**Climate Action, Sustainability, and Energy Committee Meeting Minutes**
**November 28th, 2022**
**2:00pm**
**Zoom:** https://virginiatech.zoom.us/j/81159834368?from=addon

**Present:** Nathaniel Humphreys, Paul Ely, Rachel Maizel, Pat Donovan, Mary-Ann Ibeziako, Rob Lowe, Jeri Baker, Brandon Hendricks, Scott Nachlis, Nicholas Woods for Ken Miller, Dana Hawley, Kas Church, Annie Lawrence, Liza Morris, Jon Clark Teglas for Chris Kiwus, Todd Schenk, Gia Ha, Dean Paul Winistorfer, Matt Stolte, Rachel Kohl for Wesley Gwaltney, Natalie Langowsky for Zhuo Fu

**Absent:** Amy Hogan, Claudia Budzyn, Gwyneth Martin, Katie Smith, Lilian Prins, Madison Betts, Mae Hey (absence excused), Princess Merritt, Teresa Sweeney (absence excused)

**Guests**: Kristina Cook, Nathan King, Ashley O'Byrne, Satoka Mitsuhashi, Andrew Feely, Emily Vollmer, Jack Leff, Eli Meyer, Benjamin Kleber, Nick Quint, Julia Monahan, Julee Hong, Steve Durfee, Sean McGinnis, Simona Fried, Lavanya Nawlakhe, Jennifer Benning, Maeve K., Lowell Jesse, Yugasha Bakshi, Wendy Halsey

Mary-Ann Ibeziako called the meeting to order at 2:00 pm.

## 1. Adoption of Agenda

A quorum was not initially present. Student groups were allowed to begin their presentations due to class commitments. Once quorum was met, a motion was made and seconded to adopt the agenda. The motion carried.

## 2. Announcement of approval and posting of minutes of September 26, 2022

Mary-Ann noted that these minutes have been voted on electronically and can be publicly accessed on the Governance Information System on the Web (https://governance.vt.edu).

## 3. Presentation

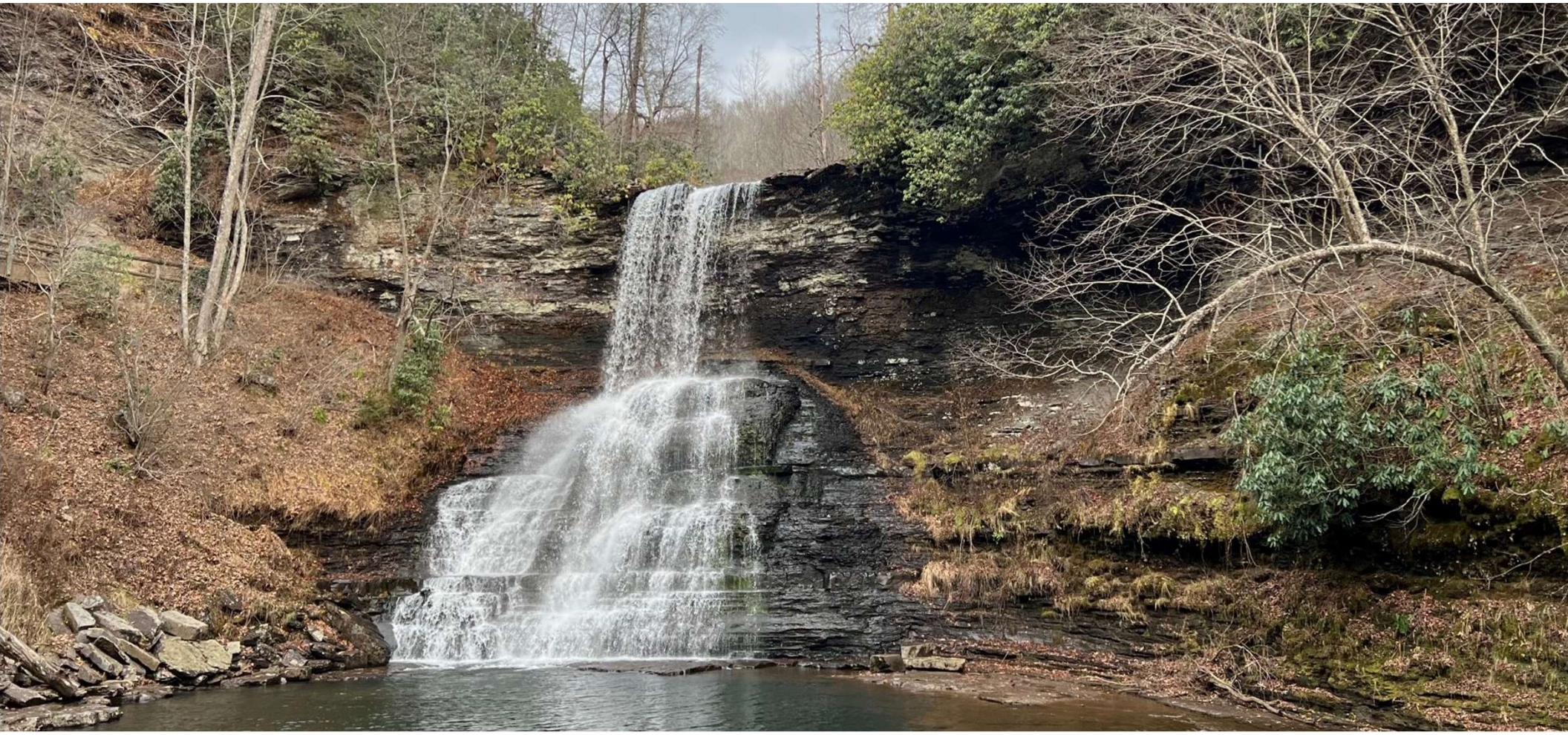
2 student groups from MGT 2354 Leadership for Managers and Entrepreneurs class (The Bee Team and the Towel Team) presented their green RFPs. Nathan King (Campus Sustainability Manager), Emily Vollmer (Sustainability Coordinator), and Jack Leff (Sustainability Office Graduate Assistant), also gave presentations that covered all agenda items for the committee meeting (attached).

## 4. Open Discussion

Towel Team:
Brandon Hendricks: If ever looking out at expanding into other buildings. There is a Virginia food code which will be a potential barrier to you.
Climate Justice Subcommittee Update:
Jack Leff: A team of about 20 people have been assembled with the goal of some sort of climate justice oversight team for any sort of infrastructural projects the university takes on. Working on getting at least one climate justice member on each of the other CASEC subcommittees. Looking at using the P14 emergency hire system as a way to get community members more involved and to compensate them for service in climate justice initiatives.
New Announcements Section of CASEC Meetings:
Kristina Cook: Feel free to send any announcements that are climate action, sustainability, or energy related to me and I'll add them into an announcement slide for the meetings. This can include upcoming relevant events.

## 5. Adjournment

There being no further business, a motion was made and seconded to adjourn the meeting at 2:45pm.



# Energy & Sustainability Committee

**November 28th, 2022 – 2:00pm**

VIRGINIA TECH | 150

# Agenda

- Welcome, Opening Remarks, and Membership Updates
- Approval of Proposed Agenda (if a quorum is present)
- Meeting Minutes: Electronic Vote Results
- Green RFP Presentations and Q&A, MGT 2354
    - Bee Team
    - Towel Team
- Old Business
    - Green RFP Update
    - Subcommittees Update
    - Climate Justice Subcommittee Update
- Announcements and Open Discussion

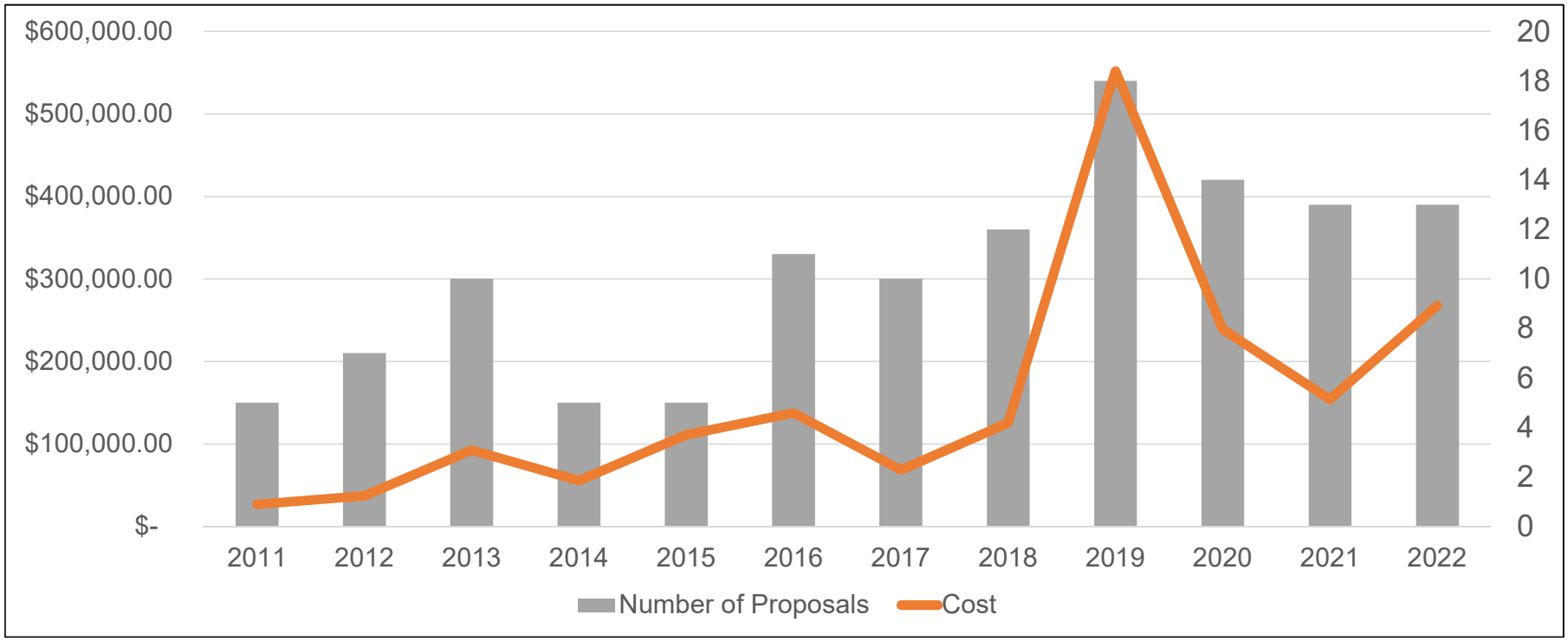
# 2022-2023 Green RFP – Key Points and CASEC's Role

- Formal university program for **student organizations** to submit sustainability initiatives or ideas.
- Program was launched in **academic year 2010-11**
- The uniqueness – proposals are submitted, reviewed, **select proposals prioritized**, approved proposals funded, & implementation initiated in the **same academic year**.
- **Evaluation criteria**:
  1. Does the proposal support the goals of the climate action commitment
  2. Does the proposal generate savings
  3. Does the proposal pertain to energy reduction/conservation or enhance social/ecosystem services
  4. Does the proposal address a one-time or ongoing need
  5. Does the proposal leverage other funding sources or volunteers
- CASEC to form a subcommittee to review & prioritize the select proposals

# 2022-2023 Green RFP – Key Points and CASEC's Role

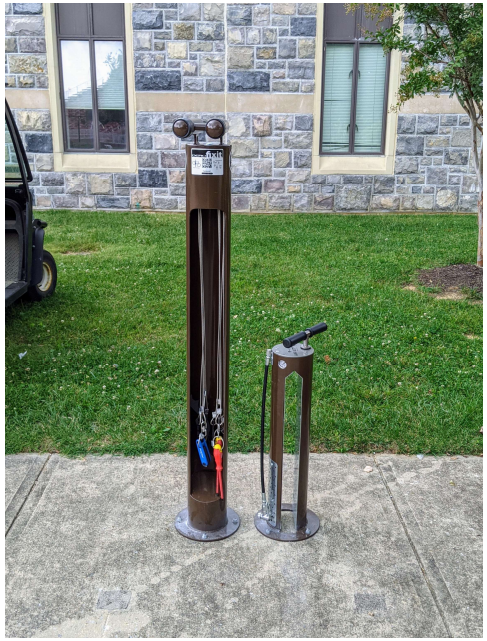
| DATE | ACTIVITY |
|---|---|
| Sep 11 | Green RFP 2022-23 announcement |
| Nov 11 | Proposal deadline to CASE office |
| **Dec 1** | **CASE office coordinates review with subject matter experts** |
| Jan 31 | CASEC Subcommittee to review & prioritize proposals |
| Feb 27 | Subcommittee presents recommendations to CASEC for approval |
| Mar 6 | CASEC presents proposals to the Office of Budget & Financial Planning |
| Mar/Apr | OBFP convenes Budget Review Committee- identifies funding sources |
| May/June | Select proposals approved - implementation initiated in summer |

# Green RFP Program Historical Perspective




- Program initiated AY2010 – 2011
- 123 proposals approved
- Funding in excess of $1.75 million
- AY 2022-23 proposals under review – currently 40+ RFPs submitted

# What has Virginia Tech previously funded?



# CAC Implementation Subcommittees

- GHG Inventory
  - Simona Fried (Convener), Sean McGinnis, Steve Durfee, Matt Hagy, Rob Lowe, Eli Meyer
- Climate and Sustainability Education and Research (CSER)
  - Todd Schenk (invited to be new convener), John Randolph, Mary-Ann Ibeziako, Jack Leff
- Climate Justice
  - Jack Leff (Convener), Emily Satterwhite, Shannon Bell, Teresa Thornton, plus multiple new members
- Sustainable Campus Culture, Engagement, and Sustainable Choices
  - Yugasha Bakshi (Convener), Brandon Hendricks, Todd Schenk, Simona Fried, Gillian Eastwood

*Subcommittees should meet a minimum of once per semester and should be prepared to present their progress updates to the CASEC beginning in January.

VIRGINIA TECH 150

# CAC Implementation Subcommittees

- VT- Blacksburg Sustainability Collaboration
  - John Randolph (Convener), Wendy Halsey, Emily Vollmer, Carol Davis, Ann Raridon
- Carbon-Neutral Commuting and Carbon-Neutral Fleet
  - Nick Quint (Convener), Mike Dunn, Durelle Scott, Erik Olsen, Jack Leff
- Carbon Offset and Management
  - Sean McGinnis (Convener), Mary-Ann Ibeziako, Billy Dudding, Rob Lowe, Eli Meyer, Kristina Cook
- Zero Waste
  - Teresa Sweeney (Convener), Nathan King, Jack Leff, Brandon Hendricks, Reed Nagel (invited to join)

VIRGINIA TECH 150

# Climate Justice Subcommittee Update

VIRGINIA TECH

# Announcements and Open Discussion

- New Announcements Section
- Green RFPs
- Subcommittees
- Other

**Next Meeting:** **January 23, 2023**
**2:00 p.m. via Zoom**

VIRGINIA TECH 150

MGT 2354 Teams, Leadership and Sustainability

# Project: Pollinator Ecosystem

**SuperStainability**
Julee Hong, Maeve Kitson,
Andrew Feely, Benjamin Kleber

November 2022

# We imagine a beautiful mix out of native trees and flowers

# Agenda

1 Overview

2 Location

3 Plants

4 Stakeholders

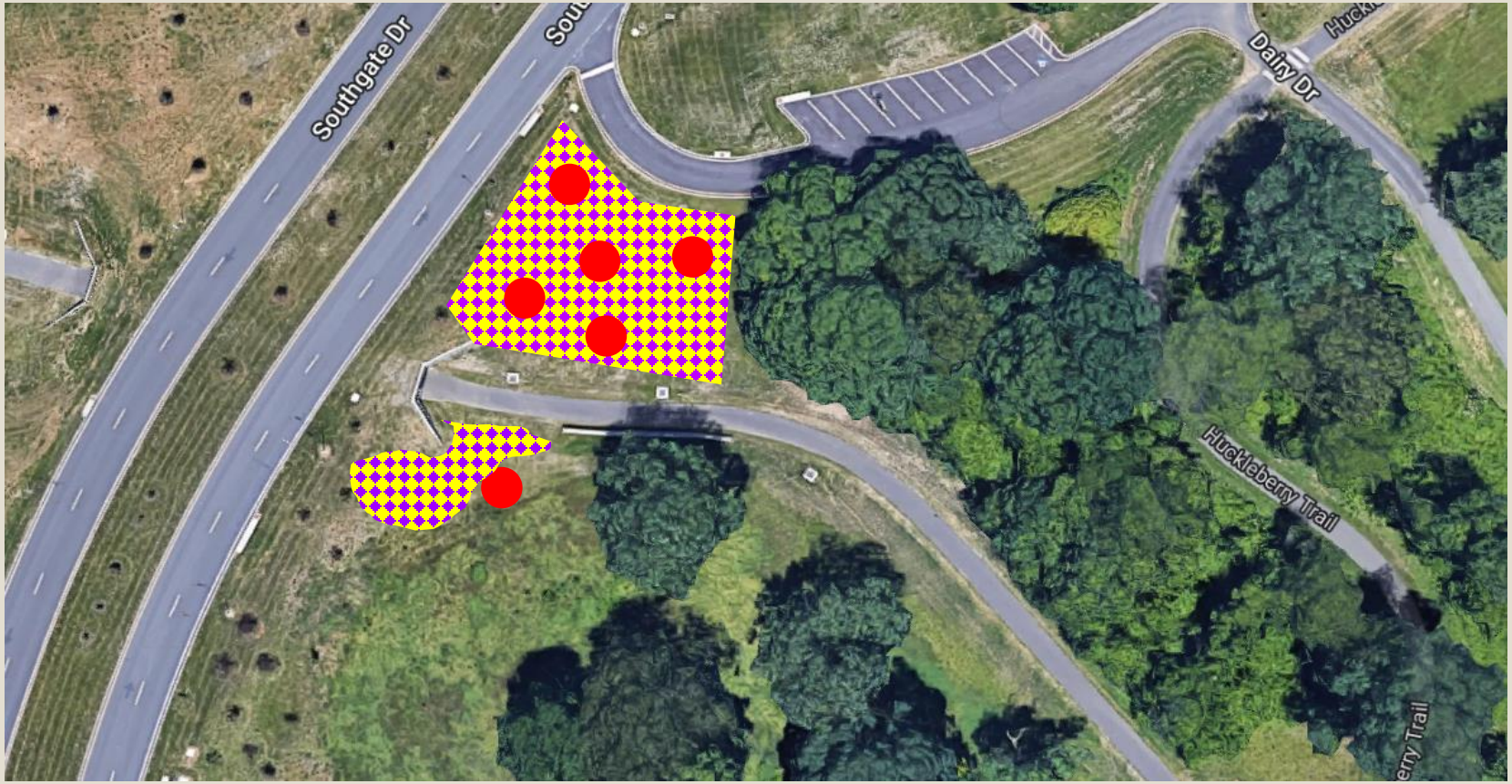
5 Budget

6 Conclusion

7 FAQ

# We envision to transform this lawn into a blooming, sustainable Ecosystem

## Vision




## Description

- The designated area is approximately 0.3 acres big
- We want to plant six different **Trees** in the spots indicated through the **red dots**
- We want to spread seeds for **wildflowers** throughout the entire area indicated through the **yellow-purple pattern**

# Agenda

1 Overview

2 Location

3 Plants

4 Stakeholders

5 Budget

6 Conclusion

7 FAQ

# Our Project is located on the edge of Campus

# Agenda

1 Overview

2 Location

3 **Plants**

4 Stakeholders

5 Budget

6 Conclusion

7 FAQ

# Trees are the roots for our Ecosystem

## Trees

### Black Locust

***Robinia pseudoacacia***

- Enriches poor soil
- Part of Appalachian mixed mesophytic forests
- Can fertilize other plants
- Hosts up to 67 different species of Lepidoptera

### Northern Catalpa

***Catalpa speciosa***

- Tolerates any type of soil
- Fast growth rate
- Provides nutrition for bees in early summer

### Overcup Oak

***Quercus lyrata***

- Prefers clay type soils
- Can withstand flooding
- Acorns can be eaten by small mammals and birds
- Provides habitat to a variety of Lepidoptera

# Pairing flowers with different Colors leverages the effect on Pollinators

## Flowers

### Rough-stemmed Goldenrod

***Solidago rugosa***

- Tolerates clay and wet soil
- Goldenrod pollen does NOT cause hay fever
- Attracts a wide variety of beneficial insects and some birds
- Larval host to numerous moth species

### New England Aster

***Symphyotrichum novae-angliae***

- Tolerates clay soil, dry soil, and seasonal floods
- No serious pests or diseases
- Attracts bees, butterflies, and other beneficial insects
- Larval host for Pearl Crescent butterfly

### Cardinal Flower

***Lobelia cardinalis***

- Requires a more humus-rich soil
- Tolerates wet soil and mammals through toxins
- No serious pests or diseases
- Attracts hummingbirds, butterflies, and bees

# Agenda

1 Overview

2 Location

3 Plants

4 **Stakeholders**

5 Budget

6 Conclusion

7 FAQ

# Our Project is perceived positive by all involved Stakeholders

## Stakeholders

### Students

- Varying opinions and degree of interest on sustainability and related projects
- Healthy distance from highly populated areas to prevent accidental destruction
- Students with allergies may be particular against projects
- Bee keeping club committed to provide continuous support

### Administrators

- Our project helps the Virginia Tech 2020 Climate Action Commitment Resolution and Sustainability Plan
  - Goal 1: Achieve a carbon neutral Virginia Tech campus by 2030
- Our Project is shaped to favor their requirements

### Landscaping Professionals

- Sustainability is a priority for landscaping
- Participation from all landscaping professionals is crucial for the success of our project
- All plants and the location selected by us were proposed by landscaping professionals
- Our project makes lawn mowing redundant

# Agenda

1 Overview

2 Location

3 Plants

4 Stakeholders

**5 Budget**

6 Conclusion

7 FAQ

# Our Project requests one-time Funding and returns ongoing Savings

## Costs

| Item | Quantity | Rate (in USD) | Total Cost (in USD) |
|---|---|---|---|
| Seeds Rough-stemmed Goldenrod | 1 lbs | 660 per lbs | 660 |
| Seeds New England Aster | 1 lbs | 595 per lbs | 595 |
| Seeds Cardinal Flower | 1 lbs | 1875 per lbs | 1875 |
| Seeds Wildflower Meadow Mix | 1 lbs | 50 per lbs | 50 |
| **Subtotal Flowers** | | | **3180** |
| Tree saplings | 6 saplings | 250 per sapling | 1500 |
| Tree planting | 6 trees | 300 per tree | 1800 |
| **Subtotal Trees** | | | **3300** |
| Contingency | | 10% | 648 |
| **Grand Total** | | | **7128** |

## Description

- Our project needs around **three pounds of pure live seeds**
- We can count on volunteering for a big part of our labor
- **Savings may be up to 1000 USD annually** because of reduced lawn mowing
- Our project is **scalable** it can be repeated in an additional location if it is successful

# Agenda

1 Overview

2 Location

3 Plants

4 Stakeholders

5 Budget

6 **Conclusion**

7 FAQ

# Our Project is a sustainable Addition to Campus

## Pro

- Serves as a pollinator habitat
- Reduces carbon emissions through less mowing
- Captures carbon from the air
- Green space for students
- Beneficial for Water Management

## Contra

- Upfront investment
- Requires some maintenance
- Increased symptoms for students with pollen allergies

# Agenda

1 Overview

2 Location

3 Plants

4 Stakeholders

5 Budget

6 Conclusion

7 FAQ

# We want to mitigate the impact and associated risk of these sources of failure

## FAQ

### Maintenance

- Routine maintenance on trees by Campus Arborist
- Depending on the season occasional preventive action to foster the health of the flowers by student organizations
- Need for treatment before or after exceptional weather

### Winter

- All our plants are **perennial plants**
- They grow and bloom over the spring and summer, die back every autumn and winter, and then return in the spring from their rootstock.

### Allergies

- Pollen and Bees, which can cause allergic reactions, can not be contained in a certain area
- It may affect the athletic outdoor facilities
- Prevention through adequate distance to our project and the planned scale of our project

MGT 2354 Teams, Leadership and Sustainability

# Project: Pollinator Ecosystem

**SuperStainability**
Julee Hong, Maeve Kitson,
Andrew Feely, Benjamin Kleber

November 2022

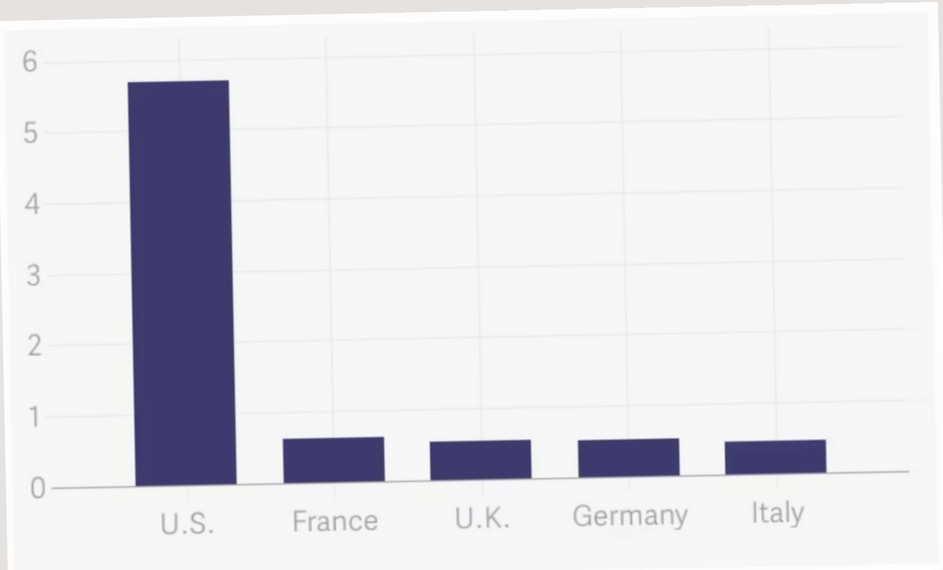
# REDUCING WASTE

*Hand-in-Hand*

# SATOKA'S STORY

# U.S. PAPER TOWEL WASTE

- In the U.S. we use about 13 billion pounds of paper towels every year
- The U.S. spends more on paper towels than any other country
  - Highest per capita spending
- Demand & sales of paper towels have increased since the pandemic




*Total U.S. dollars spent on paper towels in 2017, in billions* (The Atlantic)

# CULTURAL DIFFERENCES

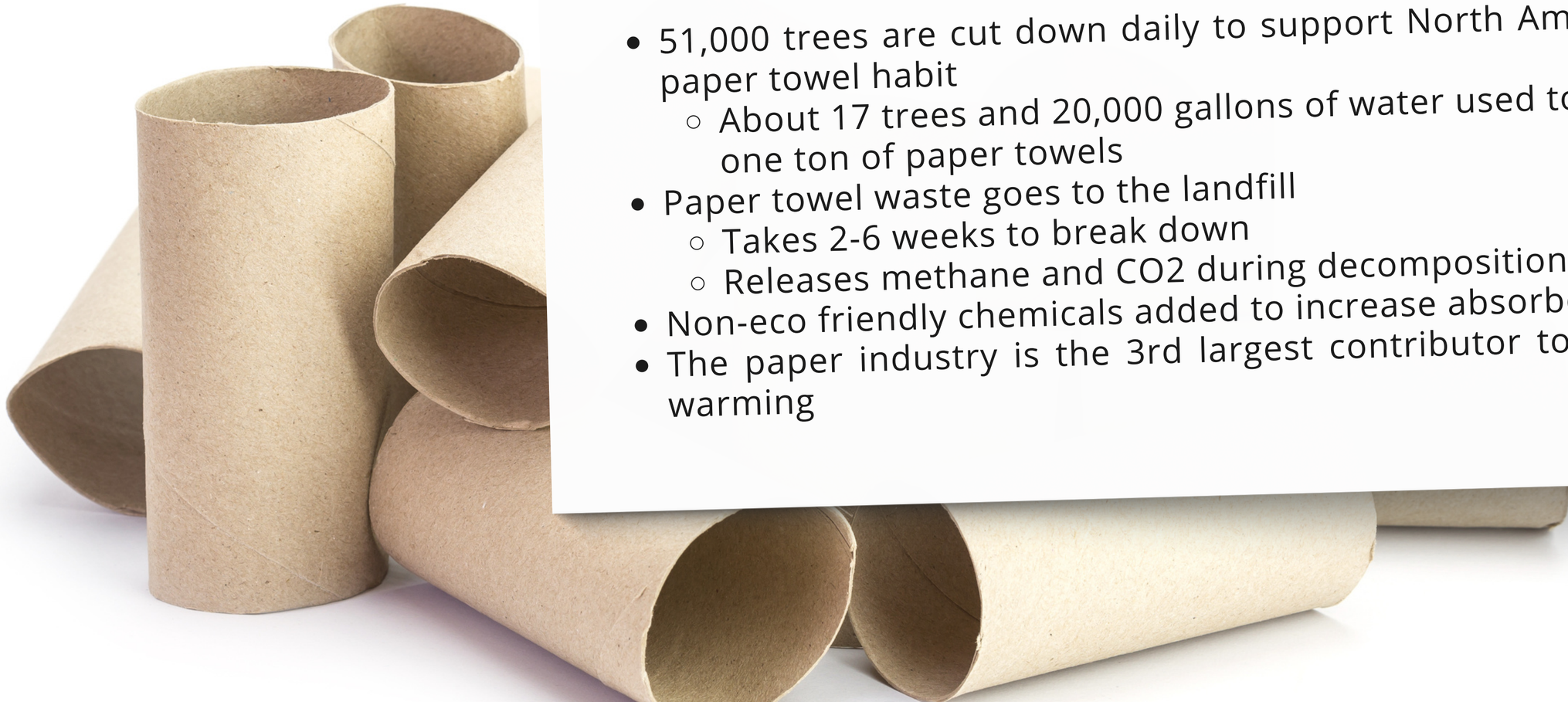
## *U.S. vs. Japan*

### U.S.

- The U.S. is a throw-away culture
- Many homes in the U.S. use hand towels in kitchens or bathrooms while paper towels are used mainly for spills

### JAPAN

- Education since kindergarten
- More easily implemented in Japan due to small washer size
  - Loads ran every day  helps cleanliness



# ENVIRONMENTAL EFFECTS

- 51,000 trees are cut down daily to support North America's paper towel habit
  - About 17 trees and 20,000 gallons of water used to make one ton of paper towels
- Paper towel waste goes to the landfill
  - Takes 2-6 weeks to break down
  - Releases methane and CO2 during decomposition
- Non-eco friendly chemicals added to increase absorbency
- The paper industry is the 3rd largest contributor to global warming

# PAPER TOWEL WASTE @ Virginia Tech

- Virginia Tech reported the disposal of 141 tons of paper towel waste in 2020
  - All paper towel waste goes to landfill
  - Increase of paper towel waste on campus
- Approximately $67,200 spent for just residential buildings
  - About $66,000 spent for the academic buildings
- Students reported using 2-4 paper towels on average per restroom visit

# OUR SOLUTION

## IMPLEMENT

Reusable hand towels implemented as an alternative to single-use paper towels in dorm restrooms

## DISTRIBUTE

Distribute 3 reusable hand towels to each student in the Main Campbell dorm

## EDUCATE

Educate students with an information card attached to the towels

## CUT DOWN

Our goal is to cut down Virginia Tech's paper towel waste & associated costs

## ZERO WASTE

Work towards our university-wide committment of a zero waste campus by 2030

# IMPLEMENTATION

**DISTRIBUTE HAND TOWELS AT THE START OF THE FALL 2023 SCHOOL YEAR DURING MOVE-IN**

**INFORMATION CARD**

**ENCOURAGE STUDENTS TO USE HAND TOWELS INSTEAD OF PAPER TOWELS**

**SCHOOL WILL STILL PROVIDE PAPER TOWELS IN RESTROOMS**

REDUCING WASTE

*Hand in Hand*

**WHAT IS THIS FOR?**

THESE HAND TOWELS ARE FOR YOU TO USE AS AN ALTERNATIVE TO SINGLE-USE PAPER TOWELS!

**HOW WILL THIS HELP?**

THE U.S. SPENDS MORE ON PAPER TOWELS THAN ANY OTHER COUNTRY! THESE REUSABLE TOWELS WILL HELP COMBAT THESE NUMBERS AND WORK TOWARDS OUR CAMPUS GOAL OF ZERO WASTE BY 2030!

# CURRENT RESIDENTS & RA

- Students are open to implementing idea
- Many use about 2 - 4 paper towels per each use
  - Paper towels are too thin and not absorbent
- Current residents also use paper towels for spills, wiping, injuries, etc.
- Students generally wash clothes and towels once a week
  - Convenient to wash hand towels with laundry
- Reported that trash cans are often overflowing
  - Excess paper towel waste littered on bathroom floor

# HOW TO USE *in a UT dorm*

# HAND TOWELS

- Purchasing from Intralin Co.
  - Spectrum Towel Collection
- Hand towels are 100% cotton
  - 12 x 12 cm
- 9 appealing colors to choose from
- Towels can be washed in washing machine
  - Convenient; can be washed with normal laundry (~1x/week)
- Priced at $0.52 per towel
- Cost
  - 1 case of 300 hand towels = $156
    - 2 cases required to provide 3 towels for 171 students
    - $312 requested for funding of hand towels
  - $375 requested to account for educational materials
    - Informational cards, string, posters

# BENEFITS FOR VIRGINIA TECH

- Significant savings
  - Estimated savings: $247.22 per semester for one building
  - Additional savings due to reduced waste disposal
- More eco-friendly/sustainable campus
- Helps pursue our campus commitment of zero waste by 2030
- Reduces an area of waste that has seen an increase recently

# POTENTIAL CHALLENGES

- Cleanliness (growth and spread of bacteria/diseases)
  - Can be prevented by educating and encouraging students to wash towels
  - Hand towels are convenient to wash
- Resistance from students due to cultural differences
  - Emphasize importance through education materials
  - Encourage students regularly through social media, posters, and RAs
    - Note: RAs cannot enforce cleanliness
- Difficult to implement use on main campus
  - Many uncontrollable factors
  - Inconvenient & unhygienic

# FUTURE IMPLICATIONS

- Observe results of project implementation during Fall 2023
  - Revise, improve, and expand to other residential buildings
- Sell customized hand towels on campus stores to encourage use
- Decrease paper towel waste & associated costs at Virginia Tech
- Encourage sustainable practices amongst students

*Thank You*

# & BE AWARE OF YOUR OWN IMPACT