

Citizen's Qualitative Habitat Evaluation Index

**CQHEI
Score**

Date:

Length of Reach Evaluated: 150 m 200 m 500 m Other: _____

River Code:

River Mile:

River/Site:

I. Substrate (Bottom Type)

Score:

a.) Size

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> Mostly Large (Fist Size or Bigger)
14 pts | <input type="checkbox"/> Mostly Medium (Smaller Than Fist Bigger Than Fingernail)
10 pts | <input type="checkbox"/> Mostly Small (Smaller Than Fingernail, But Still Coarse)
6 pts | <input type="checkbox"/> Mostly Very Fine (Not Coarse, Sometimes Greasy or Mucky)
0 pts |
|---|---|--|--|

b.) "Smothering"

- Yes 0 pts No 5 pts
- Are Fist Size and Larger Pieces Smothered By Sands/Silts?

Symptoms:
Hard to Move Large Pieces, Often Black on Bottom w/Few Insects

c.) "Siltling"

- Yes 0 pts No 5 pts
- Are Silts and Clays Distributed Throughout Stream?

Symptoms:
Light Kicking of Bottom Results in Substantial Clouding of Stream for More than a Minute or Two

II. Fish Cover (Hiding Places) - 2 Points For Each One Present

Score:

- | | | | | | |
|---|---|--|---|---|--|
| <input type="checkbox"/> Underwater Tree Roots (Large)
2 pts | <input type="checkbox"/> Boulders
2 pts | <input type="checkbox"/> Downed Trees, Logs, Branches
2 pts | <input type="checkbox"/> Water Plants
2 pts | <input type="checkbox"/> Deep Areas (Chest Deep)
2 pts | <input type="checkbox"/> Undercut Banks
2 pts |
| <input type="checkbox"/> Underwater Tree Rootlets (Fine)
2 pts | <input type="checkbox"/> Backwaters, Oxbows or Side Channels
2 pts | <input type="checkbox"/> Shallow, Slow Areas for Small Fish
2 pts | <input type="checkbox"/> Shrubs, Small Trees That Hang Close Over the Bank
2 pts | | |

III. Stream Shape and Human Alterations

Score:

a.) "Curviness" or "Sinuosity" of Channel

<input type="checkbox"/> Very Straight 0 pts 	<input type="checkbox"/> Mostly Straight Some "Wiggle" 3 pts
<input type="checkbox"/> 1 or 2 Good Bends 6 pts 	<input type="checkbox"/> 2 or More Good Bends 8 pts

a.) How Natural Is The Site?

- | | |
|--|---|
| <input type="checkbox"/> Mostly Natural
12 pts | <input type="checkbox"/> Many Man-made Changes, but still some natural conditions left (e.g., trees, meanders)
6 pts |
| <input type="checkbox"/> A Few Minor Man-made Changes (e.g., bridge, some streambank changes)
9 pts | <input type="checkbox"/> Heavy, Man-made Changes (e.g., channelized, leveed,)
0 pts |

IV. Stream Forests & Wetlands ("Riparian Area") & Erosion

Score:

a.) Width - Mostly:

- Wide (Can't Throw A Rock Through It)
8 pts
- Narrow (Can Throw A Rock Through It)
5 pts
- None
0 pts

b.) Land Use - Mostly:

- | | |
|--|--|
| <input type="checkbox"/> Forest/Wetland
5 pts | <input type="checkbox"/> Fenced Pasture
2 pts |
| <input type="checkbox"/> Shrubs
4 pts | <input type="checkbox"/> Park (Grass)
2 pts |
| <input type="checkbox"/> Overgrown Fields
3 pts | <input type="checkbox"/> Conservation Tillage
2 pts |

c.) Bank Erosion - Typically:

- Raw, Collapsing Banks
0 pts
- Combination of Stable and Eroding Banks
2 pts
- Stable Hard or Well Vegetated Banks
4 pts

- d.) How Much of Stream is Shaded?** 3 pts - Mostly 2 pts - Partly 0 pts - None

V. Depth & Current Velocity:

Score:

a.) Deepest Pool Is At Least:

- | | |
|---|---|
| <input type="checkbox"/> 8 pts - Chest Deep | <input type="checkbox"/> 4 pts - Knee Deep |
| <input type="checkbox"/> 6 pts - Waist Deep | <input type="checkbox"/> 0 pts - Ankle Deep |

b.) Check ALL The Flow Types That You See:

- | | |
|--|--|
| <input type="checkbox"/> 2 pts - <u>Very Fast</u> : Hard to Stand in the Current | <input type="checkbox"/> 1 pts - <u>Moderate</u> : Slowly Takes Objects Downstream |
| <input type="checkbox"/> 3 pts - <u>Fast</u> : Quickly Takes Objects Downstream | <input type="checkbox"/> 1 pt - <u>Slow</u> : Flow Nearly Absent |
- 0 pts - No Flow

VI. Riffles/Runs (Areas Where Current is Fast/Turbulent, Surface May Be Broken)

Score:

a.) Riffles/Runs Are:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> 8 pts - Knee Deep or Deeper & Fast | <input type="checkbox"/> 6 pts - Ankle/Calf Deep & Fast | <input type="checkbox"/> 4 pts - Ankle Deep or Less & Slow | <input type="checkbox"/> 0 pts - Do Not Exist |
|---|---|--|---|

b.) Riffle/Run Substrates Are:

- | | | |
|--|---|--|
| <input type="checkbox"/> 7 pts - Fist Size or Larger | <input type="checkbox"/> 4 pts - Smaller Than Fist Size, but Larger Than Fingernail | <input type="checkbox"/> 0 pts - Smaller Than Your Fingernails |
|--|---|--|

For Most Metrics Intermediate Conditions Can Be Denoted By Checking Two Boxes and Averaging The Scores

Citizens Qualitative Habitat Evaluation Index (CQHEI)

This index was developed by the Ohio Environmental Protection Agency as a "Citizens" companion to the Qualitative Habitat Evaluation Index (QHEI) used by the state's professional staff. The purpose of the index is to provide a measure of the stream habitat and riparian health that generally corresponds to physical factors affecting fish and other aquatic life (i.e. macroinvertebrates). The CQHEI produces a total score that can be used to compare changes at one site over time or compare two different sites.

When completing the CQHEI, evaluate your entire stream site (200' section). In each category chose the most predominant answer. If sections of the stream or stream banks have completely different characteristics, you may check two boxes and average the points to obtain a score for the subsection (a), (b), or (c).

I. Substrate (Bottom Type) - Max 24 pts

II. Fish Cover (Hiding Places) - Max 20 pts

Select all the cover types that you see using the diagrams on page 3 as a guide. Add the points. (Note: "smothering" is the same as "embeddedness." Check "yes" for smothering, if the stream bottom is more than 50% embedded.)

III. Stream Shape and Human Alterations - Max 20 pts

IV. Stream Forests and Wetlands (Riparian Areas) & Erosion - Max 20 pts

a) Width of the Riparian Forest or Wetland - **This is not the width of the stream!** Estimate the width of the area containing **trees** or **wetlands** on each side of the stream by answering: "Can you throw a rock to the other side?"

V. Depth & Velocity - Max 15 pts

a) Deepest Pool - If your stream is a consistent depth, select the maximum depth.

b) Select all the flow types that you see and add the points.

VI. Riffles/Runs (where the current is turbulent) - Max 15

MAXIMUM TOTAL POINTS FOR THE CQHEI IS 114.

0-49 Moderate to extensive man made modifications to stream. These water bodies would generally be classified as "Modified Warm Water Habitats." Channelized, treeless ditches with little depth and poor flow rate could score as low as 30 or 40. Silt and muck included in the same stream could result in scores as low as 20.

50-60 Streams in this range generally can attain "Warm Water Habitat" (WWH) biological communities. Depending on which features (flow, depth) are lacking the biological communities may continue to fall short of the WWH classification.

61-69 Streams scoring at this range have enough positive habitat features available to attain "Warm Water Habitat" (WWH). This would include good depth, flow, substrate and forest canopy over stream.

70-100 Streams scoring in this range are capable of supporting "Exceptional Warm Water Habitat" biological communities. This would include variable depth, good flow, riffles and pools, good substrates, and good riparian quality.