

# Field Assessment Data Matrix

## AAA

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
AAA1	500	A/B	Well-shaded step pool system composed of a mixture of boulders, cobble, and gravel.	3.2	Mature forested riparian buffer and floodplain with minimal invasive species present.	3.9	Old logging road (culvert) adjacent to upper reach limits	4	Minor erosion with instances of exposed banks and in-stream sediment caused by recent flooding	3	No evidence of active downcutting.	3.8	17.85	N/A	Preservation
AAA2	730	A/B	Well-shaded, boulder/bedrock controlled step pool system. Riffles are 50% embedded.	3.6	Mature forested riparian buffer and floodplain with minimal invasive species present.	3.7	No evidence of recent human impacts.	4	Minimal erosion with substantial root mass. Moderate sediment splays present from recent flooding causing channel braiding in several locations.	3.8	Low bank angle/height. No evidence of active downcutting.	4.0	19.10	N/A	Preservation
AAA3	3500	A	Well-shaded, boulder/bedrock controlled step pool system with deep pools.	3.8	Mature forested riparian buffer and floodplain with minimal invasive species present.	3.6	Road crossing	3.5	Banks are partially exposed with mild to moderate erosion reach-wide. Abundance of sediment moving through system.	2.6	Incision observed in one location will be halted by boulders (grade control) just upstream.	3.2	16.67	N/A	Preservation
AAA3a	500	A	Steep, well-shaded, boulder/bedrock controlled step pool system with deep pools.	4	Mature forested riparian buffer and floodplain with minimal invasive species present.	4	No evidence of recent human impacts.	4	Minimal erosion due to boulder/bedrock toe protection lining steep banks	3.8	No evidence of active downcutting.	4.0	19.80	N/A	Preservation
AAA4	1500	A	Well-shaded, boulder/bedrock controlled step pool system with ample variations in pool depths.	4	Mature forested riparian buffer and floodplain with minimal invasive species present.	3.9	Portion of stream naturally diverted to old road bed from recent flooding events and has formed a new channel.	3	Banks exposed in many areas. Mild to moderate erosion with excess sediment present in a few areas along upstream limits.	2.7	No evidence of active downcutting. Channel is braided along upstream limits from recent flooding.	3.3	16.93	N/A	Preservation
AAA4a	1000	A	Riffles and pools are frequent with a fully shaded bed. Pools are deep and multiple habitat structures frequent.	3.5	Mature forested riparian buffer and floodplain with minimal invasive species present at road crossings (Multiflora Rose and Bittersweet).	3.9	Three road crossings/culverts bisect reach	2.5	Minor erosion and substantial root mass reinforcing banks. Some sediment entering stream from gravel road crossings.	3.4	No evidence of active downcutting.	4.0	17.30	N/A	Preservation
AAA5	800	B	Riffles and pools are frequent with a fully shaded bed. Pools are deep and multiple habitat structures frequent.	3.7	The riparian buffer is wide and consists of a mature forest. Banks are well vegetated and occasionally exposed.	4	Possible disturbance from past road construction and berming.	3.5	Minor erosion and substantial root mass reinforcing banks. Active transport of some fine sand/silt is evident.	3.6	No evidence of active downcutting.	4.0	18.80	N/A	Preservation
AAA6	1000	B	Riffles and pools are frequent with a partially to fully shaded bed. Pools are deep and multiple habitat structures frequent.	3.6	The bank and floodplain vegetation is primarily forested with a mature, wide buffer. Buffer is impacted in areas and contains many invasive species including, Multiflora Rose and Privet. Banks are occasionally exposed.	3.5	No evidence of any recent human disturbance.	4	Mild to moderate erosion and exposed banks in selected areas. Soils are cohesive and roots mass extensive. Water is slightly turbid downstream from road encroachment.	3.3	No evidence of active downcutting. Bank height ratios range from 1.0 to 1.5.	3.3	17.73	Workspace is available. Access from private property would be required.	Buffer Enhancement

## AAB

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
AAB1	500	B/Ba	Combination of boulder controlled step pool system upstream and riffle/run dominated system downstream. Lower reach lacks pools. The bed is fully shaded in most areas.	3.2	Mature forested riparian buffer and floodplain with minimal invasive species present.	3.6	Channel appears to have been shifted to one side of the valley in the past.	3.5	Banks are partially exposed with moderate erosion occurring around outer meander bends. Substantial root mass holding unconsolidated bank material.	2.8	Past downcutting has occurred on the lower half of the reach.	2.2	15.27	N/A	Preservation
AAB2a	500	B	Riffles and pools are frequent with multiple habitat structures commonly featured throughout. Riffles are slightly embedded. The bed is fully shaded in most areas and partially shaded in some areas.	3	Mature forested riparian buffer and floodplain with minimal invasive species present. Rhododendron and shrubs plentiful throughout providing substantial root mass along banks.	3.6	Road crossing and log weir.	3	Erosion is minimal with a moderate amount of in-stream sediment present.	3	No evidence of active downcutting. Bank heights are low and channel has an active floodplain.	3.8	16.43	N/A	Preservation

**ABA**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
ABA1	1000	A	Step pool system consisting of boulders and roots. The bed is fully shaded in most areas except in proximity of homes. Multiple habitat structures commonly featured throughout.	3.5	Mature forested riparian buffer and floodplain with sporadic breaks in buffer from selective clearing by homeowners. Buffer along right bank narrows within 30' of channel from paralleling road.	3.4	Past clearing of vegetation surrounding portions of channel in proximity to nearby homes.	3.5	Mild erosion from succession of migrating headcuts. Grading activities occurring upstream in watershed contributing sediment to channel.	2.8	Slight channel incision is evident due to a few minor headcuts, but widespread grade control in the form of boulders and roots should safeguard channel from system-wide degradation.	3.2	16.37	N/A	Preservation
ABA2	650	A	Well-shaded step pool system consisting primarily of boulders, cobble, and gravel with deep pools. An abundance of large boulders and overhanging shrubs comprise the majority of habitat structures.	3.7	Fairly mature forested riparian buffer and floodplain with sporadic breaks in buffer from road encroachment and scattered residential developments. Buffer narrows within 20-50' along right bank.	3.1	No evidence of recent human impacts.	4	Banks are typically vertical and partially exposed with mild to severe erosion. Majority of erosion is concentrated along the toe of bank where unconsolidated material is washing out.	2.4	Active incision is evident along lower half of reach where bank height ratios approach 2.0.	2.7	15.87	Work space is available but would require some clearing of dense vegetation and access from private property. A few homes are within 50' of channel.	Enhancement II

**ABB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
ABB1	500	B	Riffles and pools are frequent, but lower reach lacks well defined pools and riffles are slightly embedded. The bed is fully shaded in most areas and partially shaded in some areas along left bank.	2.9	The banks are partially vegetated with an abundance of Rhododendron, Tag Alder, and Mt. Laurel along with such invasives as Multiflora Rose. Buffer widths exceed 20' along right bank and fluctuate between 5-10' along left bank.	2	Small constructed berm on left bank	3	Portions of left bank are exposed where moderate erosion is occurring. Mild to moderate amounts of sediment present within channel	2.7	No evidence of active downcutting, but left bank appears somewhat disconnected from floodplain where bank height ratios approach 2.0 in some areas.	3.0	13.60	Work space is available along adjacent fallow farm field but would require private property access. Possible wetland enhancement on left bank.	Enhancement II
ABB2	500	E/F	Predominantly a riffle/run system with a few pools. Riffles are somewhat embedded, the channel is fairly well-shaded, and woody debris is plentiful throughout from recent flooding events.	2.6	The riparian buffer is greater than 30 feet in width with an approximate age ranging from 5-10 years and 15-20 years along the left and right banks respectively.	2.6	Road crossing and ponding of channel downstream of reach	3	Extensive erosion in some areas and a significant amount of sediment present in channel. Right bank is fairly well vegetated while the left bank is quite exposed.	1.9	One small active headcut observed. Channel disconnected from floodplain in several areas with bank height ratios ranging from 1.0 to greater than 2.0.	2.3	12.43	Some work space available, but impeded by dense understory vegetation. Other constraints include a few culverts and overhead electric.	Enhancement II
ABB3	500	B	Slightly embedded step pool system with good pool depth variations. Channel is almost entirely shaded.	3.4	Mature forested riparian buffer and floodplain with minimal invasive species present. Banks are well vegetated with Rhododendron	3.4	Most likely re-aligned away from road in the past.	3	Mild to moderate erosion and excessive in-stream sediment present in proximity to road. Adequate root mass throughout channel.	2.7	Channel has downcut slightly in the past and is somewhat disconnected from floodplain. Bank height ratios range from 1.0 - 1.5.	3.0	15.50	Some work space available, but impeded by mature forest and electric/phone utilities along roadway.	Enhancement II

**ACB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
ACB1	1000	B/Cb	Riffles and pools are frequent with adequate pool depth variations. The bed is partially to completely shaded.	3.2	Mature forested riparian buffer and floodplain with minimal invasive species present. Banks are partially to well vegetated with selected exposed areas revealing unconsolidated bank material from recent flooding.	3.5	Past channelization and dredged spoil piles observed along left bank within upper reach limits.	3	Mild to moderate erosion from recent flooding. Toe of steep banks exposed in some areas from the scouring of unconsolidated cobble in banks.	2.5	Past downcutting has occurred on the upper half of reach where bank height ratios approach 2.0. Large bedrock knickpoint located mid-reach at bridge.	2.3	14.53	N/A	Preservation
ACB2	400	B	Fairly well shaded bedrock/boulder controlled step pool system embedded with fine sediment supplied from headwaters.	2.6	Buffer width exceeds 50 feet and consists of a dense mix of shrubs and young hardwoods along the right bank with scattered mature hardwoods comprising the floodplain along the left bank. Invasive species include Multiflora Rose and briars.	2.1	Headwaters have been cleared for horse/cattle grazing. Two online ponds constructed in pasture just upstream of reach.	2	Banks are steep and partially vegetated with several raw areas present from the lack of ample root mass. Erosion is generally moderate to severe and is concentrated along constrictions and outer meander bends	2.1	Past downcutting has occurred and bank height ratios exceed 2.0. Bedrock/boulder steps provide excellent grade control.	1.8	10.63	Limited access available on right bank. Constraints include scattered mature trees, fence lines, and a few structures.	Buffer Enhancement
ACB3	600	E/G	Combination of cobble step pool system upstream and riffle/run dominated system downstream. Stable woody debris jams are frequent and channel bed is exposed to sunlight from lack of understory shading.	2.4	Banks are exposed to partially vegetated with grasses, forbes, and ferns. Floodplain buffer is greater than 50 feet and consists of a sporadic mature hardwood overstory with a minimal understory composed of grass and shrubs.	2.8	Low sinuosity and severe channel incision within upper reach is indicative of past channelization.	3.5	Several instances of bank slumping are evident and moderate to severe erosion is occurring along constrictions and outer meander bends.	2.4	Upper limits of reach has incised considerably in the past and is in the process re-establishing pattern through aggradation and widening. Stable woody debris jams serve as grade control.	2.7	13.77	Workspace available on both banks with minimal clearing of vegetation. Private property access would be required.	Enhancement I

**ACC**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
ACC1	1000	B/Cb	Riffles and pools are present. Pools are less frequent but have good variations in depth while riffles are fairly embedded. Fallen woody debris from recent flooding lines both banks	2.6	Mature forested riparian buffer and floodplain with minimal invasive species present. Riparian vegetation includes Rhododendron, sycamore, oak, maple, and pine. Small breaks in buffer apparent downstream along floodplain of left bank.	3.3	No evidence of recent human impacts.	4	Mild to moderate erosion from recent flooding. Substantial root mass and boulder/bedrock outcroppings lining toe of bank throughout reach.	2.9	Past downcutting has occurred and bank height ratios range between 2.0 and 2.5. Bedrock knickpoints are common throughout upper reach limits.	2.2	14.97	N/A	Preservation
ACC3	1100	B	The bed is fully to partially exposed to sunlight with good variations in pool depths. Several habitat structures are present frequently.	3.4	The existing riparian vegetation consists of a mature forest with a fairly dense shrub understory. Buffer widths exceed 50 feet on each bank.	4	Bridge intersects channel and Beaverdam Rd encroaches floodplain.	3.5	Minimal erosion is occurring with a few areas of exposed banks.	3.9	The channel appears to have an active floodplain with no evidence of downcutting.	4.0	18.80	N/A	Preservation

**BAA**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
BAA1	500	B	Small step pool system with excellent vegetative cover and frequent debris jams within upstream limits and minimal to no cover within downstream limits. Pools are filled with sediment and riffles are 85% embedded.	1.4	Mature forested riparian buffer and floodplain with minimal invasive species present. Riparian vegetation includes Rhododendron, oak, maple, and white pine. Gravel road embankment parallels left bank within 25' of channel along downstream limits where buffer becomes sparse.	2.4	Alterations within downstream limits include an offline pond, a constructed weir, culverts, and a channelized concrete ditch feeding a spring house.	1	Minimal erosion due to low bank height, bank angle and excellent root mass. Substantial sediment present in stream from gravel road and recent landslides upstream.	3.4	Bank height ratio ranges from 1.0 to 1.2. A few small active headcuts are present, but are contained by several stable debris jams and bedrock knickpoints.	3.2	11.37	Work space is available on left bank downstream along gravel road for buffer planting. Overhead electric parallels left side of gravel road and 2 sheds/barns are within 30' of either bank downstream.	Bank Stabilization and Buffer Planting
BAA2	490	A	Bedrock/boulder step pool system with fully to partially exposed stream bed and good variations in pool depths. Steps are 65% embedded and habitat structures such as large rocks, undercut banks, woody debris, and overhanging shrubs are frequent.	2.9	Riparian vegetation consists of an overstory of scattered mature hardwoods with a dense understory of elderberry, spicebush, Multiflora Rose, and briars. Buffer width on left bank diminishes downstream as stream approaches and parallels gravel road embankment.	2.2	Stream has been channelized and moved to the toe of slope (along the road embankment) in the past.	2	Minimal erosion is occurring with exception to that portion immediately adjacent to gravel road embankment where erosion is severe from recent flooding events. Extensive amounts of sediment present from clear-cut development in catchment headwaters and from gravel road. Majority of flow has abandoned old existing channel along road embankment upstream and now occupies overflow channel.	2.6	Bank height ratio ranges from 1.0 to 1.5. A few active headcuts are present in new overflow channel, but are contained by large boulders and several bedrock knickpoints.	3.2	12.87	Work space is available on right bank and on gravel road along left bank. Barbed wire fence parallels right bank and overhead electric is within 75' of right bank.	Bank Stabilization and Buffer Planting

**BBA**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
BBA1	500	A/B	Step pool system composed of cobble. Pools are small and infrequent. Stream bed primarily shaded along left bank only.	2.3	Mature forested riparian buffer >100' on left bank and minimal to no buffer on right bank due to gravel road encroachment.	2.2	Gravel road bordering right bank of channel, culverts, and rip rap.	3	Minimal erosion throughout due to ample root mass in left bank and the reinforcement of the right bank with rip rap.	2.7	Bank height ratio is 2.0 and one active headcut is evident.	2.0	12.20	Very limited workspace on right bank along gravel road. Overhead electric is present.	Bank Stabilization
BBA2	1000	A/B	Well shaded boulder controlled step pool system embedded with fine sediment supplied from headwaters. Numerous habitat structures present and frequent along with excellent variations in pool depths.	3.6	Banks are well vegetated and the mature forested buffer extends beyond 100' on the left bank and remains under 30' on the right bank.	3.8	No evidence.	4	Moderate bank erosion and minimal in-stream sediment present.	2.9	No evidence of active downcutting. Bank height ratio ranges from 1.0 to 1.5.	3.5	17.80	Work space is available on selected portions of both banks.	Buffer Planting
BBA3	500	B	Fairly well shaded step pool system composed of cobble with excellent variations in pool depths.	3.2	Banks are well vegetated and the mature forested buffer spans 10' to 30' on the left bank and 30' to 50' on the right bank. Reach lacks understory vegetation in a few locations due to impacts from channel/bank reconstruction by homeowner.	3.5	Channel/bank reconstruction by homeowner in response to recent flooding events.	3	Moderate bank erosion in localized areas from channel/bank reconstruction. Braided channel in a few locations from recent flooding events. Substantial armoring of banks by root mass and river cobble.	3	Bank height ratio ranges from 1.0 to 1.5 and one active headcut is evident.	3.0	15.70	Work space is available but is impeded by scattered mature trees.	Enhancement II

**BBB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
BBB1	500	E (incised)/G	Partially to fully shaded riffle/run system with slightly embedded riffles and only a few pools. Overhanging shrubs and woody debris are among the fairly common habitat structures present.	2.4	Riparian buffer consists of mature trees on both banks interspersed with such invasives as Multiflora Rose, privet, and Japanese Honeysuckle. Breaks in canopy and buffer are common as open fields border the narrow 10' buffer along each bank.	2.4	Stream has possibly been channelized in the past. Piped offline pond is located on the left bank downstream.	3.5	Bank erosion is mild to moderate and is concentrated along outer meander bends and constrictions. Moderate amounts of in-stream sediment present.	2.4	Channel has disconnected from original floodplain and has downcut in the past. Small benches have formed at a lower elevation. Bank height ratio ranges from 2.0 to 2.5 and a few small headcuts were observed.	2.2	12.87	Work space is available within fallow field bordering each bank. Pipe within channel feeding offline pond. Private property access would be required.	Enhancement I

**BCB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
BCB1a	400	B	Bedrock/boulder controlled step pool system upstream and a riffle/run system downstream with minimal pool development. Stream bed is partially shaded to completely exposed and a few habitat structures consisting of woody debris and large rocks are present.	2	Banks are partially vegetated with sporadic mature trees, shrubs, and grasses with frequent breaks in the buffer. Buffer widths range between 10' to 15' on both banks and are bordered by fields.	1.9	Stream has possibly been channelized in the past.	3.5	Mild erosion due to low bank angle and dissipation of energy from step pools upstream. Minimal in-stream sediment present as a result of a significant debris jam upstream.	2.6	Channel has downcut in the past and re-established lower elevation flood benches in selected areas. Bank height ratio ranges from 1.0 to 1.5	3.5	13.50	Work space is available within fallow field bordering each bank. Fence is located along left bank and a shed is located within 50' of the right bank upstream. Private property access would be required.	Enhancement II
BCB2	650	G/F	Partially shaded, riffle/run dominated system with pools becoming more prevalent downstream. Several habitat structures, such as woody debris, are present and frequent.	2.6	The banks are partially to well vegetated while buffer widths exceed 50' on the right bank and range between 5' to 10' on the left bank. Floodplain vegetation consists of a mature forest on the right bank and a mix of mature trees and manicured grass on the left bank.	2.5	No recent evidence except for that of vegetation removal.	3.5	Banks are typically steep and exposed along the lower third. Erosion is moderate to severe.	2.2	Channel has disconnected from original floodplain and is continuing to actively downcut as a significant headcut is present midreach. Bank height ratios are much lower upstream of headcut where small benches have formed and channel pattern is evident.	1.5	12.30	Work space is available on left bank. Private property access would be required.	Bank Stabilization and Buffer Planting
BCB3	600	F (incised B)	Riffles and pools are present and frequent with good variations in pool depths. Several habitat structures are fairly frequent with a partially shaded bed.	3.3	The riparian buffer is composed of young forest along both banks spanning a width of 10' to 20'. Root mass is lacking in selected areas. Riparian vegetation includes Ironwood, Rhododendron, White Oak, and Sycamore.	2.2	No evidence.	4	Banks are typically steep and exposed in many areas. Soil cohesion is moderate lending to the extensive erosion in specific areas.	1.5	Channel has downcut recently and has disconnected from its original floodplain. Bank height ratio ranges from 2.0 to 2.5.	1.5	12.50	Work space is somewhat confined because the riparian corridor contains several mature trees. Private property access would be required.	Enhancement I

**BCC**

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
BCC1	1000	B (incised)	Riffles and pools are present and fairly frequent although riffles are slightly embedded. The stream bed is partially shaded and many habitat structures are common.	2.9	Riparian buffer on the right bank is a mature forest > 50' wide while the buffer on the left bank is vegetated with shrubs and trees and is < 10' wide. Active agricultural field situates the left bank throughout the reach. Invasive species such as Multiflora Rose and Oriental Bittersweet are present.	2.6	Stream may have been shifted to one side of valley in the past.	3	Bank erosion is minimal due to substantial root mass in both banks and moderate bank angle. Considerable sediment present in stream.	2.8	Homeowner has constructed a berm and stream is somewhat incised. Bank height ratio ranges from 1.5 to 2.0. No active headcuts are evident.	2.7	13.97	Access and workspace are available in farm field along entire left bank.	Enhancement II
BCC2	1000	E (incised)	Well shaded riffle/run dominated system with a few deep pools present. Habitat structures such as overhanging shrubs, large rocks, and woody debris are plentiful.	2.8	Banks are well vegetated with Rhododendrons, oak, maple, poplar, beech, and ironwood. A mature forest, exceeding a width of 50', situates the right bank while a fallow field borders the narrow buffer along the left bank.	3.2	Stream may have been shifted to one side of valley in the past.	3	Erosion is moderate with a few exposed bank areas. Root mass is dense and most erosion appears to have been caused by recent flooding events.	2.7	Past downcutting has occurred and bank height ratios range from 1.8 to 2.0.	2	13.70	Access and workspace are available in farm field along entire left bank.	Buffer Enhancement
BCC3	1600	Cb	Riffles and pools are present and fairly frequent although riffles are slightly embedded. The stream bed is partially shaded and many habitat structures are common.	3.3	Banks are vegetated with shrubs and trees but are exposed in several areas. Riparian buffer composition alternates between mature forest and grass on each bank and widths similarly fluctuate above and below 50' respectively.	2.9	No evidence.	4	Bank erosion is minimal reachwide due to substantial root mass and fairly gradual bank angles. One specific area spanning 100' contains severe bank erosion.	3.3	Channel has downcut in the past and re-established lower elevation flood benches in selected areas. Bank height ratio ranges from 1.0 to 1.5.	3.2	16.63	Access and workspace are available in field along left bank.	Buffer Enhancement
BCC4	1000	E (incised)	Riffles and pools are present and frequent although riffles are 60% embedded. The stream bed is partially to fully shaded. Variations in pool depth are excellent but habitat structures are lacking.	2.5	Invasive species such as Multiflora Rose and privet are abundant among scattered mature trees on both banks and within the floodplain on the right bank. Buffer widths vary from 0' to 20' along the left bank and exceeds a width of 50' along the right bank.	3.7	Stream may have been shifted to one side of valley in the past. Cow pasture spans the entire length of the left bank.	3	Bank angles are low except within constrictions and meanders where moderate to severe erosion is concentrated. Root mass is poor but cobble and boulders line the toe of bank in many areas.	2.6	Channel has downcut in the past and re-established lower elevation flood benches in selected areas. Bank height ratio ranges from 1.0 to 1.5.	2.8	14.63	Work space is available on both banks. Cow pasture, cattle fencing, and 2-3 fertilizing sheds situated along left bank.	Enhancement II

**CBA**

Reach	Length (ft)	Rosgen Stream Type	Biological Information			Geomorphic and Stability Information						Total Score	Feasibility	Recommendation	
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision				Average Score
CBA1	1170	Cb	Riffles and pools are present but pools are lacking in frequency and depth while riffles are 40% embedded. Habitat structures are minimal and stream bed is exposed.	1.7	Banks are primarily exposed and devoid of vegetation except for grasses and forbes. Majority of stream corridor traverses a cow pasture and horse stables so the riparian buffer is absent on both banks.	0.4	Horse and cattle crossings are active along with evidence of straight piping to stream.	1	Banks are overly steep, raw, non-cohesive, and actively contributing excessive amounts of sediment to stream causing overwidening and braiding in a few areas.	0.6	Stream has downcut in the past and seldom has access to original floodplain. Bank height ratio is 2.0.	1.7	5.37	Work space is available on portions of both banks. Constraints include road within 50' of right bank, a few fences, and a barn within 10' of left bank.	Enhancement I
CBA2	900	B (incised)/G	Riffle cascades and short runs are prominent with fewer pools. Stream bed is partially shaded to exposed and a few habitat structures are present.	2.3	Banks are primarily exposed and only partially vegetated with a mix of grasses and shrubs. Majority of stream corridor traverses passive agricultural fields and a goat pasture and so the riparian buffer is sparse to absent on both banks.	1.4	Channel recently dug out from recent flooding events	2.5	Banks are overly steep, raw, and actively contributing moderate amounts of sediment to stream. Root mass is poor but an abundance of cobble and boulders in bank is preventing larger scale erosion.	1.8	Stream seldom has access to original floodplain. Bank height ratio ranges from 1.3 to 1.5. No active headcuts evident.	2.5	10.50	Work space is available on both banks upstream and on the right bank downstream. Constraints include driveway culverts, cattle fencing, and at least five structures within 50' of channel downstream.	Enhancement II
CBA3	500	B	Riffle/run dominated system lacking pool development and habitat structures. Stream bed is completely exposed to sunlight.	1.2	Riparian buffer is primarily absent as horse and cattle pastures span both banks. Banks are covered with grasses and forbes with shallow roots and in selected areas are minimally vegetated with Rhododendrons and invasives such as Multiflora Rose.	1.2	Horses and cattle have full access to channel. Heavy equipment/ATV crossings within channel.	0	Minimal erosion due to extremely low bank angles and cohesive bank material. Extreme amounts of sediment in the stream from headwater supply and gravel road upstream causing overwidening and braiding in some areas.	2.9	A few small active headcuts are evident downstream. Bank height ratio is 1.2.	2.7	7.97	Easy work access and minimal constraints.	Buffer Enhancement

**CBB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information			Geomorphic and Stability Information						Total Score	Feasibility	Recommendation	
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision				Average Score
CBB1	500	B/G	Riffle cascades and short runs are prominent with infrequent pools. Stream bed is partially shaded to exposed and habitat structures are rare.	2	Floodplain and bank vegetation is primarily grassy with extensive invasive species present such as Multiflora Rose. Riparian buffer width is limited to 10' to 15' on each bank.	2	No evidence.	4	Banks are steep, exposed, and severely eroding. Banks are fairly non-cohesive, root density is minimal but an abundance of cobble in bank is preventing larger scale erosion.	2.2	Stream seldom has access to original floodplain. Bank height ratio averages 1.5 but reaches 3.0 in some locations. No active headcuts evident.	2.67	12.87	Easy work access and minimal constraints.	Enhancement II
CBB2	500	B	Riffles and pools are present and frequent with a fully shaded stream bed. Variations in pool depths are excellent and several habitat structures are present and frequent.	1.8	Fairly well vegetated banks composed of alder, sycamore, and maple. Multiflora Rose is also plentiful along both banks. Floodplain vegetation is sparse to absent and primarily composed of grasses and forbes. Buffer width is generally 10' on each bank.	2.4	Stream has possibly been channelized in the past.	3.5	Moderate erosion with partially exposed banks.	2.6	The channel does not appear to have an active floodplain. Bank height ratio ranges from 1.5 to 2.0 and occasionally reaches 3.0 in a few locations.	2.50	12.80	Limited access and workspace due to road encroachment, fenceline, and utility building situated within 50' of channel.	Buffer Enhancement
CBB3	750	B/Cb	Riffle/run dominated system lacking pool development and habitat structures. Stream bed is completely exposed to sunlight and riffles are slightly embedded.	2.1	Floodplain and bank vegetation is sparse to absent and consists primarily of grass and scattered mature trees. Riparian buffer width is limited to 10' on each bank.	1.2	Recent channel alteration by homeowners from recent flooding events.	2	Bank erosion is moderate to severe as a result from recent flooding. Banks are exposed in several areas.	2.1	No evidence of headcuts. Bank height ratio is generally 1.0.	4.0	11.40	Workspace is available along portions of both banks. Constraints are minimal and include mature trees and barns/sheds bordering channel.	Buffer Enhancement

**CBC**

Reach	Length (ft)	Rosgen Stream Type	Biological Information			Geomorphic and Stability Information						Total Score	Feasibility	Recommendation	
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision				Average Score
CBC1	530	G	Riffle dominated system with pools only present downstream of culverts. Stream bed is completely exposed, habitat structures are absent, and riffles are embedded.	0.6	Banks and floodplain are vegetated with grass. No riparian buffer is present.	0.6	Channel appears to be regularly maintained by homeowners. Four culverts span reach.	2	Root mass from grass-lined banks is minimal and no erosion is present. Channel is full of loose sand, small gravel, and silt.	2.7	No evidence of headcuts. Bank height ratio ranges from 1.5 to 2.2.	2.3	8.23	Workspace is available on both banks but would require access to private property. Four culverts span reach and a few structures are situated within 50' of channel.	Enhancement II
CBC2	1000	E (incised)	Riffles and pools are present with a partially shaded stream bed. Riffles are 60% embedded and several habitat structures are present and frequent.	2.7	Banks are typically well vegetated with shrubs and mature trees. Buffer width is 10' on each bank and hay fields comprise the floodplain vegetation along both banks.	2.8	No evidence.	4	Bank angle is generally less than 90 degrees with substantial root mass from mature trees holding banks. Banks are occasionally exposed with minimal erosion occurring.	3.2	No evidence of headcuts. Bank height ratio ranges from 1.5 to 2.0.	2.5	15.20	Workspace is available within hay fields bordering both banks. Fence line parallels left bank.	Buffer Enhancement
CBC3	520	B	Partially shaded riffle/run dominated system with minimal pool development. A few habitat structures are present including overhanging shrubs and large rocks.	2.1	Banks are typically well vegetated with shrubs and fewer mature trees. Buffer width is less than 20' on each bank and grasses/forbes comprise the floodplain vegetation along both banks.	2.2	Past reinforcement of banks with riprap in selected areas.	4	Mild to moderate erosion in localized areas containing poor root mass and exposed banks.	3	No evidence of headcuts. Bank height ratio ranges from 1.2 to 1.8.	2.7	13.97	Workspace is available. Constraints include a road within 50' of channel, one structure within 15' of channel, and overhead electric intersecting the reach.	Buffer Enhancement

**CCA**

Reach	Length (ft)	Rosgen Stream Type	Biological Information			Geomorphic and Stability Information						Total Score	Feasibility	Recommendation	
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision				Average Score
CCA1	500	E	Partially to fully shaded channel dominated by frequent riffles and pools. Riffles are embedded, but several habitat structures are present and frequent.	3.4	Banks are typically well vegetated with shrubs and mature trees. Buffer width is less than 20' on each bank and grasses/forbes comprise the floodplain vegetation along both banks. Invasives are plentiful downstream of headcut.	2.3	No evidence.	4	Minimal erosion present due to fairly low bank angles and ample root mass. Sediment levels are high in the stream.	2.4	One headcut is present but bank height ratio is generally 1.0 throughout reach. Woody debris jam midreach is holding grade upstream of headcut. Lower elevation flood benches have formed within channel.	3	15.10	Workspace is available. Constraints include a road within 100' of the left bank and a few fences throughout the reach.	Buffer Enhancement
CCA2	820	B (incised)	Riffle/run dominated system with minimal pool development and no cover from sunlight. Habitat structures are severely lacking in variety and frequency.	1.5	Banks are fairly exposed and are primarily vegetated with grass and a few mature trees. Buffer is sparse to absent.	0.7	Channel alteration, bank stabilization, and culvert removal/repair have recently been conducted in response to flood events.	0	Extensive erosion and exposed banks throughout reach.	1.9	Bank height ratio ranges from 1.3 to 2.0.	3	7.10	Workspace is available. Constraints include a road within 100' of the left bank, overhead electric paralleling right bank, and culverts throughout reach.	Enhancement II

**CCB**

Reach	Length (ft)	Rosgen Stream Type	Biological Information			Geomorphic and Stability Information						Total Score	Feasibility	Recommendation	
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision				Average Score
CCB1	500	E	Riffles and pools are present and fairly frequent. Riffles are embedded and some pools have filled with sediment. The bed is mostly shaded with ample overhanging shrubs present.	2.3	Banks are typically well vegetated with shrubs and mature trees. Buffer width is less than 20' on each bank.	2.9	No evidence.	4	Moderate erosion and exposed banks in localized areas. An abundance of in-stream sediment causing filling of pools and mid-channel bars.	1.6	One headcut is present midreach. Bank height ratio ranges from 1.0 to 1.8.	2.5	13.30	Workspace is available along portions of both banks. Constraints include a road within 50' of the left bank, a few fences, and a home within 35' of the right bank.	Enhancement II
CCB2	990	E	Riffle dominated system with minimal pool development and no cover from sunlight. Habitat structures are severely lacking in variety and frequency. Riffles are embedded.	1.4	Banks and floodplain are primarily vegetated with grass and a few shrubs. No riparian buffer is present.	1.1	Channel alteration and bank stabilization have recently been conducted in response to flood events.	2	Extensive erosion, exposed banks, and in-stream sediment throughout reach.	1.3	No evidence of active downcutting.	3.7	9.47	Workspace is available on both banks. Constraints include a road within 50' of the right bank, a few structures within 35' of the left bank, and overhead electric lines intersecting lower reach.	Restoration
CCB3	500	G/F	Riffle/run dominated system with minimal in-stream cover and a few habitat structures present.	2	Banks and floodplain are primarily vegetated with grass and a few trees and shrubs. Buffer width is less than 10' on each bank with an abundance of invasives such as Multiflora Rose and Japanese Honeysuckle.	1.5	Urban debris scattered within channel. May have been channelized in the past.	3	Mild to severe erosion with several locations of exposed banks. Sediment levels are high in the stream.	2.1	Channel is incised and generally disconnected with the floodplain. A few small headcuts are active.	2.2	10.77	Workspace is available along portions of both banks. Fences and sheds are prevalent throughout the reach within 50' of channel. A few mature trees are also present.	Enhancement I

CCC

Reach	Length (ft)	Rosgen Stream Type	Biological Information				Geomorphic and Stability Information						Total Score	Feasibility	Recommendation
			Habitat	Average Score	Existing Riparian Vegetation	Average Score	Human Impacts	Average Score	Erosion	Average Score	Incision	Average Score			
CCC1	1025	E	Riffle/run dominated system with minimal instream cover and embedded riffles. Only a few habitat structures are present.	1.2	Banks are partially vegetated and primarily consist of invasives such as Privet, Multiflora Rose, and Oriental Bittersweet. Some mature trees are also present on both banks. Buffer widths are less than 10' on each bank.	1	Stream has possibly been channelized in the past. Banks have been re-stabilized in selected areas as a result of recent flooding.	2	Banks are often exposed with only mild to moderate erosion due to cohesive soils and ample root mass. One area of severe bank erosion as a result from hillside drainage and recent flooding.	2.3	Channel is slightly incised and occasionally has access to floodplain. No evidence of headcuts.	2.7	9.17	Workspace is available in farm field on right bank, but would require private property access.	Buffer Enhancement
CCC2	1400	E	Riffles are slightly embedded with a fair variation in pool depths and a partially shaded stream bed. Habitat structures such as woody debris and overhanging shrubs are plentiful.	2.5	Banks are partially vegetated with a mix of mature and young hardwoods including sycamore, red maple, locust, alder, and tuliptree. Invasives such as Bittersweet and Multiflora Rose are also present. Fallow fields border each bank and buffer widths are less than 10'.	1.5	Stream has possibly been channelized in the past.	3	Banks are often exposed with minimal erosion due to fairly cohesive soils and ample root mass.	2.9	Channel has downcut in the past and re-established lower elevation flood benches in selected areas. Bank height ratio ranges from 1.0 to 1.5.	2.7	12.57	Workspace available in fallow fields bordering each bank.	Buffer Enhancement
CCC3	1000	E/G	Riffle/run dominated system with minimal instream cover and moderately embedded riffles. Only a few habitat structures are present.	1.8	Existing riparian buffer is fairly mature but narrow on both banks. Banks are partially vegetated to exposed. Fallow fields border each bank.	1.5	Recent impacts to buffer are evident in addition to bank reinforcement efforts along the right bank adjacent to Beaverdam Rd.	3	Banks are often exposed with moderate to severe erosion. Banks are lined with woody debris from recent flooding events.	2.2	Channel has downcut in the past and is disconnected from floodplain. Bank height ratio ranges from 1.2 to 2.0.	2.0	10.50	Workspace available in fallow fields bordering each bank.	Bank Stabilization/Buffer Enhancement
CCC4	990	C	Embedded bedrock step pool system lacking habitat structures and stream bed cover.	1.4	Banks are partially vegetated with a mix of young shrubs and trees. Buffer width is less than 10' on each bank.	1.5	Banks have been re-stabilized in selected areas as a result of recent flooding. Channelization is also evident.	2.5	Banks are often exposed with moderate erosion. Pools are filled in and substrate is covered with sediment.	2.5	Channel has occasional access to floodplain. Bank height ratio ranges from 1.2 to 1.8.	2.8	10.73	Workspace is available along portions of both banks. Constraints include 2 bridge intersections, livestock encroachment, a few fences, and a house within 75' of channel.	Enhancement I
CCC5	960	E	Riffles and pools are present and fairly frequent. Riffles are slightly embedded pool depth variations are well represented. Channel is exposed to sunlight.	2.4	Banks are primarily exposed and sparsely vegetated with grass in some areas. No buffer present.	0.6	Cattle and mules have access to stream. Stream has possibly been channelized in the past.	2	Mild erosion with extensive areas of bank exposure. Large amounts of sediment moving through system.	1.8	Channel has frequent access to floodplain. Bank height ratio average is 1.0. Few small headcuts migrating upstream.	3	9.80	Workspace is plentiful in pasture on both banks. Constraints include active cattle/mule pasture, barbed wire fence, and a few barns within 35' of channel.	Restoration