
EIGHTEENMILE CREEK RESTORATION PROJECT: BASELINE HABITAT CHARACTERIZATION AND THREATENED AND ENDANGERED SPECIES COORDINATION



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Executive Summary

Niagara County Department of Planning, Development, & Tourism has been the successful recipient of several grants for restoration activities on Eighteenmile Creek, in Niagara County, New York. The purpose of this document is to characterize the baseline conditions of the riverine ecosystem and provide information on threatened and endangered species coordination and field survey efforts. One state-listed threatened species was observed, the Blanding's turtle. Various other wildlife and plant species were observed and are mentioned in this report. Habitat characterizations were separated into two sections of the creek, based upon creek channel characteristics. Aquatic habitat is largely characterized by instream flow characteristics. Below Burt Dam, there is a relatively short section with flowing water. This section is referred to as Creek Section (CR) 1. The remainder of the creek to its confluence with Lake Ontario is non-flowing to slightly flowing water, depending on lake levels, as well as upstream discharge (CR 2). Available cover for fish includes: deep water, boulders, aquatic vegetation, large woody debris, and flowing water. Riparian and wetland habitats were also characterized separately for CR 1 and 2. CR 1, the area upstream of the public access point, is a combination of severely eroded sloping trails, bottomland forest, depressional wetland, and emergent marsh associated with creek hydrology. Habitat features within CR 2 are a combination of a meandering streambank, one island feature, a series of emergent marshes with backwater slough areas and exposed, partially vegetated slopes at water's edge adjacent to some of the marsh features.

The Eighteenmile Creek project presents Niagara County the opportunity to design and implement adaptive techniques of habitat restoration to promote long-term sustainability of an aquatic ecosystem and the regional fishery. Important considerations, as recommended by E & E, for the restoration project include: incorporating Blanding's turtle habitat enhancement and protection in the design, increasing available habitat for adfluvial salmonids in the section of the creek below Burt Dam, and stabilizing portions of the creek that experience heavy foot traffic from bank anglers.

1 Project Background

Niagara County Department of Planning, Development, & Tourism (NCDPDT) has been the successful recipient of several grants for restoration activities on Eighteenmile Creek, in Niagara County, New York. The U.S. Environmental Protection Agency (EPA) and the International Joint Commission (IJC) have identified the creek as an Area of Concern (AOC). As a result, a remedial action plan document was completed to investigate and assess the various sources of pollution affecting the sediments and water quality within the creek. The (Remedial Action Plan) RAP listed three beneficial use impairments (per IJC definitions) and four other use categories that require further investigation. The beneficial use impairments include: restrictions on fish and wildlife consumption, degradation of benthos, and restrictions on dredging activities (www.epa.gov/glnpo/aoc/eightemile.html). The project summary, as presented by Niagara County, indicates that there has been a loss of habitat for trout and salmon in Lake Ontario tributaries, which threatens the long-term sustainability of the lake fishery. Consequently, restoration activities will focus on "applying ecosystem management techniques", establishing a sustainable fish community, and improving public access to the creek. Specific stated goals include: improving habitat for cold-water fisheries, improving angler access, creating environmental education displays, and restoring the greater riparian ecosystem in lower Eighteenmile Creek.

The Eighteenmile Creek Habitat Restoration Project study area is located in northern Niagara County, New York near Lake Ontario. The proposed project study area includes approximately a one-mile reach of this waterway beginning at the Burt Dam in the Town of Newfane and ending approximately one mile downstream before the confluence of Eighteenmile Creek and Lake Ontario (Figure 1).

Streambank, terraces, and wetland areas located on both sides of the creek are included in the project study area (Figure 1). New York State Department of Environmental Conservation (NYSDEC) wetland mapping includes the entire creek and riparian areas below the Burt Dam to NYS Route 18 Bridge in Olcott, New York. This area is mapped as NYSDEC Wetland NW 3, which is identified as a Class 1 wetland system, encompassing approximately 66.9 acres (see Appendix for map). The east bank area and slope between the public access entry and the Burt Dam is the only upland portion of the project site expected to be disturbed by bank stabilization and access improvement work. Other land within the project site boundary and above the toe of the slope that impounds the creek and riparian areas including all slope and rim vegetation is not expected to be disturbed by construction activity within the proposed project work areas.

2 Project Understanding: Purpose and Scope of Baseline Study

The main objective of the grant proposal is to begin the restoration of the chemical, physical, and biological integrity of the Eighteenmile Creek ecosystem. This will be accomplished by the implementation of habitat improvements below Burt Dam with the development of a comprehensive watershed plan and feasibility study for restoring the entire watershed as viable habitat for aquatic species with improved public access. Additionally, the enhancements of

Eighteenmile Creek from this grant will be used to leverage other funding sources to improve access points along the watershed for environmental education, birding, boating, and fishing; continue habitat restoration work throughout the watershed; and implement the watershed management plan recommendations. The RAP designation was the first step in restoring the Eighteenmile Creek watershed. The work from this grant will initiate habitat enhancements that will improve the structure and function of Eighteenmile Creek, as well as increase the public opportunities to learn and enjoy the natural environment in Niagara County.

The scope of work for this baseline study includes threatened and endangered species coordination and qualitative field surveys, and a baseline habitat characterization. Review threatened and endangered species issues are necessary for the State Environmental Quality Review (SEQR) process, as well as to ensure that the restoration work will not negatively impact these species and/or their habitat. The baseline characterization documents existing habitat, as well as an understanding of the species that utilize the riparian and stream systems. This will enable appropriate decisions regarding habitat improvements, as well as protection of existing resources. Through this initial work, the permitting process and appropriate restoration design can be implemented to ensure a successful restoration project.

This report will serve as the basis for the habitat restoration planning and design. These actions will form the foundation for initial restoration of the system, as well as long-term additional enhancements that could benefit lower Eighteenmile Creek and the Great Lake Basin. This report will also serve as a component of the comprehensive watershed plan and feasibility study that will lead to long-term sustainability of Eighteenmile Creek. This current effort documents existing habitats and associated plant and animal species, which will provide the development of appropriate habitat restoration designs to address the concerns of restoring this (RAP) watershed.

This report is based on site reconnaissance surveys within the proposed project area in September and October of 2002. As requested by the NCDPDT, information was collected to support SEQR requirements. In addition to field surveys, information has been collected from personal interviews with NYSDEC personnel, correspondence from both NYSDEC and the United States Fish and Wildlife Service (USFWS) (see Appendix), and meetings with project team members.

3 Fish and Wildlife

3.1 Threatened and Endangered Species

3.1.1 Agency Coordination

An initial Eighteenmile Creek Restoration Project meeting was held on June 11, 2002. The purpose of this meeting was to begin the process of defining specific goals and objectives of the project. Niagara County personnel included: Jim Ward, Mark Seider, Brian Richards, Amy Fisk, and Edmund Sullivan. At the meeting, Michael McMurray representing the NYSDEC, indicated (on behalf of Ken Roblee, NYSDEC senior wildlife biologist) that the Blanding's turtle (*Emydoidea blandingii*) was known to occur in the area. McMurray added that Ken Roblee would be interested in the planning of restoration activities in relation to the potential impacts on the existing Blanding's turtle habitat. Additional federal and state agency personnel at the meeting included: Greg Tessmann -United States Department of Agriculture Natural Resource Conservation Service (USDA NRCS), Robert Remillard (USDA NRCS), Tony Friona - United States Army Corps of Engineers (USACE), Phil Berkeley (USACE), Dick Lang (NYSDEC), and Pat Cherry (NYSDEC).

As part of the threatened and endangered species survey, E & E sent information request letters to the NY State Natural Heritage Program (NHP) and the USFWS. The NHP indicated that the Blanding's turtle was the only state-listed threatened and endangered species known to occur in the project area. Additionally, the NHP indicated that Eighteenmile Creek is a warm-water fish concentration area, which has unprotected status. A copy of the request letters and the responses are included in the Appendix.

The USFWS response to our information request indicated that only one plant species, the Hooker's Orchid (*Plantanthera hookeri*) was known to occur in the project area. However, they did indicate the known presence of the Blanding's turtle, which is a federal species of concern (formerly known as Category 2 Candidate Species). As a result of the federal status, the USFWS requested that the project's environmental documents should include an evaluation of the potential direct, indirect, and cumulative effects of the proposed activities on the Blanding's turtle and its habitat. This information along with detailed project plans should be sent to the USFWS New York field office in Cortland, NY for review and comment. The result of these initial agency coordination efforts provides that further coordination should occur during the planning and design phases of the project.

3.1.2 Blanding's Turtle

Eighteenmile Creek is identified as one of two known locations for Blanding's turtle in western NY (NYSDEC 2002). Throughout the state, there are 25 known historic occurrences for this species. Consequently, NY State has designated the Blanding's turtle as a threatened species. The USFWS designated the Blanding's as a federal species of concern.

According to the Environment Canada's Habitat Rehabilitation in the Great Lakes report (Environment Canada 1995), documented Blanding's turtle habitat includes: lake shallows,

ponds, marshes, and creeks with soft bottoms and dense aquatic vegetation. Adjacent habitat must include basking areas (i.e. logs, stumps, and land), as well as reproductive areas (sand, sandy soil, or gravel). Recent investigations in northern NY identified Blanding's turtle in the St. Lawrence River area in isolated coves and weedy bays, and further inland in shallow, marshy waters and ponds (NYSDEC 2002). These habitat descriptions are similar to the available habitat in Eighteenmile Creek.

A siting of a Blanding's turtle occurred during the September 12, 2002 field visit. However, the siting was not confirmed, since we were unable to handle the turtle. The turtle was observed in a large basking area, consisting of a floating log, and a shallow bedrock ledge. The basking log was approximately 25 feet in length and greater than 8 inches in diameter. The Blanding's turtle was observed among a number of eastern painted turtles (*Chrysemys picta picta*). The unique turtle identified as a Blanding's turtle, exhibited a yellow streak under its chin and throat, a domed carapace, and the speckled appearance of the carapace (characteristics of the Blanding's Turtle). There was only one turtle sited which displayed these characteristics. Eastern painted turtles were observed in several other locations during the rest of the field visit; no other Blanding's turtle were observed.

3.1.3 Hooker's Orchid

The USFWS report indicated one threatened plant species, Hooker's orchid, as a federally listed species that may occur on or near the proposed project site (see Appendix). An E & E survey team conducted a field survey for this species, as part of the project area habitat characterization, on September 12 and October 11, 2002.

Habitat for this species is mesic forest and acid soils rich in organic matter. Areas located on the west and east side of the creek between the Burt Dam and the railroad trestle were determined to be the only potential habitat for this species. Although this species may be in flower between mid-May and mid-July in this region, the conspicuous basal leaves are usually visible and recognizable through autumn. No physical evidence of this species was observed, as a result of surveying the upland areas. Furthermore, it was determined that the existing upland habitat in this area, specifically soil characteristics and soil pH are unsuitable for this species. Topsoil was shallow (1 to 3 inches) with a rocky substrate composed of limestone rock fragments eroded from the adjacent cliff and slope. Spot readings taken from various locations consistently measured a soil pH of 7.2 or higher. A Kelway Model HB 2 Soil Acidity tester was used to measure pH.

3.2 Incidental Fish and Wildlife Species Observations

Numerous wildlife and fish species were observed during field surveys. Observations included direct and indirect (i.e. tracks) sightings. Wildlife species observed included: mallards (*Anas platyrhynchos*), wood duck (*Aix sponsa*), belted kingfisher (*Ceryle alcyon*), pileated woodpecker (*Dryocopus pileatus*), American crow (*Corvus brachyrhynchos*), great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), turkey vulture (*Cathartes aura*), Coopers hawk (*Accipiter cooperii*), red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), and eastern gray squirrel (*Sciurus carolinensis*). Whitetail deer (*Odocoileus virginianus*) and racoon (*Procyon lotor*) tracks were observed along shorelines during the

riparian surveys. Multiple fish and invertebrate species were observed including: chinook salmon (*Oncorhynchus tshawytscha*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), pumpkinseed (*Lepomis gibbosus*), yellow perch (*Perca flavescens*), carp (*Cyprinus carpio*), fathead minnow (*Pimephales promelas*), crayfish (*Procambarus* spp.), and zebra mussels (*Dreissena polymorpha*). No specific faunal or aquatic invertebrate surveys were conducted, but the abundance of fish and aquatic vegetation suggest a relatively healthy invertebrate population. Other herpetofauna species observed included eastern painted turtle (*Chrysemys picta picta*), green frog (*Rana clamitans*), bull frog (*Rana catesbeiana*), and northern leopard frog (*Rana pipiens*).

3.3 Invasive Plants

Some invasive plant species were found to occur within the project survey area (Table 1). All of the species are non-native to this region and can be ecologically damaging to native plant communities. These plants are especially problematic for restoration projects due to their ability to rapidly propagate and dominate disturbed soils. An invasive species management plan based on Integrated Pest Management (IPM) methodology, with emphasis on mechanical and/or biological control, is recommended to address this issue as components of bank stabilization and environmental restoration planning for this area.

None of the listed invasive plant species found to occur within the project area were dominant within the existing plant communities (Table 1). Occurrence was limited to a few individuals in small, scattered areas. Purple loosestrife is the only wetland species on the above list and was found to occur on cattail islands and some shoreline areas. The others were found primarily in disturbed areas associated with fishing access trails from the public access point to the Burt Dam. Giant hogweed is of concern from an ecological health perspective but also causes problems when humans come in contact with any part of the plant (severe rash and skin "burns" occur). Permanent scarring and skin photosensitivity can result from direct contact with this species. Only a few individuals of this species were identified on the west side of the creek on a forested terrace near Burt Dam.

Table 1. Invasive plant species that are found within the project area, Eighteenmile Creek, Niagara County, NY.

<i>Artemisia vulgaris</i>	mugwort
<i>Alliaria petiolata</i>	garlic mustard
<i>Heracleum mantegazzianum</i>	giant hogweed
<i>Lythrum salicaria</i>	purple loosestrife
<i>Phragmites australis</i>	common reed
<i>Rhamnus frangula</i>	glossy buckthorn
<i>R. cathartica</i>	common buckthorn

4 Baseline Habitat Inventory and Report

An assessment of existing habitat is essential to any habitat restoration project. Once existing conditions are known, an assessment of the current habitat characteristics can be made to enable the development of habitat restoration measures. A description of the existing riparian and in-stream habitats within the project area provides characteristics of riparian features, as well as the condition, and availability of aquatic habitat. This description will provide the foundation for:

- Analyzing the structure and diversity of the system;
- Providing a characterization of the aquatic and riparian habitats;
- Further defining specific restoration measures and how best to implement such measures (i.e., considerations of techniques and locations of restoration activities should listed species [or suitable habitat] exist within the project area; and
- Developing the basis by which to monitor the success of the restoration measures.

There were two components to the baseline habitat inventory. These included aquatic habitat and wetland/riparian habitats. These two habitat types represent the areas that are important to fish and wildlife species that use the Eighteenmile Creek ecosystem, and are the focus of the restoration efforts. Aquatic habitat includes areas that are within the creek channel and contain open water. Wetland and riparian areas are those areas that are dominated by wetland and a small bottomland forest community located on the west bank and terrace near the Burt Dam. The riparian community throughout the project area is bounded by naturally eroding cliffs where irregular, linear terraces follow the natural meanders of the creek within the floodplain. The entire project area is characterized as a riparian canyon, which forms a defined habitat corridor. The riparian area and wildlife corridor areas that were included in field surveys included land ending at the toe of the slope on either side of the creek. Soils within the project area are classified as Alluvial (Ad) by the Niagara County Soil Survey and are formed by sedimentary deposition associated primarily with historic creek conditions before flow restrictions caused by the construction of the Burt Dam. Since the regulation of flow from the dam, organic matter from decaying biomass and seasonal foliage loss from upland, deciduous shrubs and trees contribute significantly to mucky surface soil conditions of the creek terraces. The regulation of flow velocity and discharge, sediment transport, and seasonal vegetation dieback contribute to the existing, modified natural aquatic and riparian habitat conditions discussed further in this report.

4.1 Aquatic Habitat

4.1.1 *Habitat Description*

Lower Eighteenmile Creek is affected by various anthropogenic influences. The major influence is the regulation of stream flow by Burt Dam. The dam influences: peak and daily discharge, water velocities, available habitat, sediment transport, water temperature, and woody debris recruitment. Consequently, the available aquatic habitat is completely influenced by the presence and operation of the dam.

The project reach was divided into two sections, based upon the physical characteristics of the habitat (Figure 2, Table 2). Creek Section (CR) 1 is the area immediately below the Burt Dam and continues for approximately 1,300 feet (ft). This section of the creek displays characteristics of a moderate gradient, flowing water riverine system. CR 2 is more characteristic of a low gradient, slack-water riverine system, influenced by Lake Ontario, as well as the existing flow levels in the upstream portion of Eighteenmile Creek (i.e. power plant generating power, snow melt). CR 2 is approximately 5,250 ft in length and extends from the area immediate below the railroad bridge trestle to the downstream end of the project boundary (Figure 2).

Possible reasons why lower Eighteenmile Creek contains this change in physical habitat include: topography, channel width, and proximity to Lake Ontario. Existing topography suggests that the creek gradient from immediately below the dam to the rail trestle is higher than the gradient between the rail trestle and the end of the project area. The existing channel below the plunge pool at the dam is constricted, causing the wetted area to be condensed, resulting in faster water velocities. Additionally, channel width increases below the railroad trestle, compared to the width in CR 1. The lower limit of the project area is less than a mile from the confluence with Lake Ontario. Consequently, lake levels probably have a strong influence on water levels of the creek.

Habitat features characteristic of moderately flowing creek channels include: pools, riffles, and runs. Pools are characterized by deep water areas that have little to very slow surface water velocity. Riffles are characterized by shallow water areas that have moderate to fast water velocities, and in some cases have whitewater conditions. Runs are areas that have characteristics of pools and riffles; water levels may be deep or shallow, and water velocities are slow to moderate, with no white-water conditions. Habitat features characteristic of slow flowing to slack-water creek channels include: deep water and shallow water areas. Velocities in these areas are variable depending upon current flow conditions.

Creek Section (CR) 1

The upstream portion of CR 1 consists of a pool, immediately below the dam and spillway (Figure 2, Table 2). This area has deep water with no velocity on the west side in the section below the spillway, and shallower water with low to moderate velocities, depending upon dam operations, on the east side below the dam outlet. Small boulders and large cobble dominate substrates. Zebra mussel shells were observed to dominate the substrate in some areas. Aquatic macrophytes (i.e. water celery *Vallisneria americana*) were present along the eastern edge of the pool. Water depths were greater than 10 ft below the spillway, and ranged from 1 to several feet on the eastern side, below the dam outlet. The length and width of the pool were approximately 145 and 175 ft, respectively (Table 2).

The spillway pool is drained by a riffle that flows for approximately 150 ft, depending upon water levels. The riffle exists because of the reduced channel width (54 ft compared to 175 ft in the pool), in the section below the pool. Water velocities were high, estimated at 3.5 feet per second (fps) on the surface of the thalweg, and some whitewater was present. Small boulders dominate the substrate, with little to no aquatic vegetation present.

The remaining channel of CR 1 is characteristic of a run. Most of the run is shallow (< 6 ft) with depths ranging from one-half foot to 5 ft. Substrate is dominated by cobble and gravel. Aquatic vegetation is present in some portions of the channel. This section is approximately 830 ft in length and is variable in width (69 to 140 ft). The lower portion of the run changes to a riffle during low flows, as a result of the large shallow gravel bed. This gravel bed is located immediately above (south of) the railroad trestle.

Four cross-sections were recorded in CR 1, and are presented in the Appendix (Table A.1). This information is provided as a baseline for channel characteristics for potential modeling and monitoring efforts. The data documents channel widths and depths in different portions of CR 1.

Table 2. Aquatic habitat descriptions for project area in Eighteenmile Creek, Niagara County, NY. See Figure 1.

River Section	Habitat type	Habitat Number	Wetted Width Range(ft)	Depth Range (ft)	Habitat Description
1	Deep Pool	1	170 to 185	10+	The spillway pool and the dam outfall area. The west side of the area consists of a deep pool with no flowing water. The east side of the pool consists of the turbine outfall with moderate flow, depending upon dam operation. Fish cover includes: deep water, boulders, some aquatic vegetation, and some woody debris.
1	Riffle	2	50 to 60	0.5 to 1.5	The fast to moderate flowing water area, immediately below the dam pool. This area exhibits moderate to fast flowing water and small sections of white water. Fish cover includes: boulders and some woody debris.
1	Run	3	120 to 180	0.5 to 4	This area has moderate to slow water velocities, and variable depths throughout. This habitat contains some riffles in some sections when water levels are low. Fish cover includes: boulders, an old step dam on the east side of the channel, and some woody debris.
2	Shallow Water	4	175 to 260	3 to 5	This area is the beginning of CR 2 and contains a large continuous slow to zero water velocity section. Available fish cover includes: aquatic vegetation, and large woody debris. This section is the beginning of the warm water fish section, where many largemouth bass were observed.
2	Deep Water	5	120 to 150	10 to 11	This area is the first deep hole, after the spillway pool. Available cover was not observed because of water depth, but probably includes: depth, aquatic vegetation, boulders, and large woody debris. This area is probably a good holding area for salmon migrating, as well as warm water fish year round.
2	Shallow Water	6	110 to 120	5 to 7	This area is similar to Habitat # 4, but shorter in length. Fish cover was dominated by aquatic vegetation beds with some woody debris present.
2	Deep Water	7	150 to 180	10 to 12	This deep water section was similar to Habitat # 5, and contains important habitat for salmon and warm water fish.
2	Shallow Water	8	90 to 110	4 to 8	This area was similar to the CR 2 shallow water areas, but was shorter in length. Cover was dominated by aquatic vegetation beds.
2	Deep Water	9	180 to 200	12 +	This deep water section was similar to Habitats # 5 and # 7. Steep sides are present along the north side as a result of the steep shoreline. There were multiple painted turtles observed on a basking log. This pool is important for salmon and warm water fish.
2	Shallow Water	10	100 to 120	4 to 7	This area is similar to the other shallow water sections and was dominated by aquatic vegetation. This area was partially separated from Habitat # 11 by a large cattail stand.
2	Deep Water	11	125 to 295	13 +	This was the last habitat of the study reach and is characteristic of a dredged (or deep) channel connected to Lake Ontario. This area is important for both salmon for migrating upstream, as well as warm water fish.

¹ - See Figure 2. for the creek section locations.

Important aquatic habitat features that were sparse were large woody debris (LWD) and undercut banks. Both of these physical features provide cover for fish (i.e. overhead, velocity breaks), as well as surface area and diverse habitat for aquatic invertebrates. There was only one deep pool in CR 1, so pool habitat may be limiting as well. Deep pools provide cover and resting areas for migrating salmonids to hold in and stack-up, as well as provide anglers with good locations to fish. The width to depth ratio was relatively high indicating that a decrease in channel width or an increase in channel depth might improve salmonid habitat, as well.

Creek Section (CR) 2

CR 2 was characterized into deep water and shallow water areas (Figure 2, Table 2). Depending upon water depth and flow, these areas may be more characteristic of pools or runs. The top of CR 2 is a shallow water area that runs into a deep-water area at the end of first downstream bend. There are two other deep-water areas separated by shallow water areas. The lower portion of the project area is a deep-water area, which continues to Olcott Harbor (surveys did not go all the way to the harbor). Substrate varied throughout CR 2 and ranged from silty muck to gravel beds. Water depths ranged from less than 1 ft to greater than 13 ft.

The aquatic habitat in CR 2 consists of high quality warm water fish habitat. Aquatic vegetation was abundant and various structures are present; this section is also characterized by variable depths. The aquatic vegetation community was dominated by water celery, although other species observed included: Elodea (*Elodea canadensis*), Sago pondweed (*Potamogeton pectinatus*), curly pondweed (*Potamogeton crispus*), leafy pondweed (*Potamogeton foliosus*), longleaf pondweed (*Potamogeton nodosus*), water milfoil (*Myriophyllum spicatum*), coontail (*Ceratophyllum demersum*), Chara (*Chara* sp.), and duckweed (*Lemna* sp.). Macrophyte growth was observed as generally increasing in total cover and density as the creek flows downstream. There are clumps and small beds that emerge and become more common at the end of CR 1, but become much more abundant and pervasive in CR 2. From the end of CR 1 to the downstream project limit, the total cover of aquatic vegetation was estimated to range from 5% - 70%. The backwater areas behind the cattail islands and the channel side of some of these islands were observed as containing dense beds and mats of growth. The slackwater and backwater areas are almost completely covered with duckweed, with some locations exhibiting 100% cover.

The overall aquatic habitat in CR 2 was indicative of a productive warmwater fishery. Numerous fish were observed, as well as a good range of structural diversity. Aquatic vegetation, range of water depths, large woody debris, and boulders all provide good fish and benthic habitat. Numerous turtles and several frogs were observed which indicates that the area maintains amphibian and reptilian communities as well.

4.1.2 Fish Communities and Habitat Relationships

The creek section breaks, CR 1 and 2, coincide with the fishery, as well. Adfluvial (migrating from lake habitat to riverine habitat for spawning) salmon and trout returning from Lake Ontario congregate at the dam, and the riverine portion above the rail trestle. The Niagara County Fisherman's Park provides bank access throughout CR 1 (Figure 2). Consequently, the bulk of the trout fishery activity occurs in this area. Salmon migrate through CR 2 during the spawning runs, and several boats were observed angling for salmon in this section, as well. However, CR

2 is only accessible by private lands and boats from Olcott Harbor. Consequently, the majority of the fishing for salmon occurs in CR 1. CR 2 is more typical of a warmwater fishery, although warmwater fish were observed in CR 1. CR 2 contains minimal water velocity and is dominated by aquatic vegetation. Both sections of the creek contain numerous fish and provide excellent opportunities for angling.

4.2 Wetland/Riparian Habitat

The survey of aquatic and riparian habitat within the proposed project area includes the stream bank and continues to the toe-of-slope on the east and west sides of the creek. The riparian corridor within the project study area is well defined by near vertical slopes of approximately 45 ft in height beginning at the Burt Dam and continuing beyond the project area to a point near the Olcott Marina. The naturally eroding banks are vegetated with herbaceous, shrub, and tree species. With the exception of a small area characterized as bottomland forest, the riparian area includes one island feature (Island No. 1) and numerous cattail dominated marshes. All plant communities within the riparian area are dominated by deciduous species. The cliff impoundment was subject to stream water erosion prior to the construction of the Burt Dam. Currently the vertical cliffs are protected in most bank areas from channel flow erosion by a series of cattail-dominated marsh terraces. The vertical slopes and cattail marshes with mucky soil substrate combine to form natural barriers to public access with the exception of the developed fishing access near the Burt Dam, a few private docks and moorings along the creek and small boat access from the Olcott Marina. The study area can be characterized as a meandering watercourse within a riparian canyon bounded by stable cliffs.

Soils

The Niagara County Soil Survey, issued in October 1972 by the U.S. Department of Agriculture Soil and Water Conservation Service, classifies the soils within the riparian zone above the water line as Alluvial land (Ad). According to the soil survey, these soils vary widely in texture and are the product of deposition of sediment by streams during periods of flooding. Soil composition within the wetlands along the creek is the result of historic sediment deposition prior to flow regulation. Much organic matter has been deposited annually by the seasonal die off of vegetative cover, especially cattails, and has formed a muck surface soil condition since construction of Burt Dam. Organic matter continues to build up in the cattail marshes due to the absence of flood events or erosional activities within the corridor that would normally transport sediment downstream. Consequently plant communities within the marsh areas and the edge environments (i.e., back water sloughs and shaded muck areas at the toe of densely shaded cliffs) are stable and will persist due to lack of natural soil erosion forces.

Accounts of individual plant species (Table 3), community assemblages, wetland types, and descriptions of certain microenvironments within the survey area were recorded within the riparian corridor. Plant communities identified on the naturally eroding slopes that bound the Eighteenmile Creek floodway within the survey area include many of the deciduous tree and shrub species listed in Table 3.

With the exception of the trail and eroded bank on the east terrace near the Burt Dam, all other areas above the toe of the slope and the vegetated slopes are not within the proposed project

Table 3. Plant species observed in Eighteenmile Creek channel and riparian areas, Niagara County, NY. (Page 1 of 2)

Common Name	Scientific Name	Wetland	Riparian	Island	Invasive
Tree Layer					
box elder	<i>Acer negundo</i>	*	*		
red maple	<i>A. rubrum</i>	*	*		
tree of heaven	<i>Alianthus altissima</i>		*		*
hop hornbeam	<i>Ostrya virginiana</i>		*		
Staghorn sumac	<i>Rhus typhina</i>		*		
black walnut	<i>J. nigra</i>		*		
Butternut	<i>Juglans cinera</i>		*		
sargent's cherry	<i>P. sargentii</i>		*		
black cherry	<i>P. serotina</i>		*		
Sycamore	<i>Plantanus occidentalis</i>		*		
eastern cottonwood	<i>Populus deltoides</i>	*	*	*	
Choke cherry	<i>Prunus virginiana</i>		*		
carolina buckthorn	<i>Rhamnus cathartica</i>		*	*	*
red oak	<i>Quercus rubra</i>		*		
bur oak	<i>Q. macrocarpa</i>	*	*		
black locust	<i>Robinia pseudo-acacia</i>		*		
black willow	<i>Salix nigra</i>	*	*	*	
Basswood	<i>Tilia americana</i>		*		
slippery elm	<i>Ulmus fulva</i>	*	*		
Shrub Layer					
button bush	<i>Cephalanthus occidentalis</i>	*	*	*	
pagoda dogwood	<i>Cornus alternifolia</i>		*	*	
silky dogwood	<i>C. amomum</i>		*	*	
redosier dogwood	<i>C. sericea</i>	*	*	*	
Spicebush	<i>Lindera benzoin</i>	*	*		
morrow's honeysuckle	<i>Lonicera morrowii</i>		*	*	*
glossy buckthorn	<i>Rhamnus frangula</i>		*	*	*
Pussy willow	<i>Salix discolor</i>		*	*	
Elderberry	<i>Sambucus canadensis</i>		*	*	
American cranberrybush	<i>Viburnum trilobum</i>		*		
Herbaceous Layer					
water parsnip	<i>Sium suave</i>	*			
bittersweet nightshade	<i>Solanum dulcamara</i>	*			
Canada goldenrod	<i>Solidago canadensis</i>				
zig zag goldenrod	<i>Solidago flexicaulis</i>				
bur-reed	<i>Sparganium americanum</i>				
poison ivy	<i>Toxicodendron radicans</i>	*			
Coltsfoot	<i>Tussilago farfara</i>				
stinging nettle	<i>Urtica dioicia</i>				
moth mullein	<i>Verbascum blatteria</i>				
wild rice	<i>Zizania aquatica</i>			*	

Table 3. Plant species observed in Eighteenmile Creek channel and riparian areas, Niagara County, NY. (Page 2 of 2)

Common Name	Scientific Name	Wetland	Riparian	Island	Invasive
Herbaceous Layer (continued)					
Water plantain	<i>Alisma plantago-aquatica</i>	*			
Garlic mustard	<i>Alliaria petiolata</i>		*		*
Mugwort	<i>Artemisia vulgaris</i>		*		*
swamp milkweed	<i>Asclepias syriaca</i>	*			
New England aster	<i>Aster novae-angliae</i>		*		
Heath aster	<i>A. pilosus</i>		*		
beggar ticks	<i>Bidens frondosa</i>	*			
false-nettle	<i>Bohmeria cylindrica</i>		*		
bull thistle	<i>C. arvense</i>		*	*	
Canada thistle	<i>Cyperus esculentus</i>		*	*	
Canada rush	<i>Daucus carota</i>	*			
queen ann's lace	<i>E. maculatum</i>		*		
Boneset	<i>Echinochola crusgalli</i>	*	*	*	
Barnyard grass	<i>Erigon annus</i>		*		
Daisy fleabane	<i>Eupatorium rugosum</i>		*		
White snakeroot	<i>Euthamnia graminifolia</i>		*		
Lance-leaved goldenrod	<i>Glyceria striata</i>		*		
giant hogweed	<i>Heracleum mantegazzianum</i>		*		
fowl meadow grass	<i>Impatiens capensis</i>	*	*		
Jewelweed	<i>Iris pseudacoris</i>	*		*	
yellow flag iris	<i>Juncus canadensis</i>	*		*	
purple loosestrife	<i>Lythrum salicaria</i>	*		*	
Canada rush	<i>Leersia orizoides</i>	*			
rice cutgrass	<i>Linaria vulgaris</i>	*		*	
butter and eggs	<i>Lotus corniculata</i>		*		
Crownvetch	<i>Mentha arvensis</i>		*		
Mint	<i>Mimulus ringens</i>		*		
monkey flower	<i>P. hydropteroides</i>	*		*	
mild water pepper	<i>P. scandens</i>	*		*	
Climbing false buckwheat	<i>Parthenocissus spp.</i>		*	*	
Virginia creeper	<i>Phalaris arundinacea</i>		*		
Common reed	<i>Phragmites australis</i>	*	*		
reed canary grass	<i>Pilea pumila</i>	*	*	*	
Clearweed	<i>Polygonum coccineum</i>	*		*	
swamp smartweed	<i>Pontedaria cordata</i>	*			
pickeral weed	<i>Rosa spp.</i>	*		*	
Multiflora rose	<i>Rubus spp.</i>		*	*	
curled dock	<i>Rumex crispus</i>		*		
Arrowhead	<i>S. latifolia</i>		*	*	
Grass leaved arrowhead	<i>Sagittaria graminea</i>		*	*	
Lizard tail	<i>Saururus cernuus</i>	*		*	
river bulrush	<i>Scirpus fluviatilis</i>	*		*	

work area and were not surveyed. However, slope vegetation is similar to the deciduous mesic forest species established along the linear canyon rim that follows the meanders of the creek. Tree and shrub species identified in Table 3 are representative of species growing at the base of slopes in the project area. Two distinct areas (CR 1 and 2) within the riparian zone were characterized based on field investigations and the anticipated location of project work areas in this section of the report (Figure 2).

4.2.1 Creek Section (CR) 1

East Bank and Terrace Habitat Description

In the recent past, a steep slope trail from the parking lot area provided the only public access to the creek and trail to Burt Dam. The parking area is approximately 60 ft above the stream bank (Figure 2). Stairs recently installed provide safer access for the public, especially during inclement weather. It was observed that most fishermen accessing the site continue to use the slope trail next to the stairs. A slope drainage system has been installed below the soil surface adjacent to stairway to convey storm water, which will provide a degree of erosion control for the exposed slope surface.

The trailhead leading to Burt Dam begins at the stream bank and meanders along the lower terrace of Eighteenmile Creek. The terrace varies in width from approximately 6 ft to 40 ft in some locations. The natural path is subject to daily use from October through April every year and according to last year's records over 500 people can use the site in a single day. Some anglers wade across the stream to the west bank but most will access the streamside to fish on the east bank. Erosion of natural surface and upland soil layers along the trail is severe. The trail narrows in some sections to approximately three ft wide with a vertical slope on one side and a steep eroded slope ending at the water's edge on the other. The foot trails and areas at the stream bank where anglers can access the water are devoid of all vegetation, eroded by storm water and surface runoff or severely compacted. Some portions of the trail are hazardous when wet or snow covered. Trails are deteriorating at an increasing rate. Erosion of the east bank is also attributable to the degradation of plant communities adjacent to the main trail route by users of the site as they seek alternative access routes around washed out trail sections or slippery slopes. The area is and will continue to be a premier fishing destination. Erosion and degradation of the trail and stream bank is expected to worsen without stabilization and restoration. What remains of the disturbed or eroded East Bank plant community is composed of a diverse mixture of species in the herbaceous layer. The shrub and tree layer is less diverse and indicative of species typically found in forested flood plains or stream bank terraces. Native, deciduous species dominate each vegetative layer.

West Bank and Terrace Habitat Description

The west bank and terrace from the access point to the dam is inaccessible by trail. Anglers wade the stream to fish from the west bank or enter from a slope trail originating from private property on the rim near the dam. The riparian zone in this area is approximately 80 ft wide near the dam and tapers to 10 ft at the toe of the slope at the Conrail Trestle at which point the bank meets the vertical slope. The west bank terrace is densely vegetated with mature herbaceous, shrub and tree species. Tree species are present but scattered within this plant community and

form an open canopy. An invasive species of concern is giant hogweed that causes severe skin irritation when contacted by humans.

Surface soil on this terrace is a consolidated mixture of sandy loam, gravel and stone fragments of the type found in shale layers within the eroding vertical slopes on either side of the creek's floodway. There is an impounded linear depression between the toe-of-slope and stream bank in this area, which is approximately 150 ft long and 30 ft wide. This area lies immediately behind, and parallel to the west stream bank and appears to have been excavated and partially impounded by the streambank and a berm on the west side. The south end of this depression ends at an old elevated, bermed pathway that leads to private property on the west rim above the project area. A small side channel is open at the creek bank above mean water level. This wetland depression receives creek water during periods of high flow or during storm events in the form of surface water run off. There was no standing water in this depression at the time of field surveys. Surface soil in this depression is highly organic and saturated forming a muck layer varying in depth from 6 inches to over 18 inches. There is evidence of periodic and extended inundation during the growing season and trapped surface water and ice formations during cold weather months.

4.2.2 Creek Section (CR) 2

Habitat Description

Public access to CR 2 is limited to small watercraft which access the creek from the Olcott marina, Burt Dam Fishing access point, or docks and footpaths from private property along the rim of the creek as shown in Figure 2. Public use also includes wildlife observation, canoeing/kayaking and duck hunting. As a result, habitat disturbance in this section is minimal and limited to small boat traffic and maintenance of a few docks along the bank. CR 2 is characterized as wetland riparian habitat consisting of Palustrine Emergent Marsh (PEM) wetland types. There are no terrestrial habitat features in this section that are within the survey area.

Approximately 50% of the CR 2 terrace on either side of the creek is only a few feet wide which forms an exposed, partially vegetated vertical slope, which extends directly to water's edge. Native soil, alluvial deposits and shale layers of varying thickness within the slope form an unconsolidated mix of material, that continues into the water. The balance of the riparian environment is a series of shallow emergent marsh areas varying in width from water's edge to toe of slope on either side of the creek. These natural features are visible in Figure 2 and appear as light brown linear shaped landmasses between the creek and the cliff. All are dominated by cattail with periodically inundated channels and backwater sloughs near the base of slopes that bound the floodway. The USFWS National Wetlands Inventory (NWI) mapping was reviewed for the creek area and is included in this report as Figure A-1 (Appendix). The NWI mapping classifies the creek within the project area as Riverine (R2). The cattail-dominated areas are mapped as Palustrine Shrub Scrub (PSS) wetland types. Although it was not within the scope of this effort to delineate these wetlands, it was noted that the dominant vegetation cover for all land marked PSS was cattail. Cattail marshes are generally classified as Palustrine Emergent

Marsh (PEM). NYSDEC wetland mapping classified the entire project area as a Class 1 wetland system, and is included in Figure A-2 (Appendix).

One instream feature forms an island with an active side channel along the east bank of the creek and is shown in Figure 2 (Island No. 1). Located immediately downstream of the developed public access point, this island is a gravel and sand bar with muck sediment deposits along its bank that extend into the creek channel. Muck substrate is thicker on the east side of this island and supports dense emergent wetland species (i.e., arrowhead and river bulrush). The island rises from water edge to approximately 3 ft above mean water level. The established plant community on this island feature is dominated by cattail with a species assemblage consisting primarily of wetland species. Unlike other cattail monotypic stands, this area supports a diversity of herbaceous, wetland vegetation and an established shrub layer. Abundant species on this island feature include buttonbush, elderberry, redosier dogwood, jewelweed, water pepper, blue vervain, white vervain, riverbank grape, boneset, and arrowhead.

Species considered invasive include: tree of heaven, common buckthorn, and glossy buckthorn are established on this island and will degrade wildlife habitat value and diminish the relatively high botanical diversity that exists on the island if allowed to colonize.

5 Literature Cited

Environment Canada. 1995. Habitat Rehabilitation in the Great Lakes Techniques for Enhancing Biodiversity. Canadian Wildlife Service, Environmental Conservation Branch - Ontario Region, Environment Canada, Toronto, Canada.

NYSDEC. 2002. NY State Department of Environmental Conservation website. (<http://www.dec.state.ny.us/website/dfwmr/wildlife/endspec/bltufs.html>).

6 Appendix

- Figure A-1. Eighteenmile Creek National Wetlands Inventory (NWI) Mapping and Cross-Section (CS) Locations, Niagara County, NY.
- Figure A-2. New York State Department of Environmental Conservation Regulatory Freshwater Wetland ID NW-3, Class 1 (66.9 acres), Niagara County, New York.
- NYSNHP Information request letter.
- NYSNHP Response letter.
- USFWS Information letter.
- USFWS Response letter.
- Table A-1. Cross-Section (CS) data for Creek Section 1. See Figure A-1 for CS locations.



ecology and environment, inc.

International Specialists in the Environment

BUFFALO CORPORATE CENTER

368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

New York State Natural Heritage Program
Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

August 19, 2002

Information Services:

Ecology and Environment, Inc. (E & E) is conducting natural resource investigations within a one-mile reach of 18 Mile Creek beginning in Burt, New York and ending upstream of the confluence with Lake Ontario in the town of Newfane, Niagara County. E & E has been contracted by the Niagara County Department of Environment, Tourism and Planning (Edmund Sullivan, Project Manager) to conduct Threatened and Endangered Species investigations in accordance with NYS SEQR regulations. Additional components of study include riparian and in-stream habitat characterizations. The project area is outlined on an enclosed copy of the Newfane Topo Quad map.

The field efforts outlined above are foundation elements of the 18 Mile Creek Restoration Project. This project is funded by a variety of federal and state agencies with the goals of enhancing riparian zone habitat, establishing public access for fishing and wildlife observation, stabilizing eroding banks, and increasing biological diversity within riparian vegetation layers.

This section of 18 Mile Creek is a popular fishing area year-round for a number of game fish species that are residents and adfluvial populations from Lake Ontario. Undeveloped fishing access points and popularity with anglers has resulted in erosion of streamside trails and unstable banks. Most erosion from human use is in the area of the Burt Dam, which represents the southern end of the project work area. Land use outside the floodway and riparian corridor is a combination of urban, commercial and agricultural.

It is our understanding that Blanding's turtle - *Emydoidea blandingii* (NYS Status - Threatened) has been reported in this area. Field observations will include identifying and documenting any existing habitats that may be potentially suitable for this species. Incidental field observations will also be recorded. Opportunities to protect habitat for the Blanding's turtle will be identified and evaluated as a habitat evaluation component of this project.

E & E is requesting information from the Natural Heritage Program, regarding the identification of state listed or candidate rare, threatened or endangered species;

significant/critical wildlife habitat; unique natural communities; or other significant features within 2 miles of the project area. The U.S. Fish and Wildlife Service will be contacted to find similar information regarding federally protected species and critical habitats.

If you have any questions regarding this data request, please contact me or Sean Meegan at 716-684-8060.

Sincerely ,
Ecology and Environment, Inc.

Paul Fuhrmann

Enclosure: Study Area Map (USGS Newfane Topographic Quad 1978)

Cc: Edmund Sullivan - Niagara County
Kris Erickson - E & E
Sean Meegan - E & E

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925
Website: www.dec.state.ny.us



September 13, 2002

Paul Fuhrman
Ecology and Environment, Inc
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Dear Mr. Fuhrman:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the proposed Environmental Assessment Restoration Project of the 18-Mile Creek, beginning in the Town of Burt and ending upstream of the confluence with Lake Ontario, Town of Newfane, Niagara County, area as indicated on the map you provided, including a one-mile reach. The NY Heritage Program would appreciate any information on locations of the Blanding's turtle, if found at the project site.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in your project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Heidi Kraehling
Heidi J. Kraehling, Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 9, Wildlife Mgr.
Reg. 9, Fisheries Mgr.
Peter Nye, Endangered Species Unit, 518-402-8859

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 10 September 2002 by NY Natural Heritage Program, NYS DEC, Albany, New York

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

Page 1

* County

** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Detailed Location	General Habitat and Quality	Office Use
* NIAGARA					
** NEWFANE					
WARM WATER FISH CONCENTRATION AREA Other	UNPROTECTED S4	E 1987-PRE	EIGHTEENMILE CREEK OLCOTT EIGHTEENMILE CREEK. THE FISH HABITAT EXTENDS SOUTH ABOUT 1.5 MILES FROM THE ROUTE 18 BRIDGE TO THE BURT DAM AND INCLUDES THE ENTIRE STREAM CHANNEL AND ASSOCIATED WETLANDS.	Eighteenmile Creek is a relatively large, meandering, warmwater stream, with predominantly silt and gravel substrate. The creek drains approximately 90 square miles of relatively flat agricultural and rural residential lands. Below the burt dam, the	4307836 S
<i>Emydoidea blandingii</i> BLANDING'S TURTLE Reptile	THREATENED G4 S2S3	E 1990-08-12	ROUTE 78 BURT FROM THE JUNCTION OF BURT ROAD AND ROUTE 78, NORTH ON ROUTE 78 ABOUT 0.8 MI TO THE RAILROAD CROSSING. TURTLE FOUND ON ROAD ABOUT 300 FEET NORTH OF THE RAILROAD CROSSING.	Highway. Adjacent soil near Eighteen Mile Creek is Hilton gravelly loam with 0-3% slope. Road crossing.	4307836 M ESU
* NIAGARA, NY STATE WATERS					
** NEWFANE, NY STATE WATERS					
<i>Platanthera hookeri</i> HOOKERS ORCHID Vascular Plant	ENDANGERED G5 S1	H 1897-05-31	HOPKINS CREEK NORTH FROM OLCOTT FOLLOW ROUTE 18 TO HOPKINS CREEK.	Near a creek.	4307836



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BUFFALO CORPORATE CENTER

368 Pleasant View Drive, Lancaster, New York 14086

Tel: 716/684-8060, Fax: 716/684-0844

David Stillwell, Project Leader
U.S. Fish and Wildlife Service
New York Field Office
3817 Luker Rd.
Cortland, NY 13045

August 19, 2002

Information Services:

Ecology and Environment, Inc. (E & E) is conducting natural resource investigations within a one-mile reach of 18 Mile Creek beginning in Burt, New York and ending upstream of the confluence with Lake Ontario in the town of Newfane, Niagara County. E & E has been contracted by the Niagara County Department of Environment, Tourism and Planning (Edmund Sullivan, Project Manager) to conduct Threatened and Endangered Species investigations in accordance with NYS SEQR regulations. Additional components of study include riparian and in-stream habitat characterizations. The project area is outlined on an enclosed copy of the Newfane Topo Quad map.

The field efforts outlined above are foundation elements of the 18 Mile Creek Restoration Project. This project is funded by a variety of federal and state agencies with the goals of enhancing riparian zone habitat, establishing public access for fishing and wildlife observation, stabilizing eroding banks, and increasing biological diversity within riparian vegetation layers.

This section of 18 Mile Creek is a popular fishing area year-round for a number of game fish species that are residents and adfluvial populations from Lake Ontario. Undeveloped fishing access points and popularity with anglers has resulted in erosion of streamside trails and unstable banks. Most erosion from human use is in the area of the Burt Dam, which represents the southern end of the project work area. Land use outside the floodway and riparian corridor is a combination of urban, commercial and agricultural.

It is our understanding that Blanding's turtle - *Emydoidea blandingii* (NYS Status - Threatened) has been reported in this area. Field observations will include identifying and documenting any existing habitats that may be potentially suitable for this species. Incidental field observations will also be recorded. Opportunities to protect habitat for the Blanding's turtle will be identified and evaluated as a habitat evaluation component of this project.

E & E is requesting information from the United States Fish and Wildlife Service, regarding the identification of state listed or candidate rare, threatened or endangered species; significant/critical wildlife habitat; unique natural communities; or other significant features within 2 miles of the project area. The New York Natural Heritage Program will be contacted to find similar information regarding federally protected species and critical habitats.

If you have any questions regarding this data request, please contact me or Sean Meegan at 716-684-8060.

Sincerely ,
Ecology and Environment, Inc.

Paul Fuhrmann

Enclosure: Study Area Map (USGS Newfane, NY Topographic Quad 1978)

Cc: Edmund Sullivan - Niagara County
Kris Erickson - E & E
Sean Meegan - E & E



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 LUKER ROAD
CORTLAND, NY 13045

September 5, 2002

Mr. Paul Fuhrmann
Ecology and Environment, Inc.
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Dear Mr. Fuhrmann:

This responds to your letter of August 19, 2002, requesting information on the presence of endangered or threatened species in the vicinity of the proposed restoration of approximately a one mile reach of 18 Mile Creek downstream of the Burt Dam in the Town of Newfane, Niagara County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

We understand that you are aware that the Blanding's turtle (*Emydoidea blandingii*) is reported in the vicinity of the proposed project. The Blanding's turtle is considered a species of concern (formerly known as Category 2 Candidate species) by the Service and its status is being monitored throughout much of its range. Species of concern do not receive substantive or procedural protection under the Endangered Species Act; however, the Service does encourage Federal agencies and other appropriate parties to consider these species in the project planning process.

Potential habitat for this species consists of wetland areas with water depths from 1 to 5 feet, vegetated with aquatic emergents and aquatic shrubs. Generally, wet or flooded woods (forested wetland), wet meadows, and/or deep water wetlands do not provide suitable habitat for this species. The wetlands at or in the vicinity of the proposed project may contain excellent habitat for this species. An evaluation of any existing habitat and its ability to support the Blanding's

turtle should be completed. If the evaluation indicates that the site has the potential to support the Blanding's turtle or its habitat, the site should be surveyed by a qualified person to determine the presence or absence of this species. The project's environmental documents should include an evaluation of the potential direct, indirect, and cumulative effects of the proposed activities on this species, and include appropriate measures, as necessary, to protect this species and its habitat. When specific detailed project plans are available for the project area, the plans and the results of the evaluation and potential surveys should be provided to this office for our review and comment.

The Blanding's turtle is listed as a threatened species by the State of New York. The results of the evaluation discussed above and any plans for surveys, their timing, and the results should also be coordinated with the New York State Department of Environmental Conservation (State). The State contact for this species is Mr. Peter Nye, Endangered Species Unit, 625 Broadway, Albany, NY 12233 (telephone: [518] 402-8859).

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s) as shown on the enclosed map, and:

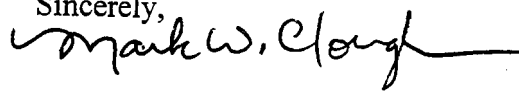
New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233
(518) 402-8935

Since wetlands may be present, you are advised that National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s) as shown on the enclosed map.

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,


Acting For
David A. Stilwell
Field Supervisor

Enclosure

cc: NYSDEC, Allegany, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program)
NYSDEC, Albany, NY (Endangered Species Unit, Attn: Mr. P. Nye)
COE, Buffalo, NY
LGLFO, Amherst, NY (Attn: Mr. M. W. Weimer)

Table A-1. Cross-Section (CS) data for Creek Section 1. See Figure A.1 for CS locations.

Cross-Section (CS) data for Section 1			
Cross-Section	Cell Width (ft)	Depth (ft)	Description
1	2	0.45	Narrow section below dam pool
1	2	1	Narrow section below dam pool
1	2	1.2	Narrow section below dam pool
1	2	1.3	Narrow section below dam pool
1	2	1.2	Narrow section below dam pool
1	2	1.4	Narrow section below dam pool
1	2	1.4	Narrow section below dam pool
1	2	1.1	Narrow section below dam pool
1	2	1.3	Narrow section below dam pool
1	2	1.3	Narrow section below dam pool
1	2	1.3	Narrow section below dam pool
1	2	1.3	Narrow section below dam pool
1	2	0.9	Narrow section below dam pool
1	2	1.1	Narrow section below dam pool
1	2	1.2	Narrow section below dam pool
1	2	1.1	Narrow section below dam pool
1	2	0.8	Narrow section below dam pool
1	2	0.8	Narrow section below dam pool
1	2	0.9	Narrow section below dam pool
1	2	0.4	Narrow section below dam pool
1	2	0.3	Narrow section below dam pool
1	2	0.1	Narrow section below dam pool
Total	44		
Cross-Section	Cell Width (ft)	Depth (ft)	Description
2	16	3	Downstream from restriction
2	17	2.9	Downstream from restriction
2	16	3.1	Downstream from restriction
2	17	3.3	Downstream from restriction
Total	66		

Table A-1(continued). Cross-Section (CS) data for Creek Section 1. See Figure A.1 for CS locations.

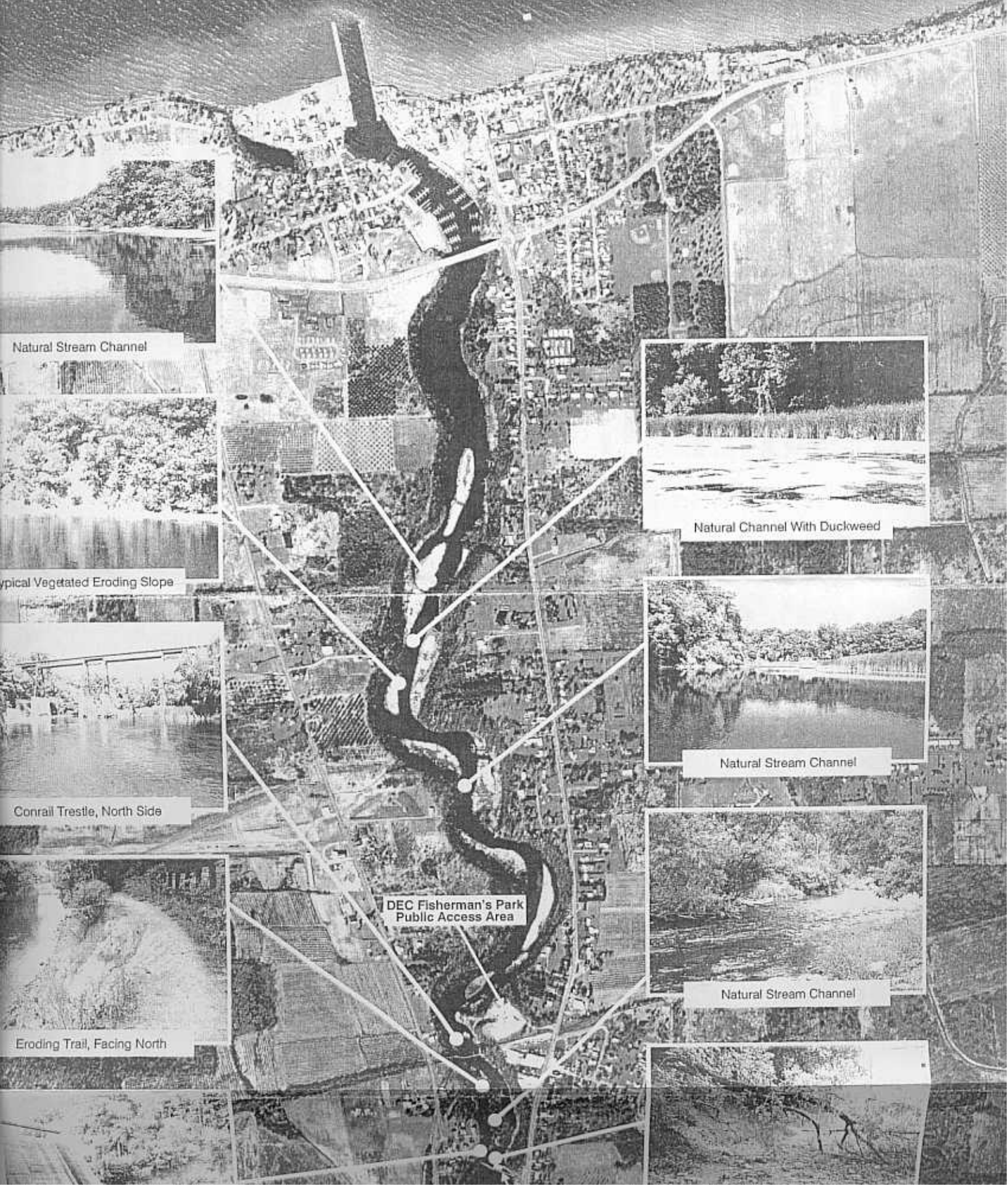
Cross-Section	Cell Width (ft)	Depth (ft)	Description
3	3	0.5	Above Rail trestle
3	5	1.2	Above Rail trestle
3	10	1.6	Above Rail trestle
3	19	0.8	Above Rail trestle
3	7	1.1	Above Rail trestle
3	13	1.5	Above Rail trestle
3	12	1.1	Above Rail trestle
3	12	1	Above Rail trestle
3	15	0.8	Above Rail trestle
3	30	0.5	Above Rail trestle
3	12	1	Above Rail trestle
3	3	0.5	Above Rail trestle
Total	141		
Cross-Section	Cell Width (ft)	Depth (ft)	Description
4	48	1.8	Below Rail trestle
4	52	2.5	Below Rail trestle
4	12	3.5	Below Rail trestle
4	12	4.5	Below Rail trestle
4	12	3.5	Below Rail trestle
4	12	5	Below Rail trestle
4	16	4.5	Below Rail trestle
4	8	3	Below Rail trestle
4	12	2.5	Below Rail trestle
Total	184		

0 200 400 600 800 Meters

0 1,000 2,000 3,000 4,000

E

12,000



Natural Stream Channel



Typical Vegetated Eroding Slope



Conrail Trestle, North Side



Eroding Trail, Facing North

DEC Fisherman's Park Public Access Area



Natural Channel With Duckweed



Natural Stream Channel



Natural Stream Channel

