① **Shredders** — eat large chunks of organic material by breaking it apart (leaves, sticks, dead organisms)

Scrapers — scrape algae off of rocks, sticks, other surfaces

Collectors — Gather or filter small particles of organic material (debris produced by shredders and scrapers)

Predators — Eat other M.I.'s

② — Some of the organisms we're looking at are <u>omnivores</u> — they function on more than one trophic level

— With F.F.G.'s, we get a much clearer picture of the ecological interactions between these organisms

Scrapers
&
Shredders $\xrightarrow[\text{debris}]{\text{produce}}$ Collectors

Predators

Predators
Collectors
SCRAPERS/SHREDDERS
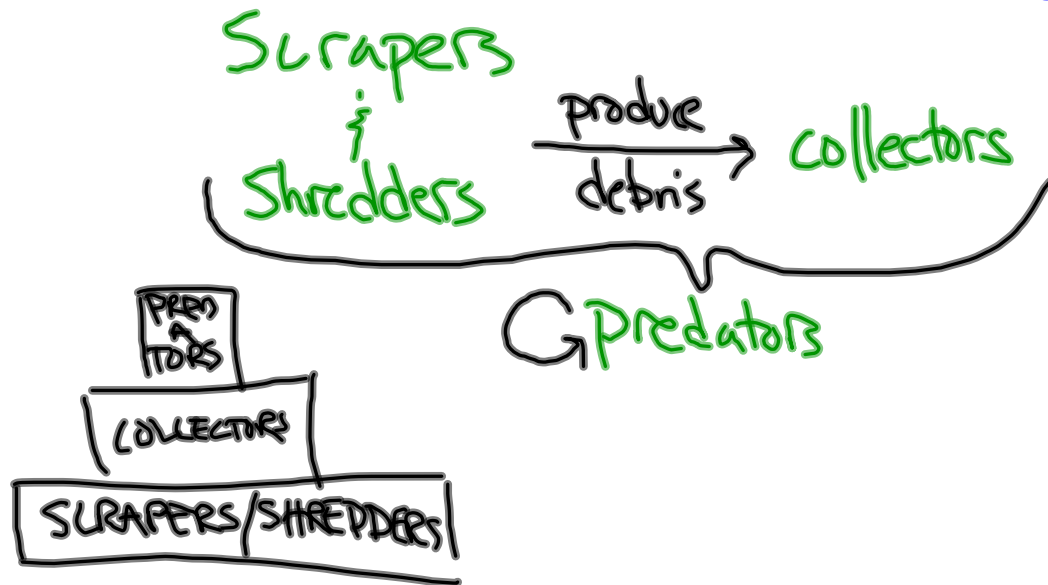
③ · Certain aquatic M.I.'s are sensitive
to specific water quality parameters
    ex. turbidity, DO, temp., pH, chemicals
· We can use the presence or absence of
these organisms to estimate whether or
not the levels of these parameters are ideal
for aquatic organisms.
· It can be easier/faster to evaluate aquatic
MI's than to measure all WQ parameters.
· MI's give us a better idea of average water
quality (rather than a snapshot in time")

④ **Mayflies:** 3 tails (usually)
Abdominal gills (always)

Stoneflies: 2 tails
2 claws on each leg

Caddisflies: No tails
"Houses"

True flies: No functional legs
Reduced heads
Not well-developed mouthparts

Beetle larvae: Not any of these
Well-developed mouthparts

Snails

⑤ a. taxa richness: 13 (3 pts)

mayfly richness: 2 (3 pts)

stonefly richness: 2 (3 pts)

caddisfly richness: 2 (3 pts)

midge dom.: $\frac{14}{81} \times 100 = 17\%$ (3 pts)

dominance: $\frac{14+16+14}{81} \times 100 = 54\%$ (1 pt)

total: 16 — not lookin' good...

⑤b.

shredders: $4 + 16 + 3 + 5$ = 28 21%

scrapers: $4 + 1 + 11 + 3 + 14$ = 33 25%

collectors: $4 + 1 + 2 + 14 + 11 + 3$ = 35 27%

predators $\cdot$ $4 + 16 + 3 + 7 + 5$ = 35 27%

$$\overline{total = 131}$$