at Orangeville	1.94	148.0	64	9	13	14	1	Moderate	24	(Fair)	Sowbugs (MT), scuds (F, MT) predominant. Large spill-over dam impounding reach, with some flow at edge.

Location	River Mile	Drain. (mi ²)	Total Taxa	Qual EPT	Total Sens	Total Tol.	CW Taxa	Substrate Density ^a	ICI ^b	Narrative Evaluation	Observations ^c
HUC 0503010203 - Pymatuning Creek											
Sugar Creek at S.R. 88	5.72	9.0	42	5	5	10	0	Moderate	n/a	Low fair	Damselflies (MT), long-horned cased caddisflies (MI) and microcaddisflies (F) predominant. Formerly channelized with no riffle and mostly sand substrate.
Sugar Creek at Burnett Road	0.92	19.9	70	12	15	11	3	Moderate	46	(Exceptional)	Hydropsychid (F), philopotamid (MI), and snail case caddisflies (MI) caddisflies predominant.
Stratton Creek at Webber Road	4.21	7.1	53	20	23	5	2	High	n/a	Exceptional	<i>Rheotanytarsus</i> sp. midges (MI) and snail cased caddisflies (MI) predominant. Little riparian cover due to removal by golf course.
Stratton Creek at Kinsman-Nickerson Road	0.70	17.1	54	19	18	7	1	High	n/a	Very good	Hydropsychid (F), philopotamid (MI), and snail case caddisflies (MI) caddisflies, and crayfish (F) predominant.

a – Observed relative density of benthos on natural substrates.

b – Invertebrate Community Index. ICI not available for sampling locations with drainage area <20mi² (excluding reference sites) and are indicated by n/a. Dashed lines (--) indicate sites where quantitative data were not available due to vandalism, desiccation or some other disturbance of Hester Dendy artificial substrates (HDs).

c – Predominant taxa are those observed on natural substrates. Tolerance categories for taxa groups are parenthetically expressed: VT = Very Tolerant, T = Tolerant, MT = Moderately Tolerant, F = Facultative, MI = Moderately Intolerant, I = Intolerant.

After evaluating water quality, stream habitat, macroinvertebrate and fish populations, the indices are used to determine the overall condition of a stream to apply the appropriate aquatic life use designation. For the purposes of determining stream quality for inclusion in the Ohio Scenic Rivers Program, all of the scenic river segment must equal or exceed the Ohio EPA's warmwater or coldwater habitat aquatic life use designation unless natural conditions (i.e. gradient, flow, etc.) within the river segment limit the stream's ability to attain such standards.

Aquatic Life Use Designation

The Ohio Administrative Code (OAC) Antidegradation Section 3745-1-07 defines warmwater habitat (WWH) streams as "waters that can support and maintain balanced, integrated, adaptive communities of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the twenty-fifth percentile of the identified reference sites within the following ecoregions: the interior plateau ecoregion, the Erie-Ontario lake plains ecoregion, the western Allegheny plateau ecoregion and the eastern corn belt plains ecoregion (OAC 3745-1-07 (B)(1)(a))." Pymatuning Creek is designated a warmwater habitat located in the Erie-Ontario Lake Plain ecoregion.

Water quality conditions and attainment is measured by collecting water chemistry samples, reviewing quantities of bacteria indicators (E. coli), and surveying the physical habitat of a stream. Combined, these three measurements indicate a stream's ability to support and sustain healthy fish and bug communities, while allowing humans the ability to safely recreate within the waters.

Ohio's Stream Antidegradation Rules

Ohio sets forth a standard ensuring waters of exceptional recreational or ecological value maintain their exceptional status through antidegradation provisions in OAC 3745-1-05. The antidegradation rules classify certain Ohio streams as Superior High Quality Waters or Outstanding State Waters based on their exceptional ecological values. Based on a review of the tables listed in OAC 3745-1-05, no portion of Pymatuning Creek is listed as a superior high-quality water or outstanding state water.

Except as provided below, exceptional ecological values shall be assessed based upon a combination of the presence of threatened or endangered species and high level of biological integrity. The following factors shall be considered in determining exceptional ecological value: providing habitat for state or federal endangered species; providing habitat for state threatened species; harboring stable populations of a declining fish species that coincide with the presence of suitable habitat for that species, or that coincide with an essential migration path between areas of suitable habitat for that species; and displaying a level of biological integrity equivalent to the exceptional warmwater habitat index of biotic integrity and/or invertebrate community index criteria values listed in OAC 3745-1-07. OAC 3745-1-05 lists the species that are considered declining fish species.

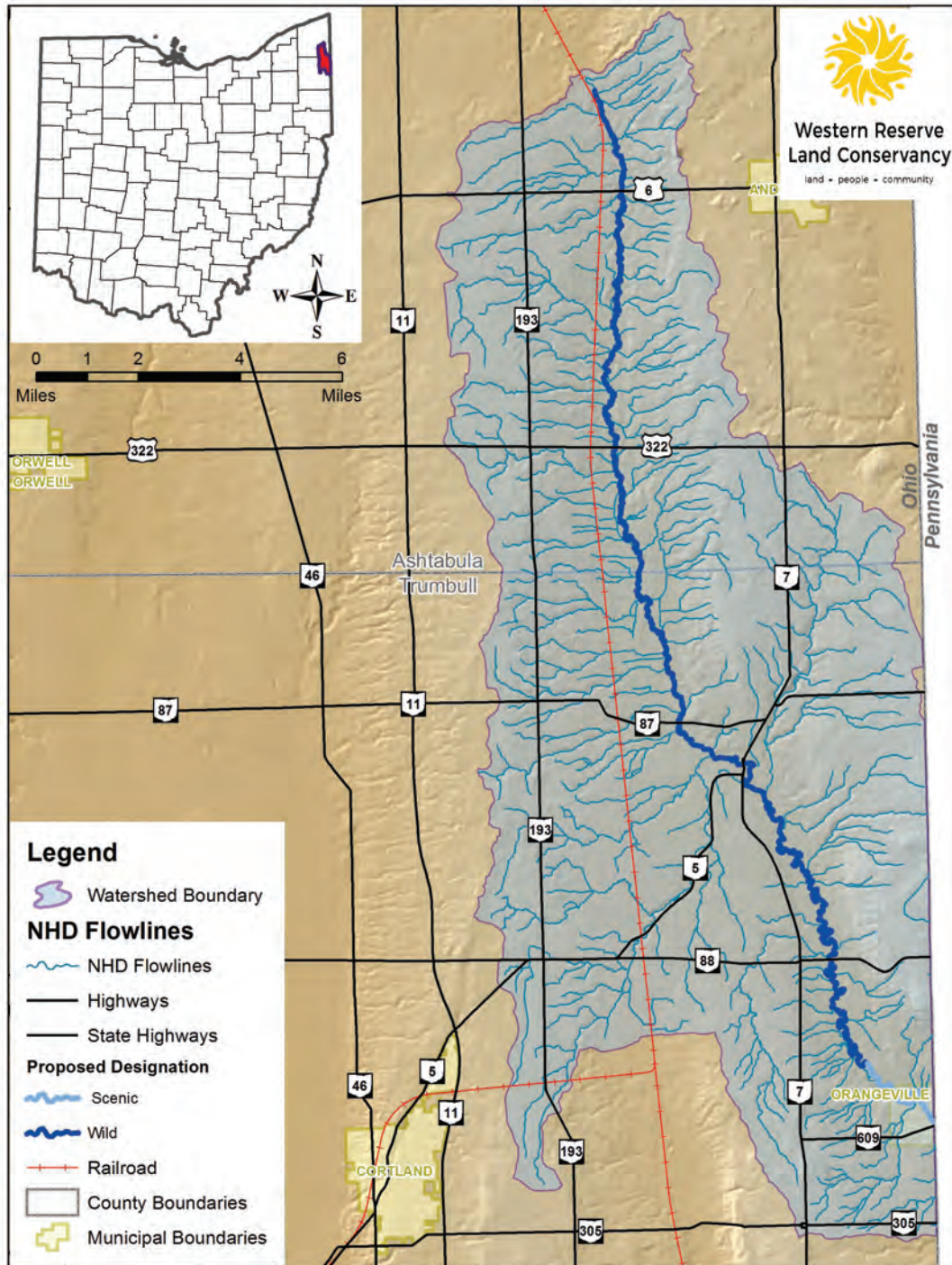
Current Conditions

The 2008 Biological and Water Quality Study of the Ohio Tributaries to the Shenango River (Technical Support Document EAS/2011-1-2) was published in March 2011 and includes water quality findings for the mainstem Pymatuning Creek from its headwaters in Ashtabula County, from U.S. Route 6 at river mile 30.38 to the Ohio-Pennsylvania state line at Orangeville at river

mile 1.94. For purposes of this designation, current conditions will reflect information provided for Pymatuning Creek locations. The mainstem of Pymatuning Creek was sampled for several, if not all, of the following:

- Chemistry
- Datasonde© meter parameters (pH, Dissolved Oxygen, conductivity, temperature)
- Bacteria
- Macroinvertebrates
- Fish
- Fish Tissue

Pymatuning Creek Watershed and Streams



The following table was taken from the Ohio EPA's 2008 report and illustrates the aquatic life use attainment status for Pymatuning Creek's mainstem.

Table 3. Aquatic life use attainment status for stations sampled in the Ohio Tributaries to the Shenango River, PA basin based on data collected July-October 2008. The Index of Biotic Integrity (IBI), Modified Index of well being (MIwb) and Invertebrate Community Index (ICI) are scores based on the performance of the biotic community. The Qualitative Habitat Evaluation Index (QHEI) is a measure of the ability of the physical habitat to support a biotic community. All sampled streams lie within the Erie-Ontario Lake Plain (EOLP) ecoregion and are all currently assigned the Warmwater Habitat (WWH) aquatic life use, except as indicated.

Location	Sample RM [^]	Drain. (mi ²)	IBI	MIwba	ICI ^b	QHEI ^c	Attainment Status ^d	Causes	Sources
HUC 0503010203: Pymatuning Creek Watershed									
Pymatuning Creek at U.S. 6	30.38 ^H	11.8	34 [*]	NA	F [*]	55.0	NON	Wetland habitat	Natural
Pymatuning Creek at Dodgeville Road	29.10 ^H	15.9	38 ^{ns}	NA	MG ^{ns}	65.5	FULL		
Pymatuning Creek at U.S. 322	24.50 ^W	35.0	37 ^{ns}	7.2 [*]	52	46.0	PARTIAL	Wetland habitat	Natural
Pymatuning Creek at Underwood Road	22.70 ^W	43.0	36 ^{ns}	7.6 ^{ns}	G	46.0	FULL		
Pymatuning Creek at S.R. 87	17.78 ^B	66.0	--	--	<u>4</u> [*]	--	(NON)	- Low dissolved oxygen - Wetland habitat	Natural
Pymatuning Creek at S.R. 7; dst storm sewer #2	15.80 ^B	96.0	27 [*]	6.4 [*]	18 [*]	61.0	NON	- Low dissolved oxygen	Natural
Pymatuning Creek at S.R. 88	8.40 ^B	135.0	34 [*]	8.1 [*]	34	64.0	PARTIAL	- Low dissolved oxygen - Wetland habitat	Natural
Pymatuning Creek at PA state line at Orangeville	1.94 ^B	148.0	31 [*]	8.1 [*]	24 [*]	60.5	NON	- Low dissolved oxygen - Wetland habitat - Flow alterations	Natural Dam Impoundment
Sugar Creek at S.R. 88	5.72 ^H	9.0	<u>24</u> [*]	NA	LF [*]	54.0	NON	- Organic enrichment - Sedimentation/siltation - Low dissolved oxygen	Livestock Channelization

Location	Sample RM [^]	Drain. (mi ²)	IBI	MIwb ^a	ICI ^b	QHEI ^c	Attainment Status ^d	Causes	Sources
HUC 0503010203: Pymatuning Creek Watershed									
Sugar Creek at Burnett Road	0.92 ^H	19.9	44	NA	46	77.0	FULL		
Stratton Creek at Webber Road	4.21 ^H	9.1	44	NA	E	61.5	FULL		
Stratton Creek at Kinsman-Nickerson Road	0.70 ^H	17.1	52	NA	VG	68.5	FULL		

[^] - ^H= Headwater; ^W= Wading

a- MIwb is not applicable to headwater streams with drainage areas < 20 mi².

b- A narrative evaluation of the qualitative sample based on attributes such as EPT taxa richness, number of sensitive taxa, and community composition was used when quantitative data was not available or considered unreliable. VP=Very Poor, P=Poor, LF=Low Fair, F=Fair, MG=Marginally Good, G=Good, VG=Very Good, E=Exceptional

c - Narrative habitat evaluations are based on QHEI scores for wading sites (Excellent >75, Good: 60-74, Fair: 45-59, Poor: 30-44, Very Poor <30) and headwater sites (Excellent >70, Good: 55-69, Fair: 43-54, Poor: 30-42, Very Poor <30).

d- Attainment is given for the proposed status when a change is recommended.

ns- Nonsignificant departure from biocriteria (<4 IBI or ICI units, or <0.5 MIwb units).

*- Indicates significant departure from applicable biocriteria (>4 IBI or ICI units, or >0.5 MIwb units). Underlined scores are in the Poor or Very Poor range.

Table 4. Biocriteria - EOLP Ecoregion

BIOCRITERIA - EOLP ECOREGION		
INDEX - Site Type	WWH	EWH
IBI: Headwater/Wading	40/38	50/50
MIwb: Wading	7.9	9.4
ICI	34	46

The current Ohio EPA survey finds Pymatuning Creek in partial and/or non-attainment status of the WWH designation at most sampling sites. The study attributes the partial and non-attainment status to natural limitations (flow, gradient, wetlands) affecting biological performance. A lack of coarse substrate, mixed current velocities and low gradients do not provide the energy needed to support complex WWH features.

Although it should be noted the Ohio EPA's metrics are calibrated to typical conditions found throughout Ohio's five eco-regions (Omernik and Gallant 1988). Page 42 of the 2008 study further explains, "as relatively intact, low gradient, wetland-type streams are uncommon in Ohio's modern landscapes, the unique features, limits, and other intrinsic attributes of these waters were not adequately accounted for in biocriteria development."

Most of the Pymatuning Creek's fish communities are comprised of environmentally tolerant wetland species. Ohio EPA collected the following highly tolerant and adaptable species: common carp, northern pike, bluntnose minnow, white sucker, spotted sucker, Johnny darter, pumpkinseed sunfish and golden shiner. According to the Ohio EPA, the aforementioned species are in perfect accordance with the low gradient rheopalustrine nature of Pymatuning Creek. Overall, the fish communities are characterized as "fair," but if as measured by the IBI and MIwb, the fish community is consistent with the WWH designation. Fish communities present in tributaries, Sugar Creek and Stratton Creek, range from "poor" to "exceptional," with an average translating as "good." Nevertheless, the tributaries were in full attainment of Ohio aquatic life use standards and populated by WWH fish communities.

Several segments of the Pymatuning mainstem as well as its tributaries were sampled in 1994 and reassessed in the 2008 survey to study macroinvertebrate trends. The low gradient and swamp-like habitat of the Pymatuning Creek impacted the macroinvertebrate community too. Most of the macroinvertebrates found were organisms adapted to the slow-moving flow and low dissolved oxygen conditions (due to lack of riffle availability) found in Pymatuning Creek. The Ohio EPA noted riffles present within the creek, which provide aeration and habitat for "pollution-sensitive filter-feeding organisms," and "ecoregional expectations were met."

The ICI measurements, which are the quantity and quality of a stream's macroinvertebrate community, improved significantly at several locations along the Pymatuning. Poor scores in 1994 significantly rose to WWH attainment scores in 2008 due to the predominance of mayflies and lack of pollution tolerant and non-insect taxa. Pollution-sensitive macroinvertebrate populations returned in numbers to the Pymatuning in 2008. Macroinvertebrate communities within the watershed's tributaries improved from marginally good in 1994 to very good in 2008, and sensitive macroinvertebrate communities increased as well. All improvements seen between the 1994 and 2008 sampling events may be attributed to a possible reduction in nutrient loadings.

Recreational Use

In 2008, the Ohio EPA sampled certain sites for E. coli, bacteria which is easily transported and present in all surface waters. Ohio's recreational use designations are in Ohio Administrative Code 3745-1-07 and are applicable "only during the recreation season, which is the period from May 1 to October 31". Like most surface waters of the state, the Pymatuning and its tributaries are primary contact waters which "are suitable for one or more full body contact recreation activities such as but not limited to, wading, swimming, boating, water skiing, canoeing, kayaking and scuba diving."

According to the Ohio EPA's 2008 survey, most of the surveyed sites within the Pymatuning Creek watershed are in non-attainment of their recreational use designation. Potential sources of bacteria include failing home sewage treatment systems (HSTS), agricultural and wastewater treatment plant discharge. However, it is important to note that numerous measures have been taken since the 2008 survey to reduce the number of bacteria entering the surface waters. New HSTS regulations have been implemented by the Ashtabula and Trumbull county health departments. The center of Kinsman Township upgraded the wastewater treatment plant, therefore eliminating numerous septic systems and extending sanitary sewer to homes and commercial establishments.

Established conservation easements along Pymatuning Creek and its tributaries help reduce bacteria entering the streams via livestock exclusion and manure application and storage practices.

In summary, the proposed stream segments could still receive scenic river designation because the limitations to not reaching aquatic life use attainment are related to natural conditions. The stream segments are still performing to their highest potential, as shown in the fish community and biological statistics table.

Present Threats

History

The primary historical land use in the Pymatuning Creek watershed has been agricultural with some small municipal areas (villages) located throughout the area. The corridor along Pymatuning Creek is a mixture of woods and wetlands with some of the area's most ecologically sensitive landscapes interspersed within. Much of these areas are protected as state wildlife refuges and recreational areas.

Non-native Invasives

Non-native invasive plant and wildlife species can and do threaten native populations. Common invasive plants, such as reed grass (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) and narrow-leaved cattail (*Typha angustifolia*), push out native wetland species. An inventory of invasive species for the watershed has not been performed. However, these plant and wildlife species are commonly found in adjacent watersheds and it may be assumed that they are also occurring within and throughout the watershed.

Potential Threats

Nonpoint Source Pollution

Nonpoint source pollution (NPS) is the largest threat to the watershed's water quality. Stormwater runoff from rainfall or snow melt carries pollutants (i.e. oils, grease, sediment, fertilizers and manure) from land to surface waters through storm sewers, drainage ditches or field tiles. Land uses surrounding a stream can determine which potential pollutants and how much of that pollutant might be found in the waterway.

Pymatuning Creek and its tributaries flow through very rural areas of Ashtabula and Trumbull counties, where both row crop and livestock pastures comprise half the land use. As such, potential threats identified are the same as those identified in the Ohio EPA's 2008 study:

- Agricultural runoff (bacteria, sediment, nitrogen, phosphorus)
- Failing home sewage treatment systems (HSTS)

Agricultural runoff can contain various types of pollution, including sediment, bacteria and nutrients, which can originate from one of several sources: storage facilities, agricultural fields or livestock. Manure-laden runoff from farm fields, unsecured manure storage facilities, animal feed lots, and unrestricted livestock with access to streams are all common sources of *Escherichia coli* bacteria. Manure entering a stream from any of these sources can contribute to bacterial contamination, excess or nuisance algal growth and depleted oxygen levels which can result in water quality impairment. Nutrients, such as phosphorus and nitrogen, when used improperly or in excess can contribute to increased algal blooms or deplete oxygen levels as well.

Best management practices (BMPs), such as grassed waterways, winter cover crops, no-till farming and undisturbed wooded riparian buffers, can help reduce sediment loading. Since the Ohio EPA published its 2008 survey, many agricultural producers and other landowners established private

conservation easements and now maintain a forested riparian buffer along much of Pymatuning Creek and its tributaries. These practices contribute significantly to improving and maintaining water quality by filtering out nonpoint source pollutants.

Controlling the impact of NPS can be done by implementing best management practices. Simple BMPs, such as riparian buffers, grassed swales, manure storage facilities, no-till conservation farming and livestock exclusionary fencing, are voluntary measures. Each county's soil and water conservation district, as well as the U.S. Department of Agriculture's National Resource Conservation Service (USDA NRCS), can work with local farmers to assist in BMP development and implementation.

Home Sewage Treatment Systems

As with most rural areas, most of the Pymatuning watershed is not serviced by sanitary sewers. Homeowners and small businesses outside service areas rely on individual home sewage treatment systems (HSTS) or commercial septic systems for wastewater treatment. When properly maintained in accordance with local health department requirements and manufacturer's specifications, wastewater is treated correctly. However, many systems fail due to a high seasonal water table, poor soil conditions and lack of regular maintenance. Untreated wastewater becomes a water quality issue when it flows into a stream, ditch or is exposed on a yard's surface.

In Trumbull County, there are a concentrated number of failing home sewage treatment systems in Kinsman and the surrounding area. The Ohio EPA and the Trumbull County Sanitary Engineer entered into a consent decree to provide sanitary sewer services to a number of the failing HSTS hot spots in the area, including Kinsman. Since the 2008 Ohio EPA study was released, sanitary sewer infrastructure was installed to replace failing systems.

The former Kraft Foods processing plant's wastewater treatment plant (WWTP), located in Kinsman, was upgraded accordingly to accept and properly treat wastewater from the community. In March 2016, the completed Kinsman sanitary sewer project began accepting sewage from 334 structures. As of spring 2018, 216 structures have connected to the sanitary sewer system with the remaining 118 structures under orders from the Trumbull County Health Department to connect into the system. The Kinsman WWTP's discharge outfall is located along an unnamed tributary to Pymatuning Creek.

Sedimentation

Sediment is one of the top five water quality impairments in Ohio's streams. When bare earth is left open or uncovered during rainfall events, sediment readily combines with rainfall and/or snowmelt and runs-off to nearby waterways. Sediment particles from row crops, pastures, logging, construction sites, and oil and gas exploration can deliver attached nutrients such as phosphorus and nitrogen to streams. If nutrient loadings become excessive, they adversely impact surface waters. In 1984, a study by Peterjohn and Correll found croplands retain fewer nutrients than riparian forests. Best management practices, such as but not limited to, grassed waterways, winter cover crops, no-till, wooded riparian no-cut buffers, construction and logging sediment erosions controls, and construction site stormwater runoff controls will help reduce sediment loadings.

Sediment can cause siltation of the streambed and turbidity in the water column, thus embedding stream substrates (gravel, cobbles) which smothers bottom-dwelling animals such as stonefly larvae, mayfly larvae, caddisfly larvae and freshwater mollusks. These aquatic insect larvae are at the base of the stream food chain, so their decline resulting from excess sedimentation can also negatively impact fish species dependent upon them for food. Fish eggs dispersed in clean gravel and cobble substrates can be covered over by sedimentation and smothered, again negatively impacting fish populations. The growth of native, rooted aquatic plants can also be hindered by excess sedimentation by limiting light penetration through the water column, reducing photosynthesis, as well as smothering the substrate from which these plants grow.

The Pymatuning Creek watershed has lowland woods and wetlands along most of its length, providing a good buffer for the removal of sediment and nutrients from surface run-off. However, the tributaries flowing into the creek often do not have sufficient riparian forest buffers and serve as quick transports for sediment and other pollutants into the main creek. To further compound this problem, the low gradient of the Pymatuning Creek system is not very efficient at flushing pollutants through, so the creek has a tendency to retain them.

Loss of Riparian Buffer

Riparian forests serve many functions, such as removing nutrients, controlling sediments, lowering water temperatures, stabilizing stream banks, improving habitat for both fish and invertebrates, and decreasing surface runoff. (Peterjohn and Correll, 1984; Swanson and Franklin, 1992; Decamps, 1993; Vought, et al., 1995). A loss of the riparian buffers would result in increased nutrients, increased sedimentation, warmer water temperatures and loss of habitat, all of which would negatively impact the river's water quality and biodiversity.

Conclusion

Of all the potential threats, the loss of wetlands, wooded riparian buffers and grassed buffers would have the most negative impact on Pymatuning Creek and its watershed. When targeting specific threats, priority should be given to protecting the watershed's wetland and wooded riparian corridors and increase landowner efforts to incorporate grassed filter strips and other agricultural BMPs on their lands. These simple measures are the most cost-effective and result in positive and long-lasting effects for Pymatuning Creek and its watershed.



Photo Credit: Ryan Moss, ODNR

Conservation Efforts

Several organizations have historically been active in protecting the natural features of the Pymatuning Creek watershed. The proposed wild and scenic river designation of Pymatuning Creek will bring greater recognition to the high quality of the creek, which has long been enjoyed by residents.

The designation will enable the Ohio Scenic Rivers Program to cooperate with local officials in conservation initiatives and ensure that future improvements to local infrastructures will have minimal impacts on the watershed. Efforts will be made to address the few areas that need restoration, as well as encourage riparian zone protection. The designation will also provide landowners along Pymatuning Creek an opportunity to request technical assistance from the Ohio Scenic Rivers Program, so they may make decisions about the management of their riparian properties.

Following designation, ODNR will continue to work with partners to develop additional funding sources to preserve high-quality riparian corridor and floodplain areas along Pymatuning Creek. Since 2000, the Ohio Scenic Rivers Program has cooperated with other agencies to obtain more than \$11 million in grant funding for various scenic river watersheds in the state. These funds have supported riparian buffer protection, recreational river access, dam removal, watershed planning and educational programming. Priority areas for protection include a variety of high-quality riparian habitats, such as floodplains, vernal pools, channel ponds, abandoned oxbow wetlands, mature hardwood forest buffers and spring fed seeps. Riparian habitats harboring rare and endangered species will also be included in these protection efforts.

The Pymatuning Creek Wild and Scenic River Designation Study steering committee has played a critical role in protecting Pymatuning Creek. Many volunteer hours were donated by members who organized public meetings, assisted with this report and initiated public interest on this designation and other various conservation activities. Their work is essential to the conservation of Pymatuning Creek and will ensure the protection of the creek for citizens and tourism for generations to come. After the designation process is complete, the steering committee will remain a valuable partner by working with local governments to assist with projects within the watershed.

Of the conservation partners working toward conserving the Pymatuning Creek watershed, the U.S. Army Corps of Engineers is one of the largest with the 5,500-acre Shenango Wildlife Area. The Shenango Wildlife Area was purchased for the Shenango River Reservoir project and authorized by the Flood Control Act of 1938. Since 1968, the ODNR Division of Wildlife has managed the property for wildlife and as a public hunting, fishing and trapping area. In addition to hunting, fishing and trapping, visitors to the wildlife area can hike, birdwatch, photograph wildlife, canoe and kayak. The wildlife area has provided critical habitat for nesting bald eagles, sandhill cranes and waterfowl. Conservation efforts and site management is funded through Pittman-Robertson Act funds and hunting license fees.

With the predominant land use in the Pymatuning Creek watershed being agricultural, the Ashtabula and Trumbull county soil and water conservation districts (SWCD) play a vital role in conserving and protecting natural resources at the local level. Both the Ashtabula and Trumbull SWCDs work with

farmers and landowners on farming conservation practices, logging operations, watershed planning and other conservation efforts to help maintain the high quality of Pymatuning Creek.

The Ashtabula SWCD works with farmers and other landowners in the watershed to protect key properties along the creek. The Ashtabula SWCD administered a grant funded by the U.S. Fish and Wildlife Service to protect properties to benefit the federally endangered clubshell mussel *Pleurobema clava*. Working with private landowners, 567 acres are protected through the district. The Ashtabula SWCD also worked with the Natural Resource Conservation District (NRCD) to protect 25 acres through the Wetland Reserve Program (WRP).

The Trumbull SWCD helped form the Penn Ohio Watershed Association (POWA), a grassroots organization working to protect natural resources throughout the Pymatuning/Shenango Watershed. The POWA was formed in 1994 through cooperative efforts between the Trumbull SWCD and Mercer County Pennsylvania's Conservation District Program. Some of POWA's efforts include water quality monitoring, litter cleanups, riparian plantings and educational events such as the Pymatuning/Shenango Watershed Challenge.

The Trumbull SWCD, in cooperation with other members of the POWA, financed an interstate watershed plan in 2001. The plan was partially funded through a grant from the Ohio EPA and U.S. EPA under the provisions of Section 319(h) of the Clean Water Act. The plan provided an inventory of the natural resources within the watershed and a summary of initiatives to help protect the water quality and soil health within the watershed. Funds to implement many of the initiatives in the watershed plan were obtained through grants and helped to address septic system failure and maintenance, the establishment of riparian buffers on farms, educational events such as the canoe and kayak trips on Pymatuning Creek, and the production of informational brochures for regional distribution.

The watershed plan, while prepared as an interstate document, did not provide as much detail about the Pennsylvania portion of the watershed. The Western Pennsylvania Conservancy, through a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Recreation and Conservation, was able to complete the Shenango River Watershed Conservation Plan. The Trumbull SWCD helped lead the second watershed plan along with others from the Pymatuning/Shenango watershed community.

The Trumbull SWCD continues to partner with U.S. Department of Agriculture's Natural Resources Conservation Service (USDA NRCS) to promote conservation practices to agricultural producers within the watershed. Recent Trumbull SWCD educational efforts involved the Ohio State University Extension and USDA NRCS establishing a Trumbull Farmer Lunch program to help provide educational and training opportunities relevant to water quality and soil health.

Trumbull SWCD is also working with local schools and townships in the watershed on best practices for land management. It administers the county's stormwater management program which includes the Phase II Small MS4 communities (small communities that operate a regulated municipal separate storm sewer system) located within the watershed. These communities include Brookfield, Hubbard City, Hubbard Township and Vienna Township. The SWCD assists them with

addressing urban nonpoint source pollution issues and Phase II regulatory compliance. Both the Ashtabula and Trumbull SWCDs are committed to serving as a local leaders in the conservation of the watershed's natural resources.

The Eastgate Regional Council of Governments (Eastgate) is a voluntary association of Northeast Ohio local governments including Ashtabula, Mahoning and Trumbull counties and all the cities, villages and townships in those counties. Eastgate helps local communities work cooperatively to address issues associated with transportation, water and air quality, land use planning, and local infrastructure projects on a regional level.

Eastgate addresses water quality issues from a watershed solution standpoint utilizing a collaborative approach to educate members and residents about the importance of improving local water quality, managing stormwater and protecting surface drinking water resources. Eastgate has also been successful collaborating with local governments, agencies and watershed groups to complete and implement watershed action plans and conduct stream assessments. Eastgate staff developed the water quality-related sections of the designation study plan and assessed the water quality of Pymatuning Creek and its tributaries to expand upon previous Ohio EPA monitoring conducted in 2008.

Since the mid 1970s, Eastgate has been responsible for maintaining the 208 Water Quality Management Plan (208 Plan) for Mahoning and Trumbull counties. A 208 Plan is a requirement under Section 208 of the federal Clean Water Act to identify and address pollution problems within designated planning agency's planning area. The original 1977 plan laid the groundwork to ensure public investments in facilities were planned according to growth trends and were effective at enhancing water quality, while concentrating on the design and construction of wastewater treatment facilities and related infrastructure. Today, the 208 Plan assesses existing water quality conditions and population trends, identifies critical regional resources, addresses non-point source pollution trends, and reassesses wastewater facility planning through the region's wastewater treatment planning prescriptions. By federal law, the state cannot issue a permit to install for wastewater infrastructure if it conflicts with the plan.

The Ohio Department of Public Works' Clean Ohio Conservation Fund program was established in 2000 to provide local communities with funding to preserve open space, protect sensitive ecosystems, expand local park footprints and restore streams. Mahoning and Trumbull counties comprise District 6, with Eastgate being the local administrator of the funds. Since 2000, the program has funded \$17,506,769 in land conservation and restoration efforts in Mahoning and Trumbull counties.

Private, non-government organizations also play a valuable role in the conservation of the Pymatuning Creek at the local level.

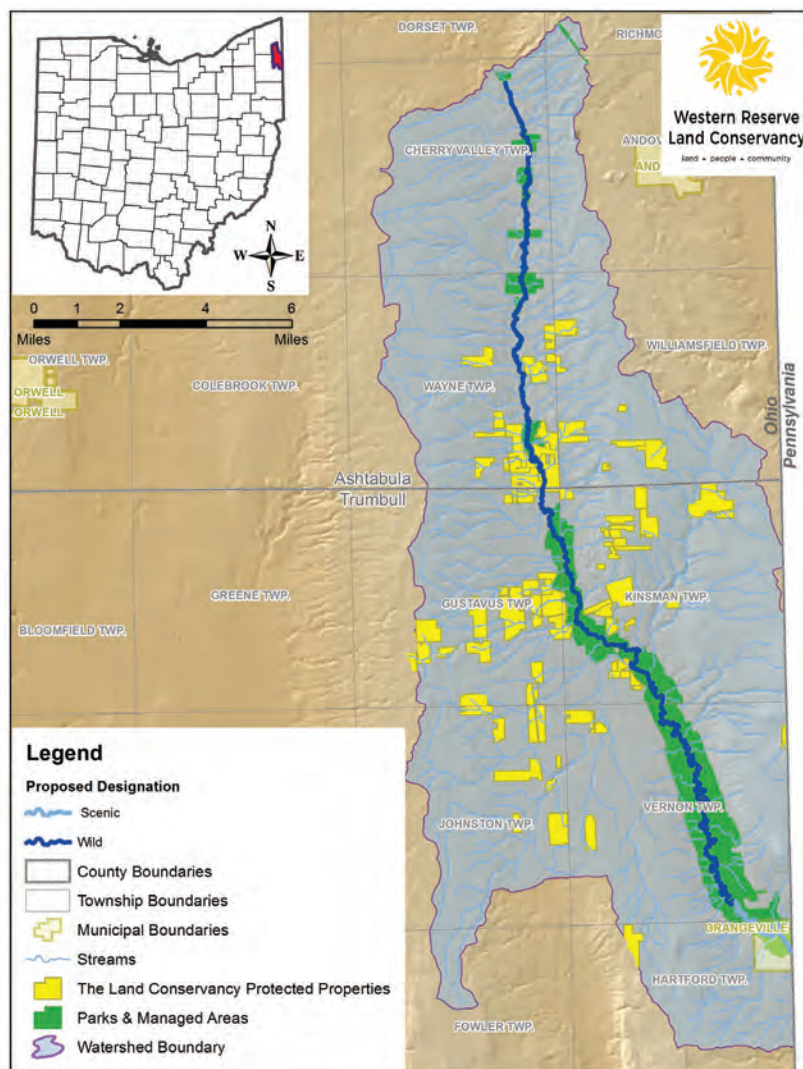
The Western Reserve Land Conservancy (WRLC), a non-profit land conservation organization working in northeast Ohio, has worked with numerous landowners in the Pymatuning Creek watershed since the early 2000s. To date, WRLC has protected 8,265 acres through conservation easements on 67 private properties throughout the watershed. Utilizing Clean Ohio Conservation

Funds, Farmland Preservation Program, WRLC has facilitated the protection of an additional 1,694 acres of agricultural land through the implementation of agricultural conservation easements throughout the watershed.

Another strong partner in the watershed is the Cleveland Museum of Natural History (CMNH). Led by the efforts of Dr. Jim Bissell, the museum has purchased and successfully protected McCoy Fen, a 225-acre unique fen wetland, which was dedicated as a state nature preserve in 1994. The museum also worked with a private landowner to protect 142 acres along Pymatuning Creek in Ashtabula County through a conservation easement.

A great deal of conservation work has already been accomplished by several partners working collaboratively within the Pymatuning Creek watershed. Collectively, conservation organizations have protected 16,418 acres through private conservation easements, farmland preservation or fee title ownership of land in the watershed. The protection of these areas will strongly support the potential designation of the Pymatuning Creek as a state wild and scenic river as well as help ensure the long-term protection of this unique stream ecosystem. Conservation work of this nature will need to continue, however, to maintain the natural character of the Pymatuning Creek for future generations to enjoy.

Pymatuning Creek Watershed Protected Lands Map



Criteria and Findings for Designation as a State Wild River

The following discussion evaluates a section of the Pymatuning Creek from Ayers Road Bridge in Ashtabula County crossing at river mile 32.6 downstream to river mile 4.7 in Trumbull County, a total of 27.9 miles, with regard to meeting the criteria for designation as a state Wild river.

Criteria 1 – The proposed Wild river segment must be 100 percent free flowing, existing or flowing in a natural channel condition without impoundments, diversions, straightening or other modifications of the river channel.

Finding: Meets Criteria 1 because 100 percent of the proposed Wild river segment is free flowing.

Criteria 2 – Roads are permissible within 300 feet of the river but may not comprise more than 10 percent of the length of the Wild river segment. Limited access highway crossings are permitted but no more than one crossing per 15 miles of river. Other bridge crossings are permitted, but no more than an average of two bridges per 5 miles of river. No more than an average of two residential dwellings are permitted within 300 feet of the river per mile of river length.

Finding: Meets Criteria 2 because the roads within 300 feet of the proposed Wild river segment comprise only 6 percent of its total length. There are no limited access highway crossings within the proposed wild segment and bridges crossings average two bridges per 5 miles in a 15-mile segment. Only 14 homes occur in the proposed 27.9-mile wild section which is less than 2 homes per mile.

Criteria 3 – For maximum benefit, the total length of the designated section of the Wild river segment may be no less than 15 continuous miles.

Finding: Meets Criteria 3 because the total length of the segment proposed for Wild river designation is a continuous 27.9-mile segment (river mile 32.6 to river mile 4.7).

Criteria 4 – No commercial or industrial development is permitted within 300 feet of the stream or within the visual corridor, whichever is less. No more than 5 percent of the river's watershed may be covered with impervious surfaces upstream of the wild river segment.

Finding: Partially meets Criteria 4. Six commercial buildings (towing/used car/auto parts service, physical therapist, book store, pharmacy, general store and restaurant) occur within 300 feet of the river on the left descending bank for a tenth of a mile from river mile 15.9 to river mile 15.8. This limited industrial development is not considered to be significant enough to detract from the wild character of Pymatuning Creek or the Wild river designation. Less than 5 percent of Pymatuning Creek's adjacent and upstream watershed is covered with impervious surfaces, according to the U.S. Geological Survey and 2011 national land cover database (NLCD2011). The Pymatuning Creek watershed impervious cover is less than 1.4 percent.

Criteria 5 – The area adjacent to at least 75 percent of the stream length, considering both banks, shall be in native forest or wetland, outward from the river to a depth of 300 feet or greater. In addition, 50 percent of the remaining corridor shall be in native forest or wetland outward from the river to a depth of 120 feet or greater.

Finding: Meets Criteria 5. Approximately 90 percent of the shoreline is in a native forest and/or wetland condition outward from the river to a depth of at least 300 feet of the proposed Wild river segment as determined from 2017 aerial photography. Additionally, approximately 59 percent of the remaining corridor is in native forest or wetland to a depth of 120 feet or greater.

Criteria 6 – One hundred percent of the Wild river segment must equal or exceed the Ohio EPA's exceptional warmwater habitat or coldwater habitat standards unless natural conditions (i.e. gradient or flow) within the river segment limit the stream's ability to attain such use designation. The stream segment, however, must be performing to its highest potential regarding biological diversity and water quality given the naturally occurring limitations. If the quality of the waters at any time falls below these criteria, a means to meet the criteria must be readily available and a pollution control and abatement plan must be developed to meet the criteria and approved by the Ohio EPA.

Finding: Meets Criteria 6. According to the Ohio EPA Technical Support Document (EAS/2011-1-2), the proposed Wild river segment of Pymatuning Creek is in full, partial and non-attainment status of the Ohio EPA's Warmwater Habitat (WWH) designation. Where Pymatuning Creek is in either partial or non-attainment of WWH criteria, Ohio EPA lists the causes as low dissolved oxygen/wetland habitat due to naturally occurring low gradient conditions.

The findings of this designation study show that the section of Pymatuning Creek, proposed for state Wild river designation, from Ayers Road Bridge crossing in Ashtabula County at river mile 32.6 downstream to river mile 4.7 in Trumbull County meets the criteria for designation. The only exception, in part, being, Criteria 4 under which six commercial buildings were found within 300 feet of the proposed Wild section. However, this slight deviation is not considered to be of significant impact to the wild character or designation of this section of the creek. Therefore, a total distance of 27.9 miles of this section of Pymatuning Creek is recommended for Wild river designation.

Criteria and Findings for Designation as a State Scenic River

The following discussion evaluates a section of Pymatuning Creek from river mile 4.7 in Trumbull County, downstream to the Ohio-Pennsylvania state line at river mile 1.94, a total of 2.76 miles, with regard to meeting the criteria for designation as a state Scenic river.

Criteria 1 – The proposed Scenic river segment must be 75 percent free flowing, existing or flowing in a natural channel condition without low head dams, diversions, straightening or other modifications of the river channel. The river must have connectivity to its natural floodplain along a majority of its length. Where such impacts have occurred, the river channel shall have been restored so it can support a warmwater or coldwater habitat community.

Finding: Does not meet Criteria 1. One hundred percent of the proposed 2.76-mile Scenic river segment is impacted by the low-head dam located at the Ohio-Pennsylvania state line. However, given the naturally occurring low gradient characteristics of Pymatuning Creek, this impoundment is not considered to be a significant impact to the proposed Scenic river designation. The creek has connectivity to its wide, wooded wetland floodplain corridor throughout this segment.

Criteria 2 – Roads are permissible within 300 feet of the river, but may not comprise more than 25 percent of the Scenic river segment length.

Finding: Meets Criteria 2. The roads that are within 300 feet of this section of the Pymatuning Creek comprise only 9 percent of the proposed Scenic river segment length.

Criteria 3 – For maximum benefit, the total length of the designated section of the Scenic river segment may not be less than 20 continuous miles unless connected with segments bearing other designations.

Finding: - Meets Criteria 3. The total length of Pymatuning Creek proposed for Scenic river designation is 2.76 miles. This proposed Scenic river designation is connected to a proposed 27.9-mile Wild designation directly upstream.

Criteria 4 – Some commercial, industrial and other types of development may occur within 300 feet of the river. However, this development shall not negatively impact the habitat and quality of the stream and its floodplain. No more than 10 percent of the river's watershed upstream and adjacent to the Scenic river segment may be covered with impervious surfaces at the time of designation. If the upstream and adjacent watershed is at 10 percent impervious cover and is contained within an urbanizing area, then that river segment may not be considered for designation.

Finding: Meets Criteria 4. No commercial buildings occur within 300 feet of the proposed Scenic river segment. Less than 10 percent of Pymatuning Creek's adjacent and upstream watershed is impervious surfaces, according to U.S. Geological Survey and a 2011 national land cover database (NLCD 2011). The Pymatuning Creek watershed impervious cover is less than 1.4 percent.

Criteria 5 – The area adjacent to at least 25 percent of the stream length, considering both banks, shall be in native forest or wetland, outward from the river to a depth of 300 feet or greater. In addition, 50 percent of the remaining corridor shall be in native forest or wetland outward from the river to a depth of 120 feet or greater.

Finding: Meets Criteria 5. Approximately 80 percent of the stream length is in a native forest and/or wetland condition outward from the river to a depth of at least 300 feet. Additionally, approximately 60 percent of the remaining corridor is in native forest or wetland outward from the river to a depth of 120 feet or greater as calculated using 2017 aerial photography.

Criteria 6 – One hundred percent of the Scenic river segment must equal or exceed the Ohio EPA's warmwater or coldwater habitat aquatic life use designations unless natural conditions, such as gradient or flow, within the river segment limit the stream's ability to attain such use designation. However, the stream segment must be performing to its highest potential related to biological diversity and water quality given the naturally occurring limitations. If the quality of the waters at any time falls below these criteria, a means to meet the criteria must be readily available and a pollution control and abatement plant must be developed to meet the criteria and must be approved by the Ohio EPA.

Finding: Partially meets Criteria 6. According to the Ohio EPA Technical Support Document (EAS/2011-1-2), the proposed 2.76-mile Pymatuning Creek Scenic river segment is in non-attainment of the Ohio EPA's warm water habitat designation due to low dissolved oxygen, wetland habitat and flow alterations. The source of this non-attainment is listed as natural and dam impoundment.

The findings of this designation study show that the section of the Pymatuning Creek proposed for state Scenic river designation from river mile 4.7 downstream to the Ohio-Pennsylvania state line at river mile 1.94 meets the criteria for designation. The only exception being the impoundment of the section, however, given the naturally occurring low gradient characteristics of Pymatuning Creek, this impoundment is not considered to be a significant impact to the proposed Scenic river designation.

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The Ohio Wild, Scenic and Recreational River Act

1547.81 Creating wild, scenic, or recreational river areas.

The director of natural resources or the director's representative may create, supervise, operate, protect, and maintain wild, scenic, and recreational river areas. In creating wild, scenic, and recreational river areas, the director shall classify each such area as either a wild river area, a scenic river area, or a recreational river area. The director or the director's representative may prepare and maintain a plan for the establishment, development, use, and administration of those areas as a part of the comprehensive state plans for water management and outdoor recreation. The director or the director's representative may cooperate with federal agencies administering any federal program concerning wild, scenic, or recreational river areas.

The director may propose for establishment as a wild, scenic, or recreational river area a part or parts of any watercourse in this state, with adjacent lands, that in the director's judgment possesses water conservation, scenic, fish, wildlife, historic, or outdoor recreation values that should be preserved. The area shall include lands adjacent to the watercourse in sufficient width to preserve, protect, and develop the natural character of the watercourse, but shall not include any lands more than one thousand feet from the normal waterlines of the watercourse unless an additional width is necessary to preserve water conservation, scenic, fish, wildlife, historic, or outdoor recreation values.

The director shall publish the intention to declare an area a wild, scenic, or recreational river area at least once in a newspaper of general circulation in each county, any part of which is within the area, and shall send written notice of the intention to the legislative authority of each county, township, and municipal corporation and to each conservancy district established under Chapter 6101. of the Revised Code, any part of which is within the area, and to the director of transportation, the director of development, the director of administrative services, and the director of environmental protection. The notices shall include a copy of a map and description of the area.

After 30 days from the last date of publication or dispatch of written notice as required in this section, the director shall enter a declaration in the director's journal that the area is a wild river area, scenic river area, or recreational river area. When so entered, the area is a wild, scenic, or recreational river area, as applicable. The director, after 30 days' notice as prescribed in this section, may terminate the status of an area as a wild river area, scenic river area, or recreational river area by an entry in the director's journal.

Declaration by the director that an area is a wild, scenic, or recreational river area does not authorize the director or any governmental agency or political subdivision to restrict the use of land by the owner thereof or any person acting under the landowner's authority or to enter upon the land and does not expand or abridge the regulatory authority of any governmental agency or political subdivision over the area.

The director may enter into a lease or other agreement with a political subdivision to administer all or part of a wild, scenic, or recreational river area and may acquire real property or any

estate, right, or interest therein in order to provide for the protection and public recreational use of a wild, scenic, or recreational river area.

The chief of the division of parks and watercraft or the chief's representative may participate in watershed-wide planning with federal, state, and local agencies in order to protect the values of wild, scenic, and recreational river areas.

1547.82 Approving structures and channel modifications.

No state department, state agency, or political subdivision shall build or enlarge any highway, road, or structure or modify or cause the modification of the channel of any watercourse within a wild, scenic, or recreational river area outside the limits of a municipal corporation without first having obtained approval of the plans for the highway, road, or structure or channel modification from the director of natural resources or the director's representative. The court of common pleas having jurisdiction, upon petition by the director, shall enjoin work on any highway, road, or structure or channel modification for which such approval has not been obtained.

1547.83 Administering program and areas.

The chief of the division of parks and watercraft shall administer the state programs for wild river areas, scenic river areas, and recreational river areas. The chief may accept and administer state and federal financial assistance for the maintenance, protection, and administration of wild, scenic, and recreational river areas and for construction of facilities within those areas. The chief, with the approval of the director of natural resources, may expend for the purpose of administering the state programs for wild, scenic, and recreational river areas money that is appropriated by the general assembly for that purpose, money that is in the scenic rivers protection fund created in section 4501.24 of the Revised Code, and money that is in the waterways safety fund created in section 1547.75 of the Revised Code, including money generated by the waterways conservation assessment fee levied by sections 1547.54 and 1547.542 of the Revised Code, as determined to be necessary by the division of parks and watercraft not to exceed \$600,000 per fiscal year. The chief may condition any expenditures, maintenance activities, or construction of facilities on the adoption and enforcement of adequate floodplain zoning or land use rules.

Any instrument by which real property is acquired pursuant to this section shall identify the agency of the state that has the use and benefit of the real property as specified in section 5301.012 of the Revised Code.

The chief may cooperate with federal agencies administering any federal program concerning wild, scenic, or recreational river areas.

1547.84 Advisory council appointed for each area.

The director of natural resources shall appoint an advisory council for each wild, scenic, or recreational river area, composed of not more than 10 persons who are representative of local government and local organizations and interests in the vicinity of the wild, scenic, or recreational river area, who shall serve without compensation. The chief of the division of parks and watercraft or the chief's representative shall serve as an ex-officio member of each council.

The initial members appointed to each council shall serve for terms of not more than three years, with the terms of not more than four members of any council ending in the same year. Thereafter, terms of office shall be for three years commencing on the first day of February and ending on the last day of January.

Each council shall advise the chief on the acquisition of land and easements and on the lands and waters that should be included in a wild, scenic, or recreational river area or a proposed wild, scenic, or recreational river area, facilities therein, and other aspects of establishment and administration of the area that may affect the local interest.

1547.85 Participation in federal protection program.

The director of natural resources may participate in the federal program for the protection of certain selected rivers that are located within the boundaries of the state as provided in the "Wild and Scenic Rivers Act," 82 Stat. 906 (1968), 16 U.S.C. 1271 et seq., as amended. The director may authorize the chief of the division of parks and watercraft to participate in any other federal program established for the purpose of protecting, conserving, or developing recreational access to waters in this state that possess outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

1547.86 Reconciliation of powers.

Any action taken by the chief of the division of parks and watercraft under sections 1547.81 to 1547.86 of the Revised Code shall not be deemed in conflict with certain powers and duties conferred on and delegated to federal agencies and to municipal corporations under Section 7 of Article XVIII, Ohio Constitution, or as provided by sections 721.04 to 721.11 of the Revised Code.

Resolutions and Letters Supporting a State Wild and Scenic River Designation Study of the Pymatuning Creek

LOCAL RESOLUTIONS OF SUPPORT

ASHTABULA COUNTY

Ashtabula County Commissioners	1/5/2016
Cherry Valley Township	12/29/2015
Wayne Township	12/14/2015

TRUMBULL COUNTY

Trumbull County Commissioners	11/18/2015
Gustavus Township	2/2/2016
Hartford Township	12/29/2015
Kinsman Township	10/26/2015
Vernon Township	12/8/2015
Village of Orangeville	12/4/2017

ADDITIONAL LETTERS AND RESOLUTIONS OF SUPPORT

Ashtabula County Metroparks	3/14/2018
Trumbull County Engineer, Randy Smith, PE, PS	11/17/2015
Trumbull County MetroParks	11/23/2015
Trumbull County Tourism Bureau	11/16/2015
Trumbull Township Association	10/15/2015
Representative Michael J. O'Brien, 64th Ohio House District	11/16/2015
Representative John Patterson, 99th Ohio House District	5/3/2018
Senator Sean J. O'Brien, 32nd District	1/26/2018

EMAILED SUPPORT

Mike Danko, President, Trumbull Canoe Trails Paddling Club	1/31/2018
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RESOLUTION NUMBER 2016-1 TO THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING THE INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION

The Board of County Commissioners of Ashtabula County, Ohio, met on the 5th day of January, 2016, in regular session at the offices of said Board in the Old Courthouse Building, 2nd Floor, Jefferson, Ohio, with the following members present: Peggy A. Carlo, Daniel R. Claypool, Casey R. Kozlowski.

WHEREAS, pursuant to Ohio Revised Code Section 1547.81, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Ashtabula County has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in ORC 1547.81; and

WHEREAS, Ashtabula County understands that the term "natural" is intended to mean " a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio"; and

WHEREAS, the purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river; now

THEREFORE BE IT RESOLVED, that Ashtabula County, by and through the Ashtabula County Commissioners, hereby requests the Chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational area, pursuant to ORC section 1547.81; and

BE IT FURTHER RESOLVED, that the Ashtabula County Commissioners hereby agree to cooperate with the ODNR, Division of Watercraft, Scenic Rivers staff, and with other units of government agencies in the development and implementation of river preservation techniques for long protection of Pymatuning Creek and its recreational values.

This Resolution shall become effective immediately upon its passage.

MOTION: Kozlowski moved the adoption, Claypool seconded. **DISCUSSION:** None

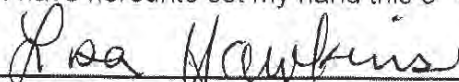
VOTE: Yeas: Carlo, Claypool, Kozlowski **Nays:** None **Abstained:** None **Absent:** None

Whereupon the resolution was declared passed unanimously.

CERTIFICATE

This is to certify that I, Lisa Hawkins, as Clerk of the Board of County Commissioners of Ashtabula County, Ohio has compared the foregoing copy of the Resolution Number 2016-1 with the original resolution now on file in this office, which was duly passed by the board of Commissioners of said County of Ashtabula on the 5th day of January, 2016; and that the same is a correct and true copy of said resolution.

In witness whereof, I have hereunto set my hand this 5th day of January, 2016.



Lisa Hawkins, Clerk of the Board of Ashtabula County Commissioners'

RESOLUTION REQUESTING THE OHIO DEPT. OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS: Pursuant to Section 1547.81 of the ORC, the Director of Ohio Dept. of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

Cherry Valley Twp. has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in ORC 1547.81 and;

Cherry Valley Twp. understands that the term "natural" is intended to mean "a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio"; and

The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

THEREFORE, BE IT RESOLVED BY CHERRY VALLEY TOWNSHIP, State of Ohio, that:

The Cherry Valley Twp. Trustees hereby request the Chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational area, pursuant to ORC section 1547.81.

Cherry Valley Twp. Trustees agree to cooperate with the ODNR, Division of Watercraft, Scenic Rivers staff, and with other units of government agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

This resolution shall take effect from the earliest period provided by law.

Passed this 29 day of December, 2015

CHERRY VALLEY TWP. TRUSTEES



Mark Savel, Chairman



Robert Gale



Jeffrey Smith

ATTESTED BY: 

Rita Woodard, Fiscal Officer

RESOLUTION
By
WAYNE TOWNSHIP

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Wayne Township has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Wayne Township understands that the term "Natural" is intended to mean a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio; and

WHEREAS, the purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

NOW, THEREFORE, BE IT RESOLVED by Wayne Township, State of Ohio that:

Section 1: The Wayne Township Trustees hereby requests the Chief of the Division of Watercraft to study Pymatuning Creek for designation as wild, scenic, or recreational river area, pursuant to Section 1547.81, of the Ohio Revised Code.

Section 2: The Wayne Township Trustees agrees to cooperate with the Ohio Department of Natural Resources, Division of Watercraft, Scenic Rivers staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

Section 3: This resolution shall take effect and be in force from and after the earliest period provided by law.

Passed this 14 day of Dec. 2015

APPROVED:
WAYNE TOWNSHIP TRUSTEES

Kenneth R. Coltrane Kenneth Coltrane

Art Gruskiewicz Art Gruskiewicz

Jeff Magyar Jeff Magyar

ATTEST: JoAnn L. Knowles
JoAnn L. Knowles, Wayne Township Fiscal Officer

The Board of County Commissioners, Trumbull County, Ohio, met in regular Session on the 18th day of November, 2015, in the Office of said Board, with the following members present:

Daniel E. Polivka, President
Mauro Cantalamessa, Commissioner
Frank S. Fuda, Commissioner

**RE: RESOLUTION IN SUPPORT OF PYMATUNING
CREEK DESIGNATION AS A SCENIC RIVER**

MOTION: Made by Mr. Cantalamessa, seconded by Mr. Fuda, to adopt a Resolution in Support of the Pymatuning Creek Designation as a Scenic River requesting the Ohio Department of Natural Resources, Division of Watercraft, to study the Pymatuning Creek for designation as a component of the State Scenic Rivers System and declaring intent to cooperate with the Department of Natural Resources and other agencies and units of government in the preservation of Pymatuning Creek—should the study result in designation.

RESOLUTION

WHEREAS, pursuant to the Ohio Revised Code, Section 1547.81, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic or recreational river area; and

WHEREAS, the Board of Trumbull County Commissioners supports the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic or recreational river area; and

WHEREAS, the purpose of Scenic River Designation is to ensure protection of streams in their natural state; and

WHEREAS, the Ohio Department of Natural Resources, Division of Watercraft, requires a majority of directly affected counties, municipalities and townships to submit a request for study of any river; and

NOW, THEREFORE BE IT RESOLVED, that the Board of Trumbull County Commissioners hereby supports request for a study of the Pymatuning Creek for designation as a component of the State Scenic Rivers System.

Section 1: The Trumbull County Commissioners hereby request the chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic or recreational river area; pursuant to Ohio Revised Code, Section 1547.81.

Section 2. The Trumbull County Commissioners agree to cooperate with the Ohio Department of Natural Resources, Division of Watercraft, Scenic River Staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

TRUMBULL COUNTY
COMMISSIONERS
100 High Street, N.W.
Warren, OH 44481

TELEPHONE
330-675-2451
FAX 330-675-2462

NOW, THEREFORE BE IT FURTHER RESOLVED, that it is found and determined that all formal actions of this Board concerning and relating to the passage of this resolution were passed in an open meeting of this Board, and that all deliberations of this Board and of any of its committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements including Section 121.22 of the Ohio Revised Code.

Adopted: November 18, 2015

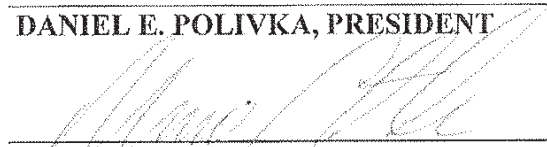
Yeas: Cantalamessa, Fuda, Polivka

Nays: None

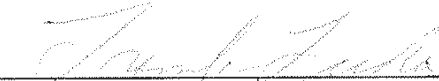
**BOARD OF COUNTY COMMISSIONERS
TRUMBULL COUNTY, OHIO**



DANIEL E. POLIVKA, PRESIDENT



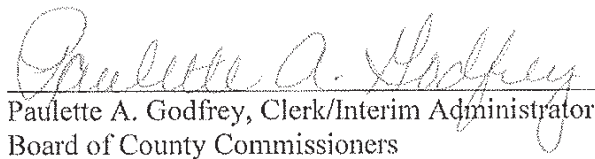
MAURO CANTALAMESSA, COMMISSIONER



FRANK S. FUDA, COMMISSIONER

CERTIFICATION

I, Paulette A. Godfrey, Clerk of the Board of County Commissioners, Trumbull County, Ohio, do hereby certify that the foregoing is a true and correct copy of a Resolution adopted by the Board of Trumbull County Commissioners on November 18, 2015, and is duly recorded in their Journal Volume 143, Page(s) 19486.



Paulette A. Godfrey, Clerk/Interim Administrator
Board of County Commissioners

TRUMBULL COUNTY
COMMISSIONERS
100 High Street, N.W.
Warren, OH 44481

TELEPHONE
330-675-2451
FAX 330-675-2462

RESOLUTION

By
Gustavus Township

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Gustavus Township has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Gustavus Township understands that the term "natural" is intended to mean "a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio"; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

NOW, THEREFORE, BE IT RESOLVED by Gustavus Township, State of Ohio, that:

Section 1: The Gustavus Township Trustees hereby requests the Chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational river area, pursuant to Section 1547.81 of the Ohio Revised Code.

Section 2: The Gustavus Township Trustees agrees to cooperate with the Ohio Department of Natural Resources, Division of Watercraft, Scenic Rivers staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

At the December 29, 2015 meeting of the Hartford Township Trustees the following action was taken to support Kinsman Township in their resolution as here stated:

RESOLUTION

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural resources may declare an area to be wild, scenic, or recreational river area; and

WHEREAS, Kinsman Township has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Kinsman Township understands that the term "natural" is intended to mean "a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio"; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and


WHEREAS, The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

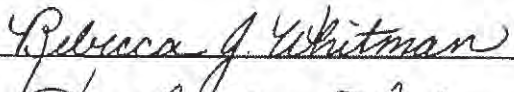
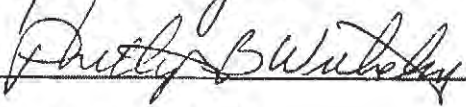

The Hartford Township Trustees made the following motion:

MOTION: A motion was made by Trustee Phil Wilhelm that Hartford Township support Kinsman Township in their effort to have the Pymatuning Creek area designated as a wild, scenic and/or recreational river area as designated in Ohio Revised Code, Section 1547.81.

Trustee Mike Bridge seconded the motion.

The motion was approved unanimously.


Fiscal Officer




Trustees

RESOLUTION

By
Kinsman Township

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Kinsman Township has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Kinsman Township understands that the term "natural" is intended to mean "a condition within the river's corridor approximating the original vegetation and forest type of primitive Ohio"; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

NOW, THEREFORE, BE IT RESOLVED by Kinsman Township, State of Ohio, that:

Section 1: The Kinsman Township Trustees hereby requests the Chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational river area, pursuant to Section 1547.81 of the Ohio Revised Code.

Section 2: The Kinsman Township Trustees agrees to cooperate with the Ohio Department of Natural Resources, Division of Watercraft, Scenic Rivers staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

Section 3: This resolution shall take effect and be in force from and after the earliest period provided by law.

Passed this 26th day of October, 2015.

ATTEST:

APPROVED:
KINSMAN TOWNSHIP TRUSTEES

Margaret E. Cuzzi

Timothy K. Woodford

Linda Miller

Paul

#317

RESOLUTION

By
Village of Orangeville

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF PARKS AND WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Village of Orangeville has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Village of Orangeville understands that the term “natural” is intended to mean “a condition within the river’s corridor approximating the original vegetation and forest type of primitive Ohio”; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Parks and Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

NOW, THEREFORE, BE IT RESOLVED by Village of Orangeville, State of Ohio, that:

Section 1: The Village of Orangeville Council hereby requests the Chief of the Division of Parks and Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational river area, pursuant to Section 1547.81 of the Ohio Revised Code.

Section 2: The Village of Orangeville agrees to cooperate with the Ohio Department of Natural Resources, Division of Parks and Watercraft, Scenic Rivers staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

Section 3: This resolution shall take effect and be in force from and after the earliest period provided by law.

Passed this 4th day of December, 2017.

ATTEST:

APPROVED:
Village of Orangeville Council

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

Mayor

[Signature]

Clerk

[Signature]

317

RESOLUTION

By
Village of Orangeville

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF PARKS AND WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic, or recreational river area; and

WHEREAS, Village of Orangeville has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Village of Orangeville understands that the term “natural” is intended to mean “a condition within the river’s corridor approximating the original vegetation and forest type of primitive Ohio”; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Parks and Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

NOW, THEREFORE, BE IT RESOLVED by Village of Orangeville, State of Ohio, that:

Section 1: The Village of Orangeville Council hereby requests the Chief of the Division of Parks and Watercraft to study Pymatuning Creek for designation as a wild, scenic, or recreational river area, pursuant to Section 1547.81 of the Ohio Revised Code.

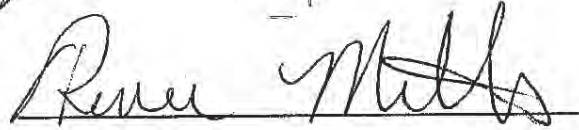
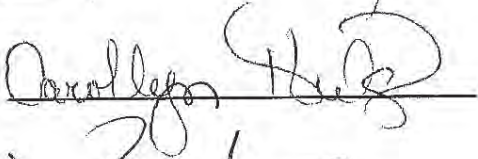
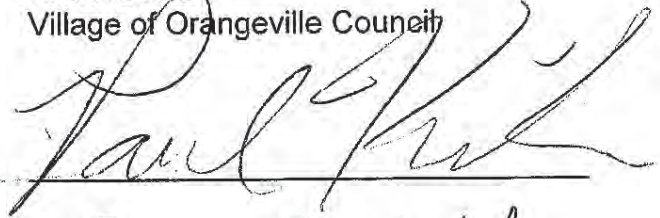
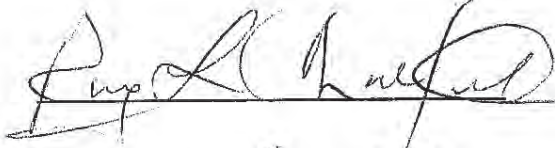
Section 2: The Village of Orangeville agrees to cooperate with the Ohio Department of Natural Resources, Division of Parks and Watercraft, Scenic Rivers staff, with other units of government and agencies in the development and implementation of river preservation techniques for long term protection of Pymatuning Creek and its recreational values.

Section 3: This resolution shall take effect and be in force from and after the earliest period provided by law.

Passed this 4th day of December, 2017.

ATTEST:

APPROVED:
Village of Orangeville Council



Mayor



Clerk



**Ashtabula County Metroparks
Board of Park Commissioners Resolution
No. 2018-005**

A resolution requesting the Ohio Department of Natural Resources Division of Parks and Watercraft to study the Pymatuning Creek for designation as a component of the state scenic rivers system and declaring intent to cooperate with the Department of Natural Resources, and other agencies and units of government in the preservation of Pymatuning Creek should the study result in designation.

Whereas, Pursuant to Section 1547.81 of the *Ohio Revised Code*, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic or recreational river area; and

Whereas, The Board of Ashtabula County Metroparks has reason to believe that the Pymatuning Creek may qualify for designation as a wild, scenic or recreational river area, as outlined in the *Ohio Revised Code*, Section 1547.81; and

Whereas, the purpose of Scenic River Designation is to ensure protection of streams in their natural state; and

Whereas, the Ohio Department of Natural Resources, Division of Parks and Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

Now, therefore be it resolved, by the Board of the Ashtabula County Metroparks, State of Ohio, that:

Section 1: The Board of Ashtabula County Metroparks hereby supports the designation of Pymatuning Creek as a wild, scenic or recreational river area, pursuant to Section 1547.81 of the *Ohio Revised Code*, by the Director of the Ohio Department of Natural Resources and the Chief of the Division Parks and Watercraft;

Section 2: The Board of Ashtabula County Metroparks agrees to cooperate with the Ohio Department of Natural Resources, Division of Parks and Watercraft, Scenic Rivers staff, and with other units of government and agencies in the development and implementation of river preservation techniques for long-term protection of Pymatuning Creek and its recreational values.



Paul Carpenter, Board President

Certificate of Recording Officer

I, the undersigned, hereby certify, that the foregoing is a true and correct copy of resolution 2018-005 adopted by the Ashtabula County Metroparks on March 24, 2018, and that I am duly authorized to execute this certificate.



Pam Blough, Clerk of the Board

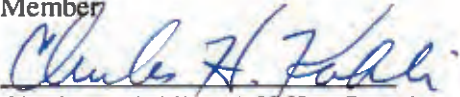
Board of Park Commissioners of
the Ashtabula Metroparks, Present
at the Board Meeting March 14,
2018



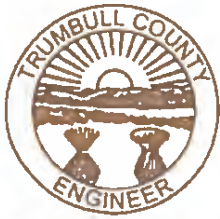
Paul Carpenter, ACMP Board
President



Terry Berkey, ACMP Board
Member



Charles Kohli, ACMP Board
Member



Randy L. Smith, P.E., P.S.
TRUMBULL COUNTY ENGINEER

650 NORTH RIVER ROAD, N.W. WARREN, OHIO 44483-2255

PHONE: 330-675-2640 FAX: 330-675-2642

www.countyengineer.com

Herb W. Laukhart, Jr.
Director of Finance &
Personnel

Gregg A. Alberini, Sr.
Highway Superintendent

November 17, 2015

Kinsman Township Board of Trustees
7890 State Route 5
P.O. Box 399
Kinsman, Ohio 44428

Re: Study of Pymatuning Creek for designation as a component of the Scenic Rivers System

Dear Board of Trustees:

The Trumbull County Engineer's Office would like to offer full support for the study of Pymatuning Creek to be completed by the Ohio Department of Natural Resources, Division of Watercraft, to determine if it qualifies for designation as a wild, scenic, or recreational river area as outlined in Ohio Revised Code, Section 1547.81.

Pymatuning Creek adds to the region's considerable beauty, ecology and holds recreational value for residents and tourists alike. It is for these very reasons Pymatuning Creek should be ensured long term protection and sustainability, and therefore, designated as a component of the Scenic Rivers System of Ohio.

We offer our commendation to the Board of Kinsman Township Trustees for taking the initiative to preserve one of Trumbull County's finest natural resources and look forward to future collaborations together. If this office can be of any further assistance in this matter, please do not hesitate to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Randy L. Smith", with a long horizontal flourish extending to the right.

Randy L. Smith, P.E., P.S.
Trumbull County Engineer

**Trumbull County MetroParks District
Board of Park Commissioners
Resolution No. 2015-8**

A resolution requesting the Ohio Department of Natural Resources - Division of Watercraft to study the Pymatuning Creek for designation as a component of the state scenic rivers system and declaring intent to cooperate with the Department of Natural Resources, and other agencies and units of government in the preservation of Pymatuning Creek should the study result in designation.

Whereas, Pursuant to Section 1547.81 of the *Ohio Revised Code*, the Director of the Ohio Department of Natural Resources may declare an area to be a wild, scenic or recreational river area; and

Whereas, The Board of Trumbull County MetroParks has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic or recreational river area, as outlined in the *Ohio Revised Code*, Section 1547.81; and

Whereas, the purpose of Scenic River Designation is to ensure protection of streams in their natural state; and

Whereas, the Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;


Now, therefore be it resolved, by the Board of the Trumbull County MetroParks, State of Ohio, that:

Section 1: The Board of Trumbull County MetroParks hereby requests the Chief of the Division of Watercraft to study Pymatuning Creek for designation as a wild, scenic or recreational river area, Pursuant to Section 1547.81 of the *Ohio Revised Code*.

Section 2: The Board of Trumbull County MetroParks agrees to cooperate with the Ohio Department of Natural Resources, Division of Watercraft, Scenic Rivers staff, and with other units of government and agencies in the development and implementation of river preservation techniques for long-term protection of Pymatuning Creek and its recreational values.

Certificate of Recording Officer

I, the undersigned, hereby certify, that the foregoing is a true and correct copy of resolution adopted by the Trumbull County MetroParks on November 23, 2015, and that I am duly authorized to execute this certificate.




Park Secretary and Notary Public

Board of Trumbull County Park Commissioners




John Brown, Jr., Commissioner, Chairman



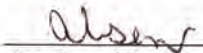
Nicolette Darkangelo, Commissioner



Stephen G. Papalas, Commissioner



Mike Sava, Commissioner



Stephen Zerefos, Commissioner



COME. EXPLORE. EXPERIENCE.

321 Mahoning Avenue NW • Warren, OH 44483

P: 330-675-3081 • F: 330-675-3083 • ExploreTrumbullCounty.com

November 16, 2015

Mr. Greg Leonard
Trustee
KINSMAN TOWNSHIP
PO Box 399
Kinsman, OH 44428

Dear Greg:

Thank you for contacting us about the proposed paddling trail along Pymatuning Creek in Kinsman Township. We're happy to hear that we may soon have another water trail to add to the growing number of outdoor recreational opportunities we have to offer here in Trumbull County.

Water trails are an important part of Ohio's and Trumbull County's outdoor recreation system. They come in various lengths, run through a variety of environments and accommodate a variety of outdoor activities ranging from hiking and biking to horseback riding and paddling.

But not only are these trails important as a resource for outdoor recreation, they also bring many values to local residents and communities. Some of these values can be measured in dollars thus bringing a positive economic impact to a local area.

On a trail visit, users will spend money on refreshments and dining. As interest grows, so will business opportunities for camping and lodging, kayak and canoe liveries and special events.

In the last economic study conducted for Trumbull County, which was 2013, we know that visitors to the County generated over \$42 million in tourism sales related to recreation. That's money pumped directly into the local community.

Studies from around the country have shown that trails provide value to the local community; increase connectivity and access to destinations; produce positive economic impacts; help attract and retain talent; and can contribute to the economic vitality and health of a community.

The Trumbull County Tourism Bureau is excited about the planned water trail in the northeastern section of Trumbull County and will help in any way it can to promote this new opportunity. Simply put: it's a win-win for everyone!

Sincerely,



Stephanie L. Sferra
Executive Director

2015 Trumbull County Tourism Board

Jordan Taylor, President • Jim Bugos, Vice President • Sue Shafer, Treasurer • Kate Blaney, Secretary
JV Ferrara • Michele Janci • Beth Kane • Gwen Logan

TRUMBULL TOWNSHIP ASSOCIATION
“WORKING FOR TOWNSHIP GOVERNMENT”

At the October 15, 2015 meeting of the Trumbull Township Association the following action was taken to support Kinsman Township in their resolution as here stated:

RESOLUTION

A RESOLUTION REQUESTING THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATERCRAFT, TO STUDY THE PYMATUNING CREEK FOR DESIGNATION AS A COMPONENT OF THE STATE SCENIC RIVERS SYSTEM AND DECLARING INTENT TO COOPERATE WITH THE DEPARTMENT OF NATURAL RESOURCES, OTHER AGENCIES AND UNITS OF GOVERNMENT IN THE PRESERVATION OF PYMATUNING CREEK, SHOULD THE STUDY REQUEST RESULT IN DESIGNATION.

WHEREAS, Pursuant to Section 1547.81 of the Ohio Revised Code, the Director of the Ohio Department of Natural resources may declare an area to be wild, scenic, or recreational river area; and

WHEREAS, Kinsman Township has reason to support the study of Pymatuning Creek to determine if it qualifies for designation as a wild, scenic, or recreational river area, as outlined in Ohio Revised Code, Section 1547.81; and

WHEREAS, Kinsman Township understands that the term “natural” is intended to mean “a condition within the river’s corridor approximating the original vegetation and forest type of primitive Ohio”; and

WHEREAS, The purpose of Scenic River designation is to ensure protection of streams in their natural state; and

WHEREAS, The Ohio Department of Natural Resources, Division of Watercraft requires a majority of directly affected counties, municipalities, and townships to submit a request for study of any river;

The Trumbull Township Association made the following motion:

MOTION: A motion was made by Greg Leonard that the Trumbull Township Association support Kinsman Township in their effort to have the Pymatuning Creek area designated as a wild, scenic and/or recreational river area as designated in Ohio Revised Code, Section 1547.81.
Fred Bobvnyk seconded the motion.
The motion was approved unanimously.

Rebecca Whitman

**Rebecca Whitman, Sec./Treas.
Trumbull Township Association**



**Representative Michael J. O'Brien
64th Ohio House District**

November 16, 2015

Ohio Department of Natural Resources
2045 Morse Road
Columbus, Ohio 43229-6693

To whom it may concern:

I write this letter in support of Kinsman Township's request that the Ohio Department of Natural Resources Division of Watercraft study the Pymatuning Creek for designation as a component of the State Scenic Rivers System.

This picturesque body of water provides recreation for the people of both Ohio and Pennsylvania. The scenic 2 mile long causeway bridge that spans the middle of the lake connects the towns of Espyville on the Pennsylvania side and Andover on the Ohio side. Sailboats and other pleasure craft travel from one side of the river to the other. There are also walkways where travelers stroll down beside the bridge to fish or sightsee in this lovely and serene setting.

I am in favor of Kinsman Township's efforts to determine if Pymatuning Creek qualifies for designation as a wild, scenic, or recreational river area and respectfully ask that you consider their request.

Sincerely,

A handwritten signature in cursive script that reads "Michael J. O'Brien".

Michael J. O'Brien
State Representative
Ohio House District 64

Committees:

Agriculture and Rural Development
Armed Services, Veterans Affairs, and Public Safety
Finance
Finance Subcommittee on Agriculture, Development, and
Natural Resources

Contact Information:

77 S. High Street
Columbus, Ohio 43215
Office: 614-466-5358
FAX: 614-719-3964
Email: rep64@ohiohouse.gov

COLUMBUS OFFICE

VERN RIFFE CENTER, 10TH FLOOR
77 S. HIGH STREET
COLUMBUS, OHIO 43215-6111



CONTACT INFORMATION

OFFICE: (614) 466-1405
FAX: (614) 719-6999
REP99@OHIOHOUSE.GOV

**STATE REPRESENTATIVE JOHN PATTERSON
99TH HOUSE DISTRICT**

May 3, 2018

Ohio Department of Natural Resources
2045 Morse Road
Columbus, Ohio 43229-6693

To whom it may concern:

I write this letter in support of Kinsman Township's request that the Ohio Department of Natural Resources Division of Watercraft study the Pymatuning Creek for designation as a component of the State Scenic Rivers System.

The Pymatuning creek offers more than aesthetic beauty, it provides a variety of animal habitats and recreation for the people of Ohio and Pennsylvania alike. As one who has biked along and through the valley created by the Pymatuning Creek, I can vouch with great enthusiasm as to its beauty, its pristine nature, and its legitimacy as the fifteenth such designation in all of Ohio, and the fourth in Ashtabula County alone.

The Pymatuning Creek is an environmental and recreational asset to the State of Ohio, and I am strongly in favor of Kinsman Township's efforts to determine if Pymatuning Creek qualifies for designation as a wild, scenic, or recreational river area. I respectfully urge that you consider their request.

Best regards,

A handwritten signature in black ink that reads "John Patterson".

John Patterson
State Representative
House District 99

COMMITTEES

AGRICULTURE & RURAL DEVELOPMENT, RANKING MEMBER
EDUCATION & CAREER READINESS
FINANCE
PRIMARY & SECONDARY EDUCATION SUBCOMMITTEE
STATE GOVERNMENT & AGENCY REVIEW SUBCOMMITTEE



Ohio Senate
Senate Building
1 Capitol Square
Columbus, Ohio 43215
(614) 466-7182

Committees:

Energy and Natural Resources, *Ranking Member*
Agriculture, *Ranking Member*
Judiciary
Ways and Means
Public Utilities
Finance Subcommittee: General
Government and Agency Review, *Vice Chair*

Sean J. O'Brien
State Senator
32nd District

January 26th, 2018

Chief Michael D. Bailey
Ohio Department of Natural Resources
Division of State Parks and Watercraft
2045 Morse Road, Building C-4
Columbus, OH 43229

Dear Chief Bailey,

As state Senator for Ohio's 32nd District, I write you today to express my strong support for the request from Kinsman Township that the Ohio Department of Natural Resources Division of State Parks and Watercraft consider Pymatuning Creek for designation as a scenic or wild river through the State Scenic Rivers System.

The people of Ohio benefit greatly from recreation opportunities along the beautiful Pymatuning Creek. There are walkways beside a two mile long bridge across the lake that can be used for walking, biking, and admiring the boats on the water. To be sure, Pymatuning Creek would be a great addition to the State Scenic Rivers System.

Additionally, one of my main priorities as a state senator is to do all I can to support the economic climate of my district, and granting Pymatuning Creek this designation would go far toward that endeavor by attracting visitors and increasing tourism. For these reasons and more I urge you to favorably consider Kinsman Township's request and help bring greater economic prosperity to our corner of the state.

If you have any thoughts or questions about this letter of support, please do not hesitate to reach out to my office using the contact information included above, or via email at O'Brien@ohiosenate.gov.

Sincerely,

A handwritten signature in blue ink that reads "Sean J. O'Brien".

Sean J. O'Brien
State Senator
32nd Ohio Senate District

From: mike Danko <mfdanko99@yahoo.com>
Sent: Wednesday, January 31, 2018 6:00 PM
To: Smith, Matthew
Cc: Ken Mozden & Cheryl Long
Subject: Pymatuming Creek

To Mathew or any other ODNR official.

I would like to write a letter of support for the study and possibility of the Pymatuming Creek as State Wild & Scenic River.

I have paddled this Creek from north of St Rt 87 down to the confluence of the Shenango Reservoir.

This creek is a beautiful slow moving current creek. I have had the privilege of seeing several beaver dens, muskrats and four bald eagles nest. Three of the nest our north of St Rt. 87 in Kinsman.

From a paddling point of view it can be very tricky to paddle as down tree's are very common and can cause several portages. Over all it is a great creek to paddle and to have a State Wild & Scenic Ricer in Trumbull County would be amazing.

As president of the Trumbull Canoe Trails this kind of event is why the club was started. To promote paddling on the Mahoning River and other bodies of water in Trumbull County. Since then we have spread to a regional club, but Trumbull County is home and already having a State Water trail on the Mahoning River. If Pymatuming Creek becomes a State Wild & Scenic river it will be a great situation for Trumbull County.

Mike Danko
Champion, OH
Trumbull Canoe Trails Paddling Club

A portion of the funding for this study was provided through the sale of the Scenic Rivers license plates.

Help Protect Ohio's Scenic Rivers



\$15 of your scenic river license plate purchase goes directly toward conservation of Ohio's highest quality waterways.





Ohio Department of
**NATURAL
RESOURCES**



Ohio Department of Natural Resources Division of Parks and Watercraft

