Engaging & Mentoring the Next Generation of Conservation Leaders

Abby Beissinger & Laura Cisneros
CLEAR Webinar
January 30, 2018
Meet the Hosts

UCONN

Meet the Hosts

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NATURAL RESOURCES AND THE ENVIRONMENT

Abby Beissinger
CAP Coordinator

Laura Cisneros
CTP & TPL Coordinator
Webinar Outline

1. Current state of youth in conservation fields

2. Overview of NRCA programs

3. Best practices for effective youth mentoring
   a) Procedures
   b) Communication
   c) Youth empowerment
   d) Recruitment
   e) Additional considerations

4. Questions
Current State of Youth in Conservation Fields
CT Land Use & Conservation Decisions Operate at the Local Level

Photos by Sharon Land Trust and Milford Land Trust
Local Conservation Dependent on Volunteers

8,184
Full-Time and Part-Time Staff

15,779
Board Members

207,646
Other Active Volunteers

4.6 MILLION
Members & Financial Supporters

Photo by New Haven Land Trust; Modified from 2015 Land Trust Census
Local Conservation Dependent on Volunteers

Land Trust Alliance
Celebrating 35 Years of Service

- 64 full-time and 94 part-time staff
- 1,311 board members
- **4,346 volunteers**
- 37,356 members/financial supporters

Modified from 2015 Land Trust Censes
Average Age of Land Trust Board Members in Maine

- 9.7% ≤ 39 yrs
- 50.6% 40-64 yrs
- 39.8% ≥ 65 yrs

2015 Maine Land Trust Census
A Disconnect from Nature

Half as much time in outdoors as previous generations

~7 minutes of unstructured outdoor play per day

~7.5 hours in front of electronic media per day

@ https://jansgephardt.com/

@ http://programmaticadvertising.org
STEM Pipeline – Leaking!

2001

4.01 million 9th Graders

2005

2.8 million High School Graduates

Fall 2005

1.9 million College Plans

Fall 2005

Only 1.3 million College Ready

2009-2011

278,000 Majoring in STEM

167,000 STEM Graduates

www.businessandeducation.org
Workers in science and engineering occupations

S&E Occupations

49% White men
18% White women
14% Asian men
7% Asian women
3% Black men
2% Black women
4% Hispanic men
2% Hispanic women
2% Other men and women

https://nsf.gov/statistics/wmpd/

Modified from NSF 2017
Overview of NRCA Programs
Engage teens, adults and teachers in natural resource science and service-learning efforts.

Participants execute a conservation project or curriculum in their own towns throughout CT.
Environmental Programs for Teens, Adults & Teachers

Teens

Teens & Adults

Teachers

http://nrca.uconn.edu
nrca.uconn.edu

157 students

81 CT towns

61 high schools

105 community partners

78 organizations

132 community projects
What kinds of projects would benefit your organization?
Environmental Programs for Teens, Adults & Teachers

Conservation Ambassador Program
For Teens
10-month program for high school students (grade 9-11) interested in the environment or science. The program includes a one-week field experience at UConn and an individual community conservation project.
LEARN MORE

Conservation Training Partnerships
For Teens & Adults
2-day workshop for high school students and adults that introduces online mapping technology that can be used to address local conservation issues. Teen and adult partnerships will be formed to carry out a local conservation project.
LEARN MORE

Teacher Professional Learning
For Middle & High School Teachers
3-day professional development workshop for secondary school teachers who teach in the Earth Sciences (via integrated or stand-alone courses), which will immerse participants in relevant local and regional water resource issues and online mapping tools to study these issues further. The workshop will offer curricular and technological resources underpinning particular NGSS Earth and Space Science Performance Expectations.
LEARN MORE
Conservation Ambassador Program

- One-week Field Experience at UConn
- 7-10 month Conservation Project
- 9 to 11th grade students may apply
http://nrca.uconn.edu/students/
2018 Program

➢ Field Experience: July 15-21, 2018
➢ Conference & Graduation: March, 2019
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LEARN MORE
Conservation Training Partnerships

- Team of teen & adult participate together
- 2-day Conservation & Geospatial technology workshop
- Conservation Project (any intensity or duration)
http://nrca.uconn.edu/students-adults/
2018 Program

- 8th to 11th grade students & adult conservation volunteers may apply

- 2018 Workshops:
  - Kent, CT: April 28-29
  - Groton, CT: June 2-3
  - Hartford, CT: June 21-22
  - New Fairfield, CT: June 25-26

- Conference: March, 2019
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Teacher Professional Learning

- 3-day Workshop at UConn
- Technology to study regional & local water resource issues
- NGSS-aligned Water & Sustainability Curriculum
Secondary science teachers may apply

August 13-15, 2018
Best Practices for Effective Youth Mentoring
What are your reservations working with youth?
What makes you excited about working with youth?
Average Day of a Teenager

- Wake up ~5:30 am
- School begins ~7:00 am
- Eat?
- Homework
- Midterms
- Sports
- Debate team
- Part-time job
- College applications
- SAT/ACT test prep
- Internship
- Have fun
- Sleep?
Procedures
Beginning

- Get to know student’s interest & share yours
  - Develop project of interest to student & beneficial to org. & community
  - Interested → sustained motivation → project completion
  - Real impacts → empowers student
  - Lead to diverse conservation solutions!
Beginning

- Get to know student’s interest & share yours

- Get to know student’s availability
  - School hours & peaks in assignment deadlines/exams
  - Sports, theater, other extracurricular activities
  - Family commitments
  - Avoid discouraging if there is limited time; be flexible & scale project accordingly

Remember: an impactful project can be done in short time
Beginning

- Get to know student’s interest & share yours
- Get to know student’s availability
- Clear expectations & realistic goals
  - Time commitment?
  - What can or needs to be accomplished?
  - Responsibilities?
  - Establish regular check-ins

Remember: may be student’s first independent project
Beginning

- Get to know student’s interest & share yours
- Get to know student’s availability
- Clear expectations & realistic goals

  - Avoid:
    - Research wildlife survey protocols by next week
    - Survey 50 sites for wildlife 3x a week
      - Vegetation assessment at 50 sites
    - ID vegetation samples by next week
    - Research restoration protocol by next week
    - Put on restoration outreach event
    - Make an interactive map of results found at each site
    - Make a website to accompany map
    - Research how to make ESRI story maps for website
Beginning

- Get to know student’s interest & share yours
- Get to know student’s availability
- Clear expectations & realistic goals
- Outline multiple components of project
  - Manageable units
  - Can always ditch aspect of project
## Project Plan & Timeline

### Tentative Project Timeline

<table>
<thead>
<tr>
<th>Project Task</th>
<th>Description</th>
<th>Resources Needed</th>
<th>Date to Accomplish Task</th>
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Middle

- Carry out project

- Regular check-ins *(note: CC parents)*
  - In-person
  - Email
  - Call or Text
  - Web conferences or Skype

- Reassess progress & modify as needed
  - Taking longer than expected? No problem! Scale back!
Data storage and/or document project

- Legacy binder!
- Data spreadsheet (Epicollect exports data in excel spreadsheet)
- iNaturalist, eBird, etc.
- Report, poster, videos
Connecticut Bat House Citizen Science Monitoring Program

NRCA Student: Jamie Masthay
Community Partner: Dr. Laura Cisneros

ABSTRACT
- Bats provide important pest control but are declining in CT due to a fungal disease known as White-Nose Syndrome (WNS).
- Monitoring bats and bat houses is particularly important in the face of WNS to record bat numbers and species changes in CT.

INTRODUCTION
- Bats are vitally important to pest control in North America, saving the corn-growing industry alone more than $1 billion dollars annually.
- Yet, CT bat populations (see species below) have significantly declined due to WNS, with some populations <10% pre-WNS size.
- Bats are important in pest control and monitoring bat populations.
- Citizen science has contributed to monitoring efforts of many taxa (e.g., birds), but few exist for bats. Given public interest in helping bats, monitoring is the key.

DEVELOPING MONITORING PROGRAM
Steps Taken:
- Developed a bat house network throughout CT by creating and distributing flyers describing citizen science project.
- Conducted a survey of bat houses from August 13 to September 20, 2016.
- Reported recorded occurrence, species, and bat data for each house (Fig. 1).
- Recorded video of bat houses with a GoPro 360 camera to capture more accurate data (Fig. 4).

Results:
- 16 bat houses in original network (Figs. 3 & 4).
- 4 houses were occupied by bats (Figs. 3 & 4). All occupied houses had a single species: Little Brown Bats (Myotis lucifugus).
- Colony sizes ranged from 32 to 47 individuals.
- Common characteristics among houses with bats:
  - Habitat: all were in developed areas, with a clear evidence of activity;
  - All were monitored on multiple occasions;
  - All had water sources nearby (within 1 mile);
  - Color: all were painted a dark color.

- Characteristics that did affect bat inhabitants:
  - Noise pollution: varied based on location;
  - Size: houses with bats ranged from small to large;
  - Number of Chimneys: ranged from 1 to 4.

ACKNOWLEDGEMENTS
I would like to thank Dr. Cisneros for not only being a wonderful NRCA coordinator, but also an extremely supportive community partner; my parents for providing support and transportation help as we monitored bat houses across CT; and Melissa Maltas, Director of Parks and Recreation in East Windsor, for being supportive of this project.

REFERENCES
End

- Data storage and/or document project
- Showcase work
  - Community event
  - Present at organization meeting (e.g. town hall, land trust meeting)
  - Regional conference
Connecticut Conference on Natural Resources
UConn Main Campus, Storrs, CT
March 12, 2018
Connecticut Land Conservation Conference
Wesleyan University, Middletown, CT
March 17, 2018
Communication

- Agreed upon communication routine
  - Include parents

- Meet students halfway
  - Email
  - Text
  - Phone
  - Facebook
  - Skype
  - Google Hangouts

- Multiple support networks
  - Parents
  - Teachers
  - Others?
Communication

Respectful

➢ Instead of
  • You need to .... *Would you be able to? Could you please? I’d really appreciate if you...*
  • Why haven’t you.... *I’m wondering when? Could you update me? Could we please set up a meeting to check-in?*
  • What’s wrong with you... *Just checking in to see how things are progressing... hope everything’s going okay.*

Remember: these are volunteers
Communication

Understanding

- School will take priority
  - Students usually can’t meet until after school

- May be their second or third extracurricular
  - Era of over committed teens
Communication

Positive

- Might need gentle reminders, friendly pushes, and encouragement
  - You’ve done a really great job on your project so far! Let’s finish strong.
  - I know this is a very busy time for you. Is there anything I can do to help make things easier?
  - We were very ambitious with your project. Let’s work together to figure out how to make things more manageable!
Youth Empowerment
Ideally, mentoring students can help youth
- Develop leadership skills
- Feel accomplished & empowered
## Youth Empowerment

<table>
<thead>
<tr>
<th>Listen</th>
<th>Give them a choice</th>
<th>Ownership of the project</th>
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<tbody>
<tr>
<td>Give them a voice</td>
<td>Collaborate</td>
<td>Relationship with the youth and not their guardians</td>
</tr>
<tr>
<td>Provide them with other opportunities</td>
<td>Venue for creativity</td>
<td>Be positive</td>
</tr>
</tbody>
</table>
Youth Empowerment
Recruitment
Recruitment

- High schools
  - Teachers
  - Career centers
  - Guidance councilors

- Local non-profits

- Town libraries

- Town Facebook groups

- Girl/Boy Scout troops

- Museums

- Mentor organizations
  - United Way
  - Boys & Girls Club
  - YMCA

- Descriptive flyers to distribute
- Require a short application
Other Considerations
Other Considerations

- Adult to student ratios
  - Age of youth
  - Public locations vs. remote/isolated locations

- Transportation
  - Permission
  - Number of students

- Waivers
  - Field work-related (e.g. operating equipment, boating, swimming, etc.)
  - Photos

- Background screening
Percentage of NRCA Projects Successfully Completed

Project completion ↑ with clearer expectations & refinement of mentorship support

<table>
<thead>
<tr>
<th>Cohorts</th>
<th>Percent Projects Completed</th>
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<tbody>
<tr>
<td>2012</td>
<td>62.5</td>
</tr>
<tr>
<td>2013</td>
<td>72.7</td>
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<td>2014</td>
<td>86.4</td>
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<tr>
<td>2015</td>
<td>100.0</td>
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<tr>
<td>2016</td>
<td>100.0</td>
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<tr>
<td>2017</td>
<td>92.3</td>
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## Contact Us & Get Involved

Email: [nrca@uconn.edu](mailto:nrca@uconn.edu)

Visit: nrca.uconn.edu

Follow: facebook.com/NRCAcademy

### Location Workshop

<table>
<thead>
<tr>
<th>Location</th>
<th>Workshop Date</th>
<th>App. Due Date</th>
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<tbody>
<tr>
<td>Kent</td>
<td>Apr 28-29</td>
<td>Mar 17</td>
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<td>May 10</td>
</tr>
<tr>
<td>New Fairfield</td>
<td>Jun 25-26</td>
<td>May 14</td>
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</table>

### Field Experience

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<th>Location</th>
<th>Field Exp. Date</th>
<th>App. Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>UConn Storrs</td>
<td>Jul 15-21</td>
<td>Apr 1</td>
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### Workshop Dates

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<tbody>
<tr>
<td>UConn Storrs</td>
<td>Aug 13-15</td>
<td>May 1</td>
</tr>
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</table>
Thank You For Joining Us!
Thank You To NRCA Mentors
#NationalMentorMonth