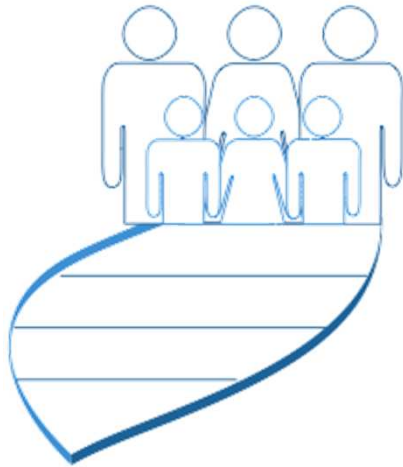


Biodiversity in Berkshire Country

(adaptable to anywhere)

Life Sciences/HHMI

OutReach
PROGRAM

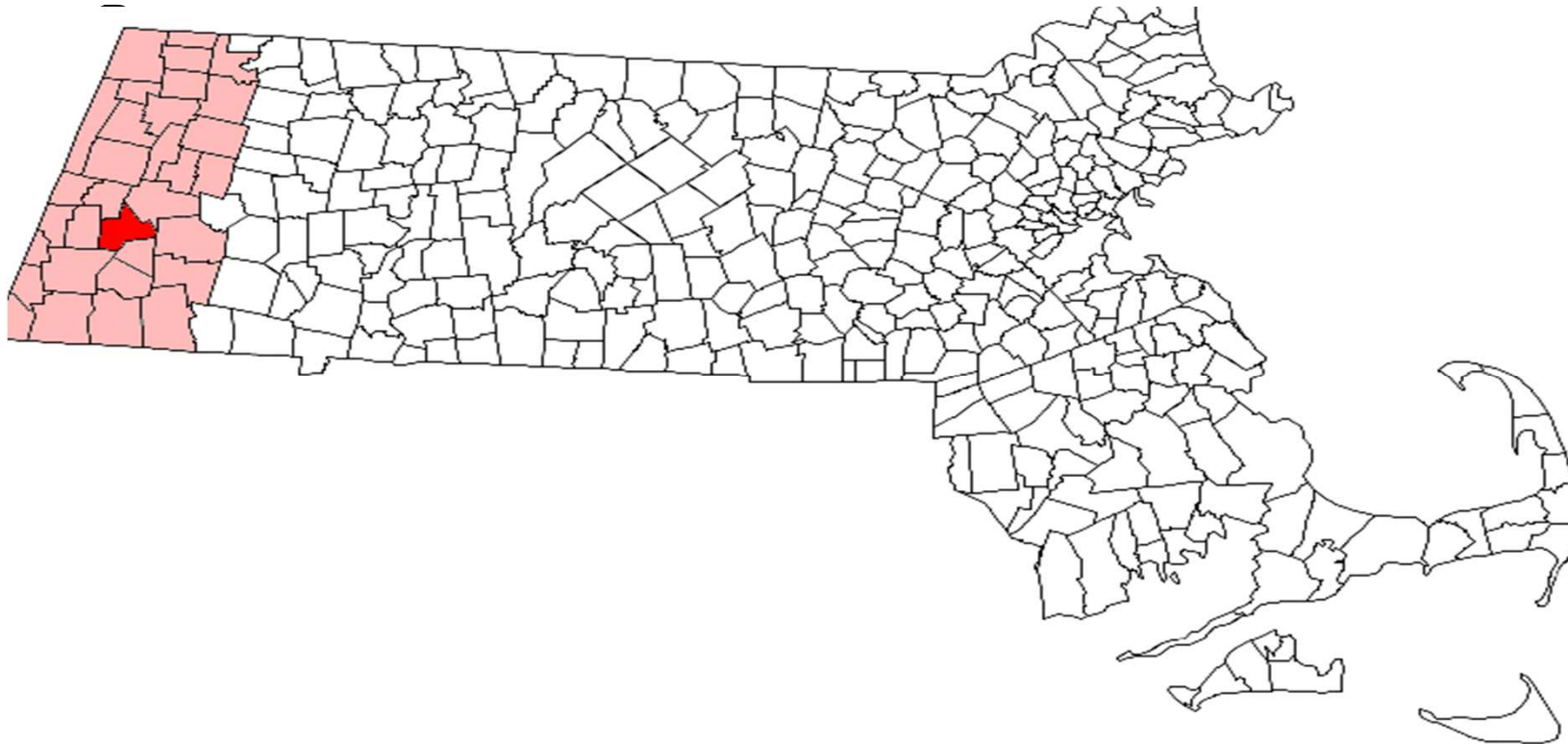


R. M. Hungate

Summer 2010 Workshop
in Biology and Multimedia
for High School Teachers

Pink= Berkshire Country Ma

Red= Lee Ma.

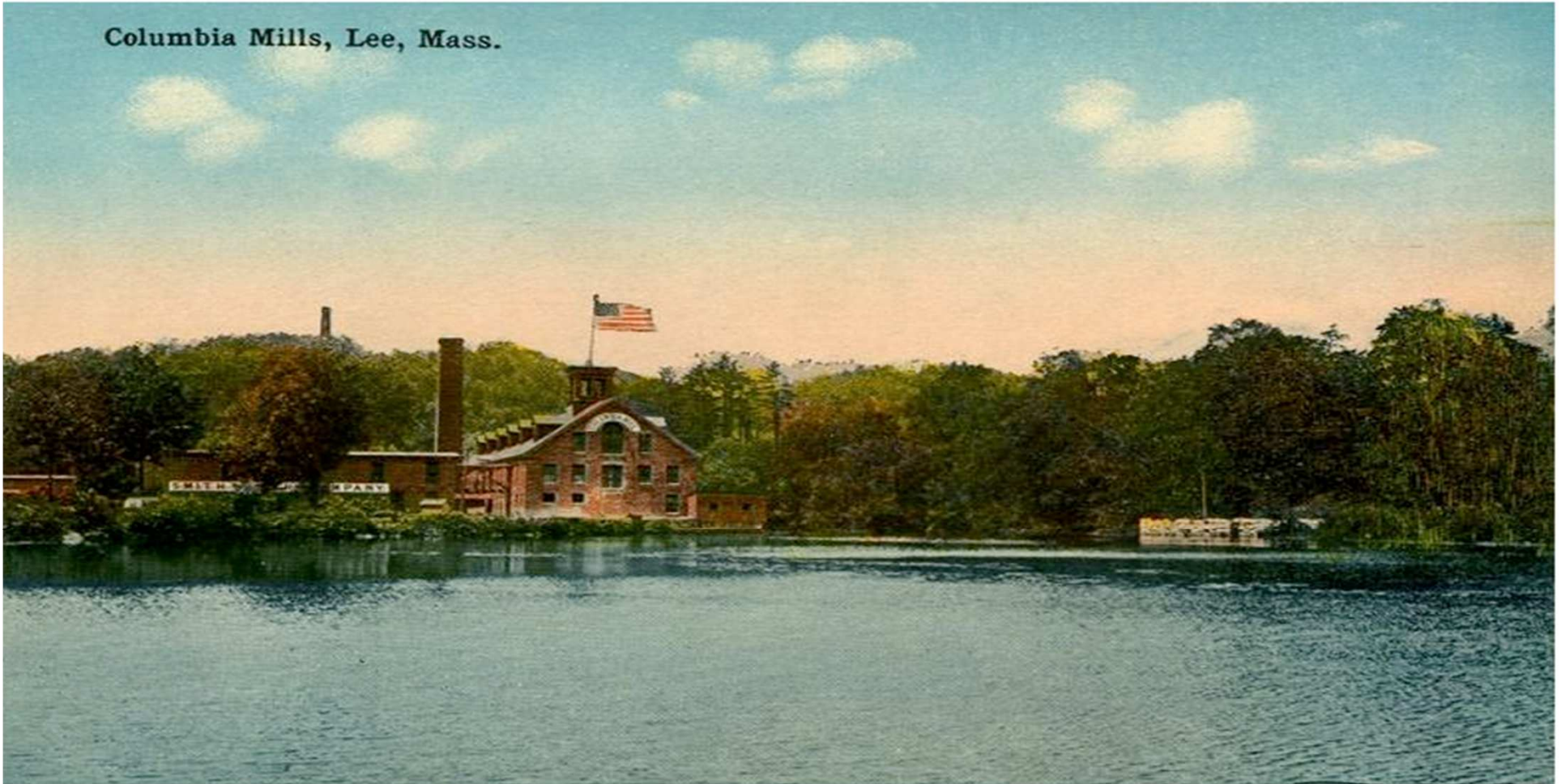


http://upload.wikimedia.org/wikipedia/commons/c/c4/Lee_ma_highlight.png

A. Brainstorming/Introduction

1. Students in groups will make a list of all the macro-organisms (animals/plants/fungus that they can “see”) they can think of that live in Berkshire County Ma. Come up with a number of species and a way of grouping them.
2. From the group lists, create a master list on the blackboard. From the master list, ask the students first for a scheme to organize them. Come up with a new number of species.

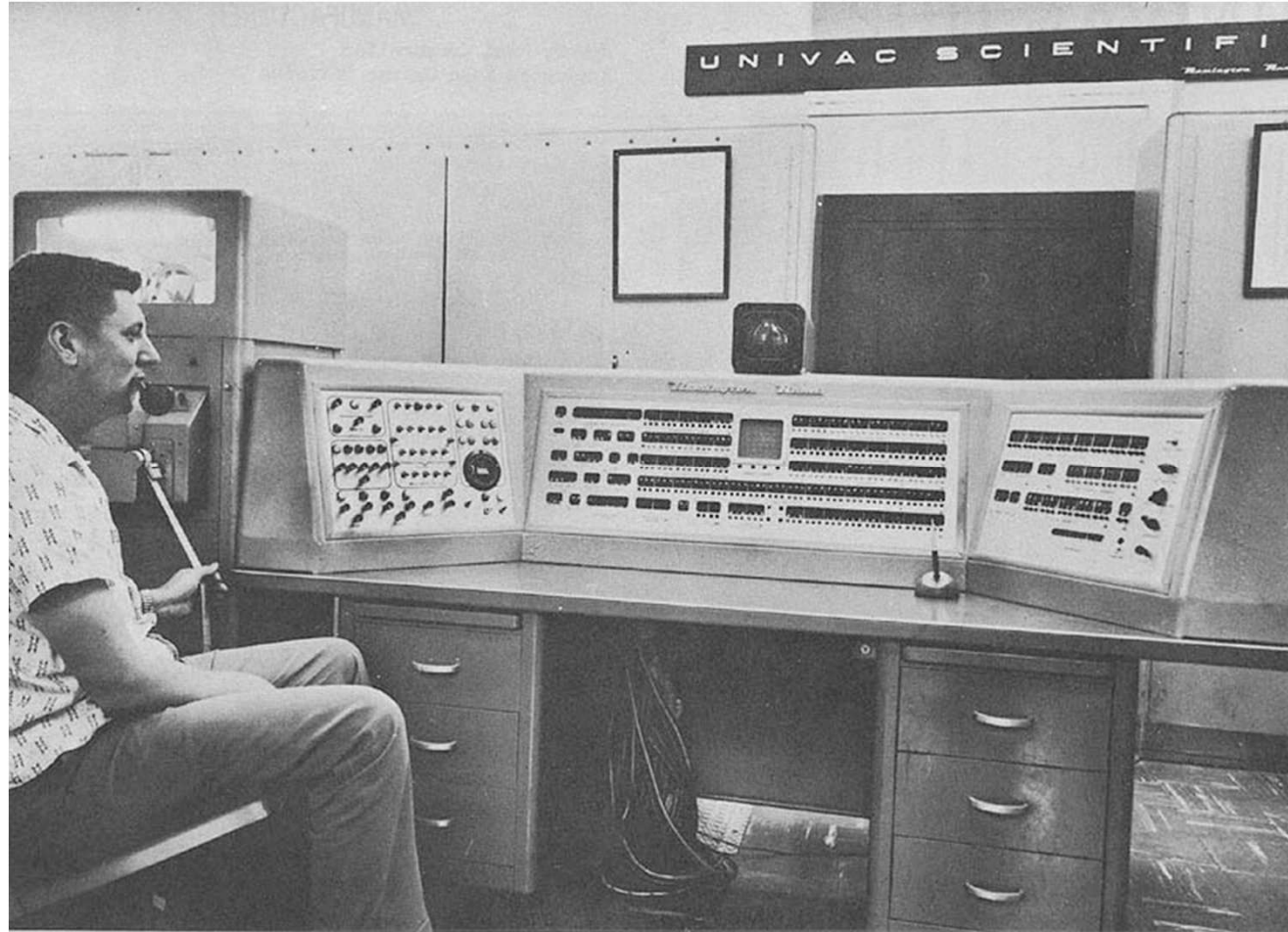
Columbia Mills, Lee, Mass.



http://en.wikipedia.org/wiki/File:Columbia_Mills,_Lee,_MA.jpg

B. Outside

- Students in groups with digital cameras, (cell phones) collecting jars, nets will go outside down to the stream woodland area and collect organisms. Using field guides try to identify as many as possible in the field. Take photos of others for later identification using the internet.
- Further identification using web sources. Come up with a third number of species.

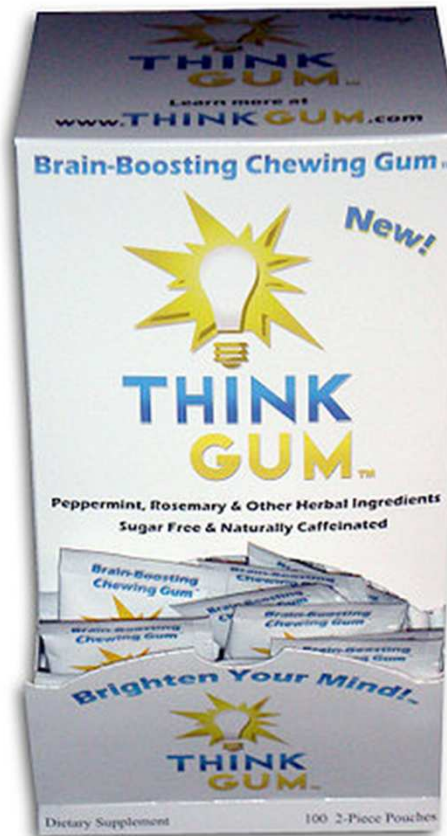


<http://upload.wikimedia.org/wikipedia/commons/b/b8/UNIVAC-1101BR161-0901.jpg>

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C. Computer based research.

- Using the web, broaden the search for Berkshire Country macro-organisms.
- Collect pictures and scientific names (genus species minimum) for all organisms found.
- Using the pictures and knowledge about the organisms create a food chain and then a food web showing the inter-connections between a subset of the list.
- Determine which organisms on the list are native, threatened, endangered, invasive.
- Using the list, list and analysis the adaptations the organisms have for living in New England



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D. Further investigations/questions

- Is the final number of species found by the class all there are? Why/why not?
- What other ways of collecting are there? What are the advantages/disadvantages of each?
- Are there any Domains, kingdoms, phyla, class of species we did not find a representative of? Why/Why not- explain
- If a study was being done to create a list of microscopic organisms in Berkshire Country would you expect the list to be bigger or smaller? Why?
- Look up the definition of ecosystem. What are the ecosystems present in Berkshire county?
- Can the concept of ecosystem be used at the microscopic level? Why/why not? Expand on your answer using detailed examples.

Resources slide #1

- MassWildlife

<http://www.mass.gov/dfwele/dfw/index.htm>

- New England Biolabs inc

<http://www.neb.com/nebecomm/biodiversity0203.asp>

- Flora of Berkshire County, Massachusetts (historical)

<http://www.biodiversitylibrary.org/title/7639#1>

- Bartholomew's_Cobble

http://en.wikipedia.org/wiki/Bartholomew's_Cobble

- Save the Housatonic river

<http://savethehousatonic.org>

- State Mammal list

http://www.mass.gov/dfwele/dfw/wildlife/facts/mammals_list.htm

- State Reptiles and Amphibians List

http://www.mass.gov/dfwele/dfw/wildlife/facts/reptiles/herp_list.htm

Resources slide #2

- Ma. Birds

http://en.wikipedia.org/wiki/List_of_birds_of_Massachusetts

- Ma. Plants

<http://plants.usda.gov/java/stateSearchsearchTxt=&searchType=Sciname&stateSelect=US25&searchOrder=1&imageField.x=41&imageField.y=4>

- Mushrooms

http://www.bio.brandeis.edu/fieldbio/mgoldin/Alpha_Scientific.html

- invasive species

<http://www.invasivespeciesinfo.gov>

- National standards- newest draft

http://www7.nationalacademies.org/bose/Standards_Framework_Homepage.html

- Mass Frameworks

<http://www.doe.mass.edu/frameworks/current.html>



http://www.burningwell.org/gallery2/v/Cityscapes/dsc20050302_114836_3.jpg.html

the end



http://www.burningwell.org/gallery2/v/Landscapes/At+the+End+of+Day_Ku_emanu+.jpg.html

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