

A Look Back into Schoolyard Ecology

by Pamela Snow,
Harvard Forest LTER Schoolyard Coordinator

Photos were contributed by participating Teachers, Coaches and Schoolyard Staff

Harvard Forest Schoolyard Ecology



Real Science

Real Scientists

*Real Issues**

*Summer Institute 2007
teacher evaluation

Collaboration

- Schoolyard Long Term Ecological Research program, National Science Foundation
- Environmental Organizations:
 - Millers River Environmental Center
 - Nashua River Watershed Association
 - Massachusetts Audubon Society
 - U.S.D.A. Forest Service
- Over 60 classes in Public and Private School Districts
- Harvard Forest
- Private Donors

Kate Bennett receives Formal Educator Award

New England Environmental Education Association



2008 Secretary's Awards for Excellence in Energy and Environmental Education

Massachusetts Executive Office of Energy and Environment Affairs



Students from Wildwood School Amherst at the State House

Jessica Greene

West Springfield



Judi Miller

Athol-Royalston



Michael Silverstone

Amherst





Students from Wildwood School, Amherst
The Hall of Flags, Mass. State House

Schoolyard Ecology Field Work





Ralph C. Mahar Middle School
Orange









Bagnall Elementary School

Groveland

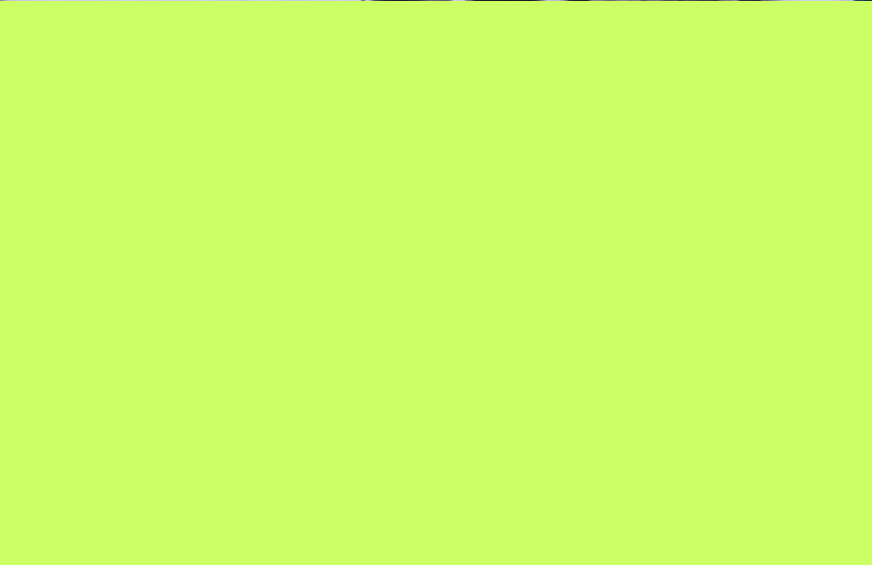
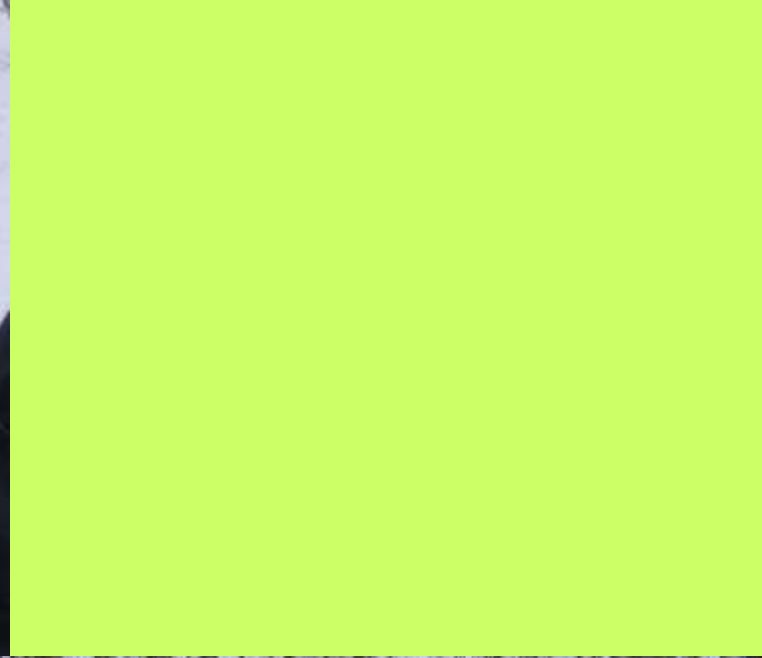


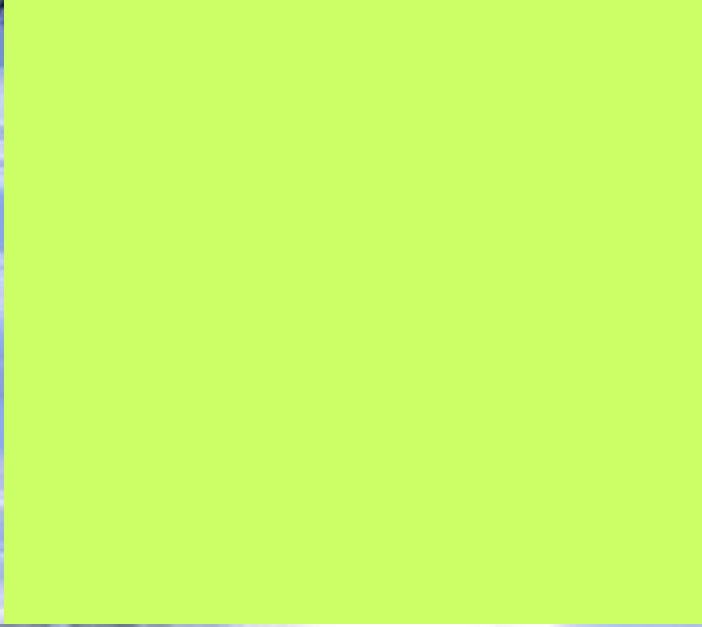
Empty Vernal Pool













JR Briggs Elementary School

Ashburnham







Athol-Royalston Middle School















Budburst Prep: Forcing Buds

Edward Devotion School Brookline





Worcester Academy











Communicating Results: Poster Session

West Springfield Middle School

Standards:
Science

November

ASTRONOMY

December

NO REVIEW



Climate Change & Phenology:

Buds, Leaves, and Global Warming

Manipulated Variables: Evidence of global warming, coverage and air temperature or levels of CO₂.

Responding Variable: Timing of the seasons (leaf out (Fall) and bud break (Spring)).

Hypothesis: Global temperature change will change the timing of the seasons.



Tree #1

BRANCH MAP

Introduction

Study Area

Methods

Results

Summary



Tree #2

Introduction

Study Area

Methods

Results

Summary



Tree #3

Introduction

Study Area

Methods

Results

Summary



Tree #4

Introduction

Study Area

Methods

Results

Summary



Tree #5

Introduction

Study Area

Methods

Results

Summary





Summary

Tree #6

Branch Map

Tree #7

Introduction

Methods

Study Area

ReSuLtS

Branch Map

Field Trips to Harvard Forest



The MacDuffie School









Ashburnham Field Trip





Spring 2008 Teacher Workshop

Harvard Forest













Handwritten notes on a whiteboard, including the following text:

- Compare of all 3 study designs
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes
- Compare studies on outcomes



Print

Home, grades, etc on the

Friends of Friends of Friends

Teacher Resources

- Student Resources
- Task Cards
- Art Programs

With Queens

Human Trafficking

Donor's Home Page

Comparison of all 3 eddy fish runs
1945, LPH, Howlocke

Com... us hardwood
... means, diff function

- ... w/ low spatial density (cont)

- ... density of low spatial density (cont)

- ... when plots

- ... core HF

...

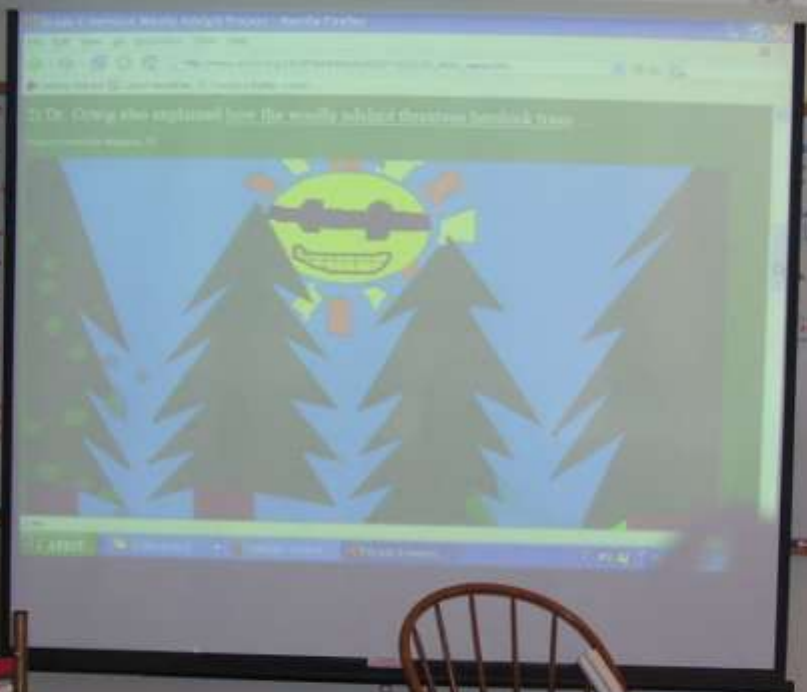
... ...



Participant sitting at a table, writing on a notepad.

Participant sitting at a table, looking towards the speaker.





Handwritten notes on a whiteboard to the left of the projector screen. The text is partially obscured but includes some illegible words and symbols.

Handwritten notes on a whiteboard to the right of the projector screen. The notes are organized into several bullet points and paragraphs, discussing various topics related to the presentation.





Pedagogical Motivations for Participation in Buds, Leaves and Global Warming

- 1. Concerns about scientific literacy of the American public in general.
- 2. Concern over lack of student knowledge/interest in nature.

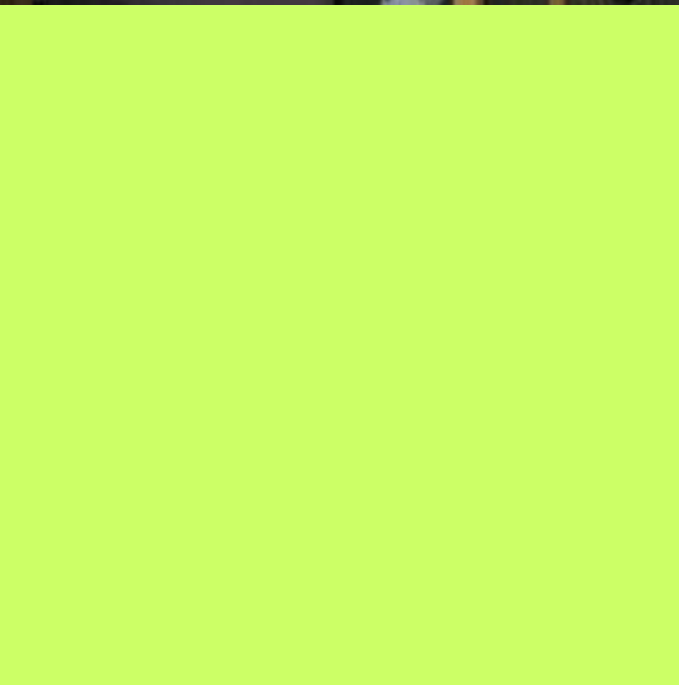
Summer Institute 2008



Sadly, these are our only pics from Summer Inst. this year due to technical difficulties.









Introducing our Newest Workshop:

Data Workshop Level II

Betsy Colburn









Spring Workshop for Teachers

March 26, 2009



Field Walks







Teacher Presentations





Diameter at Breast Height (DBH) (cm)	Log Above Ground Biomass (kg)	Above Ground Biomass (grams)	Root Biomass (grams)	Total Biomass (kg)	Total Carbon (kg)	Total CO ₂ (kg)	Gallons of Gas?
20	11.1	19028.7	27852.2	468.1	248.5	911.5	47.8
15	11.0	14217.1	11047.4	241.9	124.4	455.1	23.5
10	11.0	11430.0	11430.0	114.3	114.3	414.3	21.3
5	11.0	11.0	11.0	11.0	11.0	11.0	11.0
10	11.0	11.0	11.0	11.0	11.0	11.0	11.0
15	11.0	11.0	11.0	11.0	11.0	11.0	11.0
20	11.0	11.0	11.0	11.0	11.0	11.0	11.0
25	11.0	11.0	11.0	11.0	11.0	11.0	11.0
30	11.0	11.0	11.0	11.0	11.0	11.0	11.0
35	11.0	11.0	11.0	11.0	11.0	11.0	11.0
40	11.0	11.0	11.0	11.0	11.0	11.0	11.0





Ode to John O'Keefe

As he Officially Retires From Harvard Forest
and Continues as Schoolyard Ecology Scientist 😊





































Gift to JOK from Austin Preparatory School

In the end we will conserve
only what we love;

We will love only what we
understand;

We will understand only what
we have been taught.

-Baba Dioum

Thanks for all you do!

- Schoolyard Teachers and Students
- Millers River Environmental Center, The Nashua River Watershed Association, Massachusetts Audubon Society, USDA Forest Service
- Harvard Forest scientists and staff
- National Science Foundation, Schoolyard LTER
- Individual Donors