

**CLINTON RIVER ASSESSMENT**  
**PHYSICAL HABITAT FIELD DATA SHEET - GLIDE/POOL STREAMS**  
*(As characterized by glide/pool sequences, river bottom primarily composed of fine sand/silt/clay, and have low to moderate gradients.)*

Habitat Parameter	Condition Category			
	Excellent	Good	Marginal	Poor
<b>1. Substrate/Available Cover/Natural Structures in the stream</b> <i>(e.g. cobble, large rocks, fallen trees, logs and branches, and undercut banks available for refuge, feeding, or spawning and nursery sites)</i>	Greater than 50% of substrate favorable for natural structures and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not a new fall).	30-50% mix of stable habitat; well-suited for adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet appropriate for aquatic habitat.	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>2. Pool Substrate Characterization</b> <i>(e.g. type and condition of river bottom found in pools)</i>	Mixture of substrate materials, with gravel and firm sand prevalent; roots and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some roots and submerged vegetation present.	All mud or clay or sand bottom; little or no roots; no submerged vegetation.	Hard-pan clay or bedrock; no roots or vegetation.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>3. Pool Variability</b> <i>(e.g. mixture of pool types found in streams according to size and depth)</i>	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>4. Sediment Deposition</b> <i>(e.g. amount of sediment accumulating in a pool as a result of large scale sediment movement; forms islands, point bars, or shoals; usually caused by debris or obstructions)</i>	Little or no enlargement of island or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand, or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand, or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>5a. Channel Flow Status - Maintained Flow Volume</b> <i>(e.g. base flow observations of water present and availability of channel)</i>	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>5b. Channel Flow Status – Flashiness</b> <i>(Evidence of the speed and magnitude of flow response to rain events.)</i>	Vegetation along the stream bank is complete nearly to the waters edge. Little or no evidence of frequent changes in discharge and/or frequent high water events that scours stream bank vegetation. Large woody debris (if present) stable and extending laterally across the stream channel.	Some evidence of bank scour approximately 4-8 inches above the waters surface. Large woody debris (if present) mostly stable and extending partially into the active stream channel.	Bank scour evidence 9-18 inches above the waters surface. Large woody debris (if present) tend to lay more against the stream bank rather than extending into the active channel.	Bank scour (>20 inches) along the stream channel. Large woody debris are generally absent from the active channel and/or may exist as woody debris jams along the stream bank above the active channel.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>

Habitat Parameter	Condition Category			
	Excellent	Good	Marginal	Poor
<b>6. Channel Alteration</b> (e.g. measures large scale changes in the shape of the stream channel; artificial embankments, riprap, bridges, dams).	Channelization or dredging absent or minimal; stream looks normal.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization is continuous but not recent (>5 years). Embankments without mature trees and dominated by grasses and shrubs.	Stream reach has been recently channelized (<5 years) . OR Banks shored with gabion, rock, cement or bare earth. Instream habitat greatly altered or removed entirely. Bank vegetation moderately dense to absent.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>7. Channel Sinuosity</b> (e.g. evaluates meandering or sinuosity of the stream)	Has a significant amount of meanderings. (The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line.)	Has a moderate amount of meanderings. (The bends in the stream increase the stream length 2 to 3 times longer than if it was in a straight line.)	Has a minimal amount of meanderings. (The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.) <u>Note: lack of sinuosity may be due to channelization</u>	Channel straight; waterway has been channelized for a long distance.
<b>Circle One</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>8. Bank Stability</b> (score each bank) (e.g. measure of streambank erosion, crumbling soil, exposed tree roots or soil, bare banks)  Note: determine left or right side by facing upstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
<b>Circle One (Left Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>Circle One (Right Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>9. Vegetative Protection</b> (score each bank) (e.g. degree of vegetative protection on the streambank and the near-stream portion of the floodplain)	More than 90% of the stream bank surfaces and immediate riparian zone covered by native vegetation, including trees, or understory shrubs; little disruption through mowing; almost all plants allowed to grow naturally.	70-90% of the stream bank surfaces covered by native vegetation; disruption evident but not affecting full plant growth potential to any great extent.	50-70% of the stream bank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common.	Less than 50% of the stream bank surfaces covered by vegetation; disruption of stream bank vegetation is very high; vegetation is 2 inches or less average height.
<b>Circle One (Left Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>Circle One (Right Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>10. Riparian Vegetative Zone Width</b> (score each bank riparian zone) (e.g. the width of natural vegetation from the edge of the streambank out through the riparian zone)	Width of riparian zone >150 feet and dominated by native vegetation including trees, shrubs, or wetlands; vegetative disruption through mowing minimal or not evident; almost all plants allowed to grow naturally. Human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 75-150 feet; human activities have impacted zone only minimally.	Width of riparian zone 10-75 feet; human activities have impacted zone a great deal.	Width of riparian zone <10 feet; little or no riparian vegetation due to human activities.
<b>Circle One (Left Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>
<b>Circle One (Right Bank)</b>	<b>Excellent</b>	<b>Good</b>	<b>Marginal</b>	<b>Poor</b>