CHAPTER 5:
*Revitalization Plan-**Results***

Chapter 5 presents results and recommendations for the Onondaga Creek Conceptual Revitalization Plan (OCRP). Chapter 4, which describes the OCRP development process, is a reference for this chapter. Three project components were performed by the OCRP Project Team and used to inform the Onondaga Creek Working Group as the plan was developed: technical information, public education, and goal and issue solicitation. Most of this chapter presents the Working Group's results, including their revitalization maps and goals for Onondaga Creek.

Goals and concerns shared during public participation events are reflected and incorporated into the results in this chapter. The revitalization maps and watershed goals are conceptual and designed for a long-term process of revitalization. As one Working Group member said: "A man with no vision always returns to his past." The goals are ideals to strive for - they set the stage to think big and to achieve new possibilities for Onondaga Creek.

Public participation is a fundamental element of the OCRP. The "word cloud" below is an informal representation of all of the goals, visions and dreams shared in writing by participants at the Onondaga Creek Community Forums and Stakeholder Organization Meetings. The word cloud gives greater prominence to words that appear more frequently in the text. The word cloud was created in **Wordle**, a software program created by Jonathan Feinberg (accessed from http://www.wordle.net/).

Technical information - Results

Three reports were prepared for the OCRP: the **State of Onondaga Creek Fact Sheets** (see Appendix B); the **Case Studies Guide: Conceptual Alternatives for Onondaga Creek** (see Appendix C); and this document, the **Onondaga Creek Conceptual Revitalization Plan**.

Public education - Results

An extensive public education and awareness program was performed prior to the solicitation of community goals for Onondaga Creek (see Chapter 4). Presentations and events were conducted throughout the watershed to educate both young and old, and to raise citizen consciousness regarding Onondaga Creek. A secondary goal of the public education program was to increase public participation; attendance levels at Community Forums were high among target audiences and locations of the education events and presentations.

Project Team Organization	Stewardship Building Event	Education Presentation	School Program	Location/ Organization	Date
Canopy	■			Onondaga Creek Fest at Kirk Park	July, 2005
Cornell Cooperative Extension	■			Onondaga Creek Clean-up, Kirk Park Area	September, 2005, 2006, 2007
Cornell Cooperative Extension		■		Walking Tour of Onondaga Creek: Franklin Square	July, 2005
Cornell Cooperative Extension		■		Walking Tour of Onondaga Creek: The Valley	August, 2005
Cornell Cooperative Extension		■		Tully Town Board	February, 2006
Cornell Cooperative Extension		■		LaFayette Town Board	March, 2006
Cornell Cooperative Extension		■		Partnership for Onondaga Creek	March, 2006
Cornell Cooperative Extension		■		Inner City Rotary Club	March, 2006
Cornell Cooperative Extension		■		Tomorrow's Neighborhoods Today Area 3- Southside	April, 2006
Cornell Cooperative Extension			■	Dunbar Center Service Learning Projects	Spring 2005, 2006
Cornell Cooperative Extension			■	Clary Middle School Service Learning Project	Spring, 2006
SUNY College of Env. Science and Forestry			■	Elmwood Elementary School Program	Spring, 2006
SUNY College of Env. Science and Forestry			■	Blodgett K-8 School Pilot Science Program	Fall, 2006

Table 5.1 Public education events associated with the OCRP project.

Public participation

As part of the plan development process, the OCRP Project Team conducted numerous public education events, Community Forums and stakeholder organization meetings for the OCRP. Figure 5.1 illustrates the locations of events in and near the Onondaga Creek watershed.

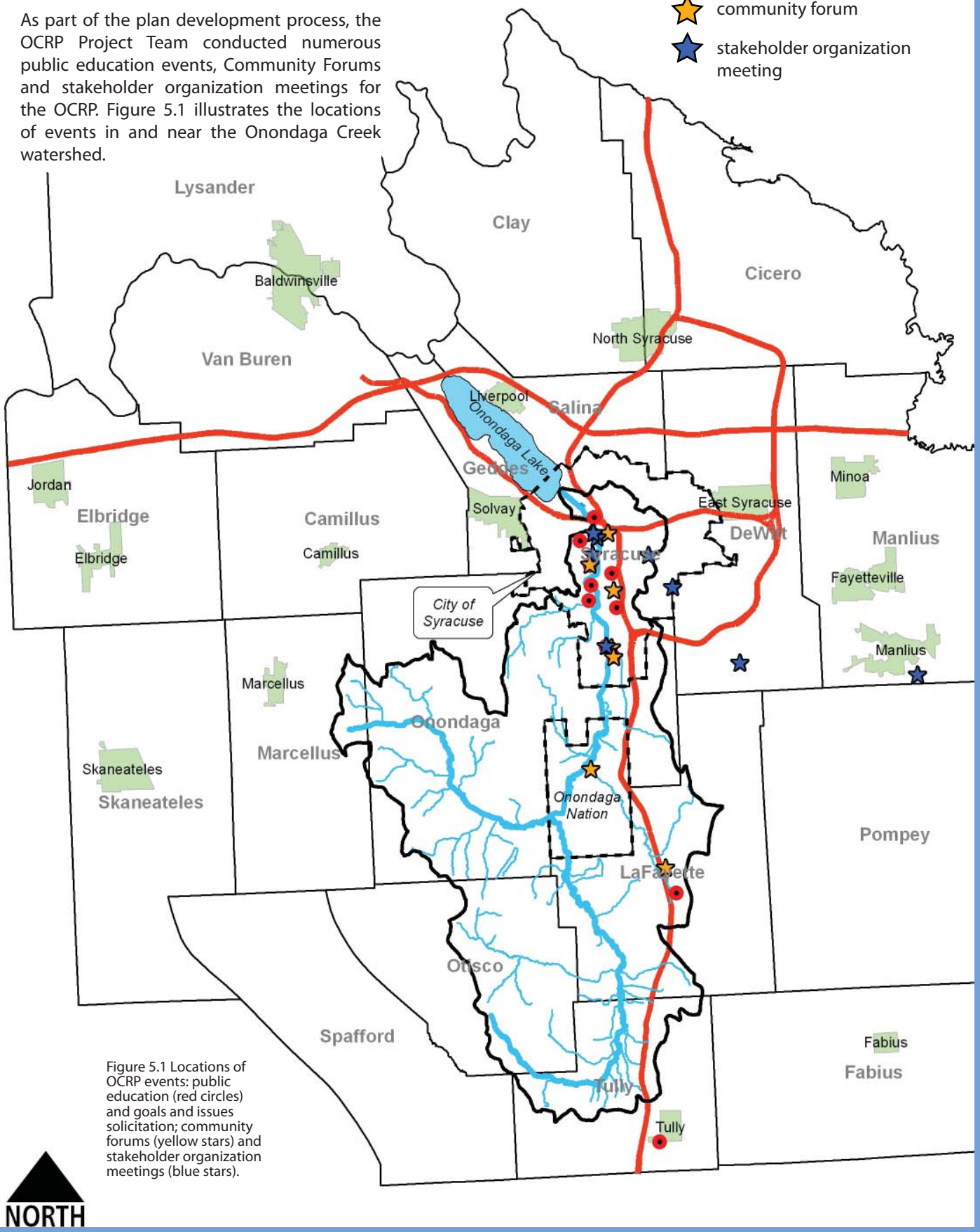
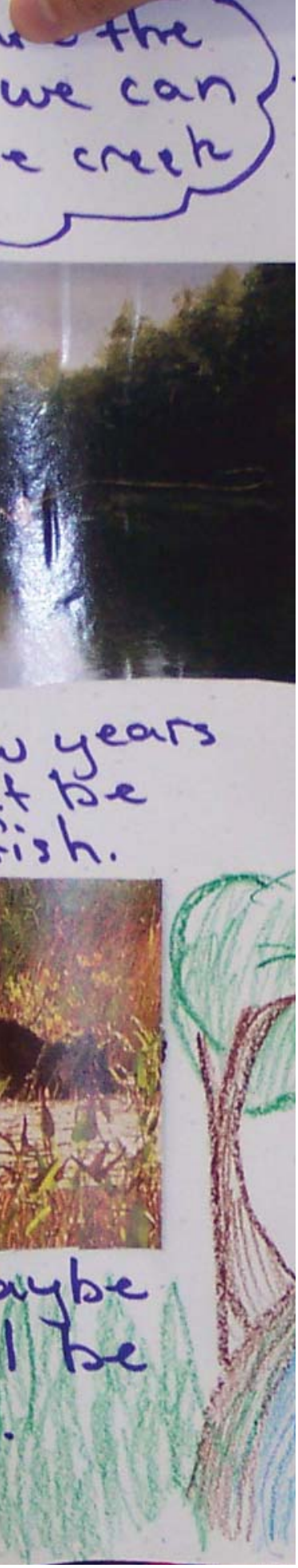


Figure 5.1 Locations of OCRP events: public education (red circles) and goals and issues solicitation; community forums (yellow stars) and stakeholder organization meetings (blue stars).



Community Forums Goals and issues - Results

Onondaga Creek Community Forums

Forum Location	Date	Sets of Goals and Issues Returned
Bob Cecile Center	April 19, 2006	33
City Hall Commons	May 3, 2006	50
LaFayette Community Center	May 18, 2006	34
South Presbyterian Church	May 25, 2006	23
Clary Middle School	July 19, 2006	9
Southwest Community Center	July 20, 2006	19
Onondaga Nation School	July 27, 2006	27
	Total	195

Table 5.2 Onondaga Creek Community Forums: dates, locations and written input received.

Top Ten Aggregate Goals: Community Forums

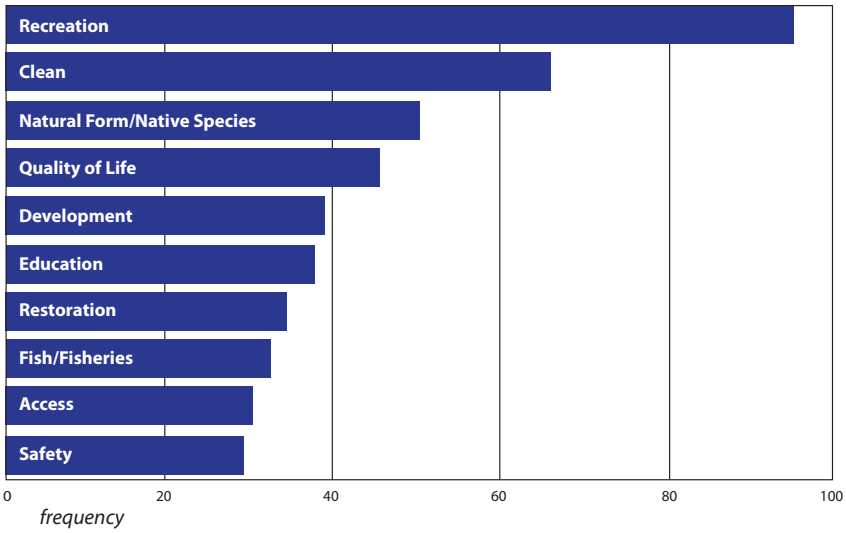


Figure 5.2 Onondaga Creek Community Forums: top ten most frequently mentioned goals, received through written input, in aggregate (see Chapter 4 and Appendix G).

Top Ten Aggregate Concerns: Community Forums

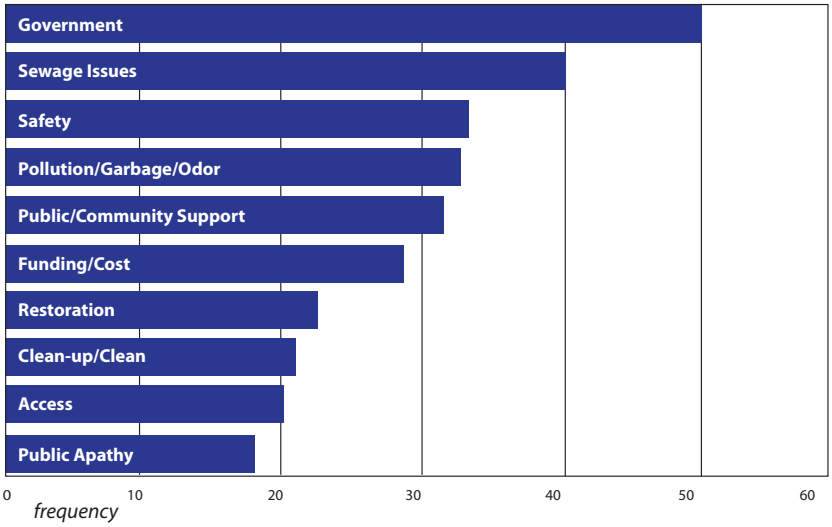


Figure 5.3 Onondaga Creek Community Forums: top ten most frequently mentioned concerns, received through written input, in aggregate.

Stakeholder Organization Meetings Goals and issues - Results

Stakeholder Organization Meetings

Meeting Name	Date	Sets of Goals and Issues Returned
Zen Center	June 13, 2006	5
Canopy	December 16, 2006	13
NAACP	January 25, 2007	3
Trout Unlimited	February 7, 2007	21
Izaak Walton League	February 12, 2007	7
Stakeholder Meeting at the MOST	March 20, 2007	70
Government Workshop	June 14, 2007	29
Syracuse Sunrise Rotary	June 29, 2007	17
	Total	165

Table 5.3 Stakeholder organization meetings: dates, locations and written input received.

Top Ten Aggregate Goals: Stakeholder Meetings

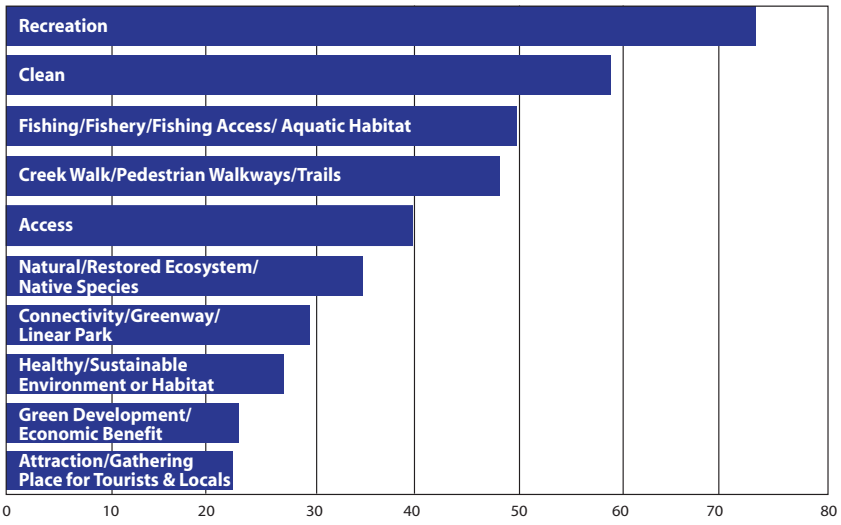


Figure 5.4 Stakeholder Organization Meetings: top ten most frequently mentioned goals, received through written input, in aggregate.

Top Ten Aggregate Concerns: Stakeholder Meetings

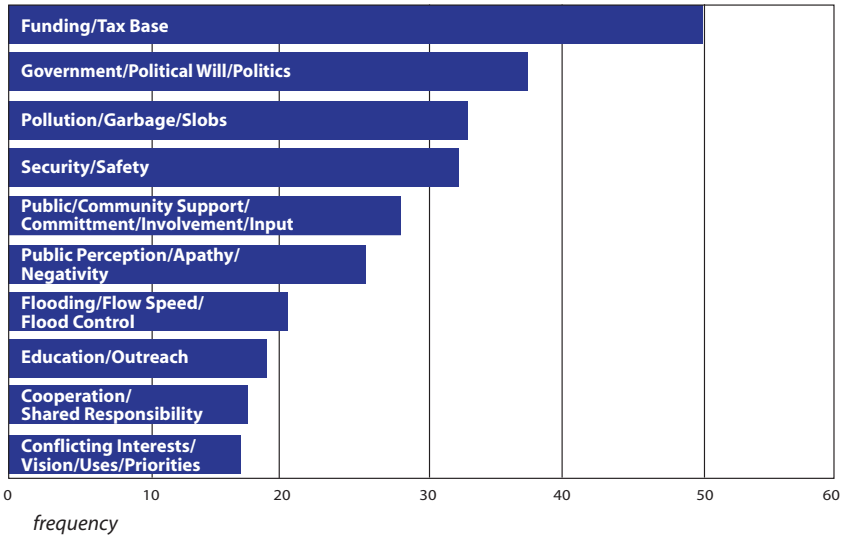
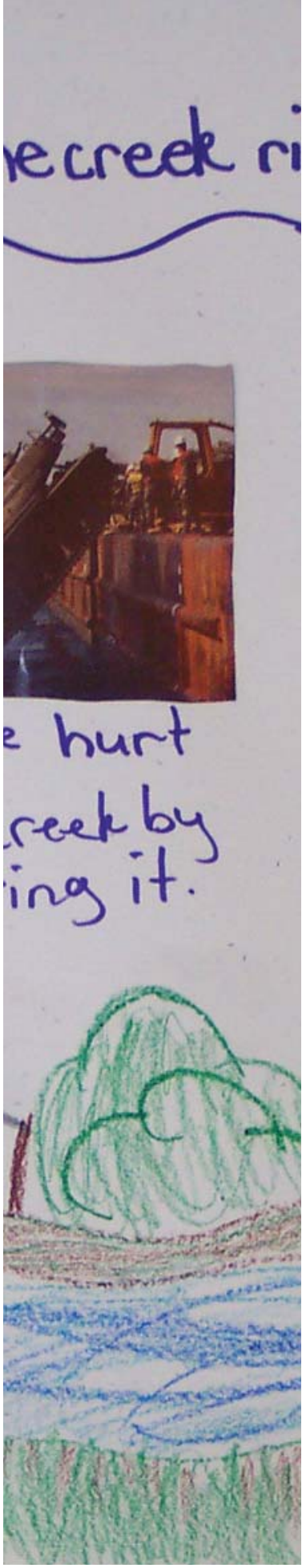


Figure 5.5 Stakeholder Organization Meetings: top ten most frequently mentioned concerns, received through written input, in aggregate.



Working Group - Results

Revitalization Map Series

As part of plan development, the Working Group generated a set of options that represented hydrological, biological and land use/access/recreational options for revitalization. The Working Group used symbols generated by OEI to represent these options during the *design charrette* process in May and June of 2007. The symbols were placed on a series of planning maps during the charrette; map results are found on pages 48-69.[1] The symbols key defines the options and can be found on pages 46 and 47. The process for creating the maps and developing the project areas is described in Chapter 4.

Project areas on the revitalization maps are groupings of symbols that suggest specific areas of work. Adjacent to the maps there are synopses of each project area based on the revitalization map results and notes taken during the design charrette. The project areas do not reflect land purchases, rather they represent areas of focus for future revitalization work. The potential project areas were created for two reasons: first, grouping symbols into project areas ascribes them a recognizable identity for funding and building public support; second, project areas group revitalization ideas so that they are conceptualized holistically. Some recommendations will be easy to implement and others will be more difficult. Grouping easy and difficult ideas together serves as a reminder that the creek and its surrounding watershed are an ecosystem that should receive full revitalization, rather than simply completing "cosmetic" treatments, leaving more difficult projects undone.

Public input and community involvement in project implementation will be essential for success of the plan and any resulting projects.

The revitalization maps are conceptual. Just as at the public input meetings, the Working Group was asked to "think big" about the future of Onondaga Creek. Ideas on paper help move the community and decision makers to revitalization actions. Public input and community involvement in project implementation will be essential for success of the plan and any resulting projects. It should also be noted that broad-scale public access or lengthy trails are not proposed in the privately owned, rural sections of Onondaga Creek. There are fishing access points and interpretive trails proposed in specific areas. Any access on private land must be accomplished with landowner cooperation; otherwise it will not be attempted.

As stated in the Working Group's goals (see the next section of results), a balance between use and protection has to be achieved. Community input indicated that forms of recreation, followed by a clean creek with natural areas and fishing opportunities were the most frequent goal themes for Onondaga Creek. Striking the balance between use and protection will require accommodating the following factors: increasing recreational opportunities, ensuring clean water, protecting natural areas in the watershed, and respecting the rights of private land owners.

[1] The original planning maps can be viewed by appointment at Onondaga Environmental Institute.

To indicate their preferred project areas, attendees of the October 2007 Working Group meeting placed sets of stars directly on the original revitalization maps to "vote" for their preferred potential project areas. Absent Working Group members were also given the opportunity to send in their votes by mail. Voting results reflect the Working Group's determination for which project areas best reflect plan goals and priorities.

In the urban, transition and rural sections, the Working Group preferred the Southside Area, the South Valley Area and the Onondaga Nation Area, respectively. Created images, or renderings, that represent ideas from the revitalization maps, are included for the Southside Area and the South Valley Area.

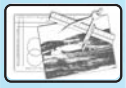
Potential Project Area	Map	Votes
Urban Section		
Southside Area	F	21
Botanical Garden Area	F	20
Inner Harbor	F	18
Armory Square	F	12
Clinton Square	F	11
Franklin Square	F	8
Furnace Brook Daylighting Project	F	7
Transition Sections		
South Valley Area	E	31
North Valley Area	E	25
Valley Watershed Biopreserve	E	20
Furnace Brook Watershed	L	20
Rural Sections		
Onondaga Nation Area	D	14
Honeywell Lands South	B,I	13
Fall Creek Area (Blue Hole)	J	12
Mudboils Area	B	8
LaFayette Apple Festival	C	7
Rainbow Creek Area	M	7
Vesper/Headwaters Area	A	6
Kennedy Creek Area	K	6
South Onondaga Area (W. Branch)	G,H	6
Fellows Falls Area	A	5
Honeywell Lands North	C	5
Central LaFayette Area	K	5
Pumpkin Hallow Area (W. Branch)	G,H	5
Tully Farms Byway Signage Project	C	4
Headwaters Gravel Mine	B	2

Table 5.4 Working Group: Potential project area voting results

Symbols Key for Revitalization Maps

Hydrological

Dam Management



Dam Modification
Redesign or modification of existing dam

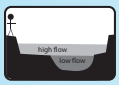
Best Management Practices

RURAL
Best Management Practices

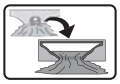
Rural BMP
Strategies for preventing/reducing non-point source pollution in runoff, including created wetlands and vegetated filter strips, barnyard run-off control systems (prevents waste from becoming runoff).

Urban BMP
Strategies for managing stormwater and CSOs, including 'green' practices like rain gardens, urban tree plantings, green roofs (plants on roofs that soak up rainwater), and permeable pavements (pavement that allows infiltration of water).

Stream Channel Modification

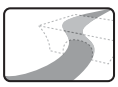


Compound Channel
A stepped channel that accommodates both low and high flow. Results in safer conditions during high flow.



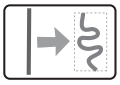
Bridge/Culvert Modification
Modify or replace a culvert that acts as a barrier to fish migration or is undersized, causing water to back up during floods.

Create Floodplain and De-channelize Stream
The practice of returning a steam channel to as natural a condition as possible, given current constraints, while creating a stable, non-erosive channel.



Stream Daylighting
A stream or part of a stream that currently is underground is deliberately uncovered and reestablished in its old channel or in a new channel threaded between existing structures.

Re-create Multiple Channels
Change a single channel into multiple channels, to even stream flow across the length of stream.



Create Stream Meander
Create curves in the stream. This is a change from a channelized system to a more natural system.

Floodplain Realignment

Reconnect Lost Tributaries
Reconnecting a tributary that has been re-routed to stormwater or sewer pipes back to main stream channel.

Flood and Stormwater Retention Basin
Basin that retains stormwater for infiltration, pollution reduction and downstream water quality improvements.

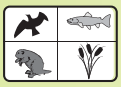
Re-connect Wetlands with Creek Floodplain
Reconnection of wetland drainage systems to creek floodplain, increasing vegetation diversity and flood storage.

Biological

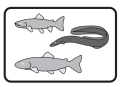
Biological Management

Plant Riparian Shade Trees
Improves and protects water quality and wildlife habitat by moderating stream temperature, stabilizing streambanks, and filtering pollutants.

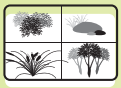
Plant Native Species
Native species are well adapted to the climate and are insect and disease resistant, preferred as habitat and food sources by native wildlife.



Restore Native Floodplain Species
Plants, mammals, fish, birds, reptiles, amphibians, and insects.



Trout/Eel/Salmon Habitat Restoration
Create aquatic habitat conditions that relate to biological requirements and preferences of these organisms.



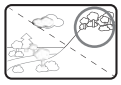
Alternative Hard Surfaces for Streambank
Shrubs, Rocks and Gravel, Plants, Trees.

Control/Remove Invasive Vegetation
Control or remove invasive vegetation.

Biological

Create/Manage/Restore Wetland

Either emergent wetland with gassy/shrubby vegetation, or forested wetland with tree species adapted to wetland soil types.



Create/Restore Upland Area

Higher areas upslope of streams, wetlands and riparian zones.

Land Use

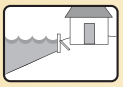
Safety/Flood Management

Natural Fence/Barrier

Shrubs, trees or vegetation planted next to the creek, as a barrier.

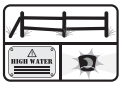
Improve Lighting

Increase lighting for safe use without causing harm to other species.



Flood-Proof Buildings

Flood-proofing individual structures with barriers, door dams and other measures.



Safety Measures

Can include high water warning lights, signage, fencing.

Recreation/Access

Fishing Access Point

Create public fishing access.

Pedestrian Bridge

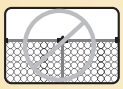
Bridge restricted to motor vehicles, intended for pedestrian/bike use.

Whitewater Park

Intended for kayak/canoe access, can include construction of stream features that enhance whitewater recreation.

Signage

Can include educational kiosks, nature trail, and directional types of signs.



Remove Chainlink Fencing

Create access or replace with more aesthetic options.

Nature Trail

A natural trail with small interpretive/educational signs.

Remove Overgrowth Above/ Around Creek

Remove excess invasive vegetation.

Kayak/Canoe/Boat Access Point

Paved or Gravel Foot/Bike Path

Land Management

Urban Ecopark

A community of businesses that enhance environmental and economic performance by collaborating to manage raw materials, energy, water, and waste.

Cultural/Historic Site

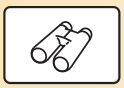
Buildings, sites, land of cultural or historical importance, open to visitation.

Multiple Use Park

Offer open space and recreational opportunities, includes visitor facilities and site improvements.

Urban Creek Preserve

Similar to a Bio Preserve but set in an urban environment. Undeveloped greenspace with minor improvements, facilities. It may be used to connect other greenspace and corridors.



Scenic Use Area

Natural vegetation, some social encounters, some visitor facilities, designed for outdoor recreation.

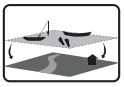
Bio Preserve

Natural vegetation, few social encounters, designed to preserve native plant and animal communities.

Land Acquisition

Creation of Public Park Land

Land purchased by a municipality or organization, managed and kept in a natural state, accessible to the public.



Purchase Private Land Easement

Includes conservation easements, a legal agreement between a landowner and an organization or government that prevents development or preserves scenic, natural values of the land.

MAP A: Vesper to Tully, Main Channel

Vesper/Headwaters Area (From Strong Road, along Route 80, to headwaters)

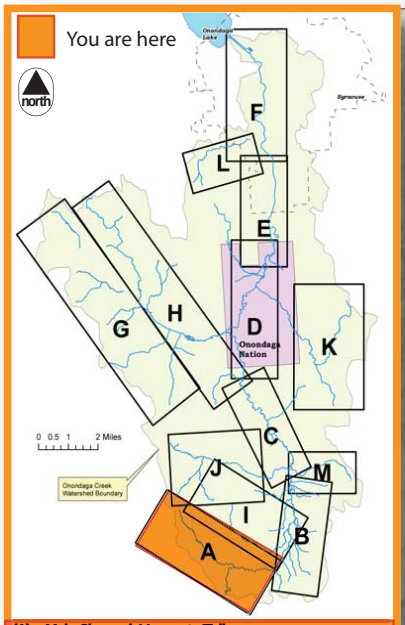
- **Renaturalization**
- **Rural Best Management Practice Implementation**
- **Channel Modification**

This project area encompasses the headwaters to Onondaga Creek's main branch that runs parallel to Route 80. Part of this stream reach is one of two worst reaches for aquatic habitat survey scores (see Aquatic Habitat Fact Sheet, Appendix B). *Renaturalization* ideas here include planting *riparian*, or streambank, shade trees and restoring habitat for *native species*, both terrestrial and aquatic. The Onondaga Creek Working Group's rural map team noted the importance of a continuous riparian buffer here, managed by multiple owners. Agricultural *best management practices* (BMPs) are also recommended in this potential project area. Some BMPs are identical to the above recommendations, for example, establishing a riparian forest buffer. Other BMPs help habitat restoration by managing runoff from agricultural land including nutrients, pesticides and soil erosion (see Appendix I). The stream has been straightened in some sections in this potential project area; reinstituting a meandering form is a long-term recommendation, which will require developing a cooperative relationship with landowners. Lastly, the rural team recommended placement of a sign marking the headwaters of Onondaga Creek on Route 80.

Fellows Falls Area (Woodmancy Road and Route 80 area)

- **Biopreserve Creation**
- **Recreation**
- **Rural Residential Best Management Practice Demonstration Sites**

Fellows Falls is a well-loved spot on the main branch of Onondaga Creek, mentioned in community input as a place for protection (see Appendix G). This potential project area recommends creating a biopreserve to protect the scenic and natural integrity of the falls. Biopreserve creation would necessitate the cooperation of the landowner, Honeywell International, Inc. Fishing access is a recommended recreational use on the stretch of creek in this area. Noting that residential properties back up to the falls along Hidden Falls Road, rural team recommendations also include "residential best management practices". These might include homeowner education about yard waste management, minimizing lawn fertilizer and pesticide use, and establishment and maintenance of adequate vegetation buffers to protect the creek from residential runoff. Capitalizing on Fellows Falls status as a familiar scenic spot on Onondaga Creek, residential best management practices might be established as a demonstration site with willing property owners, providing a model for other rural residential landowners in the watershed. In discussion during map development, the rural team noted that town planning and zoning boards of appeal need to work with landowners and developers for creek revitalization and protection.



(A) - Main Channel: Vesper to Tully
(B) - Main Channel: Tully to Otisco Road
(C) - Main Channel: Otisco Road to Onondaga Nation
(D) - Main Channel: Onondaga Nation
(E) - Main Channel: Onondaga Nation to Ballantyne Road
(F) - Main Channel: Ballantyne Road to Inner Harbor
(G) - West Branch: Southern Headwaters
(H) - West Branch: Northern Headwaters
(I) - Emerson Creek
(J) - Fall Creek
(K) - Hemlock Creek and Kennedy Creek
(L) - Furnace Brook
(M) - Rainbow Creek

Vesper/Headwaters Area
- Renaturalization
- Rural Best Management Practice Implementation
- Channel Modification

Headwaters

Agricultural

Route 80

Barker Rd

Agricultural

Strong Rd

Dutch Hill Rd

Town of Otisco

Town of Tully

Town of Spafford

Fellows Falls Area
- Biopreserve Creation
- Recreation
- Rural Residential Best Management Practice Demonstration Sites

Fellows Falls

Woodmancy Rd

Residential

north
map not to scale

CONCEPTUAL REVITALIZATION PLAN

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

Potential Project Areas

Onondaga Creek Watershed

A

Main Channel: Vesper to Tully

Map Key:

Land Use Options

Hydrological Options

Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area

Stream Channel

special area/action

Mudboils Area (Otisco Road to Town of LaFayette line)

- **Mudboils Maintenance/Sediment Control**
- **Park Creation**
- **Nature Trail Creation**
- **Public Access**
- **Investigate, find solutions for liability issue**

The mudboils area near Otisco Road is an important potential revitalization project area in Tully Valley. The mudboils (see Chapter 3 and Mudboils Fact Sheet, Appendix B) are continuing phenomena near Onondaga Creek that can add fine-grained sediment to the creek channel, affecting water quality. The U.S. Geological Survey (USGS) and Onondaga County Soil and Water Conservation District (OCSWCD) provide technical advice for Onondaga Lake Partnership (OLP) sponsored remediation projects associated with mudboil management. The mudboils will require ongoing remediation into the future. Recommendations in this project area include mudboil maintenance and sediment control, including maintaining the existing remedial settling basin. Recommendations also include investigating purchase of the area from Honeywell International, Inc. to create a county- or state-owned public park. As part of the park, interpretive trails are recommended, creating an educational access site for this unique area. Land subsidence and treacherous conditions at active mudboil sites require an investigation into landowner liability before public access is created. Lastly, reconstructing the bridge at the Otisco Road crossing is recommended.

Headwaters Gravel Mine Area (North of Route 80 near Tully Farms Road)

- **Investigate/follow-up on NYS Department of Environmental Conservation's permit conditions and enforcement**

This project area is identified based on water quality concerns. There is a gravel mine at the headwaters of a small tributary of Onondaga Creek. The mine is owned by Cranesville Block Company, Inc. Wild brook trout were reported in the tributary in the 1990's (see Fish Fact Sheet, Appendix B). The Working Group recommendation is to investigate the status of the New York State Department of Environmental Conservation (NYSDEC) permit for mine operation and enforcement of the permit, to protect this trout stream.

MAP B: Otisco Road to Route 80

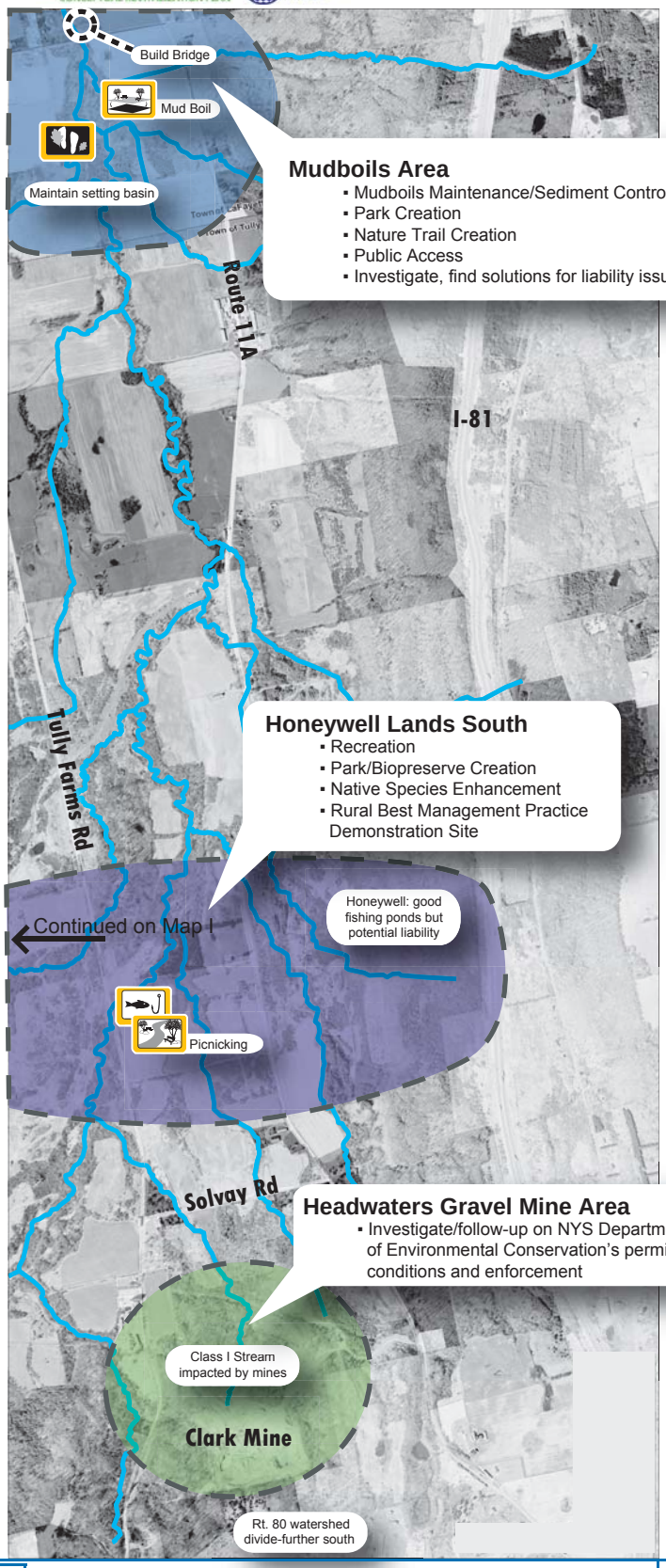
Honeywell Lands South (Overlaps on Map I; I-81, across Tully Farms Road, to near Woodmancy Road)

- **Recreation**
- **Park/Biopreserve Creation**
- **Native Species Enhancement**
- **Rural Best Management Practice Demonstration Sites**

This project area spans maps B and I. Honeywell International, Inc. (Honeywell) owns most of the land in the project area. The rural team identified this area as a potential site for recreation in the form of fishing access points, particularly at the site where Onondaga Creek crosses Tully Farms Road, noting that any access point requires cooperation with the landowners. This road crossing site may also accommodate a small multiple-use park surrounding the fishing access point, including picnicking. Other potential fishing access points in this project area are the Honeywell owned subsidence ponds east of Route 11A; discussion of liability issues is recommended. Creation of a biopreserve was proposed on the Honeywell owned land; the rural team recommended identifying criteria for accomplishing land protection. Another recommendation is to enhance native plant species in the project area with plantings in needed locations; the rural team specifically identified the creek corridor along Route 11A. The rural team recommended practicing agricultural BMPs at this site. Honeywell leases land to local farmers, who use it for grazing and field crops. In cooperation with the farmers and Honeywell, this area might serve as an agricultural BMP demonstration site, acting as a model for other landowners in the watershed.

Figure 5.6 Chesapeake Bay watershed sign on I-81, Virginia.

The Onondaga Creek watershed forms part of the southern boundary of the Seneca-Oneida-Oswego river basin, which drains to Lake Ontario and ultimately to the Saint Lawrence River (refer to Figure 1.2). Directly south of the creek's headwaters, watersheds drain south, to the Susquehanna River and ultimately to the Chesapeake Bay. In recognition of the watershed's unique position, the rural team recommended marking the drainage divide between the St. Lawrence River and the Chesapeake Bay with a sign on Interstate 81 (see Figure 5.6 for a similar example). As this project area borders Interstate 81, this is a potential site for sign placement, perhaps with the sponsorship of Honeywell.



Mudboils Area

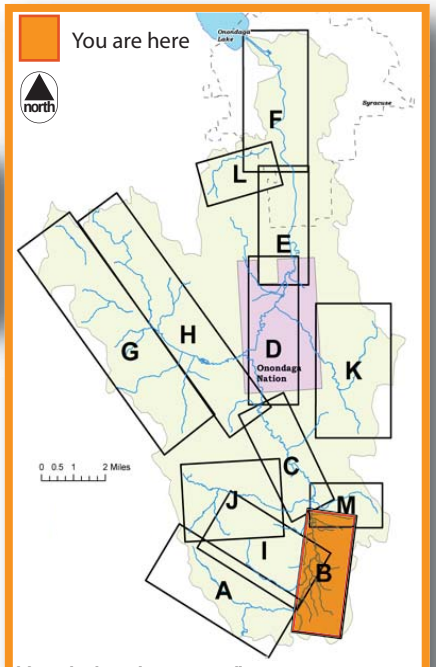
- Mudboils Maintenance/Sediment Control
- Park Creation
- Nature Trail Creation
- Public Access
- Investigate, find solutions for liability issue

Honeywell Lands South

- Recreation
- Park/Biopreserve Creation
- Native Species Enhancement
- Rural Best Management Practice Demonstration Site

Headwaters Gravel Mine Area

- Investigate/follow-up on NYS Department of Environmental Conservation's permit conditions and enforcement



(A) - Main Channel: Vesper to Tully
(B) - Main Channel: Tully to Otisco Road
(C) - Main Channel: Otisco Road to Onondaga Nation
(D) - Main Channel: Onondaga Nation
(E) - Main Channel: Onondaga Nation to Ballantyne Road
(F) - Main Channel: Ballantyne Road to Inner Harbor
(G) - West Branch: Southern Headwaters
(H) - West Branch: Northern Headwaters
(I) - Emerson Creek
(J) - Fall Creek
(K) - Hemlock Creek and Kennedy Creek
(L) - Furnace Brook
(M) - Rainbow Creek

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN

Potential Project Areas

Onondaga Creek Watershed

B

Main Channel: Tully to Otisco Road

Map Key:

Land Use Options
Hydrological Options
Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area
Stream Channel
special area/action

MAP C: Route 20 to Otisco Road

LaFayette Apple Festival Area (Route 20 to Webster Road)

- **Open Space Creation/Linkages**
- **Recreation**
- **Rural Best Management Practices Demonstration Projects**

The intersection of Route 20 (Cherry Valley Turnpike) and Onondaga Creek presents a number of concepts for revitalization. The rural team recommended sign placement on Route 20 at Onondaga Creek to notify drivers about the watershed. A fishing access point is recommended at the same location. A scenic overlook area is suggested at the intersection of Routes 11A and 20. Save the County Land Trust owns a parcel of land south of the road that might host an interpretive trail. The rural team suggested investigating easements with willing landowners for a fishing access point where the creek crosses Tully Farms Road and extending a natural trail along the creek corridor that links the Save the County Land Trust-owned land and the Apple Festival land. Lastly, the Apple Festival land is another area recommended for agricultural BMP demonstration.

Tully Farms Byway Signage Project (Webster Road to Nichols Road)

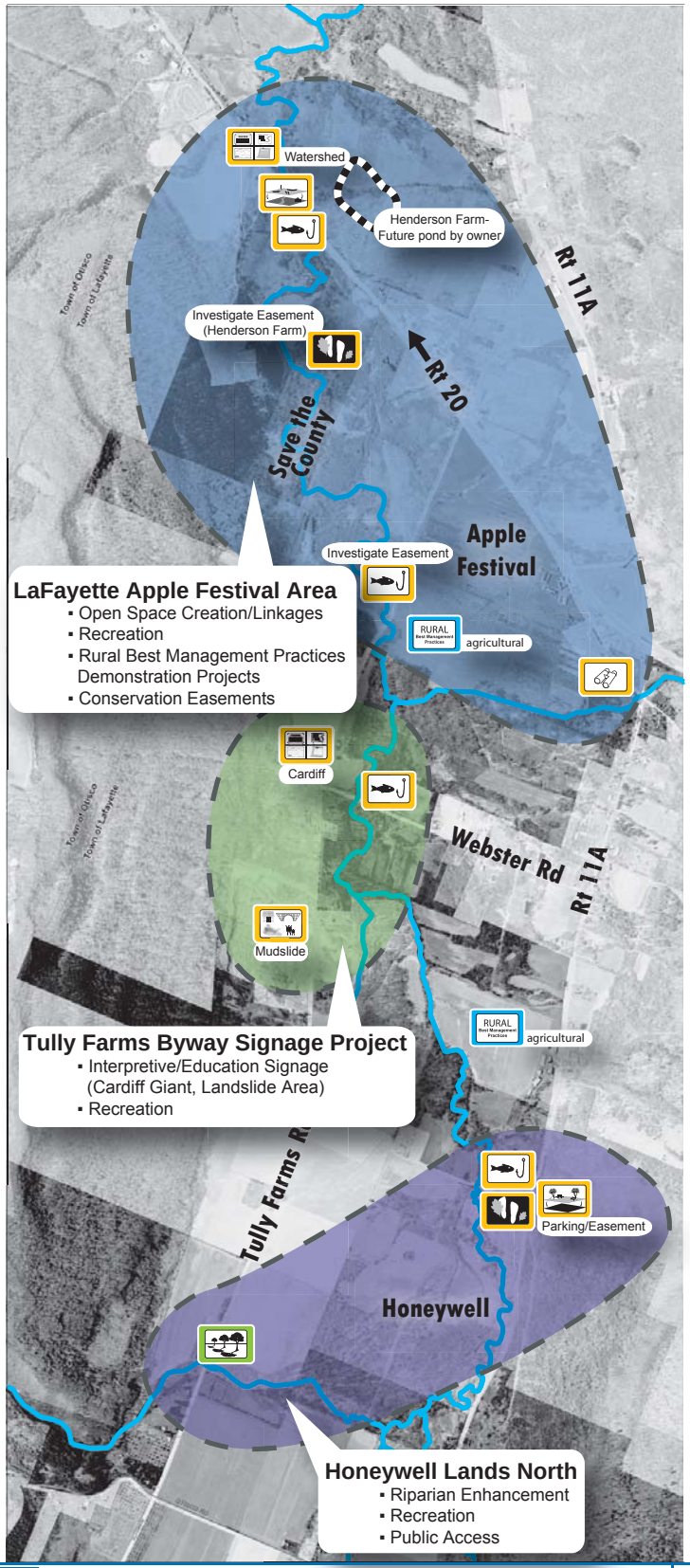
- **Interpretive/Education Signage (Cardiff Giant, Landslide Area)**
- **Recreation**

The rural team proposed marking two sites along Tully Farms Road near Webster Road as part of the history and heritage of the Onondaga Creek watershed. An interpretive sign is proposed at the site of the "discovery" of the Cardiff Giant, a nineteenth century hoax. A cultural/historical site is proposed in the 1993 landslide area.

Honeywell Lands North (Roughly Nichols to Otisco Road)

- **Riparian Enhancement**
- **Recreation**
- **Public Access**

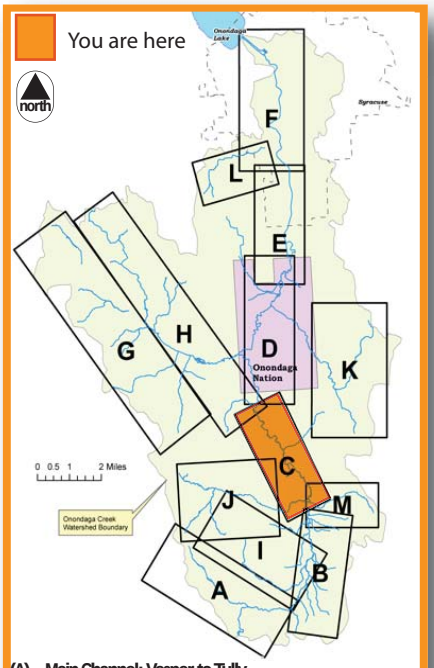
Recommendations for this area include a fishing access point on the main branch of Onondaga Creek on the south side of the Nichols Road crossing. Honeywell owns approximately 90 acres of creek-side land here, which contain protected wetlands and may contain agricultural leases. A parking easement and natural trail are recommended as fishing access enhancements to consider, requiring cooperation from the landowner, neighbors and any leaseholders. At the intersection of Tully Farms Road and Fall Creek, planting riparian trees for shade is recommended, which will also require landowner support and cooperation.



LaFayette Apple Festival Area
- Open Space Creation/Linkages
- Recreation
- Rural Best Management Practices Demonstration Projects
- Conservation Easements

Tully Farms Byway Signage Project
- Interpretive/Education Signage (Cardiff Giant, Landslide Area)
- Recreation

Honeywell Lands North
- Riparian Enhancement
- Recreation
- Public Access



(A) - Main Channel: Vesper to Tully
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(L) - Furnace Brook
(M) - Rainbow Creek

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN
Potential Project Areas
Onondaga Creek Watershed

C
Main Channel: Otisco Road to Onondaga Nation

Map Key:
- Land Use Options
- Hydrological Options
- Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area
Stream Channel
special area/action

MAP D: Onondaga Nation

Onondaga Nation

- **Dam Modification**
- **Trails Enhancement/Connection**
- **Restore/Protect Native Floodplain & Aquatic Species**
- **Protect/Manage Wetlands/ Wetland Species**
- **Recreation/Wildlife Viewing Opportunities**

The Onondaga Nation is a *sovereign* nation. Permission is needed from the Onondaga Nation Council of Chiefs to navigate or gain access to Onondaga Creek on the Onondaga Nation (see Chapter 3 and Access Fact Sheet, Appendix B). Onondaga Nation members are solely appropriate to plan and implement creek revitalization within the Onondaga Nation. Implementation of revitalization ideas for Onondaga Creek on the Onondaga Nation will require approval/ authorization of the Onondaga Nation Council of Chiefs.

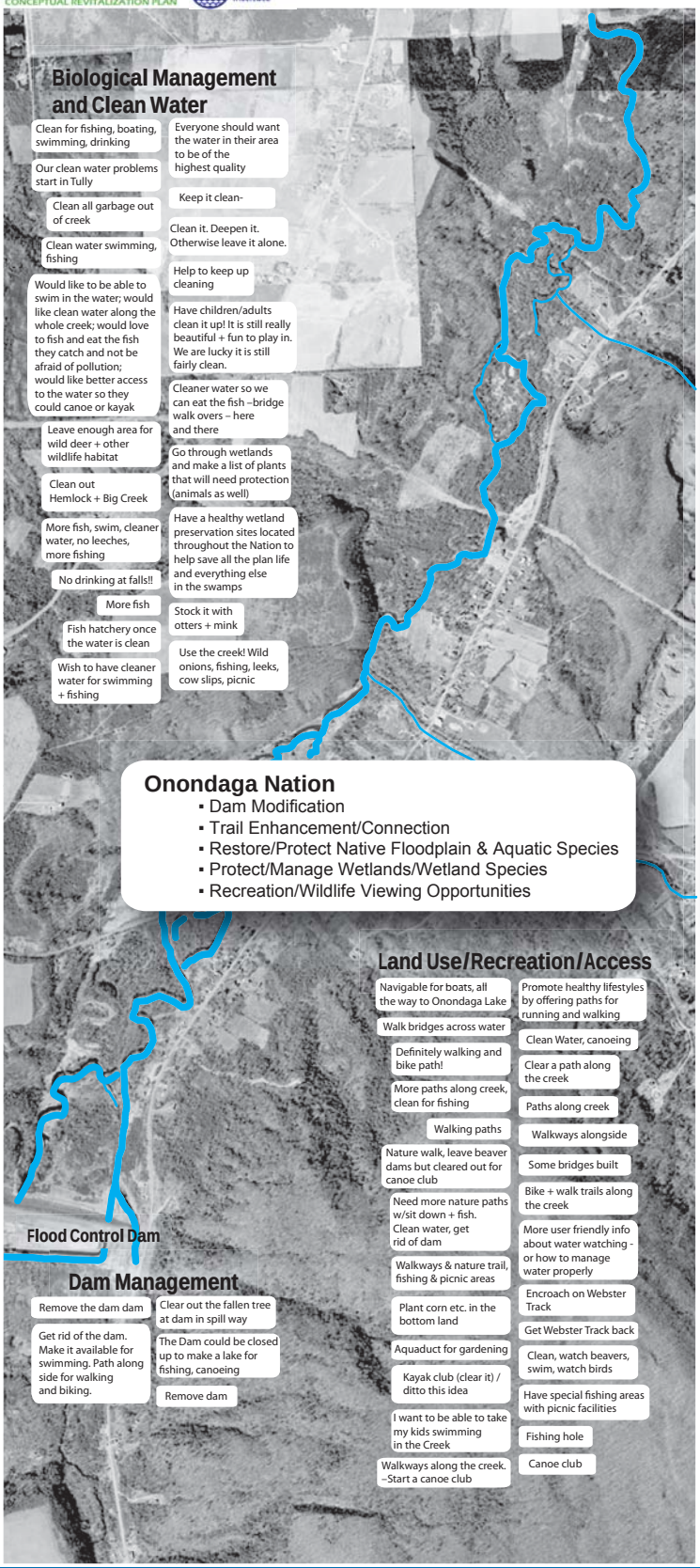
Ms. Jeanne Shenandoah, an Onondaga Creek Working Group member, facilitated community participation on the Onondaga Nation to complete revitalization map D. Map D represents the creek corridor through the Onondaga Nation. During June and July of 2007, Ms. Shenandoah made the map available at locations on the Onondaga Nation. Instead of using the symbols cards, Onondaga Nation members shared their ideas on sticky notes placed on the map. Ms. Shenandoah returned the map to OEI, where the sticky notes were sorted by theme and transcribed verbatim to a digital version, presented on page 55. Revitalization map D was incorporated into the revitalization map series and used in subsequent Working Group meetings, see Chapter 4 for revitalization map review process.

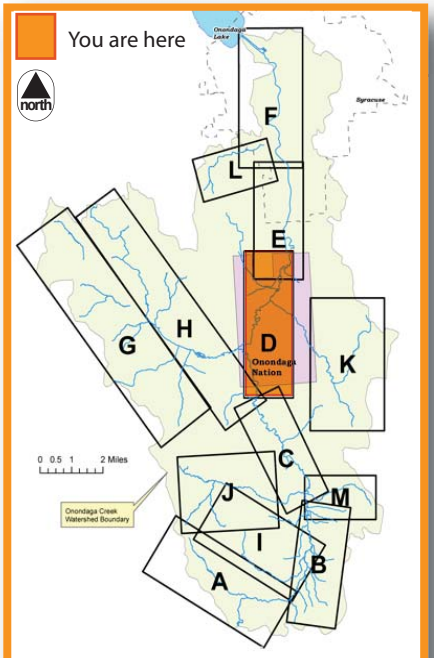
Via their comments placed on the map, Onondaga recommended changes to the flood control dam, built on the Nation's resident territory by the US Army Corps of Engineers (USACE) in 1949, ranging from removing it to creating a lake behind it for fishing and canoeing.[2] Several recommendations include paths alongside Onondaga Creek, for walking, running and biking, and to promote a healthy lifestyle. Canoeing, kayaking, swimming, fishing access, bridge crossings, nature interpretation and wildlife viewing were additional recreation/access recommendations. Very similar to results from the Community Forums, many recommendations encompass clean water; keeping it clean, having clean water along the whole creek, cleaning out garbage and creating a fish hatchery once the water is clean are examples. Protecting and managing all aspects of the creek ecosystem were recommended, including wetlands, wetland species, wildlife, and edible fish.

[2] An information source for options derived from flood modeling for this dam is Endreny T and M Higgins. 2008. *Adding Radar Rainfall and Calibration to the TR-20 Watershed Model to Improve Dam Removal Flood Analysis.* Journal of Water Resources Planning and Management 134(3):314-317.

onondaga creek
CONCEPTUAL REVITALIZATION PLAN

Onondaga Environmental Institute





(A) - Main Channel: Vesper to Tully
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(L) - Furnace Brook
(M) - Rainbow Creek

north
map not to scale

2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN

Potential Project Areas

Onondaga Creek Watershed

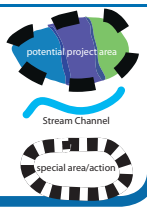
D

Main Channel: Onondaga Nation

Map Key:

- Land Use Options
- Hydrological Options
- Biological Options

note: Revitalization ideas for map D were developed on the Onondaga Nation during the summer of 2007; in conjunction with Working Group potential project area map creation. Comments represent individual nation members' visions for the creek.



MAP E: South of Ballantyne Road, Syracuse through Nedrow

Map E spans the "transitional section" of Onondaga Creek, the corridor that transitions between urban and rural parts of the watershed. Furnace Brook, Map L, was also identified as transitional. The design charrette team that worked on these maps identified three main concepts for the transitional area: **preservation**, *renaturalization*, and **education**. They also made the following overall recommendations:

- **Implement urban best management practices** (*green infrastructure*)
- **Create a** compound stream channel, **floodplain, meanders and instream habitat**
- **Re-vegetate channel with native plants**
- **Manage and restore upland areas, creating a *forever wild* biopreserve to protect springs**
- **Create or restore** vernal pools[3]
- Daylight**, or uncover, and restore tributaries**
- **Create trails on both sides of creek and connect the trail system to adjacent public lands**
- **Remove fence and/or replace with** natural fence**, where needed or wanted**
- **Install signs to name creek and tributaries**
- **Create a watershed symbol for Onondaga Creek and its watershed**

[3]Vernal pools are small, seasonal wetland depressions, often critical spawning areas for amphibians.

North Valley Area (Newell Street to W. Cheltenham Road)

- **Channel Modification**
- **Interpretive Trails**
- **Wetland Creation/Enhancement**
- **Stream Daylighting/Reconnection (City Line Creek, Kimber Brook)**
- **Public Access**
- **Educational Collaboration (Clary, McCarthy, VanDuyn, Faith Heritage, Southside Charter, McKinley-Brighton, St James Schools)**

The North Valley potential project area overlaps onto Map F2. The transitional team recommended channel modification in the North Valley project area, including creating a compound channel, reconnecting and daylighting tributaries, for example, Kimber Brook and City Line Creek. The team recommended stream meanders and floodplain reclamation where feasible, for example, near Clary Middle School. Recreation recommendations include fishing and boating access, trail creation, including an interpretive trail in Onondaga Creek's original channel, near Midland Avenue. Wetland restoration and reconnection, *invasive species* control and removal, and reestablishing native aquatic and floodplain species are recommended. The North Valley project area is rich with schools, both public and private. Opportunities for incorporating the creek into school programs include interpretive trails at Van Duyn and Clary schools.

Valley Watershed Biopreserve (Forested slopes of the upland watershed divide throughout the Valley and Nedrow, includes Rand Tract)

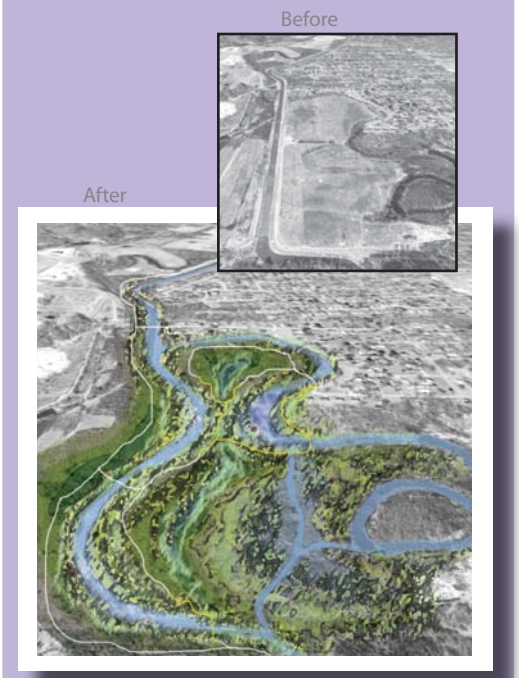
- **Land Acquisition/Biopreserve Creation**
- **Manage/Restore Upland Areas**
- **Trail Connections**

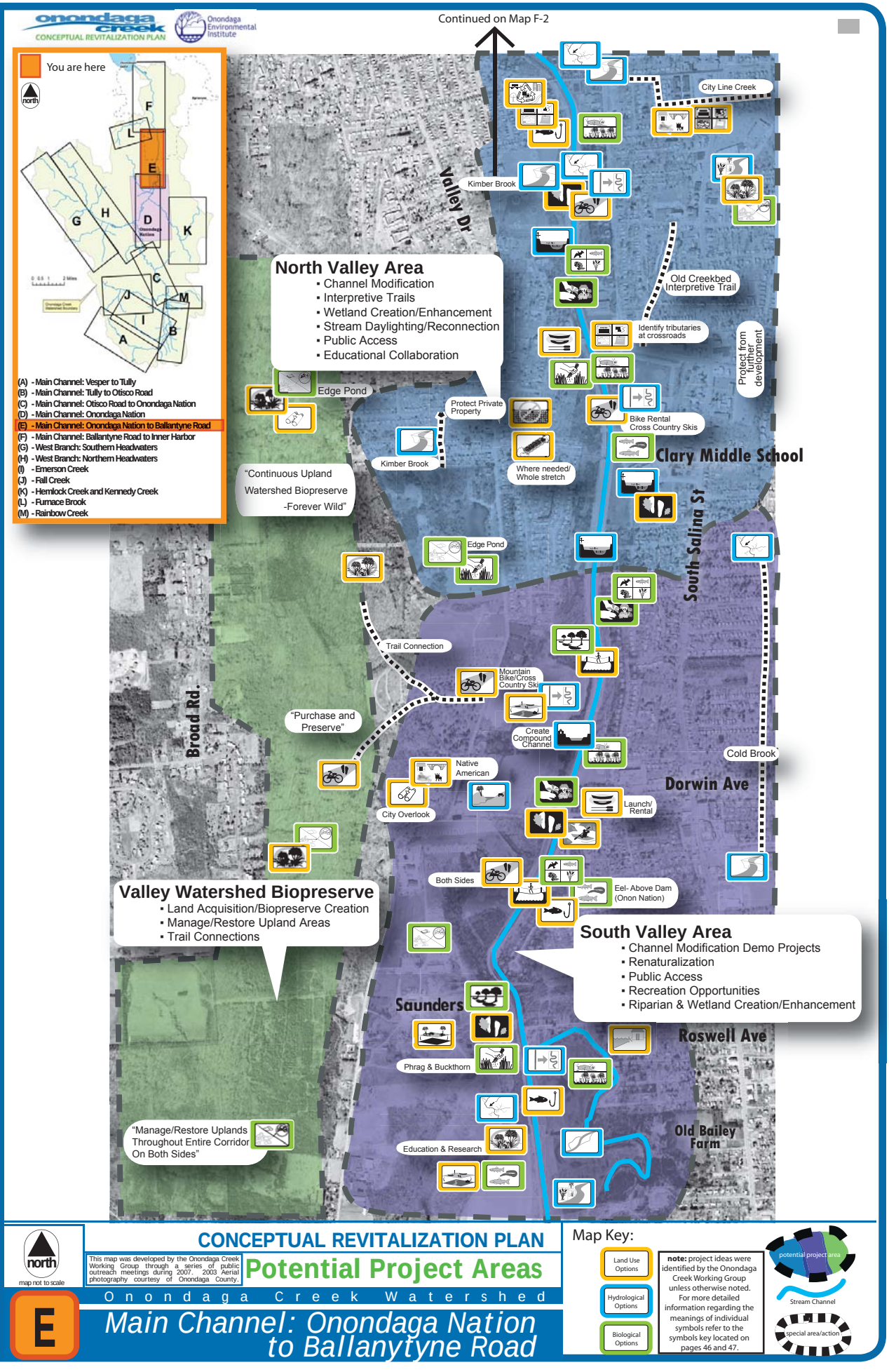
The transitional team recommended creating a *forever wild* biopreserve area in the upland slopes of Nedrow and the Valley neighborhood of Syracuse, bracketing the Onondaga Creek floodplain below. On the western side of the creek corridor, this forested area would be an extension of the Rand Tract. Springs originate in the forested slopes in this section of the creek corridor, influencing water quality in spring-fed tributaries and the creek (see Geography Fact Sheet, Appendix B). Forest protection in these transitional and urban uplands will reduce runoff and improve water quality (Nowak, et al. 2007).

South Valley Area (W. Cheltenham Road through Nedrow)

- **Channel Modification Demonstration Projects**
- **Renaturalization**
- **Public Access**
- **Recreation Opportunities**
- **Riparian and Wetland Creation / Enhancement**

There is ample opportunity to implement stream channel modification projects in the South Valley Area due to the quantity of existing *open space*. The transitional team recommended reconnecting and daylighting tributaries, like Cold Brook and creating a flood/stormwater basin on the west side of the creek corridor near Dorwin Avenue. The USACE channelized the creek between Roswell Avenue and the northern border of the Onondaga Nation in 1963 (see Flood Control Fact Sheet, Appendix B). The transitional team recommended wetlands reconstruction and the reconnection of historical meanders in this area. Water storage creation may allow for creating stream meanders and increasing riparian cover in this channelized and treeless section of Onondaga Creek, increasing habitat for both aquatic and floodplain species. Recreation and access recommendations include park and land easements, trail creation, boat rental, fishing access and pedestrian bridges near Kelley Brothers Park and Longmeadow Drive.




onondaga creek
CONCEPTUAL REVITALIZATION PLAN
Onondaga Environmental Institute
Continued on Map F-2
You are here
north
(A) - Main Channel: Vesper to Tully
(B) - Main Channel: Tully to Otisco Road
(C) - Main Channel: Otisco Road to Onondaga Nation
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(L) - Furnace Brook
(M) - Rainbow Creek
City Line Creek
Kimber Brook
Valley Dr
North Valley Area
▪ Channel Modification
▪ Interpretive Trails
▪ Wetland Creation/Enhancement
▪ Stream Daylighting/Reconnection
▪ Public Access
▪ Educational Collaboration
Old Creekbed Interpretive Trail
Identify tributaries at crossroads
Protect from further development
Edge Pond
Protect Private Property
Bike Rental Cross Country Skis
Kimber Brook
Where needed/ Whole stretch
Clary Middle School
"Continuous Upland Watershed Biopreserve -Forever Wild"
South Salina St
Edge Pond
Trail Connection
Mountain Bike/Cross Country Ski
Broad Rd.
"Purchase and Preserve"
Create Compound Channel
Cold Brook
Native American
Dorwin Ave
City Overlook
Launch/ Rental
Both Sides
Eel- Above Dam (Onon Nation)
Valley Watershed Biopreserve
▪ Land Acquisition/Biopreserve Creation
▪ Manage/Restore Upland Areas
▪ Trail Connections
South Valley Area
▪ Channel Modification Demo Projects
▪ Renaturalization
▪ Public Access
▪ Recreation Opportunities
▪ Riparian & Wetland Creation/Enhancement
Saunders
Roswell Ave
Phrag & Buckthorn
"Manage/Restore Uplands Throughout Entire Corridor On Both Sides"
Education & Research
Old Bailey Farm
north
map not to scale
CONCEPTUAL REVITALIZATION PLAN
This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.
Potential Project Areas
Onondaga Creek Watershed
E
Main Channel: Onondaga Nation to Ballantyne Road
Map Key:
Land Use Options
Hydrological Options
Biological Options
note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.
potential project area
Stream Channel
special area/action

MAP F1: West Onondaga Street to Inner Harbor

The urban team placed their revitalization ideas on Map F, spanning the Onondaga Creek corridor from the Inner Harbor to Ballantyne Road. Map F is a detailed map with consecutive potential project areas along the length of the creek corridor. The map was split in two for legibility. The urban team made the following overall recommendations:

- **Enhance creek-side signage, including interpretive and historic markers**
- **Define criteria for creating an** urban preserve **to protect Onondaga Creek through the City of Syracuse, qualities that constitute the preserve need to be addressed along the whole corridor**
- **Increase natural percolation and filtration of stormwater into the ground in the urban creek corridor**
- **To address the above concern and reduce carbon monoxide inversions during cold weather, conduct a traffic study to address parking in the creek walk area: do not try to accommodate parking demand in the creek zone**
- **Relating to traffic study, the urban team recommends removing bridges (or convert to pedestrian use) and creating cul-de-sacs, to reduce through-traffic in neighborhoods, and to reduce stream crossings and subsequent need for stream channelization**
- **The creek walk should function as a "spinal cord" connecting lateral bike and pedestrian paths along creek walk that lead into neighborhoods**
- **Fishing access points need to be added in urban parks along Onondaga Creek**
- **Renaturalize urban space, restore native plant and fish communities throughout area, non-native plants should only be found in the arboretum**
- **Shade trees should replace invasive plant species removed from riparian areas**
- **Restore natural springs and daylight former tributaries that run into creek**
- **Create floodplain and maintain flood protection by creating a compound channel**

[4]The West Street Co
Master Plan can be
accessed from: http
syracusethenandno
org/CompPlan/Wes
WestStreetReport.p

Inner Harbor (Onondaga Lakeshore to Spencer Street)

- **Public Access**
- **Habitat Enhancement**
- **Creek-wide migratory corridor throughout area**

The urban team recommended enhancing public access, in the form of a multi-use park and biopreserve in the Inner Harbor, including adding overlooks, boating and fishing access and signage. Habitat enhancement is recommended to establish a creek-wide migratory area (for aquatic and riparian species) through the Inner Harbor. The urban team noted the Inner Harbor's disconnection from downtown. They recommended increasing access and enhancing habitat to emphasize this area as a "jewel".

Franklin Square (Spencer Street to Highway 690)

- **Trail & Habitat Enhancement**
- **Channel Enhancement**
- **Natural & Cultural Historical Interpretation**
- **Maintain continuous riparian canopy cover**

Franklin Square is recommended as an area to maintain continuous riparian canopy cover along the creek, while at the same time enhancing trail connection and natural and cultural interpretation in this historic area. The urban team noted the need to improve the pedestrian corridor under 690 with lighting. Removing overgrowth, particularly invasive species will increase visual access to Onondaga Creek from the creek walk.

Clinton Square Area (Highway 690 to Fayette Street)

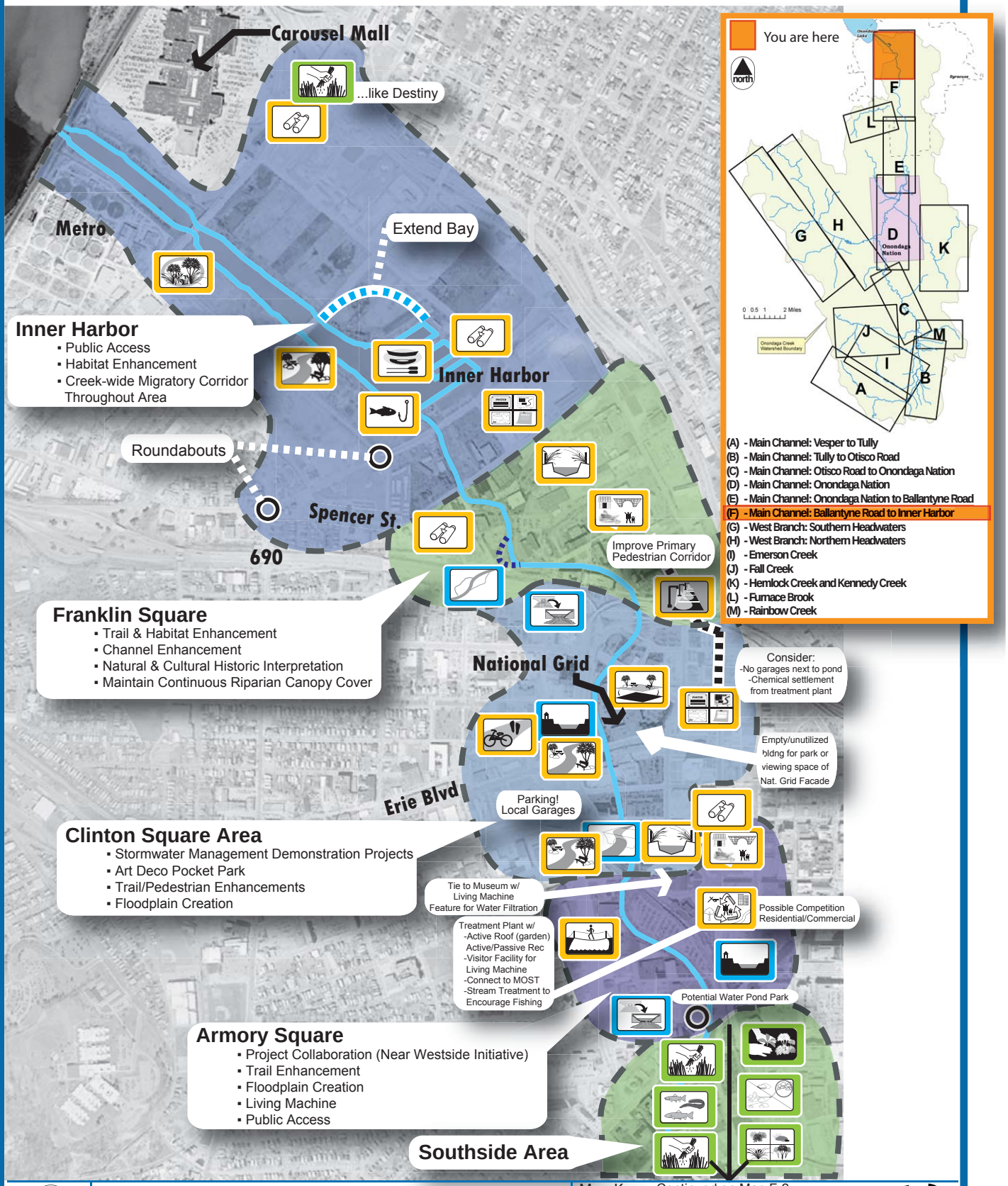
- **Stormwater Management Demonstration Projects**
- **Art Deco Pocket Park**
- **Trail/Pedestrian Enhancements**
- **Floodplain Creation**

The urban team recommends using the *West Street Corridor Master Plan* (Mercurio, 2006) to inform decisions about traffic flow, pedestrian use, park and trail planning and reintegrating the creek into this project area[4]. The urban team recommended stream daylighting and park creation to enhance visual access and capitalize on the prime Art Deco-period architecture of the National Grid building (formerly Niagara Mohawk). The urban team recommended highlighting the historical stonework over Onondaga Creek near Fayette Street (railroad bridge) and West Genesee Street (Erie Canal viaduct). This is a potential area for stormwater management demonstration projects, including working with business owners to increase on-site stormwater filtration. The urban team recommends a *linear park* along Onondaga Creek between Genesee Street and Erie Boulevard.

Armory Square (Fayette Street to West Onondaga Street)

- **Project Collaboration (Near Westside Initiative, etc.)**
- **Trail Enhancement**
- **Floodplain Creation**
- **Living Machine**
- **Public Access**

The urban team recommended bridge and culvert modification at West Onondaga Street and addition of a water pond park. Floodplain creation, using a compound channel, was also recommended. Addition of a pedestrian bridge over Onondaga Creek links Armory Square and the Near Westside and can act as an enhancement to the creek walk, and as a means of collaboration with the Near Westside Initiative. At the time of map creation in 2007, the Clinton Regional Treatment Facility was still planned. The urban team recommended modifying this facility into a *living machine* with a *green roof*, connected to the Museum of Science and Technology as a learning venue. The urban team also recommended converting the parking lot at Armory, next to Onondaga Creek, into a green space, to allow for channel modification and habitat improvement to the creek in this area.



north
map not to scale

CONCEPTUAL REVITALIZATION PLAN

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

Potential Project Areas

Onondaga Creek Watershed

F1

West Onondaga Street to Inner Harbor

Map Key: Continued on Map F-2

Land Use Options
Hydrological Options
Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area
Stream Channel
special area/action

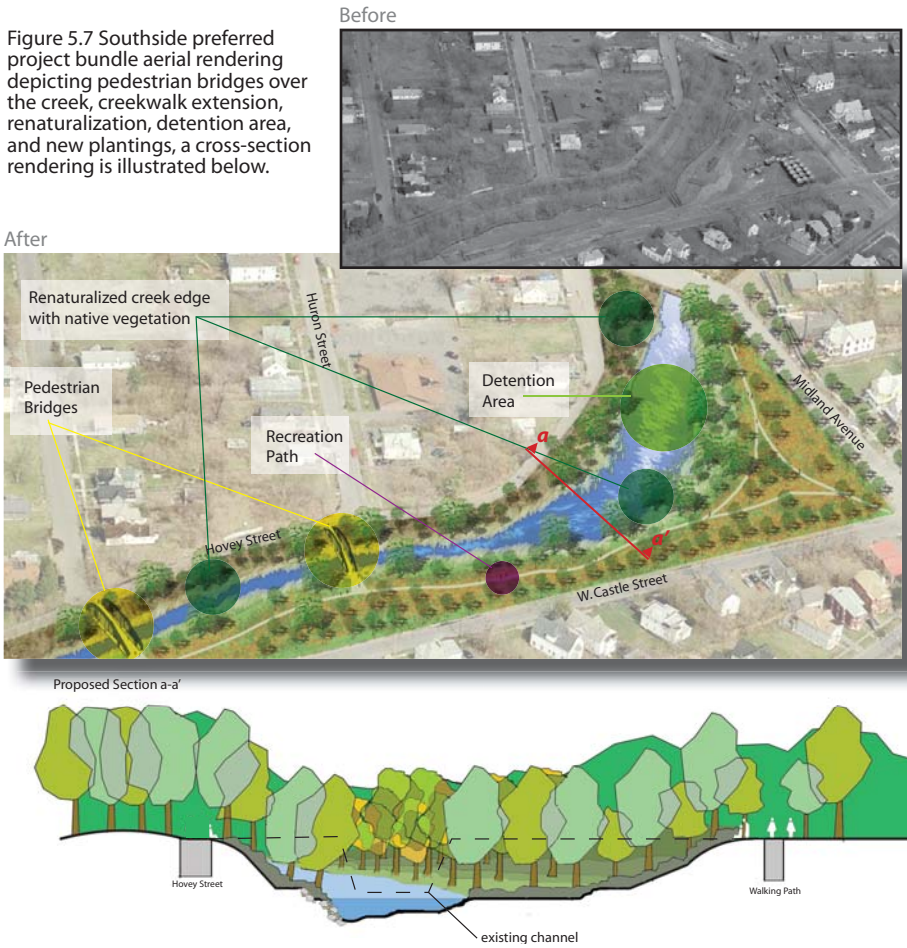
MAP F2: Ballantyne to West Onondaga Street

Southside Area (West Onondaga St. to Kirk Park Northern Boundary)

- **Renaturalization**
- **Channel Modification**
- **Trail/Greenspace Creation**
- **Public Access**
- **Stormwater Management Innovations**

This potential project area spans maps F1 and F2. The urban team envisioned the Southside Area as a key opportunity for urban renaturalization. The creation of a compound channel would enhance both aquatic and terrestrial habitat. Creek renaturalization complements use by nearby residents, through trails and greenspace creation. The urban team recommended a pedestrian bridge near Tallman Street and consideration of replacing the chain-link fencing with natural fencing where needed or wanted. Removal of invasive species and additional floodplain trees are recommended near South Avenue. A multi-use park and creation of a flood and stormwater retention basin is recommended near West Castle Street (see Figure 5.7). To most effectively renaturalize Onondaga Creek in this area, innovative stormwater management solutions will be needed, with involvement and cooperation of local residents.

Figure 5.7 Southside preferred project bundle aerial rendering depicting pedestrian bridges over the creek, creekwalk extension, renaturalization, detention area, and new plantings, a cross-section rendering is illustrated below.



Botanical Garden Area (Kirk Park to Newell Street)

- **Park/Greenspace Showcase Area**
- **Renaturalization**
- **Channel Modification**
- **Stormwater Management Innovations**

Collaboration with the Onondaga Botanical Garden and Arboretum project in this area is a key opportunity to showcase renaturalization and reintegration of Onondaga Creek into this residential community. The recommendations in this area are similar to those for the Southside potential project area. Creek renaturalization through habitat enhancement and channel modification are proposed. Restoration modeling has been conducted for parts of the creek corridor by Dr. Theodore Endreny at SUNY ESF. Figure 5.8 depicts restoration modeling done for the Kirk Park area (for explanation and examples see Appendix L.)

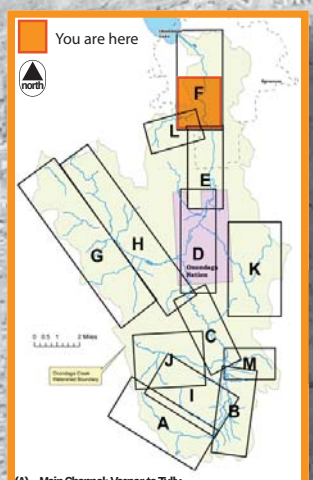
Figure 5.8 Aerial rendering of a potential channel restoration model near South Avenue, bounded by Kirk Park and Lower Onondaga Park Drive (image created by Dr. Theodore Endreny SUNY ESF).

Furnace Brook Daylighting Project (Underground portion of Furnace Brook, roughly Glenwood Avenue to Onondaga Creek Boulevard, near Elmhurst Ave.)

- **Channel Modification Reconnection**
- **Education/Interpretation**

The urban team recommended *daylighting* (uncovering) the culverted portion of Furnace Brook. The team also recommended (on Map L) adding interpretive signage at the point where the brook passes underground.

Continued on Map F-1



South Side Area
- Renaturalization
- Channel Modification
- Trail/Greenspace Creation
- Public Access
- Stormwater Management Innovations

W. Onondaga St.

Tallman St.

Botanical Gardens

Onondaga Park

Kirk Park

Botanical Garden Area
- Park/Greenspace Showcase Area
- Renaturalization
- Channel Modification
- Stormwater Management Innovations

Furnace Brook Daylighting Project
- Channel Modification/Reconnection
- Education/Interpretation

Corcoran High School

South Ave

W Newell St

North Valley Area
- Channel Modification
- Interpretive Trails
- Wetland Creation/Enhancement
- Stream Daylighting/Reconnection (City Line Creek, Kimber Brook)
- Public Access
- Educational Collaboration (Clary, McCarthy, Van Duyn, Faith Heritage, Southside Charter, McKinley-Brighton, St. James Schools)

Atlantic Ave

Continued on Map E

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN

Potential Project Areas

Onondaga Creek Watershed

F2

Main Channel: Ballantyne to West Onondaga Street

Map Key:

Land Use Options

Hydrological Options

Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area

Stream Channel

special area/action

MAPS G & H: West Branch of Onondaga Creek

The OCRP Project Team assembled revitalization ideas for the West Branch of Onondaga Creek; the resulting map was reviewed by the Onondaga Creek Working Group.

Pumpkin Hollow – Cedarvale Area (Along Pleasant Valley to Cedarvale Road)

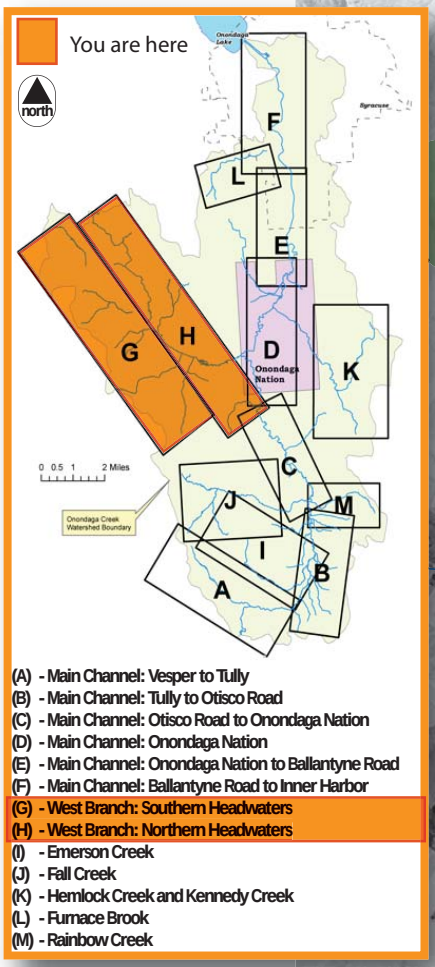
- **Land Easements**
- **Wetland/Floodplain Species Protection and Restoration**
- **Biopreserve Creation**

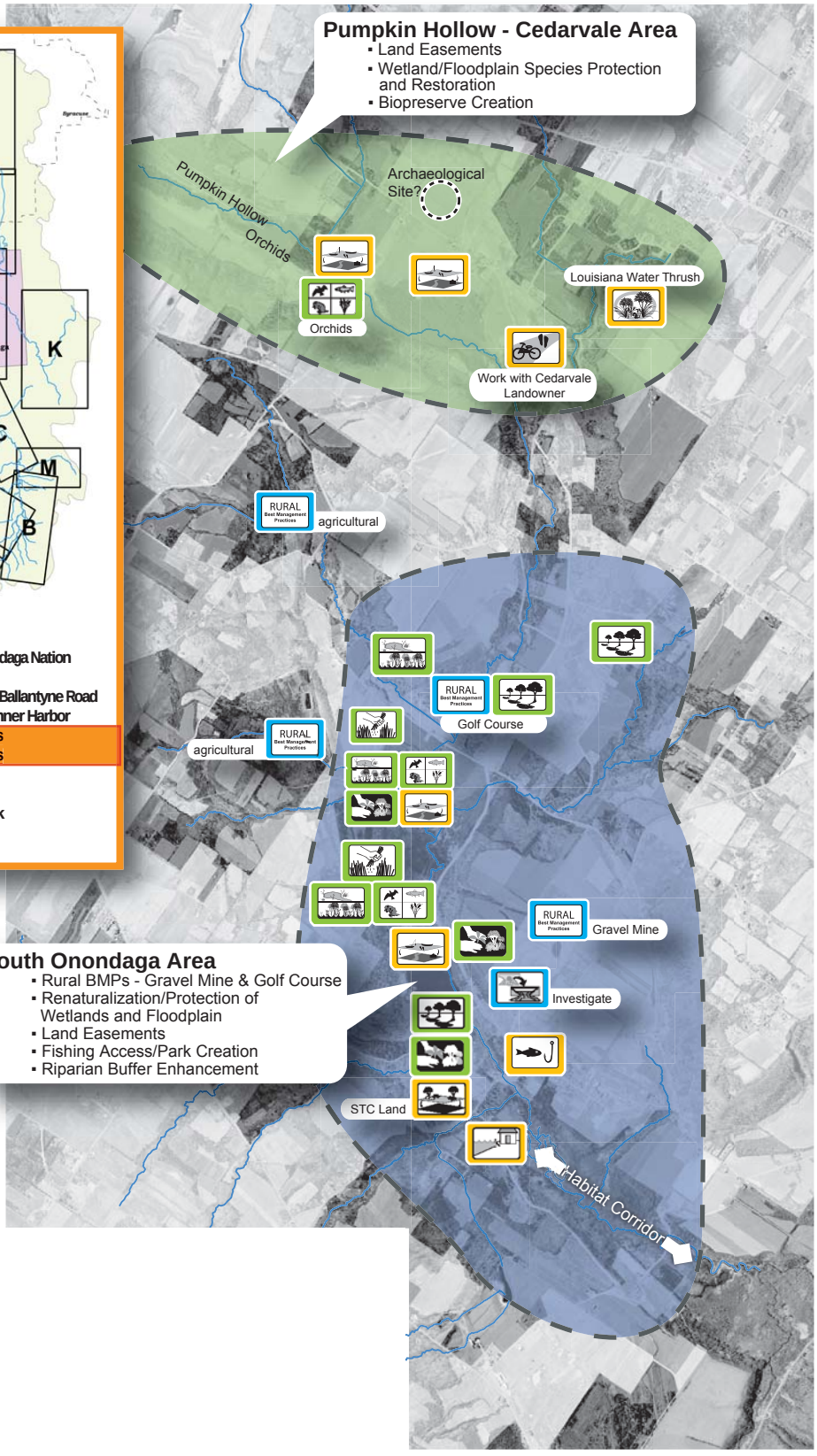
The Project Team recommended working with landowners to explore conservation easements in Pumpkin Hollow and biopreserve creation along Cedarvale Creek, for the purpose of cooperative protection of habitat. The floodplain and wetlands in this potential project area host rare species of orchids. Cedarvale Creek supports nesting areas for the Louisiana Waterthrush, a migrating warbler that breeds along gravel-bottomed streams that flow through hilly, deciduous forests.

South Onondaga Area (Intersection of Route 80/Makyes/Cedarvale Roads)

- **Rural BMPs – Gravel Mine/Golf Course**
- **Renaturalization / Protection of Wetlands and Floodplain**
- **Land Easements**
- **Fishing Access / Park Creation**
- **Riparian Buffer Enhancement**

The Project Team recommends enhancing the riparian buffer along the West Branch and its tributaries, including removing/controlling invasive species, planting riparian shade trees and native plants. Much of the floodplain of the West Branch, roughly from just south of Tanner Road to the western border of the Onondaga Nation, is protected wetland, subsequently wetland renaturalization and effective local protection are recommended here. The Project Team recommends investigating modification of the corrugated metal pipe culvert where the West Branch crosses under Red Mill Road, to naturalize the stream and minimize disruption of aquatic habitat. Save The County Land Trust-owned land at Hogsback Road and Route 80 is a recommended location for fishing access and park creation. The project team recommends working with the golf course and gravel mine owners in this project area to enhance best management practices for stream and wetland protection.





north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN
Potential Project Areas
Onondaga Creek Watershed

GH

West Branch: Southern Headwaters
West Branch: Northern Headwaters

Map Key:

Land Use Options

Hydrological Options

Biological Options

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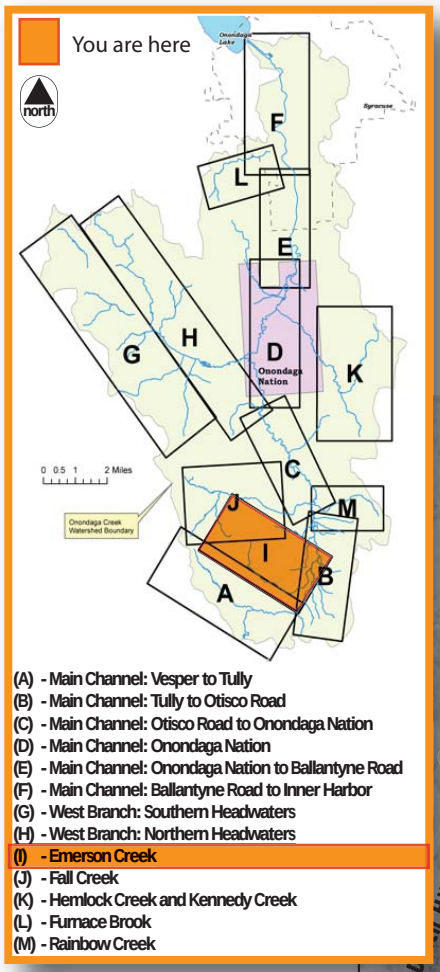
potential project area

Stream Channel

special area/action

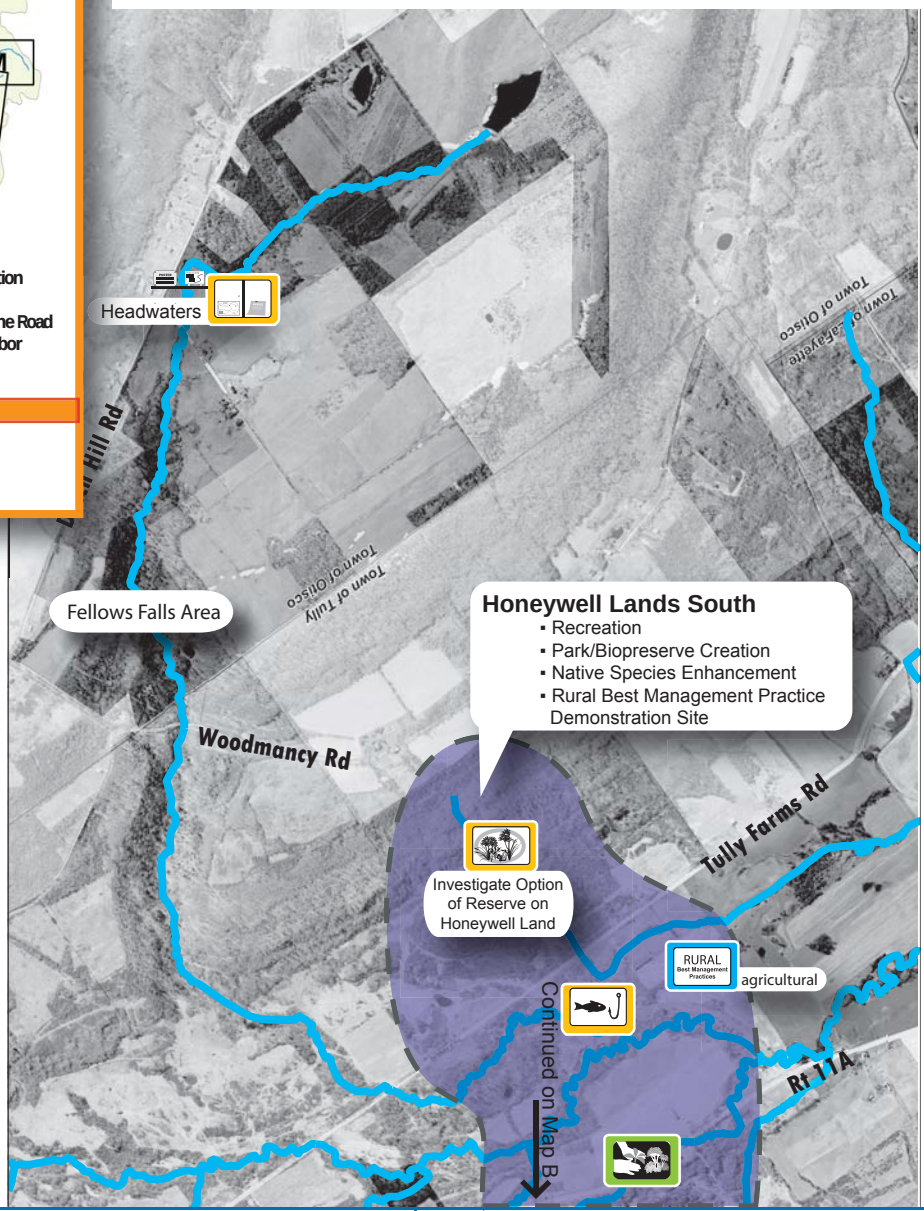


Map I (Emerson Creek)

Honeywell Lands South (Overlaps on Map B; near Woodmancy Road, across Tully Farms Road, to Route 11A)

- **Recreation**
- **Park/Biopreserve Creation**
- **Native Species Enhancement**
- **Rural Best Management Practice Demonstration Sites**

This potential project area is described on map B. Fellows Falls project area is represented on Map A.



north
map not to scale

CONCEPTUAL REVITALIZATION PLAN

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

Potential Project Areas

Onondaga Creek Watershed

I *Emerson Creek*

Map Key:

Land Use Options

Hydrological Options

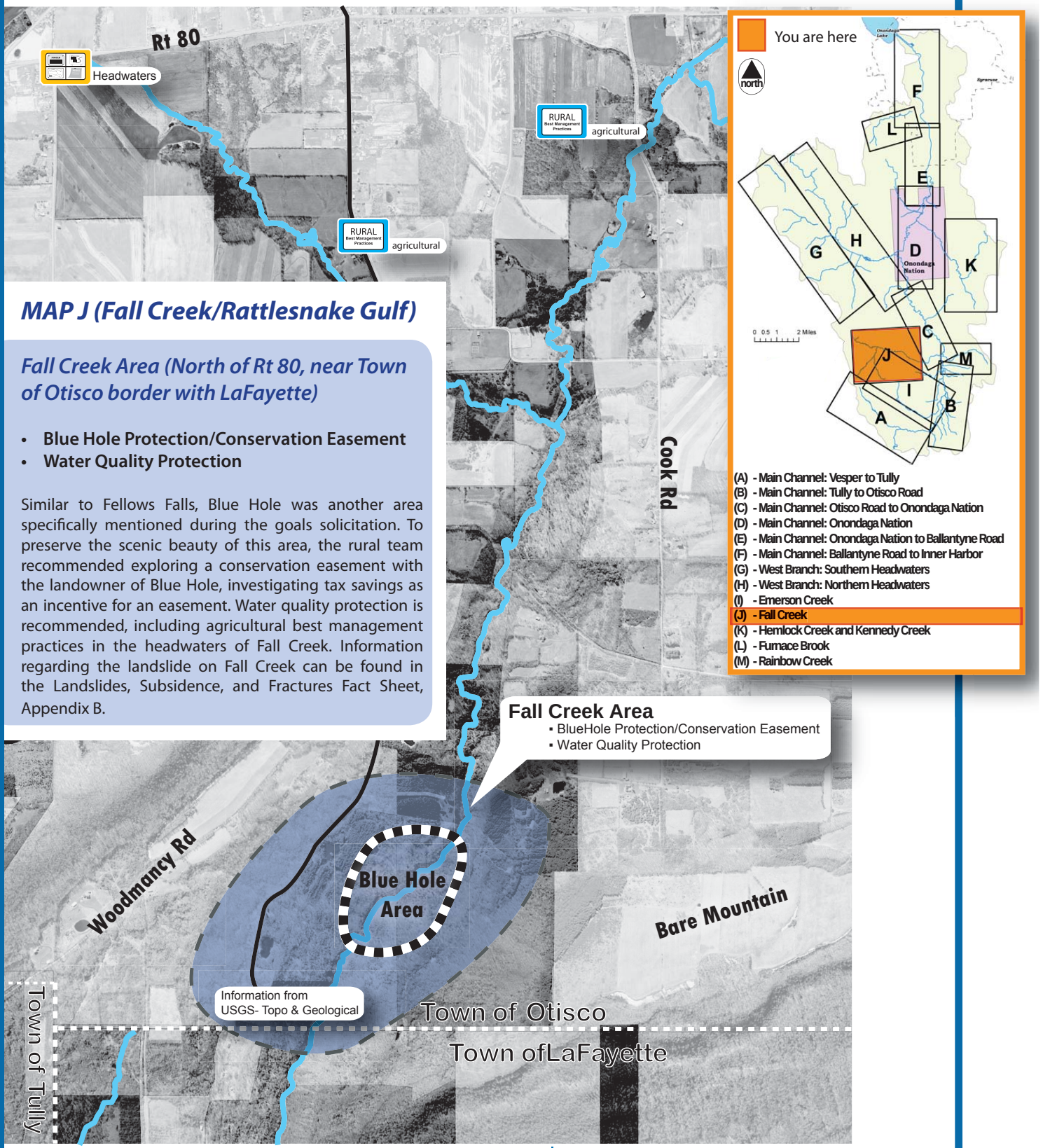
Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area

Stream Channel

special area/action



MAP J (Fall Creek/Rattlesnake Gulf)

Fall Creek Area (North of Rt 80, near Town of Otisco border with LaFayette)

- **Blue Hole Protection/Conservation Easement**
- **Water Quality Protection**

Similar to Fellows Falls, Blue Hole was another area specifically mentioned during the goals solicitation. To preserve the scenic beauty of this area, the rural team recommended exploring a conservation easement with the landowner of Blue Hole, investigating tax savings as an incentive for an easement. Water quality protection is recommended, including agricultural best management practices in the headwaters of Fall Creek. Information regarding the landslide on Fall Creek can be found in the Landslides, Subsidence, and Fractures Fact Sheet, Appendix B.

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN

Potential Project Areas

Onondaga Creek Watershed

J *Fall Creek*

Map Key:

Land Use Options

Hydrological Options

Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area

Stream Channel

special area/action

MAP K: Hemlock and Kennedy Creeks

The OCRP Project Team assembled revitalization ideas for the Hemlock and Kennedy Creeks; the resulting map was reviewed by the Onondaga Creek Working Group.

Kennedy Creek Area (Kennedy headwaters area, across I-81, to eastern border of Onondaga Nation)

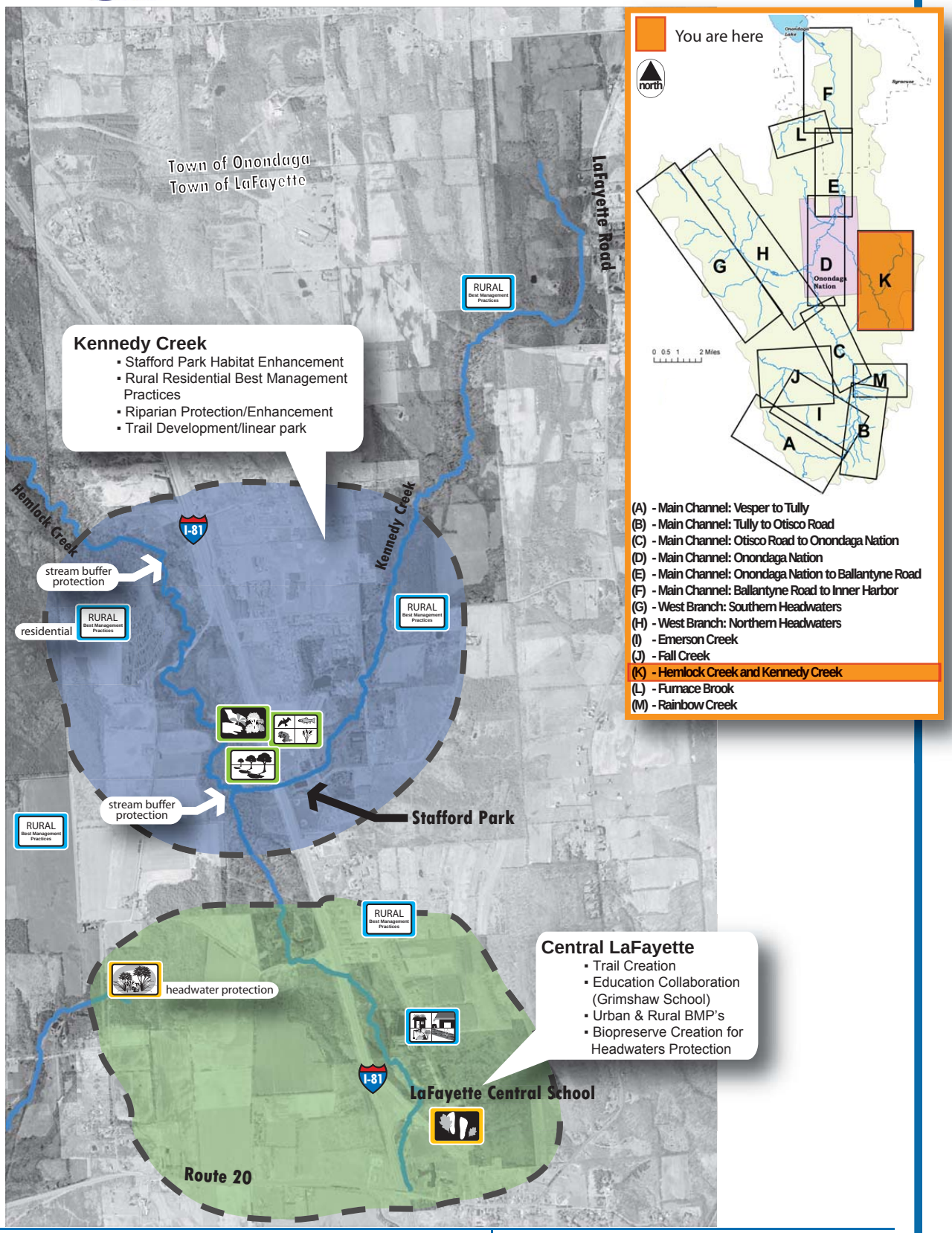
- **Stafford Park Habitat Enhancement**
- **Rural Residential Best Management Practices**
- **Riparian Protection/ Enhancement**
- **Trail Development; Linear Park**

Kennedy Creek bisects Stafford Park in the Town of LaFayette. Project Team recommended habitat enhancement in the creek's riparian zone in the park. Residential best management practices and stream buffer protection for Hemlock Creek on the west side of Interstate 81 were recommended. Water quality protection is particularly recommended in the vicinity of the manufactured housing community near Webb Road. Consideration of interpretive trail or linear park development along Kennedy Creek is recommended, perhaps combined with habitat enhancement efforts in Stafford Park as a means to engage community interest.

Central LaFayette Area (Near intersection of Route 20 and I-81)

- **Trail Creation**
- **Education Collaboration (Grimshaw School)**
- **Urban & Rural Best Management Practices**
- **Biopreserve Creation for Headwaters Protection**

The Central LaFayette potential project area encompasses the headwaters of Hemlock Creek, which is also protected wetland. The Project Team recommended implementing both urban and rural best management practices near the headwaters, along the Interstate 81 and Route 11 corridor. Recommended practices include on-site stormwater management for buildings and parking lots bordering the protected wetland. Creation of an interpretive trail is recommended, in collaboration with Grimshaw Elementary School, at the intersection of Interstate 81 and Route 20.



north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN

Potential Project Areas

Onondaga Creek Watershed

K

Hemlock Creek and Kennedy Creek

Map Key:

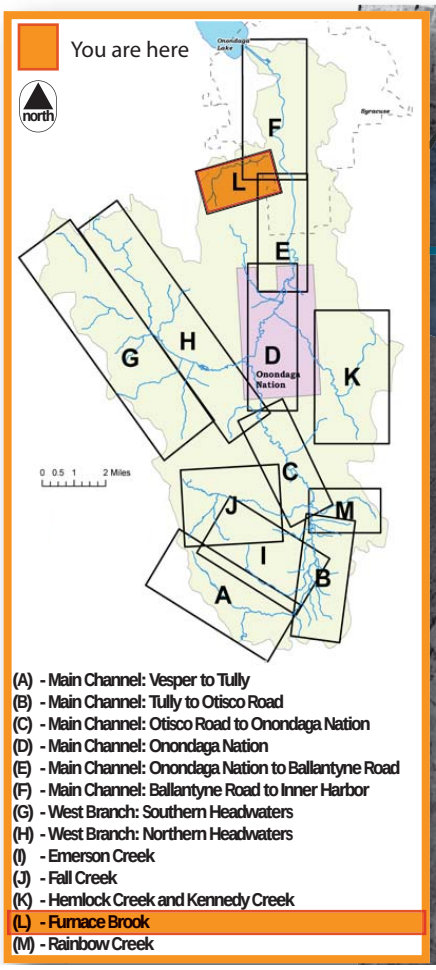
- Land Use Options
- Hydrological Options
- Biological Options

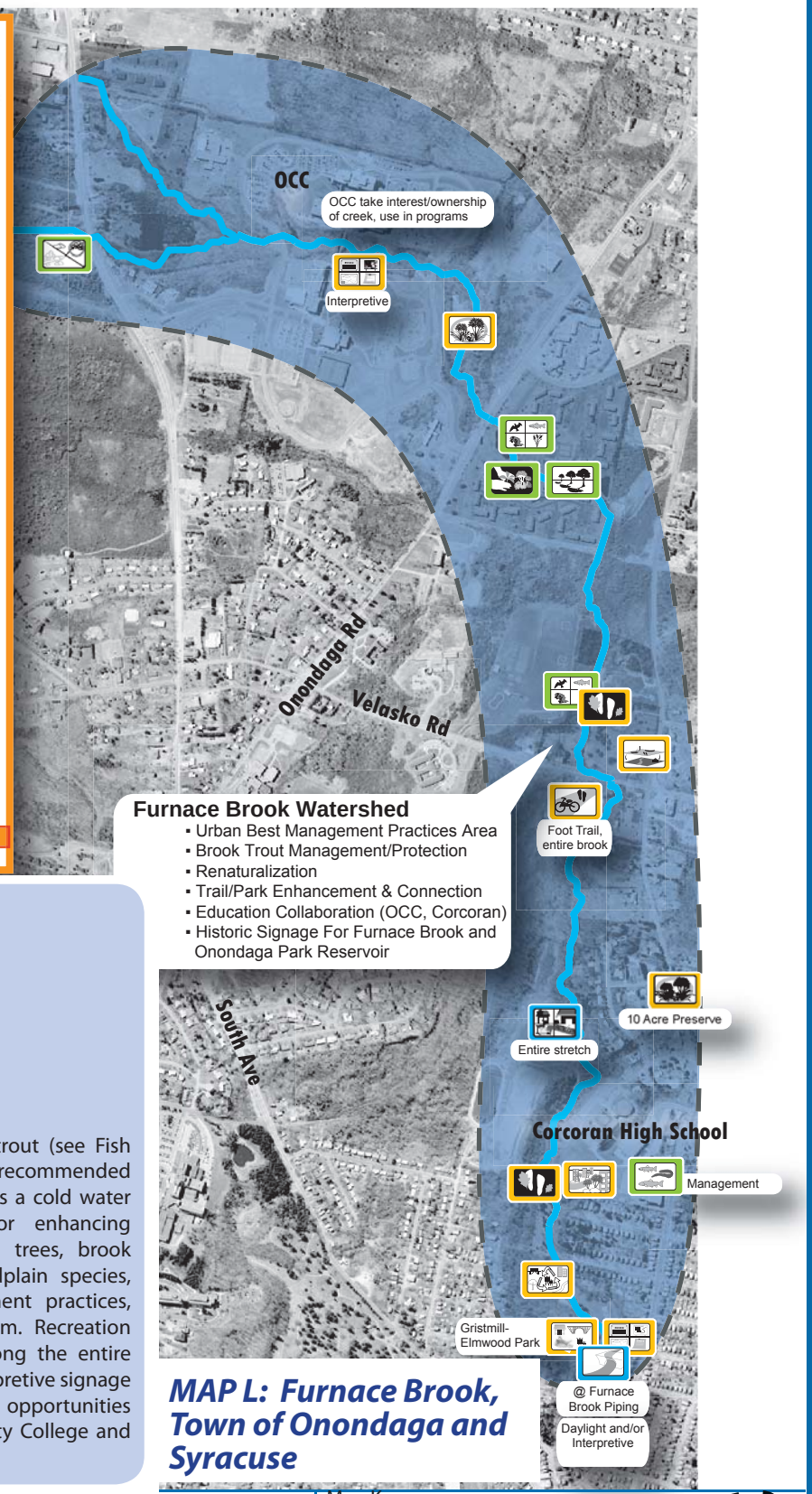
note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area

Stream Channel

special area/action





Furnace Brook Watershed

- **Urban Best Management Practices Area**
- **Brook Trout Management/Protection**
- **Renaturalization**
- **Trail/Park Enhancement & Connection**
- **Educational Collaboration (OCC, Corcoran)**
- **Historic signage for Furnace Brook and Onondaga Park Reservoir**

Furnace Brook supports populations of brook trout (see Fish Fact Sheet, Appendix B). The transitional team recommended protecting and managing all of Furnace Brook as a cold water fishery. Recommendations include adding or enhancing riparian buffer with native plants and shade trees, brook trout management, restoration of native floodplain species, and implementation of urban best management practices, or green infrastructure, along the entire stream. Recreation recommendations include interpretive trails along the entire brook. Education recommendations include interpretive signage near parks and schools and exploring education opportunities in collaboration with both Onondaga Community College and Corcoran High School.

MAP L: Furnace Brook, Town of Onondaga and Syracuse

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN
Potential Project Areas
Onondaga Creek Watershed

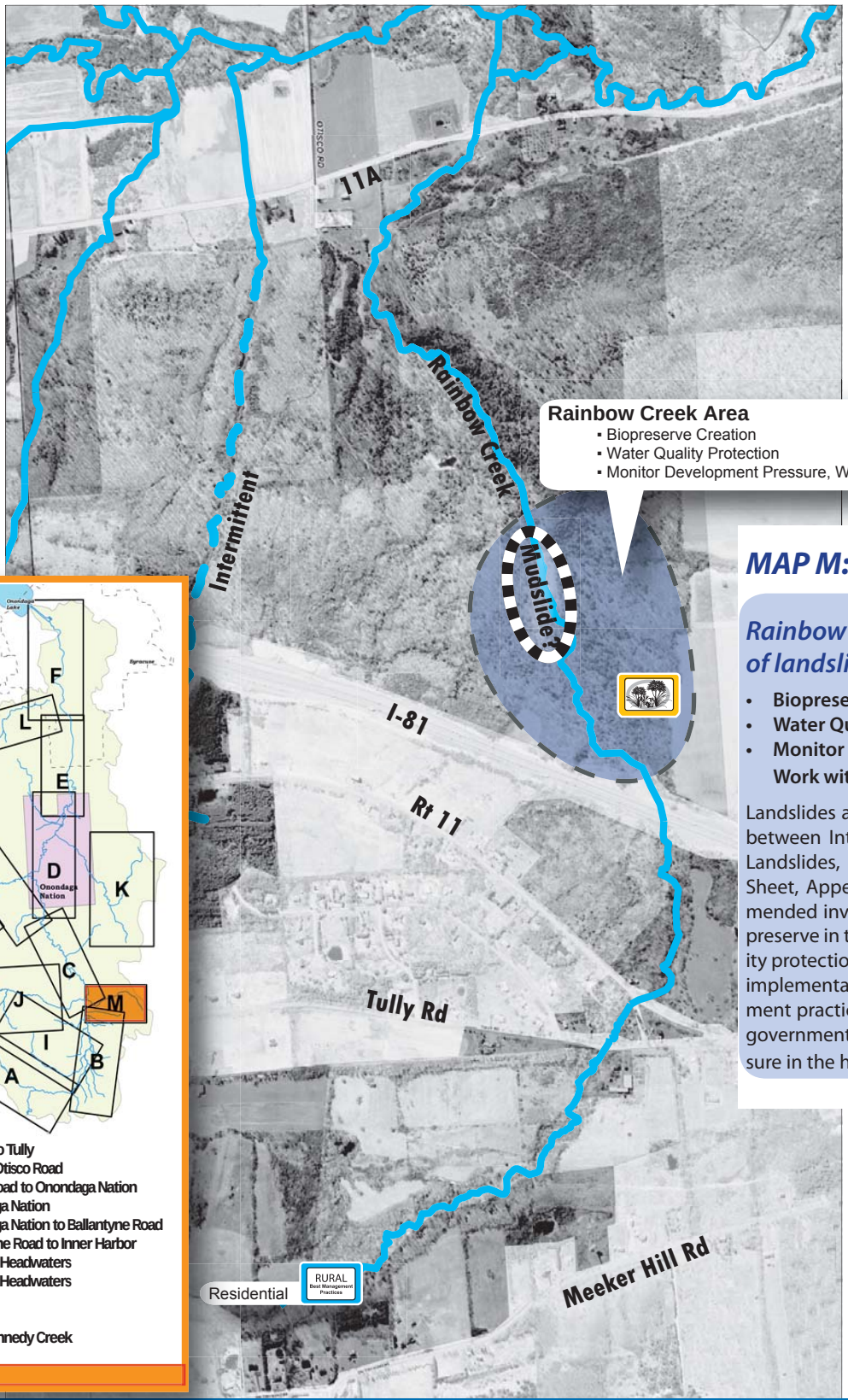
L
Furnace Brook

Map Key:

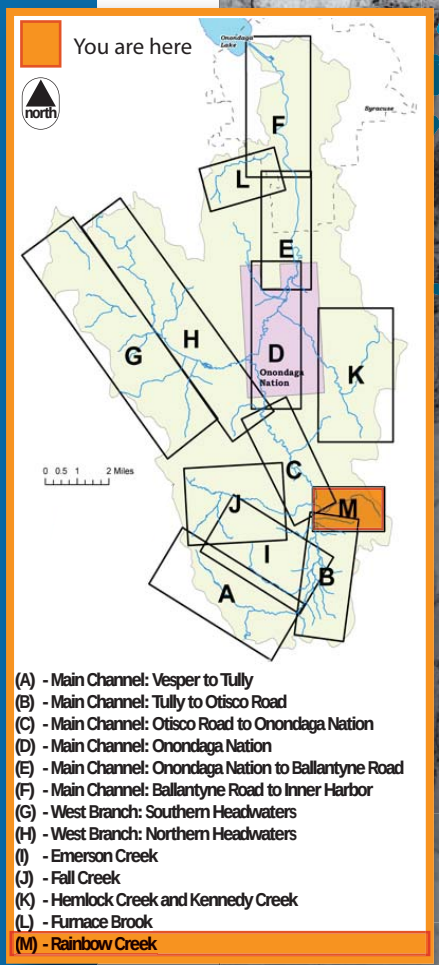
Land Use Options
Hydrological Options
Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area
Stream Channel
special area/action



Rainbow Creek Area
- Biopreserve Creation
- Water Quality Protection
- Monitor Development Pressure, Work with Towns



(A) - Main Channel: Vesper to Tully
(B) - Main Channel: Tully to Otisco Road
(C) - Main Channel: Otisco Road to Onondaga Nation
(D) - Main Channel: Onondaga Nation
(E) - Main Channel: Onondaga Nation to Ballantyne Road
(F) - Main Channel: Ballantyne Road to Inner Harbor
(G) - West Branch: Southern Headwaters
(H) - West Branch: Northern Headwaters
(I) - Emerson Creek
(J) - Fall Creek
(K) - Hemlock Creek and Kennedy Creek
(L) - Furnace Brook
(M) - Rainbow Creek

MAP M: Rainbow Creek

Rainbow Creek Area (In vicinity of landslide)

- **Biopreserve Creation**
- **Water Quality Protection**
- **Monitor Development Pressure, Work with Towns**

Landslides are on-going on Rainbow Creek, between Interstate 81 and Route 11A (see Landslides, Subsidence and Fractures Fact Sheet, Appendix B). The rural team recommended investigating the creation of a biopreserve in the landslide area for water quality protection. The rural team recommended implementation of residential best management practices and working with area town governments to monitor development pressure in the headwaters of Rainbow Creek.

north
map not to scale

This map was developed by the Onondaga Creek Working Group through a series of public outreach meetings during 2007. 2003 Aerial photography courtesy of Onondaga County.

CONCEPTUAL REVITALIZATION PLAN
Potential Project Areas
Onondaga Creek Watershed

M
Rainbow Creek

Map Key:
Land Use Options
Hydrological Options
Biological Options

note: project ideas were identified by the Onondaga Creek Working Group unless otherwise noted. For more detailed information regarding the meanings of individual symbols refer to the symbols key located on pages 46 and 47.

potential project area
Stream Channel
special area/action

Working Group -

Results

Watershed Recommendations – Goals and Action Items

Introduction

The Onondaga Creek Working Group developed *drivers* (or motivators) and goals in a process spanning several months (the process is described in Chapter 4). The drivers and goals are descriptors of where the creek should be in the future and were derived from the process of citizen engagement. Both were developed by the Working Group after the group listened to community input during forums and stakeholder organization meetings. The goals are meant to function as a guiding image for Onondaga Creek revitalization.[5] Achieving all of the goals will require considerable time; some sections of the creek will realize goals before others. The five drivers (water quality; human health and safety; ecological health and habitat; access, recreation and use; and education) and associated goals appear in the following sections in bold type to distinguish them as the Working Group's work. Each driver is represented with an icon. The drivers and goals reflect community input, as illustrated at the right by direct quotes received as input during community and stakeholder meetings. Quotes can be read in complete context in Appendix G.

Once the Working Group completed their review process of the goals, the OCRP Project Team developed specific action items. The action items embody the intent of the Working Group and make recommendations for future steps in creek revitalization. Working Group reviewed the action items. Action items appear under goals in regular type to distinguish them as Project Team's work.

[5] The concept of a *guiding image* for the creek is borrowed from Palmer et al. 2005 and is explained further in Chapter 8.

Goal Drivers:

water quality

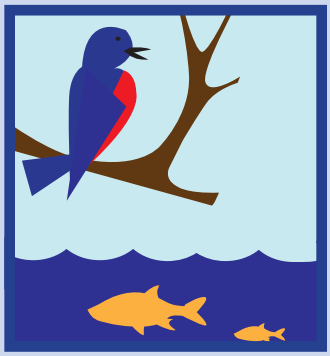
Improving the biological, chemical, and physical conditions of Onondaga Creek (often measured by a waterbody's ability to support life).

"Good water quality everyone can share and enjoy. (S)omething to be proud of."

human health & safety

Fostering a state of wellbeing for people in the Onondaga Creek watershed, free from risk and disease.

"Can we enjoy the creek and still protect the environment - people need to feel safe/secure using the corridor."



ecological health & habitat

Fostering an environment for native species (plants and animals) that provides safe food and water.

"The creek becomes wonderful habitat for fish, birds and other animals."

access, recreation, & use

Allowing everyday activities and enjoyment in and around Onondaga Creek.

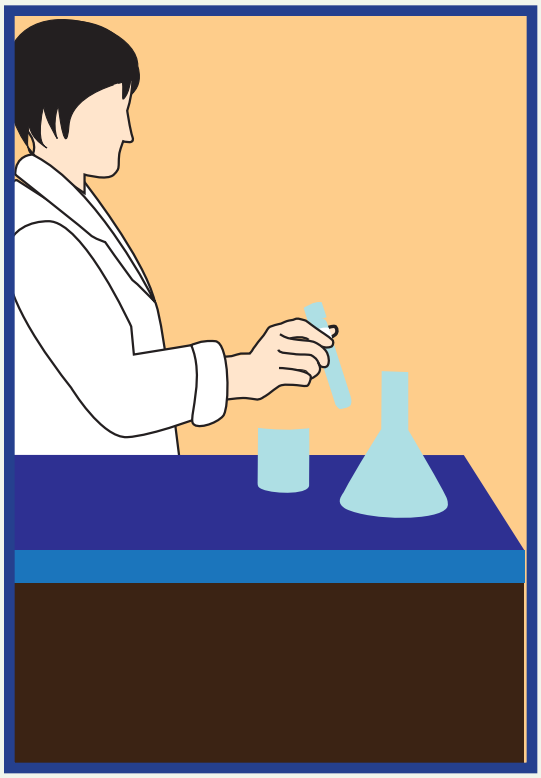
"Travel along entire creek from lake to headwaters- have a path, nice lighting, banners, benches, programmed spaces."

education

Sharing knowledge about Onondaga Creek and its environs.

"… I would like to see the creek used as an educational tool for surrounding school communities."

Water quality



Improving the biological, chemical, and physical conditions of Onondaga Creek (often measured by a waterbody's ability to support life).

A. Achieve *Class B standard* throughout watershed.

- **Achieve water quality that supports diverse fish and wildlife.**
- **Achieve water quality that supports contact recreation.**

Action Items:

1. Petition DEC to reclassify entire watershed to at least class B.
2. Implement performance-based best management practices (BMPs) throughout watershed.[6] Assessment of BMP programs is recommended. See Appendix I for additional recommendations and a list of management measures and practices based on US Environmental Protection Agency (USEPA) guidance documents.
3. Perform continued water quality assessment in Onondaga Creek watershed for full range of water quality parameters. Identify issues/ areas of concern from water quality assessment, and then formulate corrective measures.
4. Conduct complete sewer study for all *jurisdictions* in the Onondaga Creek watershed.
5. Establish intermunicipal stormwater management study/comprehensive program, to meet Phase II requirements for all jurisdictions in the Onondaga Creek watershed.[7] The program should include these components:
    a. Characterize the drainage system: stormwater and *sewersheds*,
    b. Identify and map subwatersheds that go to specific stormdrains/*combined sewer overflows* (CSOs), determine locations where stormwater BMPs will make a substantial difference to water quality.[8]
    c. Develop a menu of remedies that can ameliorate specific conditions; this menu should emphasize application of innovative green infrastructure techniques, such as green roofs, *permeable paving* and *rain gardens*, see Appendix I for more information.
    d. Reduce the volume and rate at which runoff reaches the creek throughout the system with *retention*, *detention*, and redistribution engineering and construction (inclusive of BMPs and green infrastructure).
    e. Incorporate maintenance procedures, especially improved street and storm sewer cleaning.
6. Multiple governments have jurisdiction within the Onondaga Creek watershed. Forms of cooperative *intermunicipal* decision-making about sewer/stormwater management should be explored to make real, lasting improvements to water quality.

B. Water should be clear and attractive, free of garbage.

Action items:

1. Expand cleanup efforts
    a. Establish an adopt-a-creek program with citizen groups, with city/county/town cooperation.
    b. Expand and increase funding for CCE creek cleanup program, tie in additional partners like Onondaga County Resource Recovery Agency (OCCRA).
2. Establish county-wide comprehensive littering education program, including schools. See action items under *Education*. Model program for the Onondaga Creek corridor can be a pilot area. Formulate and fund stormwater/anti-litter education as one comprehensive program, applied to Onondaga Creek corridor. Use existing material and expand to tailor to the creek corridor.
3. Implement anti-dumping campaign through enforcement and education by municipality.
4. To protect water clarity, find management solutions and financial resources for continued mudboil maintenance, including exploring options for public/private partnerships.[9] See Working Group's site-specific recommendations, Revitalization Map B.

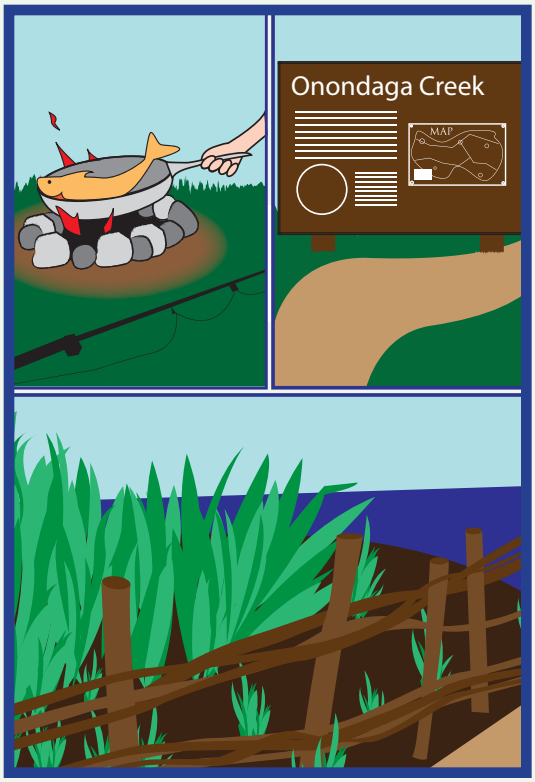
[6] The OCSWCD currently conducts an *Agricultural Environmental Management Program* implementing BMPs on voluntary farms in the Onondaga Creek Watershed.

[7] The Central New York Regional Planning and Development Board currently conducts a stormwater public education and outreach program for most towns and villages in Onondaga County.

[8] Stormwater BMPs are a subset of all BMPs identified in Appendix I.

[9] The OLP sponsors a system of remedial activities including construction of a settling impoundment behind a dam, tributary diversion, and installation of depressurizing groundwater wells. The estimated sediment discharge to Onondaga Creek has been reduced from 30 tons per day to less than one ton per day.

human health & safety



Fostering a state of wellbeing for people in the Onondaga Creek watershed, free from risk and disease.

A. Achieve Class B standard so that human contact with water is safe (see water quality goal).

- **Fish caught in Onondaga Creek should be consumable (or "safe to eat"?).**
- **Avoid adding pollutants to creek by using innovative runoff and stormwater management. Examples are: stormwater filtration (rain gardens) and storage (rain barrels/tanks), Leadership in Energy and Environmental Design (LEED) standards in building design.**

Action Items:

1. Conduct a pathogens source attribution study for the whole watershed (i.e., test disease-causing organisms for their origin; human, birds, livestock, or wild animals).
2. Identify fish-flesh contaminant levels to gauge extent of *body burdens* in Onondaga Creek fish populations.
3. Conduct a *creel*, or perceptual, *survey* of Onondaga Creek fish consumption. If warranted by survey, initiate fish consumption education in the city.
4. Adhere to the LEED Green Building Rating System for Neighborhood Development (LEED-ND) to address stormwater *retrofits* in existing buildings and neighborhood design. The LEED-ND goal is to establish standards for assessing and rewarding environmentally superior development practices. Benefits to human health are inherent in these development practices.[10]
5. Address safety as creek access increases, by investigating whether notification or warning systems are warranted, and if so, select the appropriate types for periods when *flood stage* water and combined or storm sewers are flowing (as these increase potential human contact with pathogens and dangerously high water).[11]

B. Minimize potential for drowning, damaging floods, and liability.

- **Create floodplain in City of Syracuse and Nedrow**
- **Slow stream velocity**
- **Provide renaturalization of shoreline and wetland areas (see *Ecological Health and Habitat* goals)**
- **All of the above are intended to create recreation opportunities (see *Access, Recreation and Use* goals)**

Action Items:

1. Conduct stream network analysis: assess loading of tributaries, conduct hydraulic analysis and determine options from the resulting information.[12] Options should include structural and non-structural ways of accommodating flood waters, including *channel reconfiguration*, renaturalizing, reducing *bank grade*, increasing storage capacity, and slowing the flow rate, especially identifying and using upstream and tributary storage opportunities.
2. Implementation of individual projects should be based on an understanding of the entire creek *hydraulic* regime.
3. Implement education campaign for water safety and flood education/ natural functions of streams/wetlands/floodplains. See action items under *Education* goals.

C. In the city, make a new policy for Onondaga Creek fence that balances the need for safety and access.

Objectives:

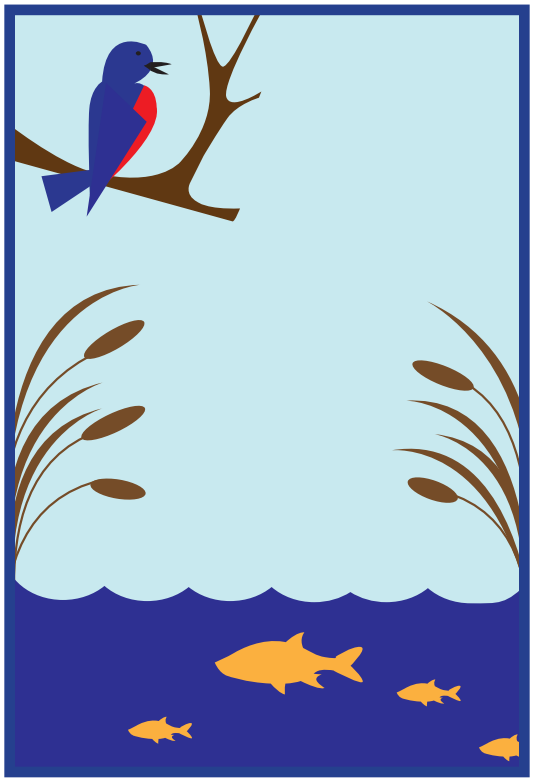
- **Use natural barriers of native plant species**
- **Establish dialog with affected communities**
- **Work with municipal land managers to maintain both new and old fencing**

Action items:

1. Identify historic/*indigenous* plant species capable of serving as alternative natural barriers to chain-link fencing.
2. Develop a natural barrier demonstration site, involving community participation and existing partners, such as CCE's CommuniTree Stewards and Onondaga Earth Corps. Plan for community-based maintenance.
3. Link safety programs to fencing alternatives and creek walk development. Incorporate lighting options that promote safety along with planting programs. Inventory and identify examples of environmentally-sensitive lighting use in United States and Canada, for example, use of motion activated lights. Set-up of neighborhood watch programs, and blue-light emergency phone systems along creek walk.

ecological health & habitat

Fostering an environment for native species (plants and animals) that provides safe food and water.



A. System-wide, increase both native *diversity* of riparian vegetation and extent of canopy to increase fish, wildlife and bird diversity.

Action items:

1. Identify the potential of Onondaga Creek and surroundings as a fish, wildlife, and bird migratory corridor, including past, present, and future use.
2. Perform a vegetation survey, cataloging both current and historic species.
3. Identify *hot spots* where non-native species are well established, requiring an immediate need to control exotics in the creek corridor; implement pilot control programs in hot spots. Use existing programs as resources or as models, especially those of *Adirondack Park Invasive Plant Program*, The Nature Conservancy's *Weed Information Management System*, and *Finger Lakes Partnership for Regional Invasive Species Management* (PRISM) program.
4. Formulate a plan for restoration of native plants to accompany exotic species control. Establish cooperation between local organizations and schools to maximize funding and information resources, such as NYSDEC eradication programs/pilot programs, include flora and fauna.

B. System-wide, restore cold water fish habitat, at a minimum, no alterations to creek corridor should degrade habitat further or impede either down- or up-stream passage of cold water species.
Objectives:

- **American eel restoration is specific objective (see Fish Fact Sheet, Appendix B).** [13]
- **Set sub-goals for stretches where cold water fish habitat restoration is most and least plausible.**

Action items:

1. Identify historic aquatic and riparian fauna in the system; support academic research.
2. Address complete life-cycle habitat needs of cold water fish species, thus moving towards overall ecological recovery of creek system. Survey fish habitat conditions, especially bottom substrates and stream edge conditions throughout corridor.
   a. Conduct an American eel habitat assessment study; cooperate with state and federal efforts for American eel conservation, such as the Atlantic States Marine Fisheries Commission.
   b. Establish programs for restoration or conservation of cold water fish species, including lake sturgeon, Atlantic salmon, and brook trout.[14] All efforts undertaken should be in cooperation with regional agencies and initiatives, such as the NYSDEC, US Fish and Wildlife Service, USGS Tunison Laboratory of Aquatic Science, Eastern Brook Trout Joint Venture, and the Great Lake Consortium.
   3. Involve stakeholders, interested parties, and the public in restoration and conservation initiatives, contamination studies, communicating results, and in decision-making processes.

C. Increase wetland viability and wetland vegetation diversity, restoration by reconnecting drainage systems for wetland areas to other wetlands and creek.

Action items:

1. Identify and survey existing wetlands, as part of a stream network analysis in preparation for wetland reconnection.
   Survey should include wetlands 1 acre size and larger, soils and land use data.
2. Reclaim and daylight tributaries; slow drainage via network of detention and retention basins (see stormwater recommendations under *Water Quality* action items).
3. Promote community education about naturally functioning wetlands, particularly *disease vectors*, risk, and runoff storage/flood risk reduction.

D. Use native/indigenous species in restoration projects

Action items:

1. Plant selection should consider appropriateness to local system and serve multi-functional purposes, for example, filter runoff, provide bird habitat, and enhance visual aesthetics. High-use sites need special consideration. No *invasive species* should be used.

[10] For more information and resources, see: U.S. Green Building Council et al. 2007. *Pilot Version LEED for Neighborhood Development Rating System.* and Raimi M and Patrick SP et al. 2006. *Understanding the Relationship Between Public Health and the Built Environment.* San Francisco, CA: Design, Community & Environment. Both reports are available from the U.S. Green Building Council website: http://www.usgbc.org/.

[11] Examples from other rivers should be examined in determining safety notification options for Onondaga Creek: the Charles River Watershed Association runs an award-winning water quality notification system using color-coded flags in Boston, Massachusetts (see Platt 2006 and http://www.crwa.org/); the cities of Boulder, Colorado and Lake Lure, North Carolina have flood-warning siren systems.

[12] The SUNY College of Environmental Science and Forestry led by Dr. Theodore Endreny has performed hydrologic investigations along specific stream segments within the City of Syracuse.

[13] American eel is a native fish extirpated from Central New York waters, and not to be confused with the nuisance exotic species known as the lamprey eel.

[14] Corresponding to the recommendation under Human Health and Safety, a system-wide assessment of contamination should be conducted that identifies the system's contaminants, risk level, and potential for contamination of reintroduced fish.

access, recreation, & use

Allowing everyday activities in and around Onondaga Creek.

A. Throughout the watershed, establish a system of trails and linkages that serve to connect rural and urban neighborhoods (the concept of the creek as a "spine"). Objectives:

- **Use unified, standardized signage for directing people to destinations**
- **In the city, establish bike/walkway**
- **Reclaim and daylight tributaries to enhance *connectivity* (see Ecological Health and Habitat goals)**

Action items:

1. Design for maximizing multiple uses and purposes in the watershed. Recreation needs, like trails, must be balanced with habitat/ ecological needs.
2. Employ interdisciplinary technical teams along with stakeholders, interested parties, and the public to establish multi-use standards, and to assist in guidance and integration of ecological and recreation projects.

B. Add, maintain, and protect *open spaces*, along the Onondaga Creek corridor and its tributaries.

- **Tailor open space format to benefit surrounding communities, from preservation of scenic and natural areas to developing urban ecoparks.**
- **Incorporate creative multi-use options in recreation/access planning.**
- **Think broadly and take advantage of existing spatial opportunities, for example, tailor ecopark themes to specific areas.**

C. Make creek access a priority for both urban and rural land use decisions.
Objectives:

- **Incorporate access for boating, fishing and wading/swimming, picnicking and benches, depending on area.**
- **Develop a process to achieve creek access from private land that is acceptable to land owners.**
- **Create appropriate creek-driven development.**

Action items:

1. Identify environmental impacts to access sites and minimize potential for human disturbance. Access points need to be suitable for the area and multiple uses. Multiple types of access should be established, including visual access.
2. Increase fishing access based on local assessment.

D. Establish land management practices and coordinate municipal recreation/access projects to support a naturalized, attractive creek.
Objectives:

- **Identify appropriate uses and enforce against illegal activity.**
- **In urban and rural areas, use native species in riparian zones, instead of mowed grass, crops (see *Ecological Health and Habitat* goals).**
- **Practice *surface runoff mitigation* in urban areas (see *Human Health and Safety* goals)**
- **Plan to separate paved trail from directly beside stream, increase areas of floodplain forest, riparian vegetation in between trails and creek.**
- **Use materials other than concrete or concrete blocks in stream channel.**

E. Throughout watershed, governments must adopt a new commitment to Onondaga Creek revitalization.

- **Local governments should take steps to recognize creek as a critical area.**
- **Use tools available to municipalities to prioritize creek and tributary protection.**

Action Items:

1. Develop a model for intermunicipal coordination and cooperation (see Chapter 8). Selected model should employ a holistic approach towards Onondaga Creek, which may include functions such as:
   a. Identifying and capitalizing on *synergies* or minimizing conflicts between existing projects and conceptual revitalization plan;
   b. Capturing funding and educational opportunities for municipalities, for example, technical assistance with stormwater regulation compliance;
   c. Promoting municipal project cooperation/coordination;
   d. Evaluating and selecting useful models for municipalities to implement creek revitalization and protection, for example, buffer laws and conservation easements.
2. Define, select, and implement the intermunicipal model as one of the first tasks performed by the Working Group's continuation. Role of intermunicipal entity should be clearly defined, whether predicated on voluntary compliance or having the power to wield "carrots and sticks"' to further creek revitalization.[14]

[14] Areas of importance for intermunicipal cooperation include the sewer system, nonpoint source pollution control, including stormwater runoff.

education

Sharing knowledge about Onondaga Creek and its environs.

A. Provide diverse education experiences and opportunities for multiple audiences, via:

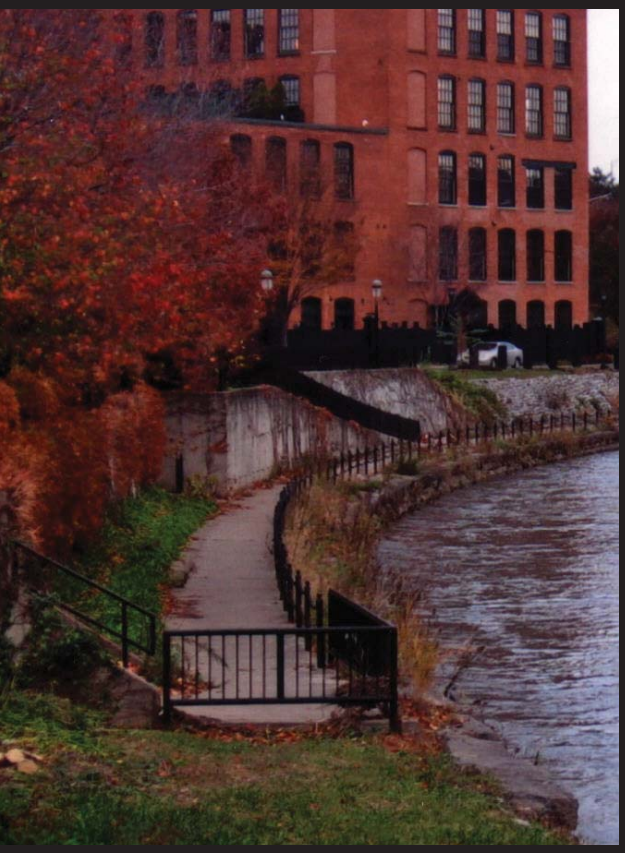
- **Signage, including marking watershed boundaries;**
- **Outdoor education centers;**
- **Strengthening existing community facilities for watershed education;**
- **Interpretive trails;**
- **Gardens with diverse vegetative types;**
- **Community creek restoration projects and clean-ups;**
- **Watershed-specific curricula materials.**

Action items:

1. Working Group continuation should coordinate education efforts of different organizations to identify needs and sources of funding, for example, outdoor education funding through city school rebuilding program.
2. Create a creek *stewardship* program modeled on the Sligo Creek Stewards program in Silver Spring, Maryland.
3. Establish a creek-based *sustainability program*, through SUNY ESF.
4. Address in-school education:
    a. Local teachers need a clearinghouse for creek information and existing curricula.
    b. Litter education is needed in schools, as a cooperative effort with community groups and non-profits, and stream steward programs.


Sustainable Stormwater Management
A Green Street Project


PARK
SYNTHETIC NATURE
LOFT APARTMENTS
CINEMA
WORKSHOPS
RESTAURANTS
ARTIST STUDIOS
MUSIC HALL
VIDEO
GALLERIES
LIVE-WORK
GAMING PAVILIONS
MEDIA LAB
TECHNOLOGY
ARTS
CAFES
LIGHT WALLS
THEATER
DRAWIGN ROOM
GARDENS
PAVILIONS
HOTELS
DANCE SCHOOL

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