Naugatuck River Food Web Activity *honors* /50

Background:
Each living organism in an ecosystem is part of multiple food chains. Each food chain is one possible path that energy and nutrients may take as they flow through an ecosystem. All interconnected and overlapping food chains make up a food web. The relationships between living things in a food web can be modeled in various ways to accurately depict biotic factors in a complex ecosystem.

Task:
Research the following organisms found in the Naugatuck River Ecosystem using the provided Resource Manual. Explore the organisms' niches including their diet and possible predators. Model the relationship between the organisms' feeding position by constructing a food chains and interconnect the chains in a complex food web. Remember organisms are not drawn to scale!

Organism List:
Common name (*scientific name* where applicable)
Decaying Organisms (Detritus) info
Decomposers (Bacterial Colonies) info
Diatoms or phytoplankton (*Melosira breviligulata*) info
Filamentous Green Algae (*Cladophora glomerata*) info
Aquatic Moss (*Fontinalis antipyretica*) info
Rock Snot (*Didimosphenia geminata)* info
Cattails (*Phragmites australis)* Used for water remediation info
Mayfly (*Ephemerella aurivillii)* info
Caddisfly (*Ceratopsyche sparna)* info
Cranefly (Antocha) info
Midge (*Cricotoperus intersectus*) info
White sucker *(Catostomus commersonii)* info
Mallards (*Anas platyrhynchos)* info
Taselated Darter (*Etheostoma olmstedi*) (feeder fish) info
Small Mouth Bass (*Micropterus dolomieui*) info
Large Mouth Bass (*Micropterus salmoides*) info
Red Breasted Sunfish (*Lepomis auritus*) info
Blacknosed Dace (*Rhynichthus atratulus*) info
Osprey (*Pandion haliaetus*) info
Bald Eagle (*Haliaeetus leucocephalus*) info
Garter Snake (*Thamnophis sirtalis*) info

Instructions:
1. View the list of organisms and research using the provided resource manual.
2. Include a minimum of 12 organisms in the food web and connect accurately (24 pts).
3. Connect the organisms with arrows illustrating energy flow (2 pts).
4. Delineate the trophic levels on the food web (4 pts).
5. Answer analysis questions.

Name:_____Per:_____Date:_____ /50

Naugatuck River Ecosystem Analysis Questions: 20 pts

1. Describe the direction of the arrow position in the food web and explain its significance. Provide specific examples. 3 pts

2. Describe how a food web might have appeared in the early 1900's in the Naugatuck River. 4 pts

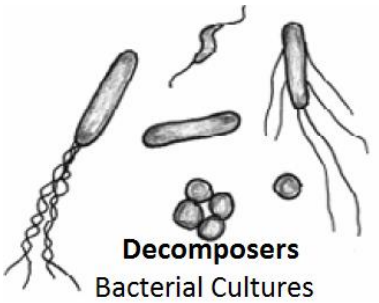
3. The CT Department of Environmental Protections stock the Naugatuck River with Blueback Herring. How would the introduction of this fish alter the food web? Is this a top-down or bottom up trophic cascade phenomenon? Explain. 5 pts

4. Certain organisms are often called bioindicators of a river's health. Research which pollution tolerant invertebrates and/or fish might serve as these markers and their significance. 5 pts

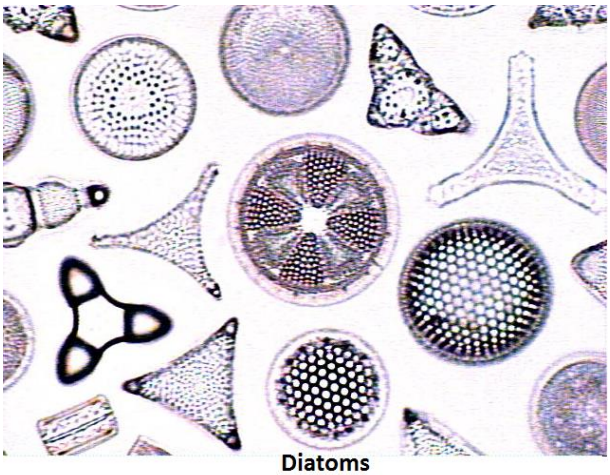
5. Research an invasive species that is present in the Naugatuck River Ecosystem and discuss its possible impact on the food web. 3 pts

Naugatuck River Food Web Organisms

Below are various organism common and scientific names where applicable with depictions. Cut out the chosen organisms and arrange on a poster organizing by feeding relationship.

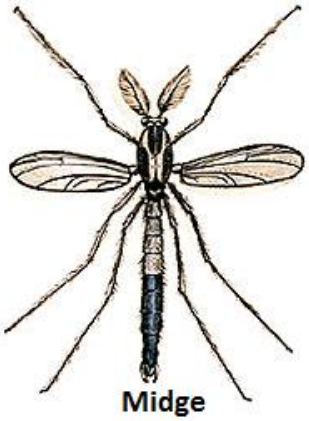


Decomposers
Bacterial Cultures



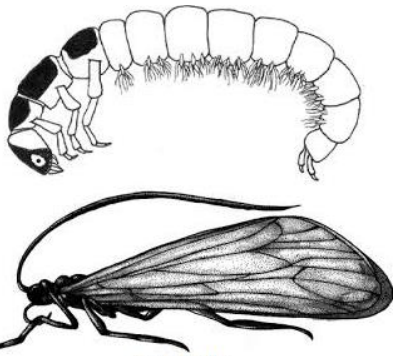
Diatoms
Melosira breviligulata

Decaying Organisms
Detritus

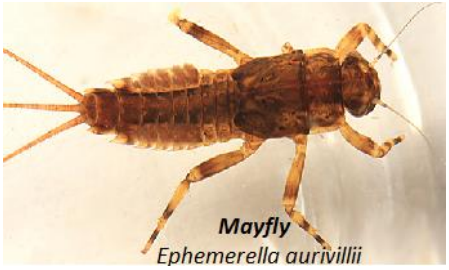


Midge
(Cricotoperus intersectus)

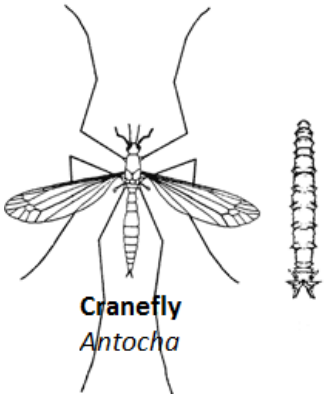
Bald Eagle
Haliaeetus leucocephalus



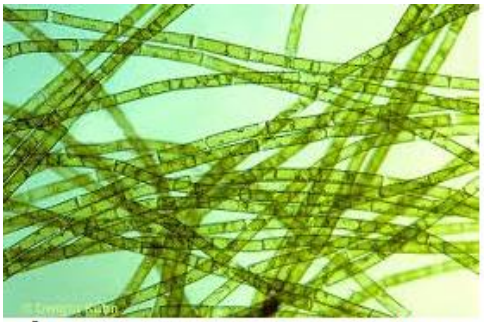
Caddisfly
Ceratopsyche sparna



Mayfly
Ephemerella aurivillii



Cranefly
Antocha



Filamentous Green Algae
Cladophora glomerata

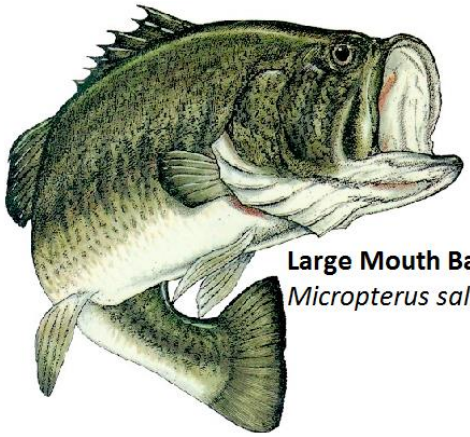
Aquatic Moss
Fontinalis antipyretica

Cattails
Phragmites australis

Rock Snot
Didimosphenia geminata

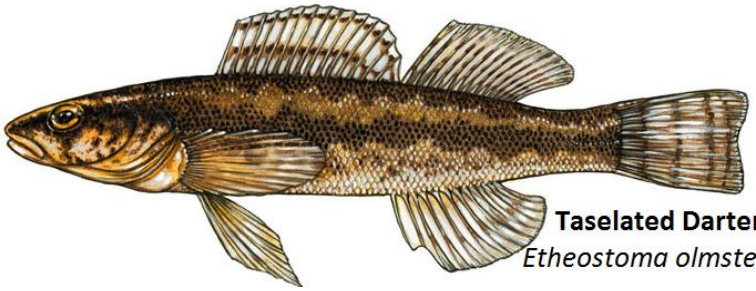
Small Mouth Bass
Micropterus dolomieui

Blueback Herring
Alosa aestivalis



Large Mouth Bass
Micropterus salmoides

White Sucker
Catostomus commersonii

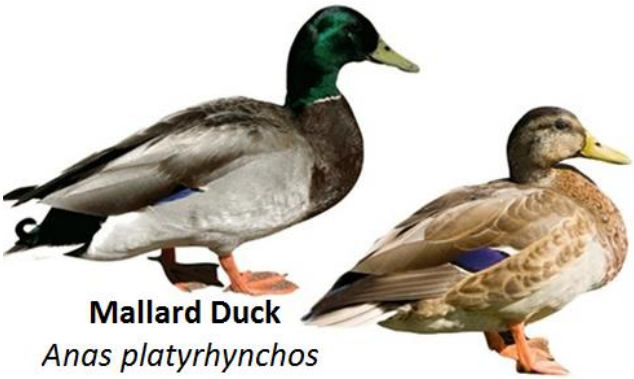


Taselated Darter
Etheostoma olmstedi

Blacknosed Dace
Rhynichthus atratulus

Red Breasted Sunfish
Lepomis auritus

Garter Snake
Thamnophis sirtalis



Mallard Duck
Anas platyrhynchos

Osprey
Pandion haliaetus