Climate Action, Sustainability, and Energy Committee Meeting Minutes
February 26th, 2024, 2:00pm
Zoom: https://virginiatech.zoom.us/j/89050662418

Present: Nathan King for Mary-Ann Ibeziako, Teresa Sweeney, Diane Bonsall, Lam Vuong for Liza Morris, Wesley Gwaltney, Joshua Clemons, Jamie King, Kendra Paisley, Annie Hassall Lawrence, Autumn Timpano, Emily Williams, Nick Woods for Ken Miller, Lane Robertson, Matt Stolte, Pat Donovan, Gia Ha, Todd Schenk, Leslie Stevens, Luke Goodman, Mae Hey, Zhuo Fu, Cameron Hadley, Renee Sarmiento for Katie Smith

Absent: Bob Broyden, Carrie Cox, Nam Nguyen (prior notice given), Erin Poff (prior notice given), Dean Paul Winistorfer (prior notice given), Benjamin Thomas, Thomas Dalzell, Isabelle Largen,

Guests: Kristina Cook, Kang Xia, Nick Quint, Simona Fried, Mark Witt, Ron Meyers, Paul Ely, S.B Chandler, Adia Long, Steve Durfee, Yugasha Bakshi, Sean McGinnis, Ralph Hall, Barbara Wise, Durelle Scott, Ann Raridon, Anthony Watson

Nathan King called the meeting to order at 2:00 pm. A quorum was present.

1. Adoption of Agenda

A motion was made and seconded to adopt the agenda. The motion carried.

2. Membership Updates

Lane Robertson is the Vice President of Administration on the Undergraduate Student Senate Cabinet. She is now a member of this committee, completing Claudia Budzyn's appointment.

3. Presentation and Vote

Jamie King (Urban Forest Manager and University Arborist) and Nathan King (Campus Sustainability Manager) gave presentations that covered all agenda items for the committee meeting (attached). The two Green RFP projects were passed for approval by the committee. The next step is meeting with the Budget Office's committee for approval and funding.

4. Open Discussion and Announcements

- Announcements
    - Our March 25th CASEC meeting will be in person at Fralin Hall Auditorium with Zoom option- topic is 2025 CAC Revisions- subcommittees reviewing progress toward goals this Spring semester and will provide reports at the April CASEC meeting.
    - VT's Bee Campus USA committee had its standing committee meeting on February 20th. We are ready to take volunteers for maintaining the VT pollinator gardens associated with Bee Campus USA. Contact Kristina Cook if you are interested in being a volunteer. 2nd annual VT Bee Day is scheduled for Tuesday, April 23rd as part of Earth Week. Agenda is forthcoming.
    - Campus Race to Zero Waste: starting week 5
    - Office of Sustainability is taking applications for their internship program!
    - VT Employee Food Access and Wellbeing Survey is now live
    - Freezer Challenge is continuing- reach out to Yugasha Bakshi with any questions
- Green RFPs
    - Diane Bonsall: Are we moving progressively along Stroubles Creek and do you have a diagram at the ready that shows the progress we are making along that pathway?
    - Nathan King: Yes, (Nathan shared the map that Tom Saxton shared with the Office of Sustainability.)

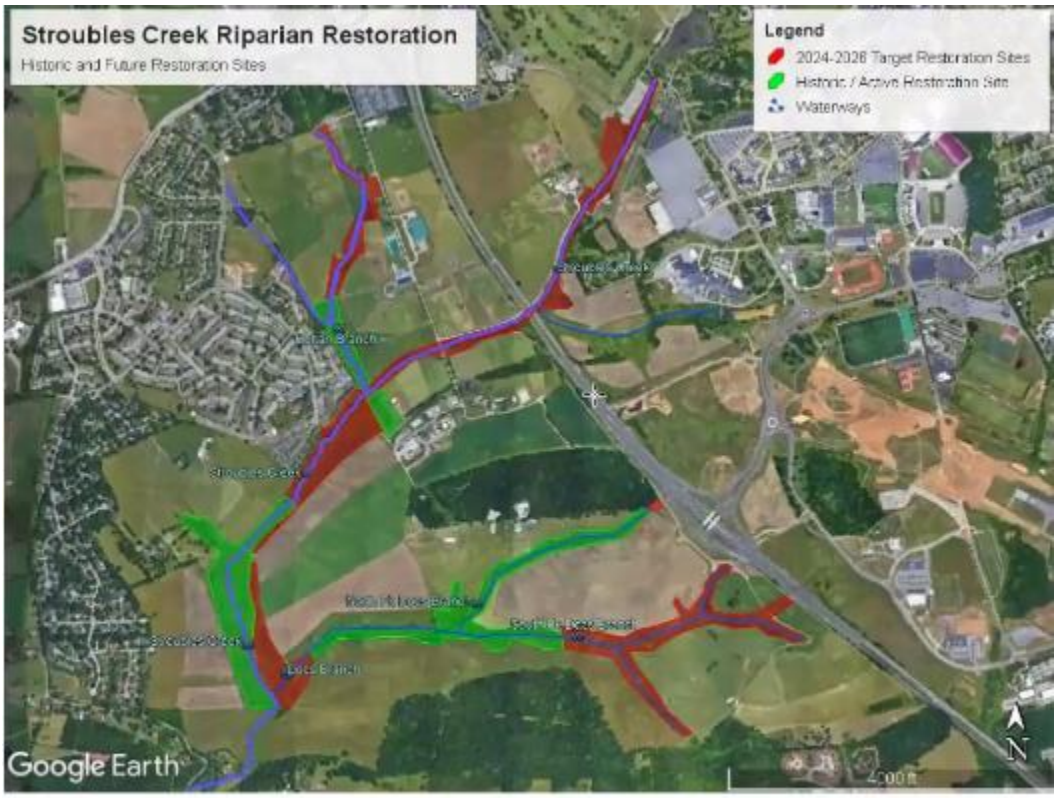


Image 2: Stroubles Creek restoration project overview map. The green areas are active restoration sites, and the red areas are target restoration sites, with several of the red polygons turning active in January 2024.

- Sean McGinnis: Nathan, do you have CO2 savings estimates for the two potential projects?
  - Jack: Tom gives us a pretty accurate number of trees planted and so, yes, we can calculate that pretty easily.
- Sean: Status update on last year's proposals?
- Nathan: 2 projects are complete, 5 in progress, 1 launching, and 2 that have not yet started.
- Jamie King: Last year's GRFP funded some reforestation on campus and we're doing that as part of Big Plant 2024. If you are interested in helping out, please join Jamie and team on March 16th. Opportunities to volunteer on central campus and also around Stroubles Creek!

- January 2024 CASEC meeting Energy and Utilities presentation
  - Response to questions from the end of the January meeting (contained in presentation):
    - Nam could not attend but Nathan shared Nam's response: We are certainly looking at all options; additional rooftop solar PVs, as well as ground-mount, or canopy solar. Both as PPA or build-to-own. Everything is being considered. One thing we must consider about price comparison is that we are unique in that we own an electric utility, where the cost of owning and maintaining the system remains the same because we still must deliver the power in the early morning for winter peaks and late evening for summer peaks ... and solar is not generating during those times. Solar is still very beneficial, of course, we just have to be mindful when considering total cost to the university.
    - Steve: CAC called for us to look at all opportunities and whether or not it would be an owned or leased opportunity. 1.3 MW are starting to be installed on campus: Sterrett, VetMed, McCommas, and Durham. Kentland and Catawba are good possibilities but currently inconclusive. Experts can come to the table together. We're getting closer to 2030 and we're behind. Time to get more aggressive with planning.
    - Ron Meyers: Thank you for the recognition of work done at Catawba. Yes we realize that i's really preliminary in terms of figuring out the rest of the strategy for ownership

options and potential costs. The first hurdle that I heard about around here was that we could never site anything nearby. Some of my questions were about seeing the large amount of effort done and financial calculations for the PPAs, when we're really running up against a deadline to renegotiate the agreement with APCO and how we would potentially look at the economics of generating our own electricity and how that might affect contracting. I'm looking for a commitment to sort out those other avenues because they're not easy to sort out. Ralph and I have contacts in the industry as does your department. So I think it would be a great collaboration to work on.

- Steve: I agree with all of that and I think we need to bring that forward. That's probably one of the things we're responsible to do as a group.
- Jack: I just wanted to issue a correction. I pulled up the climate action commitment and I also cited the specific paragraph I'm about to refer to in the chat, but the climate action commitment does not call to investigate the possibility of owning and operating solar in Virginia Tech and in the region, it actually pretty clearly delineates the need to develop 15 megawatt capacity of solar on rooftops and lands owned by Virginia Tech. And then to work with APCO or some other third-party PPA to develop solar capacity specifically in southwest Virginia. And so as far as I'm aware, the main progress we've made towards that is about 1.1 megawatts on rooftops on Virginia Tech across 4 buildings. And that's it. Nothing on the PPA side, which is the bigger chunk of this pie. No look at seeing if we want to absorb any of the ownership of that 135 megawatts that's currently slated to be APCO PPA. And that has to be regional right? This policy specifically demands that it is in Southwest Virginia. So I guess I'm sort of curious given all the effort put into the PPA agreement by Nam or sort of outlining some of the options, why there seems to be a disconnect between the actual goals and then what is being proposed. I wanted to mention what is actually in the CAC.
- Steve: I don't know if anything has been officially proposed yet. I would ask what has been proposed.
- Jack: Yeah, I mean there were a couple different opportunities for solar facilities out in eastern Virginia, but that doesn't count. There's been some talk of partnering with some folks who help to manage land over the Jefferson National Forest, but that wasn't presented to the group solid yet. So I think that's what I would like to see is a little bit more focus maybe from Nam on the specificity demanded by the climate action commitment because we're 4 to 5 years in and I haven't seen it.
- Steve: I hear you. I'd like to see more too. To Nam's credit, he's new here and he's worked aggressively to do more in this arena here than I've seen. I think he needed a little time and I know it seems like we don't have time but also to his credit he has provided a significant amount more transparency on things like that. So, we're moving in the right direction there. About what you said about the implementation guidelines, Jack: On goal 2, the second to last bullet there, it does say in here that citing renewable energy systems should employ best practices to identify most appropriate sites considering compatible uses and economic and environmental and social effects. So, clearly we need to be doing that. It goes without having to be written or said that we should approach it that way.
- Ralph Hall: I have a process question for Steve. In the last several months, there's been a real surge in interest across multiple groups on campus with regards to the future energy supply that we'll have here at Virginia Tech and there are specific centers that are very interested in this as well. We've got agricultural research extension (ARECS), we've got advanced innovation in agriculture center, food systems, and community transformation. There's probably 5, 6, 7 centers that may have direct interest in this. So I think there's a real sort of powerful cohort of knowledge here that we can bring to the table. I guess we need the mechanism to do that. So my question is, do you have any thoughts on how we could do that and how

we could convene a conversation so we can help Nam think through these scenarios and really run the numbers.
        - Steve: I love to hear that our school has that kind of interest and that kind of expertise and the opportunity for a climate action living laboratory which is what that would be. It shouldn't be difficult to get all the players around the table. Nathan, I'll talk to you after this meeting about that.
        - Nathan: Absolutely. And we have some currently running meetings as well that any of you are welcome to join and share your expertise (biweekly CAC Implementation meetings). It's another great avenue to get in front of all of us and pitch these ideas and use your expertise to help guide us down the right pathways. We've been successful at getting a good amount of folks to those meetings. Those meetings are on Monday mornings so if that doesn't work for schedules we can look at something outside of that.
        - Steve: Ralph, could you be our point person and develop a stakeholder list?
        - Ralph: I'm happy to serve in that capacity. People here can email me to let me know if they'd like to be included. Some proposals are due in April, especially the VDOT NSF one. Nathan, I'll follow up with you after this meeting and we'll come up with a plan. I'll copy you as well, Steve.
    - Sean: Are there places you need help for Earth Week?
        - Nathan: We're at the initial stages. We can get you in touch with Emily Vollmer to know any specific places we could use help. Looking at broader community discussion about CAC Revisions.
    - Nathan: Jamie King had to run to another meeting but if you have questions for him from his presentation, please put those in the chat and we'll be sure to connect you.
    - Lane Robertson: Nathan, do we have an update on the pollinator garden project on the Huckleberry trail?
        - That is one Jack Rosenberger and Matt Gart can give us an update on.
    - Jack:
        - I just want to mention that as we start to think about the progress that we've made for CAC implementation- the paths we still need to walk to get to progress and things that we need to start changing about the policies. I just wanted to mention that our office, and then I'm happy to volunteer myself in particular, are more than happy to talk about or to give an overview of some of the progress in areas for improvement that we need to make to any of the different academic centers, student organizations, staff offices or departments. I'm presenting to the Graduate Professional Student Senate this Thursday actually about a broad overview. So if that's something that you're interested in, please feel free to reach out and we're happy to talk about that. We want to start to drum up some sort of collective knowledge about sustainability ahead of the 2025 revision process just to make sure that we can really go in swinging and fully aware of the challenges in front of us. So I'm just gonna put my contact information in the chat if anybody is at all interested in hearing from us or getting that sort of broad overview.
    - Wesley Gwaltney:
        - I've heard mentioned a couple of times about possible solar development at different VT properties: Catawba, Kentland, and the ARECS. Where are those discussions? Where are they and at the unit levels or at the AREC levels, where are they in discussing that kind of more openly by where on that land that might occur?
    - Ron Myers:
        - I think it's started as a faculty/student up initiative. So, Catawba was just a study done to figure out if the community would accept it and under what conditions. As sort of a proof of concept for an approach to getting social acceptance. That included discussions with the faculty who were there, the community members who were there, the land manager. A similar process, only at the very beginning, is what's happening at Kentland. Where a number of faculty in CALS have noticed what's

going on at Catawba and are potentially interested in that. That one hasn't gone any farther than that. There's this network, this loose network of faculty interested in agri-photovoltaics includes extension agents. We have a couple $100,000 grant and we're putting the first simulated solar panels on top of a greenhouse at an AREC to do some experiments on how that affects plant growth, sort of show that in Virginia. It's like a micro project. So it's just very ground up and now more and more centers are interested as Ralph was saying. And we speak with more administrative units and centers. And it's very organic grassroots up. So if you're worried about your own land, talk to us. What does generate your question?

- Wesley:
  - I'm not worried about it, but I think the mention was that it might require 1,000 acres of solar to meet the total. I don't know if we're trying to meet the total energy demand with solar but I was just interested in where those discussions were occurring.
- Ron:
  - I can respond to that 1,000 acre figure a little bit. Ralph Hall and I- Ralph is advising a PhD student and we did some preliminary screening of lands managed by Virginia Tech. With a whole bunch of criteria that are pretty standard criteria that we added a few to: close enough to transmission lines, adequate slope, south facing, far away from housing, far away from streams, not in current forest land and identified a good several 100 acres potentially near Virginia Tech. If these discussions move forward, then we would need to find a way to discuss them. The ARECs have huge acreages. Virginia Tech has lands all over the state. So I actually think that it's might not be that difficult. But it will involve a lot of discussion.
- Steve:
  - That sounds encouraging, Ron.
- Ron:
  - Thanks, we've been plugging away with the GIS and best practices.
- Sean:
  - I know we're starting to talk about the 2025 update of the climate action commitment. And we obviously don't have time to flesh this out today, but I encourage people to think about this so when we meet next time or we start these discussions, we can answer: I'm curious, are we doing an update just because the plan said we should do an update? Or are we doing an update because we don't think the original plan had good goals? Or are we doing an update because somebody at an upper level is asking us to do an update.
- Jack:
  - So I can I can take a stab at that. We're doing an update predominantly because the plan is sort of meant to be a reflection on the first 5 years of implementation progress and thinking about what sort of tweaks need to be made to actually get us to meet our goals. It was jointly requested by, I know that John Randolph really pushed for it because It was an important part of the very first climate action commitment, but I think importantly also the students push forward. I think that there was a fear among a lot of the students that because there wasn't that sort of built-in revision process in the 2013 update, that it was sort of left to wither a little bit on the vine and the motivation was to make sure that it stays strong, stays aggressive, stays focused. By building in that revision period, because the students had to protest in 2019 rather than they're sort of being a natural revision process to plug into. That was my understanding at least.
- Sean:
  - So do you see it as more of a reflection or a revision?
- Jack
  - I would say reflection and then tweaking. I think that it'll depend on who heads the process, I imagine, but at least in my mind, I think that there's general agreement that the goals are strong and the students really supported the goals. I think that's

where there's probably room for improvement. Given the 5 years of implementation knowledge that we now have, we could probably make more specific pathways than we had in previous years. So I think it's a sort of a combination of reflection and iterative improvement, but I don't expect the goals to be weakened or anything like that. I think it's only about being more specific.

- Steve:
  - Yeah, I agree. My comment is, I think for me, it's more about the implementation guidelines that we have. Those also need revision. A lot of the data in there is older and not as accurate anymore if things have changed on the landscape. Be it administrative stuff, policy stuff, value, a lot of things really. Not on all the implementation, but certain ones like this one we've been talking about, goal number 2, 100% renewable electricity. A lot of these numbers aren't valid anymore. So, and things have changed. So, there's work there too, for sure.

6. <u>Adjournment</u>

There being no further business, the meeting adjourned at 3:17 pm. Members voted prior to the meeting, via a Microsoft Form to extend the meeting by 15 minutes.

Climate Action, Sustainability, and Energy Committee

February 26, 2024 – 2:00 PM

VIRGINIA TECH™

Please Use Poll Everywhere to Sign in for Attendance!

(detailed instructions are in the chat box and were also sent out via email)
All attendees- members, proxies, and guests **affiliated with VT** should sign in

Participating on Your Phone or Tablet

Using a QR to Participate on Poll Everywhere

1. Open camera app on your phone
2. Place QR code in frame but DO NOT take a photo
3. Focus shot until yellow pollev.com indicator appears

4. Tap QR code on screen to open Poll Everywhere

PollEv.com/kristinacook711

To participate on your computer:

1. **Open web browser and enter web address provided to go to Poll Everywhere**
2. **Enter your VT email in the text box and select "next"**
3. **Select "Log in with Virginia Tech University Governance"**
4. **Sign in with VT SSO and complete two-factor authentication**
5. **Select "Join Presentation"**

Agenda

- Welcome, Opening Remarks, and Membership Updates
- Approval of Proposed Agenda (Poll Everywhere)
- Meeting minutes: Electronic Vote Results
- Announcements
- Business
  - University Arborist Presentation
  - Presentation of the 2023-24 Green RFPs and Vote
  - January Energy & Utility Presentation Q&A
  - Open Discussion

VIRGINIA TECH™

Announcements

March 25th CASEC Meeting:

- In person at Fralin Hall Auditorium with Zoom option
- Hosted by the Office of Sustainability Graduate Assistants
- Discussion Topic is the 2025 CAC Revisions (19-month process that is predicted to span April 2024 through November 2025.
  - Kristina will send materials for your review prior to the meeting.
  - Subcommittees of the CASEC will be reviewing and assessing progress towards CAC goals through this Spring semester

The standing committee met on February 20th

- We are ready to take volunteers for year-round habitat maintenance! For more information please contact Kristina Cook who leads the new Habitat Maintenance Team.

- 2nd Annual VT Bee Day is scheduled for Tuesday, April 23rd as part of Earth Week. Agenda TBD.

Update:

- **We are starting week 5!**
- **Most recent tabulations:**
  - **65th place for Overall Diversion rate**
  - **68th place for Per Capita Classic (on a per person basis)**

Internship Applications Open for Office of Sustainability Interns!

- Apply here:

  https://forms.office.com/r/q8rMqKmcB8
- 20 students are hired and they work in teams focusing on areas of food, water, energy, and waste
- Application Deadline is **March 13th**

VT Employee Food Access and Wellbeing Survey

- VT employees age 18 or older
- Anonymous
- Takes approximately 15 minutes
- A chance to win one of 200 $25 Amazon gift cards!
- For more information, please contact: **Dr. Chanita Holmes** (ccholmes@vt.edu)or **Dr. Ralph Hall** (rphall@vt.edu)

https://news.vt.edu/notices/2024/02/hnfe_notice_employee_food_access_and_wellbeing_survey.html

FREEZER CHALLENGE

WHAT?

International competition to promote best practices in cold storage management.

WHY?

Reduce your lab's environmental impact!

WHEN?

Get credit for your actions till July 31st 2024.

For more information write to sustainability@vt.edu

Interested Faculty, Staff, and Students can reach out to Yugasha Bakshi for more information: yugashabakshi@vt.edu

VIRGINIA TECH

University Arborist Presentation

Virginia Tech's Urban Forest Master Plan

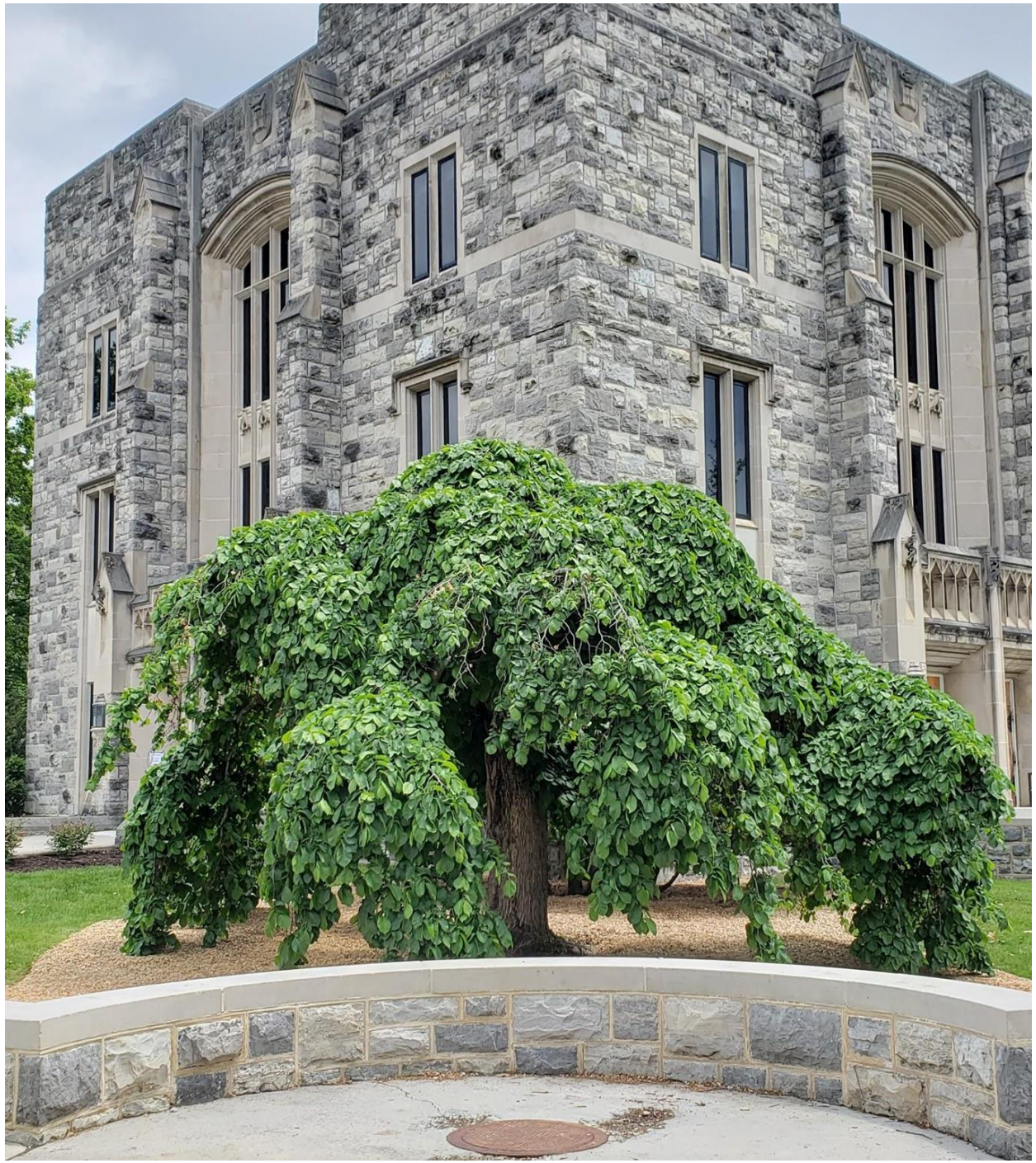
Jamie King, Urban Forest Manager and University Arborist

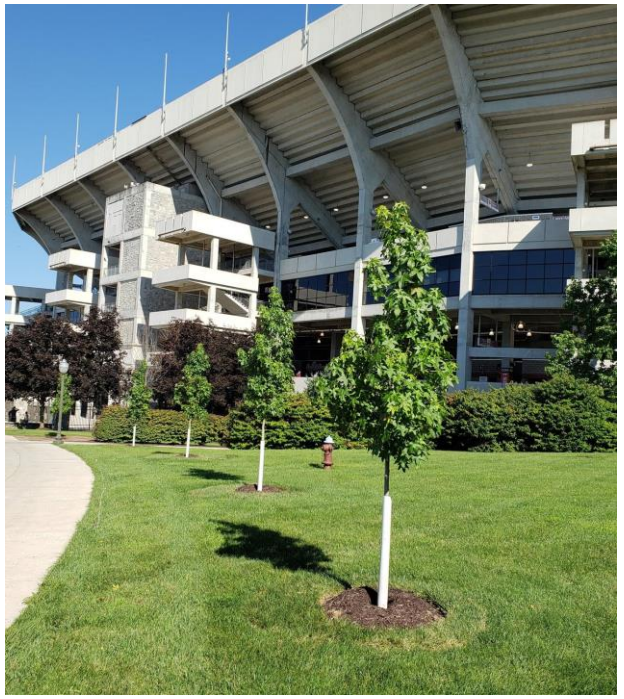
Virginia Tech | Division of Campus Planning, Infrastructure, & Facilities

Spring 2024

Agenda

1. Who are we?
2. Challenges
3. Pathways
4. Ideas and Opportunities





Urban trees create spaces that people enjoy. These spaces require planning, maintenance, and intensive management.

Ecosystem Services

Carbon Stored in Campus Trees: 4,573 tons = **$566,214**

When we utilize urban wood resources from campus, we store this carbon for much longer.

Stormwater Mitigated Every Year: 257,072 ft^3 = **$17,184**

Slower Runoff = Healthier VT Streams

Carbon Sequestered Every Year: 59.75 tons = **$7,751**

Campus trees and other VT forests offset university carbon emissions by ~3%.

Air Pollution Removed Every Year: 2.7 tons = **$6,459**

Cleaner Air = a Healthier VT Community

Urban Forest Structural Replacement Value

The Expense to Replace VT's Trees

$ 30,622,817

Urban Forestry

Guiding Principles

Public Outreach and Engagement

Natural resource management is in the public's interest and it is imperative that the community's voice is represented when managing public trees.

Reciprocity

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

-Aldo Leopold

Arboriculture -
the art and science of tree care and the foundation of urban forestry

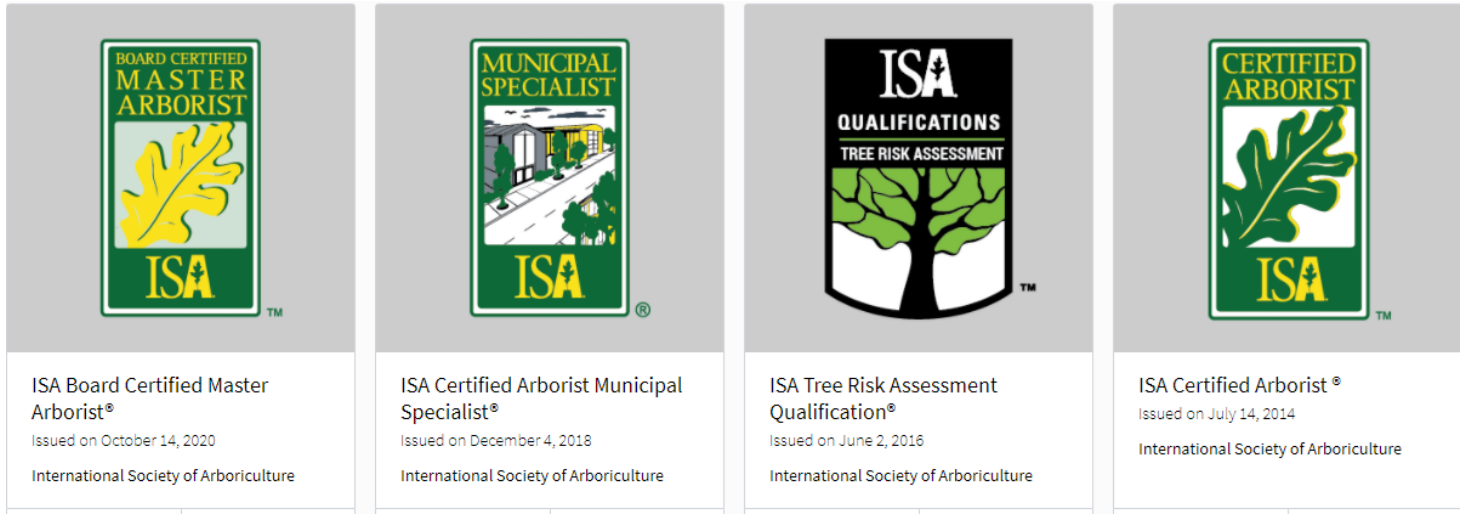
Arborists care for trees.

ANSI Standards

The tree care industry is governed by safety (ANSI Z133) and best management standards (ANSI A300) developed and enforced by industry professionals.

ISA Code of Ethic

The ISA Code of Ethics establishes appropriate and enforceable professional conduct standards, and explains the minimal ethical behavior requirements for credential holders.



Kenny Harmon

Field Arborist

- Improved ANSI Compliant Training
- Supervises UF Team and Operations
- Earned a Scholarship to Attend the Municipal Forestry Institute
- Earned a Scholarship for TRAQ
- An accomplished arborist and is developing strong urban forestry skills.

Joe Atkins

Tree Worker

- Accomplished Equipment Operator
- Key Institutional Knowledge
- Improved Pruning and Rigging Skills
- Audited Trees in the Built Environment

David Wyatt

Tree Worker

- Key Team Member for Plant Health Care and Emergency Response
- Developing Leadership Skills
- Attended TCIA and Audited Trees in the Built Environment


RAYCO


HOGE HALL
570 Washington St. SW

Management Fundamentals

Virginia Tech's Blacksburg Campus

Much like a major city central business district, plus several 15-20 acre parks.

- ~11,510 trees
- ~900 urbanized acres
- ~37,000 students
- ~13,000 employees

District	Acres	UTC %	Impervious %	Plantable %
Ag Belt	209	16	1.7	64.7
Athletics and Recreation	196.4	4.5	37.8	13.5
Creativity and Innovation	37.4	16.5	32.9	10.6
Drillfield	23.1	23.4	12.5	12.5
Life Sciences and Technology	125.3	18.4	48.2	13.5
Meadow	67.9	27.8	8.7	29.6
North Academic	70.2	10.1	42	14.3
Student Life	64.8	17.3	30	12.7
Northeast and Upper Quad	29.9	8.2	36.5	9.4
Oak Lane	38.7	28.4	33	12.5
21st Century Living Learning	43.3	19.4	2	59.2
All Campus	**1,051**	16.9	**24.4**	**26.6**

Huge disparities in UTC across districts.

Vision

“Virginia Tech shall ensure its community has the opportunity to enjoy the campus urban tree canopy for generations to come, through adaptive, professional, ethical, and sustainable management of the urban forest located on university properties.”

How do we get there?

“Adaptive and Integrated Urban Forest Management”

CHALLENGES

Multidisciplinary Practice

- Public Administration
- Urban Planning
- Community Outreach
- Natural Resource Management
- Arboriculture
- Plant Health Care
- Soil Science
- Workforce Development

There is contrast between perception and reality.

Routine and Responsive Maintenance

Again,
what do we have?

11,510 living trees

= more than **$30,622,817**
in asset value

One Small Team

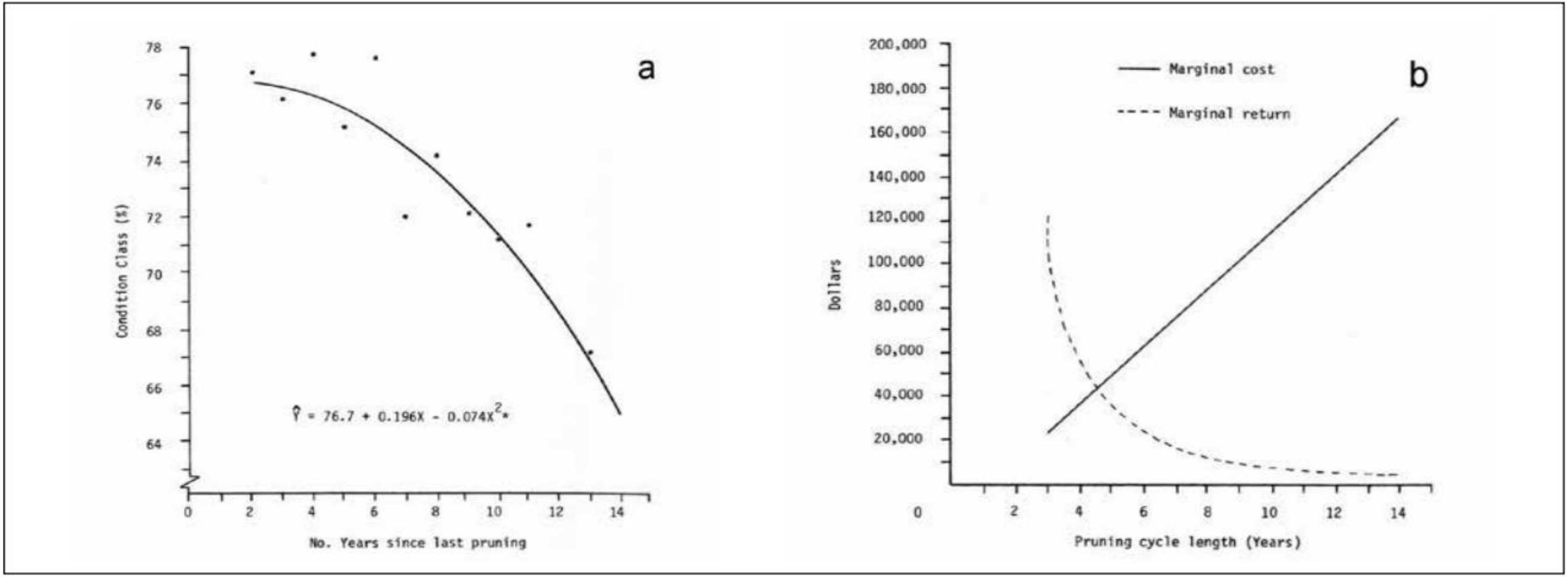
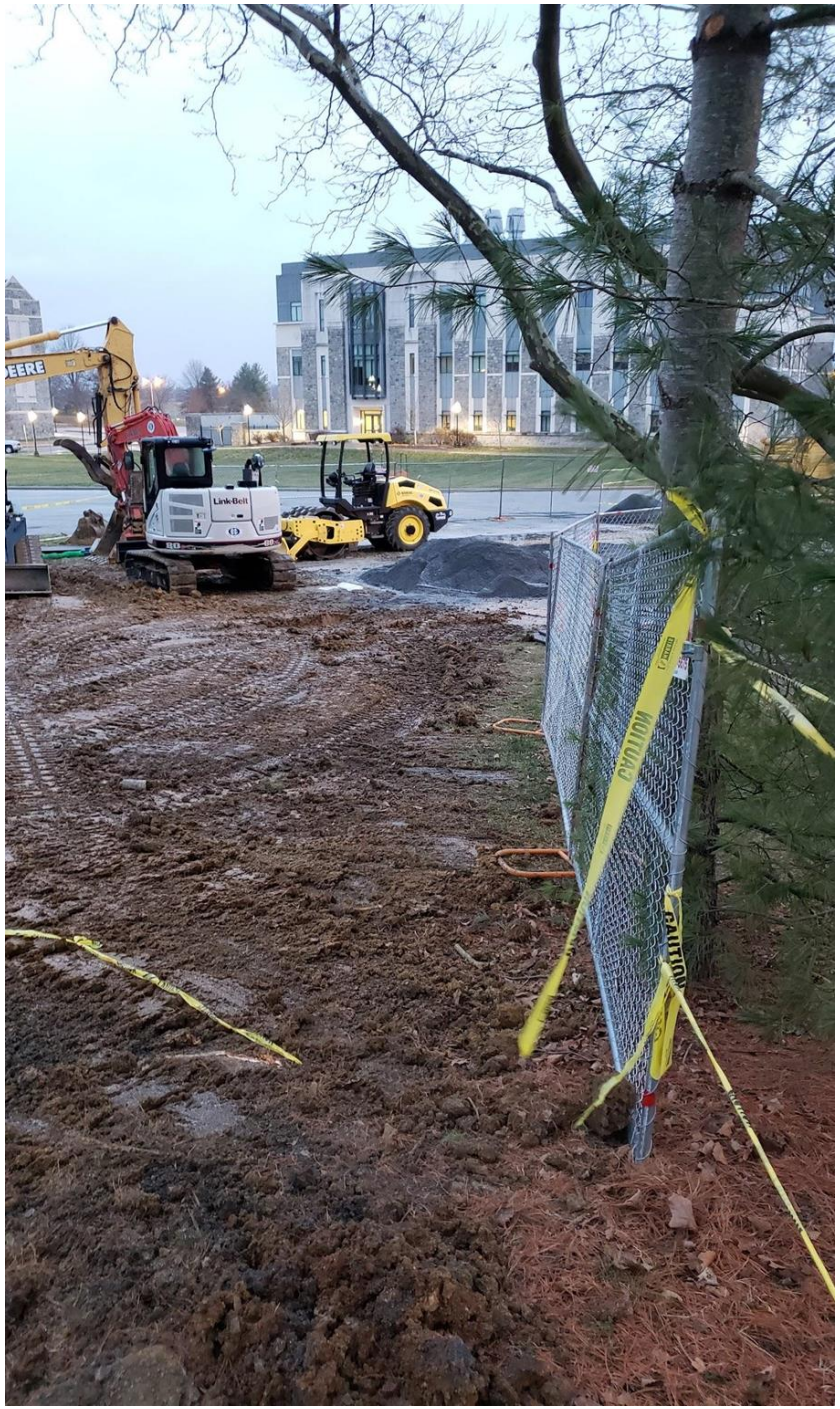


Figure 6. a) Relationship between pruning cycle length (number of years since last pruning) and CTLA condition class rating. Asterisk (*) indicates regression is significant at the 0.05 level. b) Marginal cost (loss of tree value) and marginal return (savings in pruning costs) for pruning cycle lengths. Figure reprinted from Miller and Sylvester (1981).

Deferred maintenance costs 63% - 235% more than planned routine maintenance.

Protection and Preservation


Link-Belt
CAUTION


NATIONAL
RENT-A-FENCE
800-352-3678

Spotted Lanternfly Preparation

Pathways

Urban Forest Master Plan

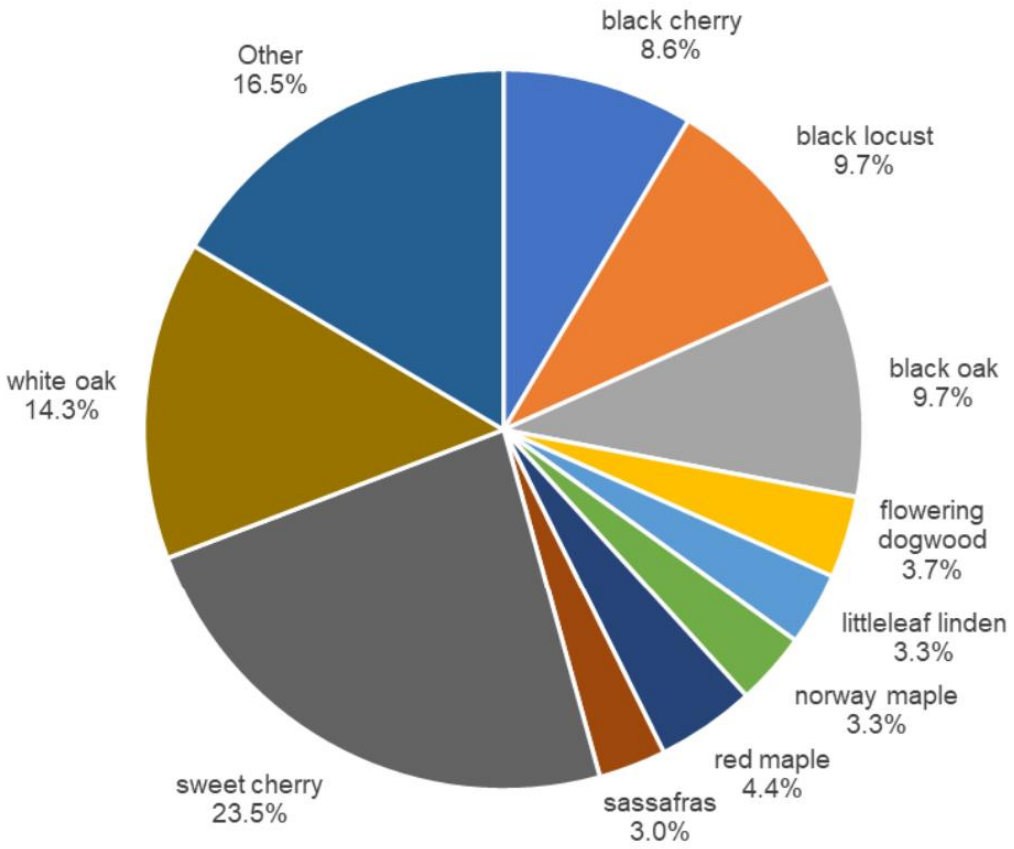
Progress Report

- Completed CPIF Review 2021
- Completed Arboretum Committee Review 2022
- Public Review 2023
- Submitted for CPIF approval in 2023, but not yet adopted.

Urban Forest Management Plan

- VDOF Urban and Community Forestry Assistance Grant
- $19,000 to Contract Development of the Plan
- Budget and Strategy to Proactively Manage Campus Tree Assets was Completed in 2024

Progress in the Old-Growth Forest



Population

1,711 trees inventoried but huge pressure from invasives continues to change the forest's composition.

Value

$6.23 million replacement and HUGE carbon sink.

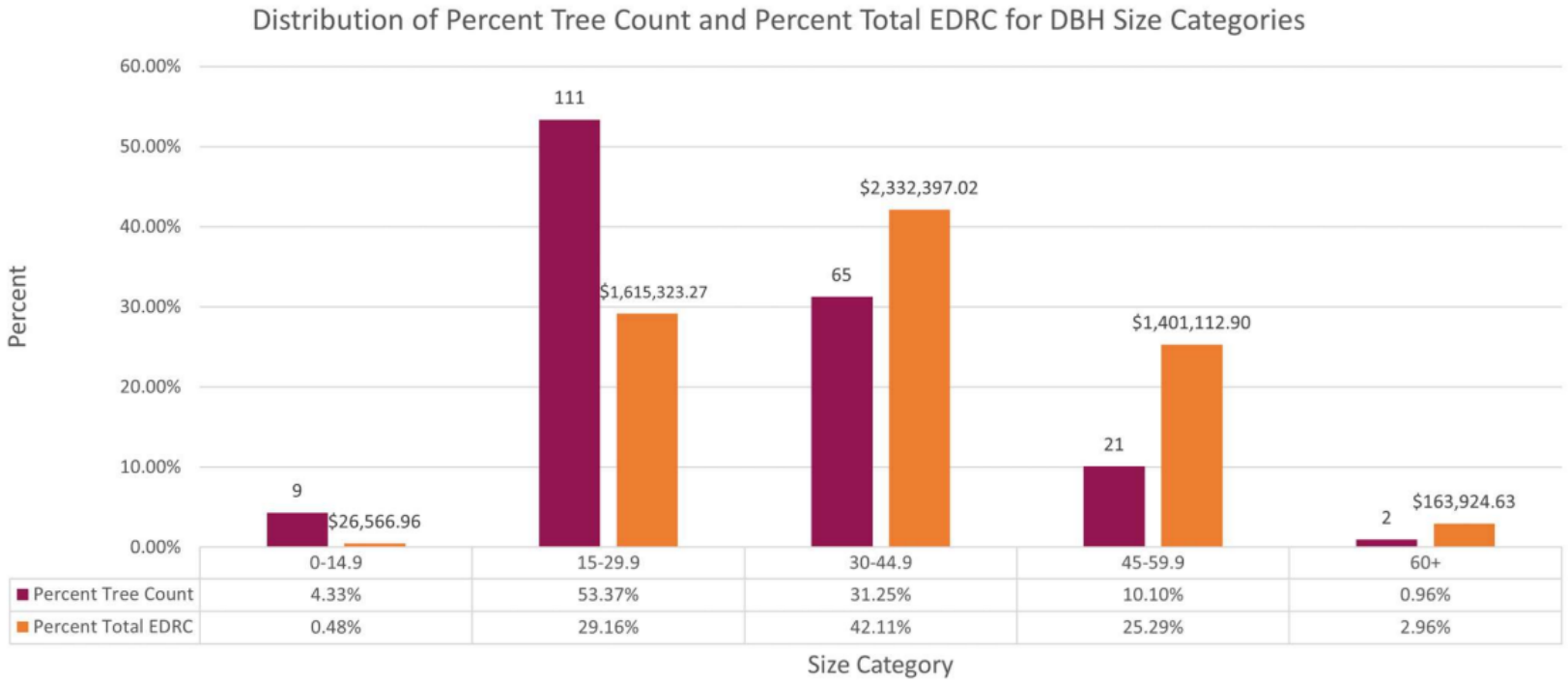
Next Steps

Analysis of the forests structure and stakeholders priorities will drive management.

Living-Learning District Legacy Trees

Interactive Map Provided to the Design Team

- 208 trees were assessed in the field and appraised at **$5,539,325**
- Tree protection zones were specified for every tree
- Mid-range size classes account for 84.6% of total count and 71.3% of appraised value

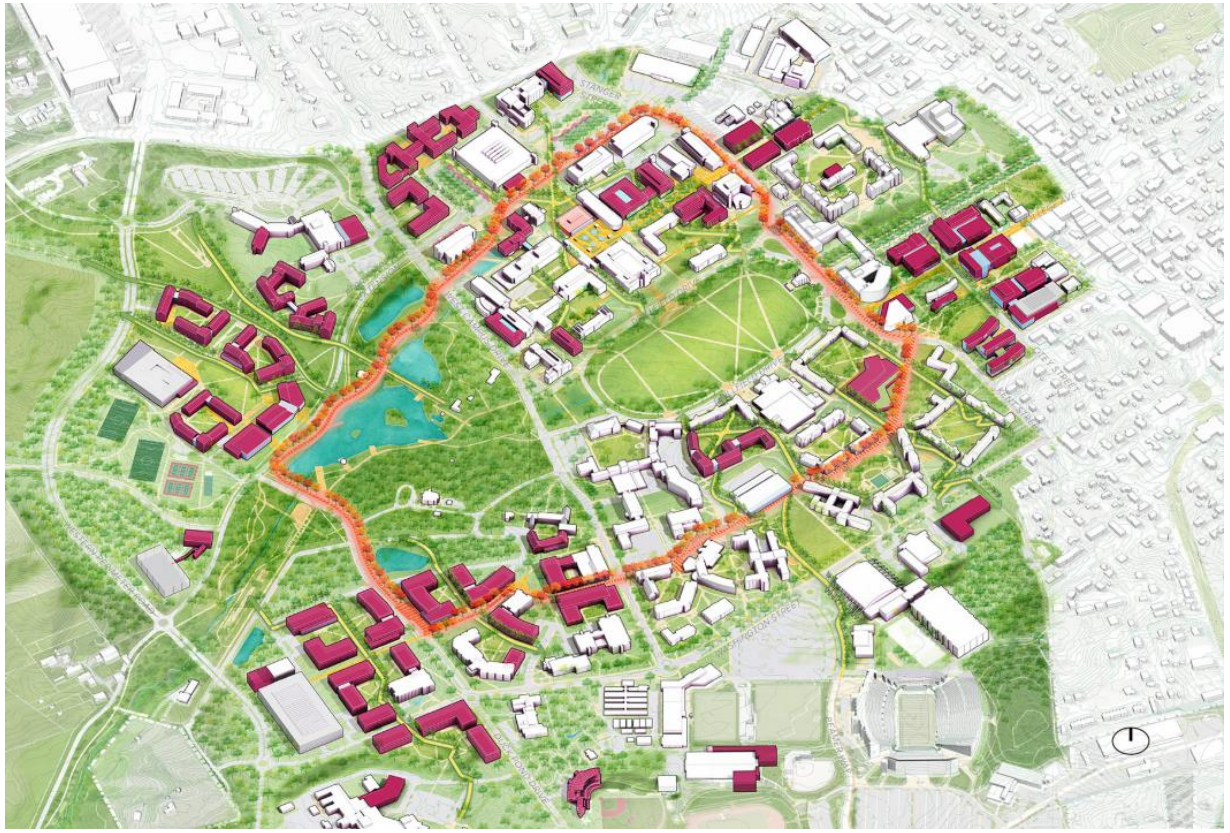


Virginia Tech Golf Course Legacy Trees

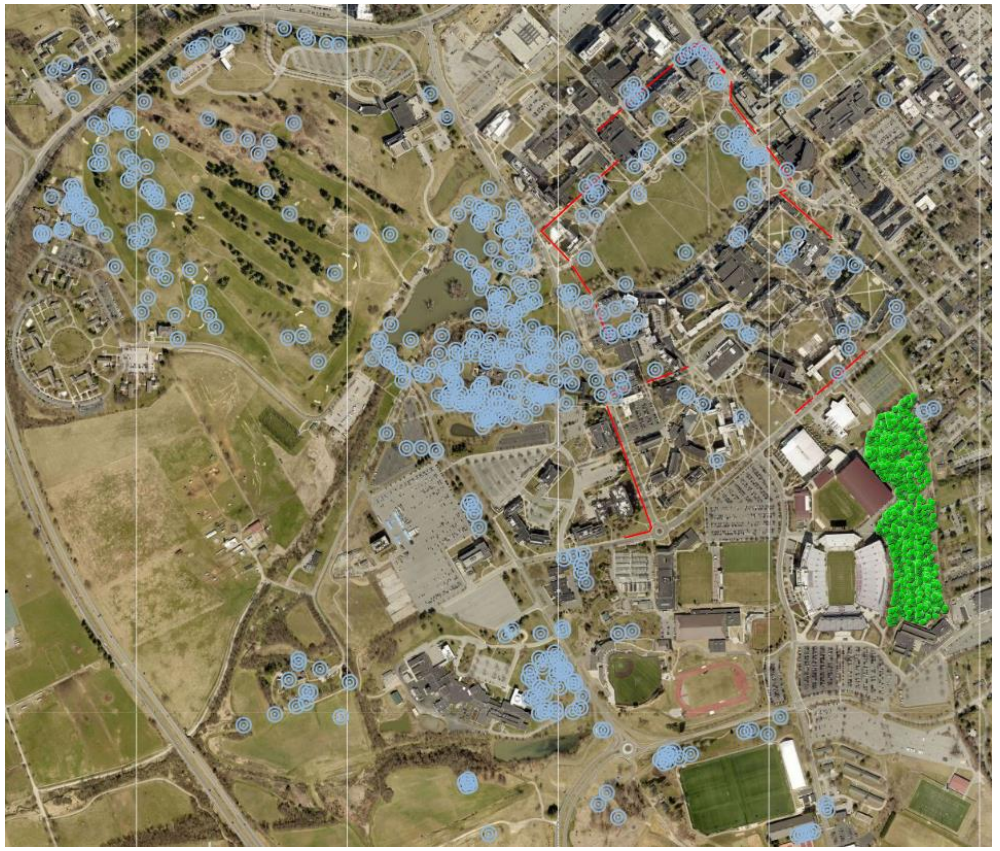
Date Created: Feb. 21, 2022

VIRGINIA TECH

Future Development



Adaptation



Ongoing Legacy Assessment

- 222 trees across campus meet Legacy status
- 83 trees meet Specimen status
- Current appraised value is **$16,252,299**
- Notably, several trees were not appraised as they have low demonstrable monetary value.

Extension and Outreach

- Professional Leadership with UCFS and ISA.
- Community Education Events
- Lectures at CNRE, CALS, SOVA, Extension, and Conferences
- Internships

Ideas and Opportunities

VT Tree Policy

- Increase UTC from 16.9% to 25% by 2050.
- Establish standards and protection to support this goal.
- Commit to tree maintenance.
- Protect and preserve historic trees.
- Replace trees at appraised values after damage or destruction.
- Implement urban forestry master planning.
- Require soil and tree protection and engineered soil volume systems.
- Empower CPIF to enforce this policy.

VT Tree Policy

Increase UTC from ~17% to 25% by 2050.

• Standards • Maintenance • Protection	• Replacement • Planning • Preserve

Empower CPIF to enforce this policy.

VT Tree Canopy Standards

- Where they apply-
  - New development
  - Exterior alterations to existing development as part of Capital Projects

- Exemptions-
  - When land use or specific site conditions prevent compliance.
  - Alternate strategies for compliance may be coordinated with Urban Forestry office.

VT Tree Canopy Standards

On-site Tree Canopy Requirements by District

Districts	**Canopy Requirement**
• Student Life • Life Sciences and Technology • Oak Lane • Ag Belt • 21st Century Living-Learning District • Glade Creek • Smart Design and Construction	40% of site or development impact area
• North Academic • Northwest and Upper Quad • Creativity and Innovation District	25% of site or development impact area
• Athletics and Recreation • Intelligent Infrastructure Corridor	15% of site or development impact area

VT Tree Canopy Standards

Projects may plant a combination of small, medium, and/or large canopy trees, in compliance with the Virginia Tech Tree Planting Standards, to meet the on-site tree density requirement, where-

- Small Canopy Trees = 300 square feet
- Medium Canopy Trees = 500 square feet
- Large Canopy Trees = 1,000 square feet

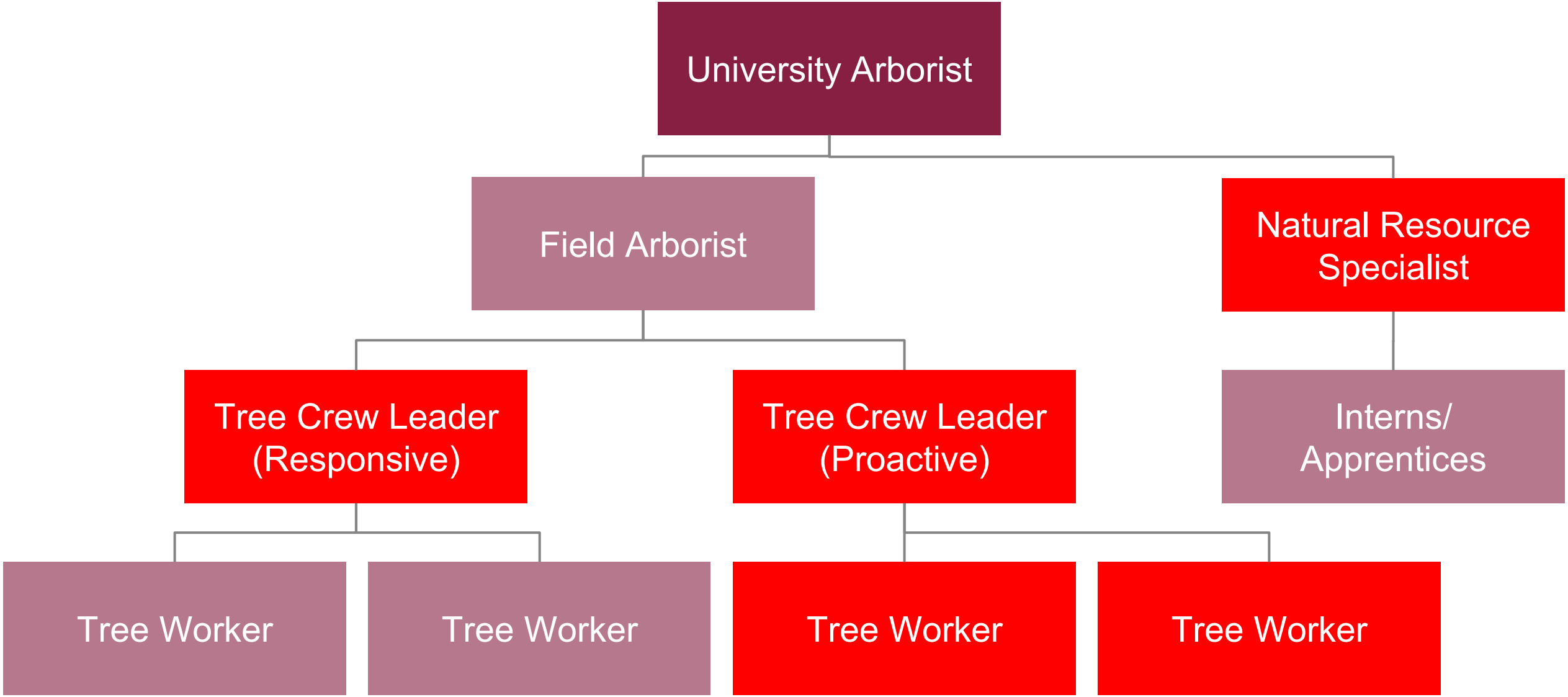
VT Tree Canopy Standards

Engineered Solutions-

Project sites with limited plantable space may increase soil volume by utilizing structural soil cells or suspended pavement installations, like Silva Cells, to create spaces below hardscape that will support tree roots. Each 1,500 cubic feet of structural cell will support 1 large tree and each tree planted in structural cells will count as 5,000 square feet of canopy.

Provide soil so trees can be successful!

Program Administration and Operations



Program Administration and Operations

Planning

- Master Plan - Complete, not adopted
- Storm & Emergency Response Procedure - Complete
- Urban Forest Management Plan - Complete, not funded

Policy, Standards, and Procedures

- Tree Care Standards - Complete
- Tree Canopy Requirements - In Process
- Tree Protection Standards - Complete
- Tree Planting Standards - Complete
- Tree Policy - Complete, not adopted
  This is the path to success and accreditation

Tree Replacement and Canopy Growth

Tree Planting

- Planting Plan - Complete, not funded
- Tree replacement ~250 trees each year for $150,000, not funded

Tree Canopy Expansion

- To reach 25% tree canopy, 750 more trees must be planted each year, not funded
- Planting space is limited and engineered solutions (silva cells) must be incorporated into capital projects

Conservation

Tree and Forest Protection

- Tree protection inventory needed - In Process
- Urban Wood Use - In Process
- Robust soil protection needed - In Process
- Plant Health Care Programing - In Process

Following the “Stewardship Plan for Virginia’s Tech’s Old-Growth Forest Near Lane Stadium” is critical and must remain a priority.

<u>Engagement for Next Steps in the Old-Growth Forest Begins this Summer!</u>

Community Outreach

Engagement with Volunteers and Citizen Scientists

- The urban forest is in the public interest and must be managed to meet customer expectations
- Feedback and engagement events
- Volunteers and Tree Steward programming
- Public engagement before, during, and after planning

Average Annual Expense per Tree for Institutions with a Similar Climate

Average expense per tree is **$51 -** That would be **$587,010** at VT

Institution	Average Annual Expense per Tree (adjusted for 2022 inflation)
Virginia Tech (2022)	$30
Georgia Tech (2010)	$46
Municipal Average (2014)	$54
City of Charlottesville (2019)	$61
University of Virginia (2020)	$64
Average	$51

Average yearly total and per capita expenditures of SCHEV Institutions and SCHEV Land Grant Institutions compared to VT's average throughout 16 years of the Arbor Day Tree Campus program.

Tree Campus Higher Ed. Institutions	**Total Expenditures**	**Total Per Capita Expenditures**
SCHEV Peer Institutions	$403,289	$9.23
Land Grant Institutions	$392,459	$9.50
Virginia Tech	**$135,072**	**$4.16**

Virginia Tech invests **> $250,000** less in urban forestry than peer institutions.

2024 Proposed Urban Forestry Budget

Item	Expenditure
	Annual
Administration	
Field Arborist Salary	$56,000
Natural Resource Specialist Salary	$56,000
Tree Asset Management Software	$2,000
Maintenance	
Tree Crew Lead x 2 and Tree Worker Salary x 4	$296,315
Routine Maintenance Contract (if staffing is inadequate)	$465,000
Tree Replacement	$149,400
Projected Annual Base Budget Total	**$559,715** Staffed as Recommended or **$752,400** Relying on Routine Maintenance Contract

Opportunities

✓ Safety

Reduced emergencies and incidents on campus.

✓ Partnership

Strong outreach and large network of partners.

Capacity

- **Very limited resources for programming.**
- **Master Plan and Tree Policy not yet adopted.**



The Trees We Plant and Manage Today Serve Future Generations

Jamie King, Board Certified Master Arborist

Urban Forest Manager and University Arborist

Virginia Tech | Division of Campus Planning, Infrastructure, & Facilities

campusarborist@vt.edu

2023-2024 Green RFPs

2023-2024 Green RFP Process and Timeline

DATE	ACTIVITY
Nov 11	Green RFP 2023-24 announcement
Dec 11	Proposal deadline to sustainability office
Dec 15	Sustainability office coordinates review with subject matter experts
Jan 22	CASEC Subcommittee to review & prioritize proposals
Feb 26	**Subcommittee presents recommendations to CASEC for approval**
March	E&SC presents proposals to the Office of Budget & Financial Planning
Mar/Apr	OBFP convenes Budget Review Committee- identifies funding sources
June/July	Select proposals approved - implementation initiated

Green RFP Subcommittee

- The Green RFP Subcommittee met on 12th February to analyze/discuss category 1 proposals and vote
- The members included:

1. Autumn Timpano
2. Brenda van Gelder
3. Emily Williams
4. Gillian Eastwood
5. Kristina Cook
6. Nathan King
7. Stephen Durfee
8. Yugasha Bakshi (a special thanks to Yugasha for leading the subcommittee this year!)

Thank you to all subcommittee members!

These are the proposals the subcommittee recommends for approval:

Category 1 Proposal – Patton Hall Lighting Upgrade

- Submitted by CEE 4994 Undergraduate Research Project students
- Replacement of existing lighting systems with energy efficient LED lighting
- CAC goals 1, 4, 10
- Estimated cost - $73,558
- OEM offered to fund the $34k of occupancy sensors separately
- Annual savings will be $7,196 with a payback period of 10.2 years

Category 1 Proposal – Stroubles Creek Restoration

- Submitted by the Stroubles Creek Coalition (SCC) and VT StREAM Lab
- For large-scale reforestation of riparian buffers, restoration effectiveness monitoring and research, and public education/outreach.
- This initiative achieves 6 CAC Goals
- Cost - $25,000
- Will apply for a New River Conservancy match that essentially doubles the funding that Virginia Tech puts towards this project
- Estimated Savings - $167,120 (ecosystem services yr 30)

VTCC helping on Docs Branch maintenance efforts in November 2021

Native bare root seedling trees planted by Conservation Services in March 2022

Stroubles Creek Restoration – Images of Plantings

Image of a planting along Stroubles Creek, March 2023

Volunteers planting trees along Stroubles Creek during the Big Plant 2023

Agenda

- Welcome, Opening Remarks, and Membership Updates
- Approval of Proposed Agenda (Poll Everywhere)
- Meeting minutes: Electronic Vote Results
- Announcements
- Business
    - University Arborist Presentation
    - Presentation of the 2022-23 Green RFPs and Vote
    - January Energy & Utility Presentation Q&A
- Open Discussion

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January Energy & Utility Presentation Q&A

Questions from the January 2024 CASEC meeting Energy and Utilities presentation

“I am very curious as to the economics of owning our own PV and wind. The lifetime cost of solar PV is currently about 4.5 cents/kWh. Did we call for exploring this in the Climate Action Plan? There was a sense of social equity in doing it that way.”

“Do you have any plans to explore the potential of installing solar/wind on VT-owned land and what this would mean with regards to energy production, costs, and risk? We have (I believe) hundreds of acres of land that could be used for solar/wind, which may present an opportunity to supply the majority of power needs in Blacksburg.”

Open Discussion

Next Meeting: **March 25th, 2024**
2:00 p.m. via Zoom

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