Manor Kill Management Unit 5

Town of Conesville – Station 24315 to Station 19795

This management unit began at Station 24315, and continued approximately 4,520 ft to Station 19795 in the Town of Conesville.

Management Unit 5 location
see Figure 4.0.1 for more detailed map

Stream Feature Statistics

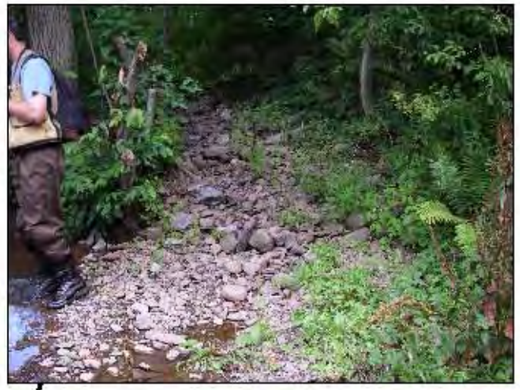
11% of streambanks experiencing erosion
1.15% of streambanks have been stabilized
0% of streambanks have been bermed
0 feet of clay exposures
40.74 acres of inadequate vegetation
3,167 feet of road within 300 feet of stream
54.87% of streambanks are proposed for planting

Summary of Recommendations Management Unit 5	
Intervention Level	Assisted Self-Recovery
Stream Morphology	No recommendations at this time.
Riparian Vegetation	Treat, remove and prevent the spread of Japanese knotweed where feasible. Plant a buffer of trees and shrubs along proposed planting sites and increase width of riparian buffer in appropriate locations.
Infrastructure	When bridges are replaced, construct with the appropriate height and width to allow conveyance of flood flows.
Aquatic Habitat	Watershed Aquatic Habitat Study
Flood Related Threats	Flood proof the structures within 100 year floodplain; possibly plan for potential flood buyout program.
Water Quality	Removal of dump site; building owners adjacent to the stream should inspect their septic systems annually to make sure they are functioning properly, and participate in the CWC septic programs.
Further Assessment	Consider hydraulic analysis of bridge opening.

A

B

C



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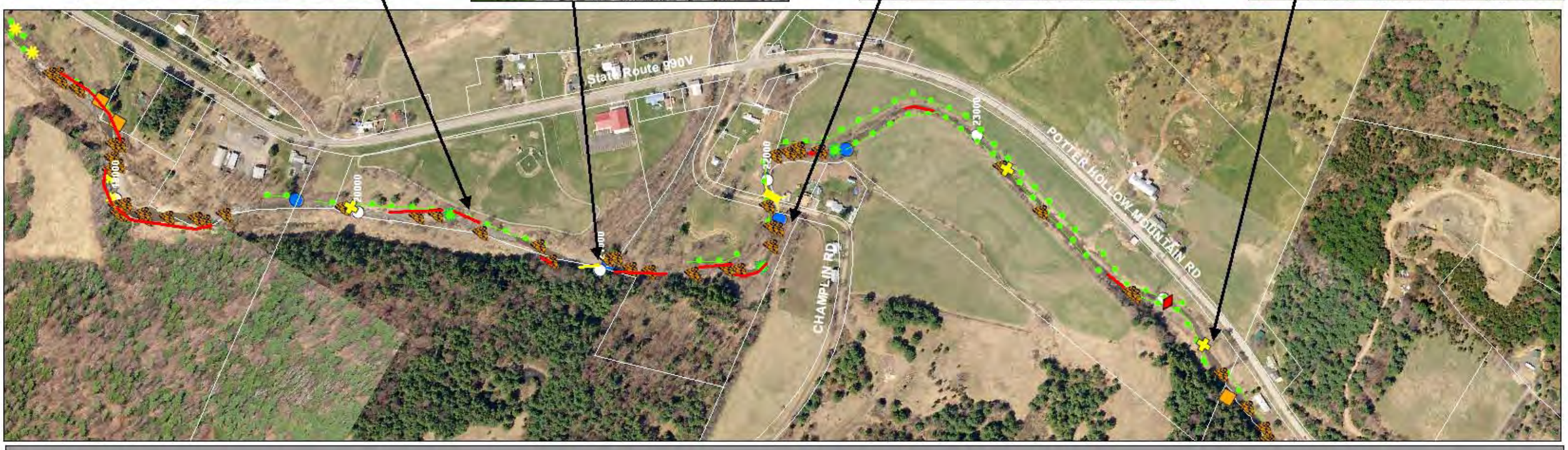


Legend

- Bank Erosion
- Bank Erosion Monitoring Site (BEMS)
- Bridge
- Bedrock
- Berm
- BMP
- Crossing
- Clay Exposure
- Clay Exposure
- Culvert
- Dam
- Deposition
- Dump Site
- Gage
- Large Woody Debris
- Obstruction
- Planting Site
- Piped Outfall
- Revetment
- 1000ft Stream Stationing
- Tax Parcel
- Tributary
- Utility

Manor Kill Management Unit 5
Stream Feature Inventory

Scale = 1:4,500

0 255 510 1,020 Feet

Stream flow

Figure 4.5.1 Management Unit 5 - 2006 aerial photography with 2008 stream feature inventory.

Historic Conditions

Historic stream channel alignments overlayed with 2006 aerial photograph

As seen from the historical stream channel alignments (above), the *planform* of the channel has not changed significantly over the years along this management unit; the channel has remained fairly stable. When *georeferencing* the 1980 aerial imagery, or establishing a relation between the images to map projections or coordinate systems within a *Geographic Information System (GIS)*, we encountered some problems with accuracy. The area indicated on the map above shows that the alignment and shape of the channel remained similar to previous years, although it is slightly off in location; this is primarily due to problems associated with the georeferencing process.

As of 2008, according to available NYS DEC records dating back to 1998, there have been two stream disturbance permits issued in this management unit. Two new permits, and one permit renewal, have been issued to the Schoharie County Department of Public Works for repairs to the Champlin Road Bridge. The first permit was issued in 2001 to repair the scoured upstream portion of the right abutment. The repair involved filling the scoured abutment with new concrete and placing rip rap to prevent further scour. In 2006, a permit was issued to repair the bridge support on the left, and to repair and install rip rap at the base of the bridge supports. In 2007, this permit was renewed to finish repairs they were unable to complete in 2006.

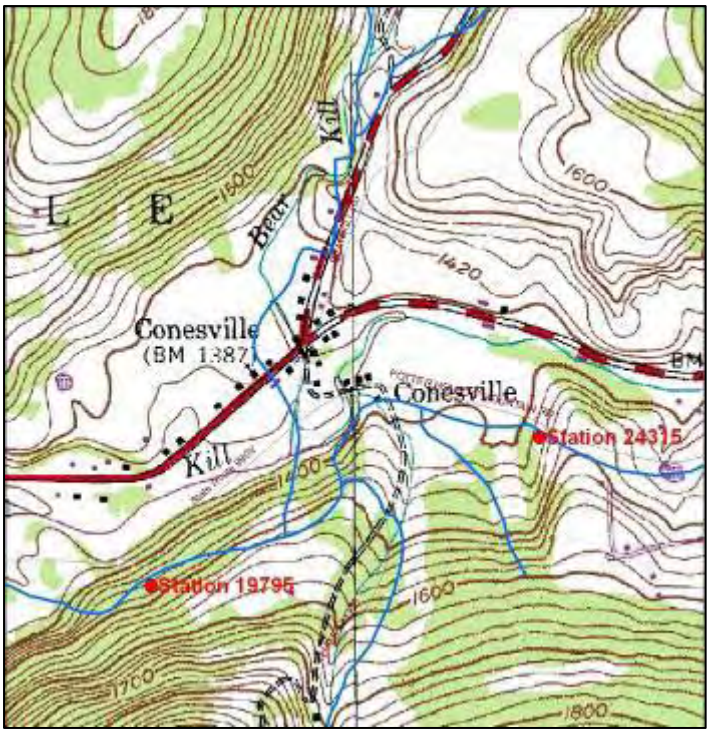
Stream Channel and Floodplain Current Conditions (2008)

Revetment, Berms and Erosion

The 2008 stream feature inventory revealed that 13% (1,039ft.) of the streambanks exhibited signs of active erosion along the 9,040 ft. of total streambank length in the unit (Fig. 4.2.1). *Revetment* has been installed on 1.15% (104 ft.) of the streambanks. There were no bermed streambanks in the management unit.

Stream Channel Conditions (2008)

The following description of stream channel conditions references insets in foldout, Figure 4.5.1. Stream stationing presented on this map is measured in feet and begins at the confluence with the Schoharie Reservoir in Conesville. "Left" and "right" streambank references are oriented looking downstream, photos are also oriented looking downstream unless otherwise noted. Italicized terms are defined in the glossary. This characterization is the result of an assessment conducted in 2008.



1980 USGS topographic map – Livingstonville and Prattsville Quadrangles, contour interval 20ft

Management unit #5 began at Station 24315. The drainage area ranged from 16.65 mi^2 at the top of the management unit to 28 mi^2 at the bottom of the unit. The valley slope was 0.98%.

Valley morphology in this management unit was relatively unconfined with a broad glacial and *alluvial* valley flat. Generally, stream conditions in this management unit were somewhat unstable, with deficient sediment transport ability resulting in aggradational conditions in many locations, and approximately 1,039 feet of erosion. There were eight

eroding banks documented in this management unit, including two mass failures. Management efforts in this unit should focus on preservation of existing wetlands and forested areas and improvements to the riparian buffer by planting *herbaceous* areas with native trees and shrubs.

Riparian Planting Site at Stations 24315-23905

Management unit 5 began as the stream valley broadened and gently meandered to the left. There was a proposed riparian planting site (Stations 24315 – 23905) along the left streambank for approximately 410 feet. This site was the first of seven proposed planting sites within this unit, with successional old field to the edge of the stream. Recommendations for this site include planting native trees and shrubs along the streambank and the upland area. Buffer width should be increased by the greatest amount agreeable to the landowners. At this site, there was a narrow forested buffer beyond the successional old field, followed by maintained herbaceous agricultural fields. By planting this site from the stream's edge to the forested area, a 100 foot buffer would be created. Increasing the buffer width to at least 100 feet will increase the buffer functionality and protect the stream from nearby land uses. Along this planting site, there was a stream channel crossing (Figure 4.5.1, Inset D, photograph orientation looking at, Station 24253) that appeared to be used for recreational purposes.

Along this stretch of stream, there were multiple patches of Japanese knotweed (between Stations 24315 and 23902) on both streambanks. Japanese knotweed is an invasive non-native species which does not provide adequate erosion protection due to its very shallow rooting system; knotweed also grows rapidly and tends to crowd out more beneficial streamside vegetation. The best means for controlling knotweed is prevention of its spread. Therefore, effort should be made to ensure that existing stands are not fragmented via unnatural processes (i.e. mowing without removal of all mowed material) and transported into downstream areas. Small stands should be eradicated immediately to avoid further spread within this unit and downstream management units. There are removal methods that

may be used for larger stands (see Section 2.7), these methods should be used with caution and carefully executed to avoid further spread of Japanese knotweed.

Riparian Planting Site at Stations 24081 - 23835

Continuing downstream, there was a proposed riparian planting site (Stations 24081 – 23835) along the right streambank. There was mowed lawn to the top of the bank and herbaceous vegetation with a few shrubs and young trees along the streambank. Recommendations for this site include discontinued mowing to the top of the bank, allowing succession to proceed with natural regeneration of shrub and early successional tree species, and augmentation of the existing buffer with the planting of additional native trees and shrubs along the streambank and the upland area. As with the previous planting site, buffer width should be increased to 100 feet or by the greatest amount agreeable to the landowners.

Dump Site at Station 24025

Along this planting site, there was a dump site (Station 24025) with old farm equipment and metal scraps, with some woody debris that had accumulated on the equipment. This dump site did not appear to be active or to pose an immediate threat to people or the environment. However, this material was along the stream's edge and could be mobilized during future high flows, posing a potential threat to downstream areas. Removal of this dumped material is recommended.

Continuing downstream, there was a *convergence* (Station 23828) where a flood chute joins the main channel. The location of the channel *divergence*, where the flood chute split from the main channel was not observed or recorded at the time of the assessment.

Flood chutes convey flow through a secondary channel during periods of high flows. Just downstream of the secondary channel's confluence with the main channel, there was a *transverse bar* (Stations 23827 – 23808), a location within the stream channel in which sediment accumulates diagonally**,** occupying much of the channel. This bar directed flow towards the left, and contributed to minor erosion (Stations 23811 – 23733) of the left streambank for approximately 78 feet. There was a narrow wooded buffer between the stream channel and the adjacent agricultural fields. A few shrubs and young trees were compromised due to exposed roots along the face of the streambank. The source of the transverse bar should be identified and remedied if a long-term solution is desired for this relatively minor erosion.

Convergence at Station 23828

Further downstream, there were two proposed riparian planting sites, one that stretched for approximately 1,293 feet along the left streambank (Stations 23723 – 22400), and one that stretched for approximately 1,436 feet along the right streambank (Stations 23552 – 22271). Along portions of both streambanks, there was a narrow buffer of shrubs, willows and a few trees between the stream channel and the adjacent agricultural fields. A vigorous buffer with mature trees is important at this site to protect water quality by slowing stormwater runoff and filtering nutrients and pollutants caused by the nearby land use. Recommendations for this site include augmentation of the existing buffer with the planting of additional native trees and shrubs along the streambank and the upland area, increasing the buffer width to 100 feet or the greatest amount agreeable to the landowners. Along the upstream portion of these planting sites, there was approximately 30 feet of full channel *aggradation* (Station 23494), the

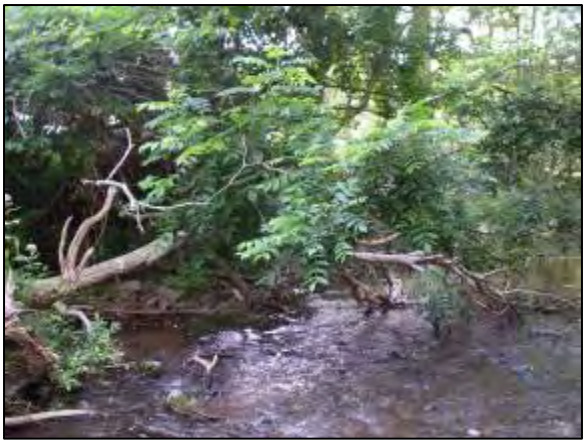
Riparian Planting Sites at
Stations 23723 – 22400 and 23552 - 22271

process by which streams are raised in elevation by the deposition of material eroded and transported from other areas.

Continuing downstream along the proposed planting sites, there was a well maintained channel crossing (Station 23177) that provided access to the agricultural fields on both sides of the streams. Due to maintenance of the crossing, there was full channel aggradation for approximately 35 feet of the stream channel.

Channel Crossing at Station 23177

As the stream meandered to the left, there was erosion (Stations 22792 – 22676) on the left streambank along the planting site (Stations 23723 – 22400). The erosion was relatively minor, and this site may be a good candidate for remediation using vegetative toe and bank protection. In addition to the previous planting recommendations, reinforcing the toe of the streambank with native sedge species is recommended. Prior to proceeding with any work, this site may require a more detailed site assessment, and bank grading may be necessary. There were several small patches of Japanese knotweed along this stretch of stream. At the downstream end of the planting site, a small unnamed tributary (Station 22400) drained the adjacent agricultural fields and entered along the left streambank.



Woody Debris at Station 22356

Further downstream, there was a fallen tree (Station 22356) from the left streambank that caused a minor obstruction to flow. At higher flows, it may pose a more significant obstruction. However, woody debris is beneficial to a stream system, it provides critical habitat for fish and insects, and adds essential organic matter that will benefit organisms downstream.

As the stream gently meandered to the right, approximately 104 feet of the left streambank was stabilized with *revetment* (Stations 22333 – 22229). Although the revetement was in poor structural condition, it was in good functional condition. It appeared as though the revetement began as a stacked rock wall, portions of which had collapsed, and were now functioning as rip rap.

Revetment at Stations 22333

Along this stretch of stream, and continuing downstream, there was excess sediment deposition including, two side bars and a transverse bar. As the stream meandered to the left, there was an additional proposed riparian planting site (Stations 22071 – 21820) for approximately 251 feet along the right streambank. Recommendations for this site are consisitent with the recommendations made for previously mentioned proposed planting sites.

Continuing downstream, the Manor Kill flowed under the Champlin Road Bridge (Station 21930, Bridge # 2228540). This bridge may constrict the floodplain at very high flows but appeared to pass most flows effectively. There have been multiple permits issued for repair of the bridge abutments; flood damage to bridges is typically caused by inadequate hydraulic capacity of the bridge, misaligned piers and/or abutments, or accumulation of debris. As bridges are replaced over time, these issues should be evaluated and adjusted if necessary to lessen the probability of flood damage by providing a more effective conveyance channel for water and sediment. The bridge appeared to contribute to downstream aggradation, with a side bar along approximately 84 feet of the right stream bed (Stations 21906 – 21822).

Champlin Road Bridge at Station 21930

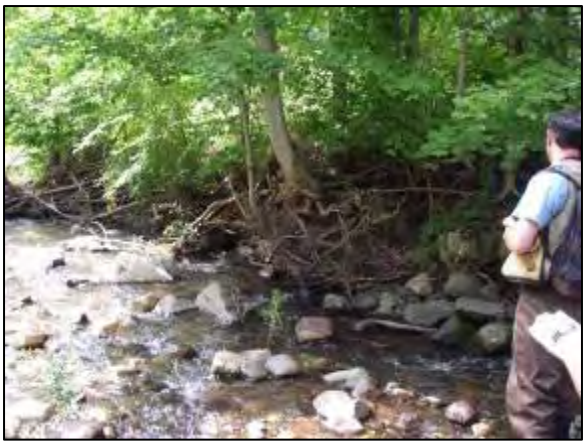
Side Bar at Stations 21906 - 21822

Downstream a sizable unnamed, intermittent tributary entered from the left streambank (Figure 4.5.1, Insert C, Station 21844, photograph orientation looking at). At the time of the assessment, flow was subsurface. The New York State Department of Environmental Conservation classifies streams and rivers based on their "best use" (NYSDEC, 1994). This tributary was classified C by the NYS DEC, indicating that the best uses for this stream are supporting fisheries and other recreational activities. Downstream of the tributary, there was a small patch of Japanese knotweed (Station 21833) along the right streambank and a side bar (Stations 21811 – 21743) along the left streambank.

As the stream meandered to the right, there was a mass failure (Stations 21660 – 21519) along the left streambank for approximately 141 feet. Streambank erosion often occurs on the outside of meander bends where the stream velocity is greatest during high flows. Along this section of stream, the *thalweg*, or deepest part of the stream channel, flows up against the toe of the bank undermining the steep slope, resulting in an erosion area of approximately 8,439 ft^2 and compromising mature trees along the bank. The fallen trees caused localized scour, thereby contributing to erosion along this site. At the top of the streambank, there was a thin line of trees followed by agricultural fields; the face of the bank was exposed with some herbaceous vegetation and shrubs re-establishing along portions of the bank. There was also a small dry channel carved down the face of the bank. During heavy precipitation this channel drains the adjacent fields; it appeared to exacerbate the erosion along this mass failure. Recommendations for this site include allowing succession to proceed with natural regeneration of shrub and early successional

Mass Failure at Stations 21660 - 21519

tree species to provide a wider buffer at the top of the bank. The site should be monitored to determine if additional measures are required, but it appeared to be stabilizing over time.



Erosion at Stations 21520 - 21386

Continuing downstream, there was erosion (Stations 21520 – 21386) along the right streambank for approximately 134 feet. There was a narrow wooded buffer at the top of the bank, followed by a mowed field. Along this stretch of stream, a proposed riparian planting site (Stations 21561 – 21351) was identified. Recommendations for this site include augmentation of existing buffer with the planting of additional native trees and shrubs along the streambank and the upland area. Buffer width should be increased by the greatest amount agreeable to the landowners. Increasing the buffer width to at least 100 feet will increase the buffer's functionality. Prior to proceeding with any work, this site may require a more detailed site assessment; and the eroding conditions should be given careful consideration when identifying the appropriate species and locations for plantings. Also along this stretch of stream, and continuing downstream, there were multiple aggradational areas and small patches of Japanese knotweed.

Further downstream, there was another erosion site (Stations 21256 – 21052) along the left streambank for approximately 204 feet. The upstream portion of the erosion site appeared to be self-recovering with herbaceous vegetation establishing along the exposed bank and sedges reinforcing the toe of the streambank. The top of the streambank was forested; along a portion of this erosion site, there were a few young trees that had fallen along the bank.

Downstream, the Bear Kill entered from the right streambank (Station 21024).

Tributary at Station 21024

This tributary drains the slopes of High Knob and Hubbard Hill Mountains before it reaches the flatter topography of the valley floor where it enters the Manor Kill. As a result of this stream slope change, the tributary loses its ability to transport sediment gathered from the mountain slopes, and began to deposit sediment at its mouth and into the more gently sloped Manor Kill forming a delta (Station 21024) at its confluence. There was also a significant side bar (Figure 4.5.1, Inset B, Stations 21022 – 20748) along approximately 274 feet of the right channel bed, just downstream of the tributary. Sediment deposition is a common feature of confluence areas, which often contain extensive sediment bars, function as important sediment storage areas, and are typically among the most dynamic and changeable areas in the stream system. This tributary was classified C(ts) by the NYS DEC, indicating that the best uses for this stream are supporting fisheries, including trout spawning, and other recreational activities.

Delta Deposition at Station 21024

Continuing downstream, there was bedrock (Stations 20988 - 20911) along the left streambank and channel bed for approximately 77 feet. The bedrock provides lateral control along the upstream portion of the bedrock by limiting stream bank erosion; it provides grade control for the channel by preventing *degradation* or *downcutting* of the stream, **t**he process by which streambeds and floodplains are lowered in elevation by eroding downward into the stream bed over time. The forested streambank above the bedrock was eroding and had a few compromised trees. A change in the land use at the top of the bank could further compromise its stability and result in mass failure at this site. Therefore, this area should be protected.

Erosion at Stations 20809 - 20763

Further downstream, the left streambank was eroding (Stations 20809 – 20763) for approximately 46 feet, with

exposed roots, compromising mature trees. Opposite the eroding streambank there was a proposed riparian planting site (Stations 20755 – 19826) along the right streambank for approximately 929 feet; this planting site is on the Town of Conesville's property. Along this proposed planting site, there was a 1.4 acre federally designated wetland (Stations 20511 – 20000). Wetlands are important features in the landscape that provide numerous beneficial functions including, protecting and improving water quality, providing fish and wildlife habitats, storing floodwaters, and in certain conditions maintaining surface water flow during dry periods. This wetland is classified as PEM1E, *palustrine, emergent, persistent, seasonally flooded/saturated* (see Section 2.6 for detailed wetland type descriptions).

Riparian Planting Site at Stations 20755 – 19826

Wetland boundary approximately delineated by NWI Stations 20511 - 20000

Along the middle portion of this planting site, there were two areas of erosion. The first erosion site (Figure 4.5.1, Inset A, Stations 20484 – 20374) stretched along approximately 110 feet of the right bank and resulted in an erosion area of 1,318 ft^2 with exposed roots, fallen trees and overhanging bank material. Some of the fallen trees and associated woody debris contributed to localized scour of the channel bed and toe of the streambank. The second erosion site (Stations 20335 – 20124), was less significant, although it stretched along approximately 211 feet of the right bank. There was herbaceous vegetation to the stream's edge and along the lower terrace of the streambank. In the fall 2008, a portion of this proposed riparian planting site, including the terrace along the length of this erosion site, was planted with native shrubs and trees by the New York City Department of Environmental Protection (NYCDEP), Schoharie County Soil and Water

Erosion at Stations 20335 - 20124

Planting efforts along
Riparian Planting Site at Stations 20755 - 19826

Conservation District (SCSWCD), and students from the Gilboa School District. The planting project covered approximately 0.32 acres along 235 feet of streambank length, and it included the planting of 87 trees and 170 willow stakes. Recommendations for the unplanted portions of this site are consistent with the recommendations for previously mentioned planting sites. Prior to proceeding with any additional plantings, the conditions along the first erosion site (Stations 20484 – 20374) should be considered when identifying the appropriate species and locations for plantings; further assessment may be necessary. Excess sediment deposition continued along this stretch of stream including, multiple side and point bars.

Just before this management unit ended, there was a stream channel crossing (Station 19975) that appeared to be used for recreational purposes including, all terrain vehicle (ATV) usage. This management unit ended at Station 19795.

Channel Crossing at Station 19975

Sediment Transport

Streams move sediment as well as water. Channel and floodplain conditions determine whether the reach aggrades, degrades, or remains in balance over time. If more sediment enters than leaves, the reach aggrades. If more leaves than enters, the stream degrades (See Section 3.1 for more details on Stream Processes).

Sediment transport in this unit is influenced by valley morphology and Champlin Road Bridge. The relatively unconfined valley form and topography suggest that this unit is a sediment storage zone, supplied by tributaries and active erosion. Multiple areas along this management unit have experienced sediment transport deficiencies. Bed load transported

through this unit exceeds the transport capacity of this management unit, resulting in channel aggradation. In general, sediment storage areas benefit the general health of the stream system by limiting bedload delivered to downstream reaches during large storm events. However, mature riparian vegetation will be important in such settings to limit the extent of lateral channel migration and continued streambank erosion.

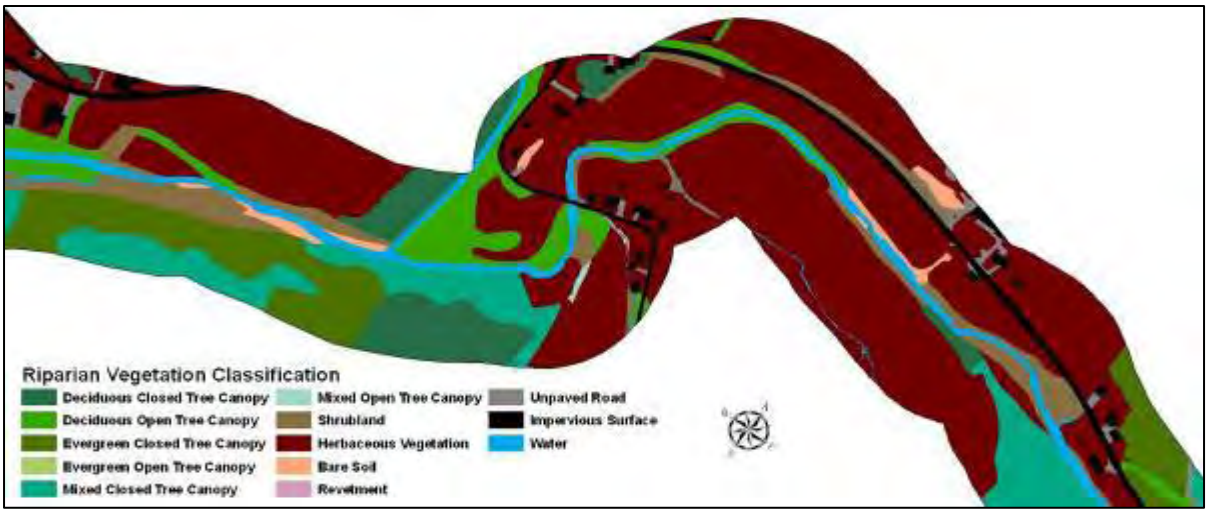
Riparian Vegetation

One of the most cost-effective and self-sustaining methods for landowners to protect streamside property is to maintain or replant a healthy buffer of trees and shrubs along the banks and floodplains, especially within the first 50 to 100 ft. of the stream. A dense mat of roots under trees and shrubs binds the soil together, making it much less susceptible to erosion. Mowed lawn (grass) does not provide adequate erosion protection on stream banks because it typically has a very shallow rooting system and cannot reduce erosive forces as well as trees and shrubs. One innovative solution is the interplanting of revetment with native trees and shrubs which can significantly increase the working life of existing rock rip-rap, while providing additional benefits to water, habitat, and aesthetic quality. *Riparian*, or streamside, forest can buffer and filter contaminants coming from upland sources, shallow groundwater or overbank flows, and slow the velocity of floodwaters causing sediment to drop out while allowing for *groundwater recharge*. Riparian plantings can include a great variety of flowering trees, shrubs, and sedges native to the Catskills. Native species are adapted to our regional climate and soil conditions and typically require less maintenance following planting and establishment. There were six riparian improvement planting sites documented within this management unit; proposed planting sites cover approximately 54.87 percent of the streambanks in this unit.

Japanese Knotweed at Station 22925

Some plant species that are not native can create difficulties for stream management, particularly if they are invasive. Japanese knotweed (*Fallopia japonica*), for example, has become a widespread problem in recent years. Knotweed shades out other species

with its dense canopy structure (many large, overlapping leaves), but stands are sparse at ground level, with much bare space between narrow stems, and without adequate root structure to hold the soil of streambanks. The results can include rapid streambank erosion and increased surface runoff leading to a loss of valuable topsoil. Japanese knotweed locations were documented as part of the stream feature inventory conducted during the summer of 2008 (Riparian Vegetation Mapping, Section 2.7). In total, 17 Japanese knotweed occurrences, covering an estimated length of 80 feet, were documented during the stream feature inventory. The best means for controlling knotweed is prevention of its spread, therefore, efforts should be made to ensure that all fill brought into the area is clean and does not have fragments of knotweed or other invasive plants. If Japanese knotweed sprouts or small stands are observed, they should be eradicated immediately to avoid further spread within this unit and to downstream management units.



Riparian vegetation classification map based on aerial photography from 2006

An analysis of vegetation was conducted using aerial photography from 2006 and field inventories (see above map and Riparian Vegetation Mapping, Section 2.7). In this management unit, the predominant vegetation type within the 300 ft. riparian buffer was herbaceous (55.6%) followed by forested (27.58%). *Impervious* area (3.77 %) within this unit's buffer was primarily the local and private roadways. Areas of herbaceous (non-woody) cover may present opportunities to improve the riparian buffer with tree plantings in order to promote a more mature vegetative community along the streambank and in the floodplain.

Flood Threats

As part of its National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) performs hydrologic and hydraulic studies to produce Flood Insurance Rate Maps (FIRM), which identify areas prone to flooding. The NYS DEC Bureau of Program Resources and Flood Protection has developed new floodplain maps for the Manor Kill on the basis of recent surveys. The new FIRM hardcopy maps are available for viewing at the Schoharie County Soil & Water Conservation District Office.

100-year floodplain boundary map

According to the current floodplain maps (above), two existing structures in this unit appeared to be situated within the estimated 100-year floodplain. The 100-year floodplain is that area predicted to be inundated by floods of a magnitude that is expected to occur once in any 100-year period, on the basis of a statistical analysis of local flood record. Most communities regulate the type of development that can occur in areas subject to these flood risks.

Aquatic Habitat

Generally, habitat quality appeared to be relatively poor throughout much of this management unit. Canopy cover was inadequate along a significant portion of the left streambank and most of the right streambank; canopy cover could be enhanced with plantings in the riparian zone. There were some areas of woody debris accumulation

observed in the unit. Woody debris provides critical habitat for fish and insects, and adds essential organic matter that will benefit organisms downstream.

In 2008, researchers from SUNY Cobleskill conducted macroinvertebrate and fish surveys along the Manor Kill. There were two sampling sites within Management Unit 5. See the macroinvertebrate and fish reports (Appendix F) for more detailed information regarding the surveys and their findings.

It is recommended that an aquatic habitat study be conducted on the Manor Kill with particular attention paid to springs, tributaries and other potential thermal refuge for cold water fish, particularly trout. Once identified, efforts should be made to protect these thermal refugia locations in order to sustain a cold water fishery throughout the summer.

Water Quality

Clay/silt exposures and sediment from stream bank and channel erosion pose a potential threat to water quality in the Manor Kill. Fine sediment inputs into a stream increase *turbidity* and can act as a transport mechanism for other pollutants and pathogens. There were no significant clay exposures in this management unit.

Stormwater runoff can also have a considerable impact on water quality. When it rains, water falls on roadways and parking areas before flowing untreated directly into the Manor Kill. The cumulative impact of oil, grease, sediment, salt, litter and other unseen pollutants found in road runoff can significantly degrade water quality. However, there were no stormwater culverts observed in this management unit in 2008.

Nutrient loading from failing septic systems is another potential source of water pollution. Leaking septic systems can contaminate water with nutrients and pathogens making it unhealthy for drinking, swimming, or wading. There were a few buildings located in close proximity to the stream channel in this management unit. These building owners should inspect their septic systems annually to make sure they are functioning properly. Servicing frequency varies per household and is determined by household size, tank size, and presence of a garbage disposal. Pumping the septic system out every three to five years is recommended for a three-bedroom house with a 1,000-gallon tank; smaller tanks should be pumped more often. To assist watershed landowners with septic system issues, technical and financial assistance is available through two Catskill Watershed Corporation (CWC)

programs, the Septic Rehab and Replacement program and the Septic Maintenance program (See Section 2.12). Through December 2007, two homeowners within the drainage area of this management unit had made use of these programs to replace or repair a septic system.

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