

What Makes a River Healthy?

1. Flow

- Is the flow of the river very flashy with high peaks after storms and low average flows?
- Is the river currently very low?
- Is the river currently very high?
- Is there evidence of excessive erosion along the banks?

2. Water Quality

- *Visual*: what is the color of the river? are there any distinct smells? are there large algae blooms? are there oil sheen on the water? is there trash floating in the river? are there dead fish floating in the river?
- *Chemical*: there are a wide variety of chemicals you can test for, including naturally and commonly occurring nitrogen, phosphorous, oxygen as well as different forms of pesticides, heavy metals and PCBs.
- *Biological*: this includes looking at indicator species (such as macroinvertebrates) and the presence of bacteria

3. Habitat

- What is the composition of the bottom of the river? Is there are a variety?
- Are there aquatic plants?
- Are there submerged or partially submerged logs?
- Are the edges of the river vegetated, barren, or made of man made materials?
- Are there pools and riffles?
- Do trees shade the river?
- What does the land surrounding the river look like (natural, semi-natural, suburban, urban, agricultural, industrial)

4. Food Energy

- Are there plants growing in the river?
- Are there a variety and abundance of macroinvertebrates?
- Are there larger animals such as fish, turtles and frogs?