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Valuing Our Campus Trees and Community Forests [Project Proposal]

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PSU Integrated Cluster (IC) Project Funding Process & Proposal Form

Project Proposal Submittal Process: All IC projects requesting funding will require the completion and submittal of three (3) forms:

- Project Proposal Form – project scope & outcomes** (*included in this document*)
- Project Guidelines Form – reflective document outlining desirable IC project attributes**
- Project Budget Form – Excel spreadsheet to facilitate budget planning**

Instructions for Submitting Project Proposals:

- ✓ Download the 3 forms to your computer
- ✓ Complete the forms and save them; including the title of your project in the file name
- ✓ Forward the 3 files via email to the IC Project Manager, Ross Humer
rhumer@plymouth.edu
- ✓ Project Proposal will be logged & forwarded to the appropriate IC Guide Team

If not reviewed in advance of the submission, it is important to discuss the Project with the IC Guides to review, refine, and rework (if necessary) to obtain funding approval.

Project Funding Review Process: All proposed projects will be reviewed by the Cluster Guide team. Depending on the level of funding amounts being requested, the proposal request will follow the process outlined as follows:

- **Level 1:** Any project with a proposed budget of less than or equal to \$1,000 can be approved by the Cluster without additional review
- **Level 2:** Any project with a proposed budget of \$1,000 but less than \$5,000 can be approved by the IC Project Review Team, which is made up of representatives from each of the 7 Clusters (*see release time exception directly below*)
- **Level 3:** Any project with a proposed budget of \$5,000 or greater **or** requires faculty release time, must be first endorsed by the IC Project Review Team and submitted to the Academic Deans for review and approval

The project funding approvals are limited to one academic year; projects which require additional funding in subsequent years will need to be resubmitted annually for review and approval.

Deliverables: At the conclusion of the academic year, a deliverable to the Integrated Cluster Proposal Review Team and Academic Deans is required in order for the project director/coordinator, artist, or author and collaborator(s) to be eligible for future funding. This reporting requirement may be met by numerous means which will be identified as this process matures. It is anticipated that awardees will present their works before a wide public gathering to be scheduled during the upcoming Academic Year.

Instructions for the PSU Integrated Cluster Project Proposal Form: Please complete all of the elements of the following form in the spaces provided before saving and then submitting the document.

PSU Integrated Cluster Project Proposal Form

Title: Valuing Our Campus Trees and Community Forests

Project Leadership: (Identify Project Director/Manager or Co-Manager/s: Mary Ann McGarry

Project Description: Subtitle

What we know, we value- Understanding Our Campus Trees and Community Forests

The Tree Campus USA program of the National Arbor Day Foundation helps colleges and universities around the country establish and sustain healthy community forests, <https://www.arborday.org/programs/treecampususa/>.

Nearly 300 colleges across America are recognized by the Arbor Day Foundation for maintaining and stewarding their trees through their “Tree Campus” program. As of 2016, no campuses in New Hampshire are recognized. Plymouth State University (PSU) would be the first college campus in New Hampshire to receive Tree Campus USA recognition, although some colleges may have obtained this status in the past, they no longer hold the designation. **We propose leading PSU to acquiring this Tree Campus USA status and maintaining this distinction in perpetuity.**

There are five standards that need to be met to apply for Tree Campus USA, <https://www.arborday.org/programs/treecampususa/standards.cfm>:

Standard 1- A campus tree advisory committee must be formed and meet regularly. Representatives must include; a student, faculty member, community member, and facility management person. The committee can assist in providing guidance for future planning.

Standard 2- The campus tree advisory committee must develop a campus tree care plan that determines policy and guidelines for planting, maintaining, and removing trees and provides education.

Standard 3- The campus must allocate finances for its annual campus tree program. The guidelines recommend an annual expenditure of \$3 per full-time enrolled student.

Standard 4- The campus must observe Arbor Day. PSU has traditionally observed Arbor Day in the spring of each year. Dr. Brian Eisenhauer, Director of the Office of Sustainability has been charged with organizing this event.

Standard 5- A Service Learning Project that engages the student population with projects related to trees must be conducted. Other tree-related service learning or educational programs for students. The ESP capstone course, spring '17, worked with the Bartlett Tree Experts data collected winter '17 to calculate ecosystem services provided by trees on campus. Refer to attachment about the classes' May 8th, 2017 presentation.

Leading to the application for Tree Campus USA, Environmental Science and Policy PSU majors in the spring 2017 Capstone Course collected and analyzed data on PSU campus trees to quantify the many services our trees provide our community. Students compared and shared their data with that collected by Bartlett Tree Experts, a company contracted in 2017 for three years for \$23,640 to assess the health and risk of trees on campus. The contract with Bartlett and monetary expenditure satisfies Standard #3 above. (It is worth explaining that the Bartlett Tree Experts contract came into place because of a PSU alumnus who works for Bartlett and encourage the company to reach out to PSU. Next, PSU needs to form an advisory committee to review and develop the tree care plan that Bartlett Tree Services will be partly responsible for enacting.

The ESP Capstone work qualifies as a service project, see attachment.

Tyler Simonds the teaching assistant for the ESP Capstone Course has sent out an invitation to students, May 2017, to recruit student leaders to be involved, see attachment. Tyler has experience with green infrastructure and involvement in serving as a teaching assistant has continue to fuel this interest. Hence his desire to fulfill the goal of helping the campus apply for and secure Tree Campus USA designation- work that goes beyond his scope as a teaching assistant.

The new PSU botanist Diana Jolles had a student, Jamie Nesbitt, pursue an independent study in the spring of 2017 in which he identified species of plants on the PSU campus which have medicinal uses. This effort also qualifies as a service project.

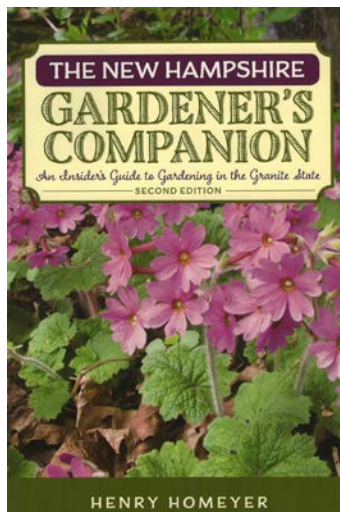
PSU already observes Arbor Day. Some of the students from the ESP capstone course participated in Arbor Day 2017, see attachment.

This project and Tree Campus designation supports the Master Plan for Plymouth which includes language about valuing the rural character of our town. Certainly part of this rural character relates to the trees in the community on campus and adjacent public and preserved forest parcels. In May of 2017, Neil Mclver presented the selectboard with a proposal to designate the town of Plymouth as a green eco-friendly town, hoping to encourage more eco-tourism with such an initiative. Dr. Mary Ann McGarry attended the meeting and spoke about how Mclver's initiative supports the work of her class and desire to have PSU achieve Tree Campus USA designation. Dr. McGarry learned from the town planner that Plymouth has had

Tree City USA designation. The hope is if the campus acquires their designation the town will follow suit. [Action Steps and Timeline for PSU to obtain Tree Campus Arbor Day Status:](#)

- Bring together committed campus community members to discuss the value of being recognized as a Tree Campus USA. We will work with the Director of the Office of Sustainability.
- Identify students who are interested and available to serve on the inaugural Tree Campus USA committee—see below—taking this unique leadership opportunity to lay its groundwork. The student will be familiar with this cluster project and its goals/objectives. The student will start communicating with others in anticipation of quickly working out the remaining requirements for Tree City USA recognition in fall, 2017. Identify at least one back-up student to be on the committee—should anything unexpected happen over the summer.
- Establish a mechanism for filling leadership positions on the tree advisory committee as students graduate, staff retire, or members otherwise need a replacement. (It is recommended that leaders commit to one academic year at a time.)
- Fall 2017 – Complete the requirement list set forth by the Arbor Day Foundation for Tree Campus USA recognition. Submit a free application by the end of 2017. More details can be found at <https://www.arborday.org/programs/treecampususa/>.

As a result of posting images and stories about the proposed cluster project, two new additions were offered. First, Paula Lee Hobson recommended the following gardening book which includes information about the trees on the PSU campus and the former horticulturist-Steve Sweedler, who was awarded the Madie Barrett award in 2013 for his stewardship of the appearance of the grounds on the campus- <https://www.plymouth.edu/news/psu-names-steve-sweedler-madie-barrett-award-winner-longtime-horticulturist-credited-with-beautifying-campus/>. The Project management team will invite Steve Sweedler to join the cluster project.



Posted the following on Facebook:



ESP capstone class, before the final presentations on the value of trees on the PSU campus. I loved that the group wanted to have trees in the background of our photo. The class using i-Tree software calculated the benefits provided by individual trees using inputs of location, species, tree size, and condition. They obtained \$ estimates related to greenhouse gas mitigation, air quality improvements, and stormwater interception. They each evaluated different buildings. One learning outcome- an appreciation that money really does grow on trees! Excited to learn how this class goes out into the world as a group of environmental stewards. [#plymouthstateuniversity](#) and Alice Staples commented, “We should talk about adding historical research to this via the archives.”

Project Goals and Outcomes:

1. Project Goals – Briefly identify and describe the objectives of this project

- Increase awareness among students, faculty and staff of Plymouth State University about the importance of the trees on our campus and the services they provide beyond their aesthetic or educational value.
- Utilize data generated through the work of *Bartlett Tree Experts* in early 2017 (particularly information on tree species, size, and health) and information acquired from the i-Tree Design and i-Tree Canopy software applications to generate reports on the ecosystem services the community receives from trees on campus. The following are examples of ecosystem services provided by trees:
 - energy savings in terms of heat and air conditioning costs,
 - contribution to bio-diversity which can indicate resiliency of ecosystems,
 - removal and storage of carbon from the atmosphere to help reduce human impacts on climate change,
 - information on how our trees are parts of ecosystems that support wildlife native pollinating insects and birds, and more.

2. Student Learning Outcomes – Outline the expected student learning outcomes

Students and the campus community will value the trees on our campus in a much more expanded way.

Once PSU achieves Campus Tree USA designation, the goal is to continue to explore ways to continue to educate new students. All students should know about the many values that trees provide.

Project Synopsis (objectives & outcomes): 30 word maximum; capture the project objectives and most significant outcomes for the project. This synopsis should be written for potential use in our internal communications and external Marketing/PR activities.

A committed group is actively seeking to have PSU apply and retain Tree Campus USA National Arbor Day Designation.

PSU must meet five criteria to achieve the Tree Campus USA designation. The new challenge is to create and foster an ongoing committee with student representatives to oversee compliance.

Project Documents/Pictures/Videos On-line Archive: post the link to on-line project resources captured in this project, especially, pictures, videos, “Quotable Quotes” and other project documents.

Russ Warnock from Bartlett Tree Experts came to share with the class on two different occasions. Here are some highlights from a student perspective:

“I was surprised to hear that Bartlett is an international company, and hope to see more of their contributions benefitting the quantity and quality of trees in urban setting all over the world. I also hope that our campus can become a model for other campuses to take part in this initiative.” Kimberly Eggers

“Before this presentation, I had never thought of the importance of maintaining every single tree on campus, or of the possibility of an arborist as a career in environmental science.” Thomas Lafortune

“What was most interesting was learning how they classify what trees are high priority. With so many trees to work on, it was helpful to see the process they go through to determine where to focus priority.” Marcus Chase

We also had the pleasure of hosting John Parry of the US Forest Service:

“The careers possible in forestry have become much more appealing to me thanks to presenters like John. It was also great that he took the time to head outside with us to explain some field data collection techniques. The field data collection is what really drew me to the field of environmental science so it was great to see some methods in action.” Sean Wilson

“Before this presentation, I was not aware of all the benefits trees have for urban areas. Firstly, I never realized that trees protect watersheds by intercepting rain water, providing evapo-transpiration, and improving infiltration. The effects of these benefits include: delaying runoff and removing pollutants from storm water which then decreases the amount of storm water needed to be treated. Another benefit comes from reducing heating and cooling costs for homes.” Erika Clifford

Project Documents/Pictures/Videos On-line Archive: [List of attachments:](#)

1. Description and photo from Arbor Day 2017.
2. Description and photo of ESP Capstone class public presentation on results of calculating ecosystem services of campus trees.
3. Public solicitation to recruit student workers.
4. Quotes from students about two presentations by Russ Warnock of Bartlett Tree Services in the ESP class.
5. Quotes from students about presentation of John Parry introducing the class to i-Tree software.

Rationale and Impact:

Considering the questions below, please write your project rationale and impact statement.

Include how this project will further the Mission and Vision of PSU with respect to 1) fostering collaboration across disciplines; 2) addressing a relevant societal issue, and 3) establishing relationships with community partners, external institutions, companies, non-profits, schools, government agencies, etc. and 4). Making an impact

How does this proposed project advance the Integrated Cluster mission and vision? How does this project facilitate high impact teaching and learning, cross disciplinary collaboration, student engagement and partnership involvement, and real world problem exploration? What are the anticipated impacts of this project?

Is this project an extension of work already in progress, or an entirely new endeavor? Does it integrate with areas that team leaders are already teaching or is it an opportunity to delve into unfamiliar content or a bit of both?

This project furthers the mission and vision of PSU as it fosters collaboration across academic (two academic majors) and support services on campus (physical plant services).

The project involves PSU students in using state-of-the-art software to calculate ecosystem services of the trees on campus, information that can benefit all and can be incorporated into recruitment material.

The project involves two key external partners – Bartlett Tree Experts and the Urban Forestry branch of the US Forest Service. Representatives from both this private and governmental organization have visited PSU classes related to this project.

This project is an extension of work that has been evolving over two years. The topic integrates with topics faculty are already teaching.

As a result of this project PSU will have more information about the value the trees add to the campus.

Involved PSU community members:

Dr. Mary Ann McGarry – project manager and faculty member – teaching community forest ESP capstone seminar course, spring '17

Tyler Simonds – PSU graduate student, TA –with ESP capstone seminar course, co-author of cluster project proposal

Brianna Rossiter- PSU undergraduate student assisting McGarry and Simonds on Tree Campus USA campaign

ESP capstone class- 30 students

Dr. Diana Jolles- faculty Biology Department, supervised Jamie Nesbitt's independent study, described above

Dr. Brian Eisenhauer- Director of the Office of Sustainability, organizes Arbor Day Events on campus

Alice Staples- Librarian, interest in adding historical research via Lamson archives

Ellen Shippee – Director of physical plant –PSU contact person on Bartlett Tree Experts contract

Brett Melanson –PSU grounds supervisor

Jody Schaefer – PSU grounds

Bruce Ballou – supervisor athletic fields

Don Perrin – utilities/major projects

Kelli Kemery – finance physical plant

Katie Caron- Campus Environmental Health and Safety

krcaron@plymouth.edu. <https://www.plymouth.edu/office/physical-plant/departments/campus-environment-health-and-safety/>

External partners:

Bartlett Tree Experts – provide a Tree Care Plan for the campus, Russ Warnock made two presentations to the ESP Capstone course, spring '17. Warnock interviewed two ESP class members about working for Bartlett Tree Services. Bartlett is also willing to offer internships to PSU students, includes quotes from students about the visits.

United States Forest Service – creating i-Tree Tools for Assessing and Managing Forests & Community Trees, representatives have visited the ESP capstone class, John Parry and Susan Cox gave guest presentations spring '16 and John Parry returned spring '17, see attachments related to their visits, includes quotes from students about the visits.

Project Team

PSU Project Participants (essential core team participants including faculty and staff)

Name	Position/ Title	Project Role	Discipline/ Specialty	Email
1. Mary Ann McGarry	faculty	project manager	environmental science & policy	mmcgarry@plymouth.edu
2. Tyler Simonds	graduate student	launch support	environmental science & policy	tsimonds@plymouth.edu
3. Diana Jolles	faculty	participant	biology	ddjolles@plymouth.edu
4. Brian Eisenhauer	faculty	participant	sustainability	bweisenhauer@plymouth.edu
5. Ellen Shippee	staff	participant	physical plant	eshippee@plymouth.edu
6. Alice Staples	librarian	participant	Library sciences	astaples@plymouth.edu

Non-PSU Project Participants (stakeholders; partners; academic institution; etc.)

Name	Organization	Project Role	Discipline/ Specialty	Email
Russell Warnock	Bartlett Tree Experts	risk assessment	tree health	rwarnock@bartlett.com
John Parry	Urban Forester, USFS	Participant, introduced PSU students to i-Tree software	Calculating ecosystem services of trees	jparry@fs.fed.us

Student Participant Profile (Identify the student population/s to be engaged in the project. Identify if this has been or is planned to be incorporated into curricula) **The following students have been involved in the project to date.**

Class/ Student Organization/ Individuals	Role in Project	Academic Level (Undergraduate or Graduate)	Academic Discipline	Total Student Population
ESP Capstone course, spring '17	Calculated benefits of trees on PSU campus	undergraduate	ESP majors	30
Dianna Jolles' student, spring '17	Investigating medicinal uses of plants on PSU campus	undergraduate	biology	1
Arbor Day, spring '17	Attending planting near Hyde	unknown	unknown	8

IRB (Institutional Review Board) Compliance

IRB Compliance: <http://www.plymouth.edu/office/institutional-review-board/>

- This project DOES NOT require IRB compliance
 This project DOES require IRB compliance (*complete below*)

IRB Approval Status: Select an Option

IRB Approval Date: [Click here to enter a date.](#)

Any funding approvals of IRB-required projects are contingent on obtaining IRB approval.

Project Management: Timeline and Milestones

Identify the timeline for the project including start, completion, and major project milestones. A closing report will be required as a part of the project funding process.

Project Start Date: [Click here to enter a date.](#)

Project Complete Date: [Click here to enter a date.](#)

Project Milestone	Milestone Description	Target Completion Date
Inaugural Tree Advisory Committee Meeting	Student leadership will assemble the Tree Advisory Committee, hold meeting in September.	9/30/2017
Second Meeting	Tree Advisory Committee will meet to finish the Tree Care Plan and make sure a Tree Care Program is established on campus.	11/17/2017
Paperwork Submission to the Arbor Day Foundation	Student leadership will make sure all 5 components of Tree Campus USA recognition are complete. They will submit the free app.	12/15/2017

Please identify any pre-project education or training for students, faculty, and staff that would be helpful for your project team to have in advance to begin work on a strong footing (e.g., skill training, concepts), and identify any training and education that you are willing to help provide during the preparatory period for the project team before team work formally begins.

Student Education/ Training Requirements: [Bartlett Tree Experts will provide training in Arborscope for PSU community members, May/June 2017.](#)