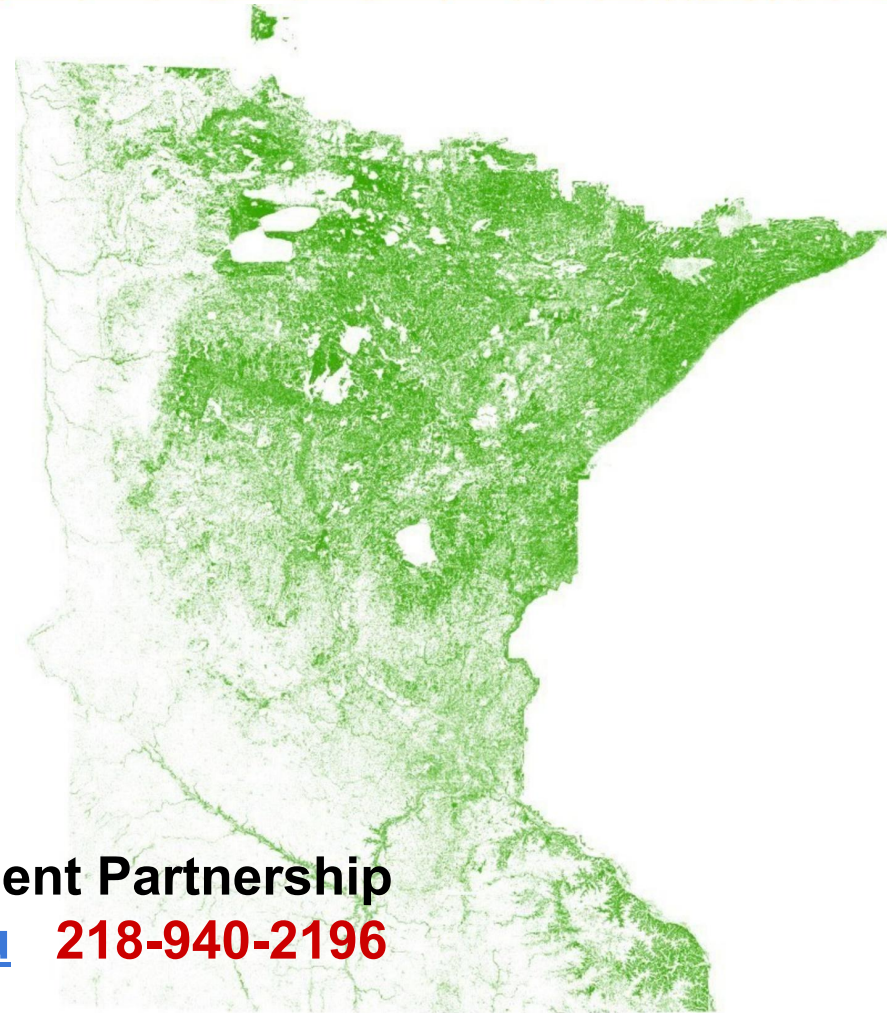




Forest Assisted Migration Project

**CLIMATE CHANGE CHALLENGING EFFECTS
ARE HAPPENING FASTER THAN THE TREE
SPECIES CAN ADAPT**

Northeast Regional Sustainable Development Partnership
Director - David Abazs dwabazs@umn.edu 218-940-2196

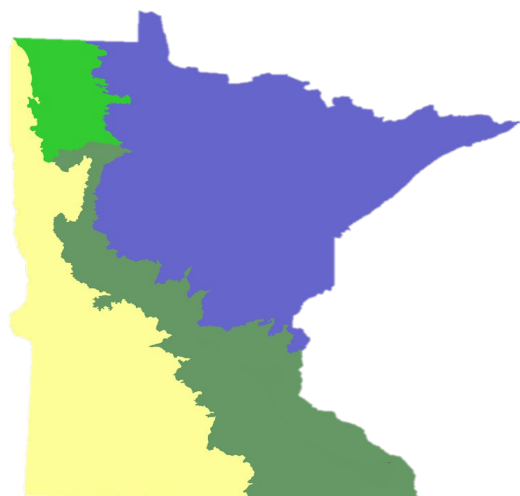
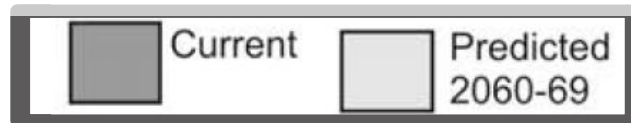


The fundamental problem

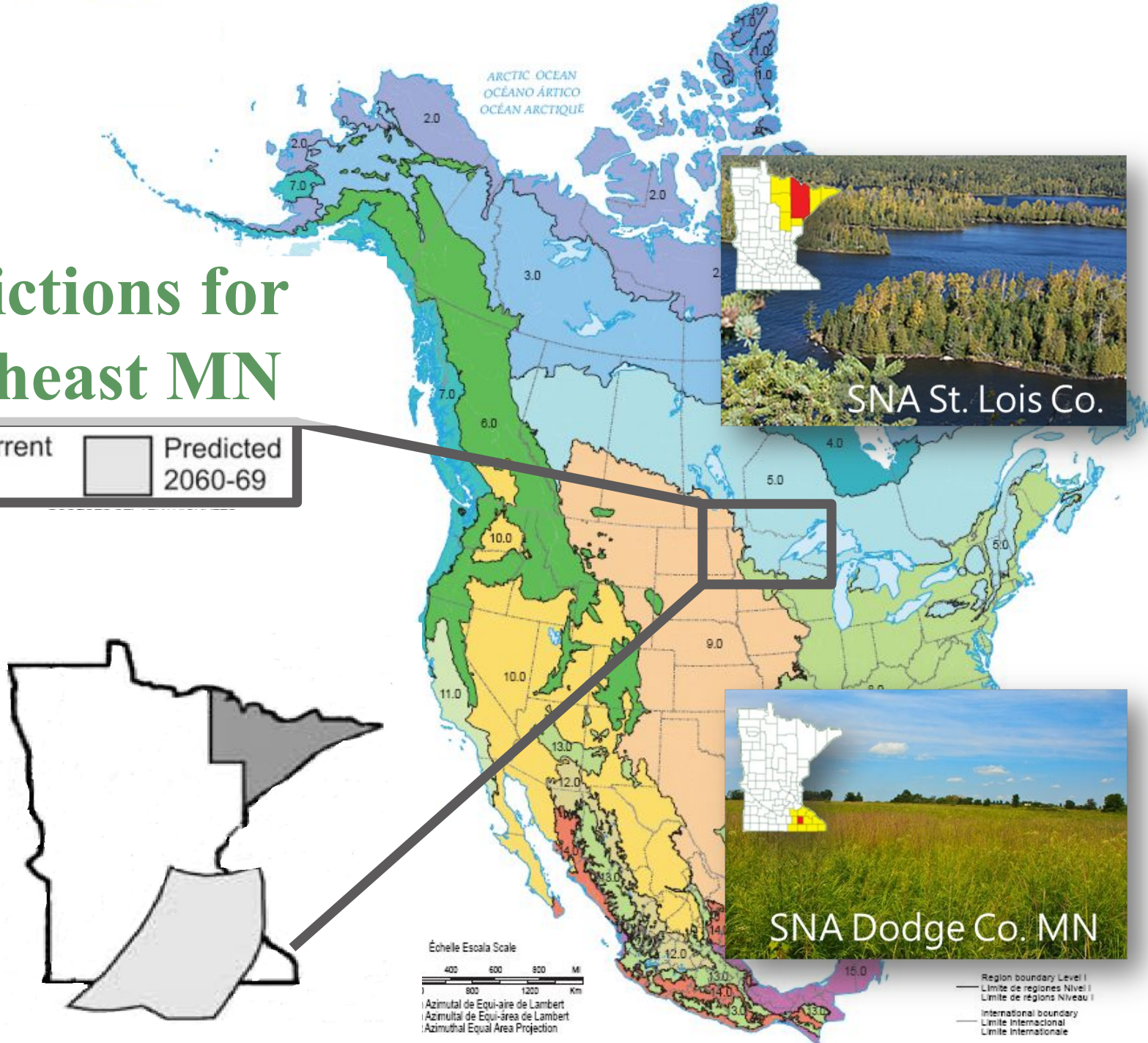
A typical scene along the North Shore



Predictions for Northeast MN



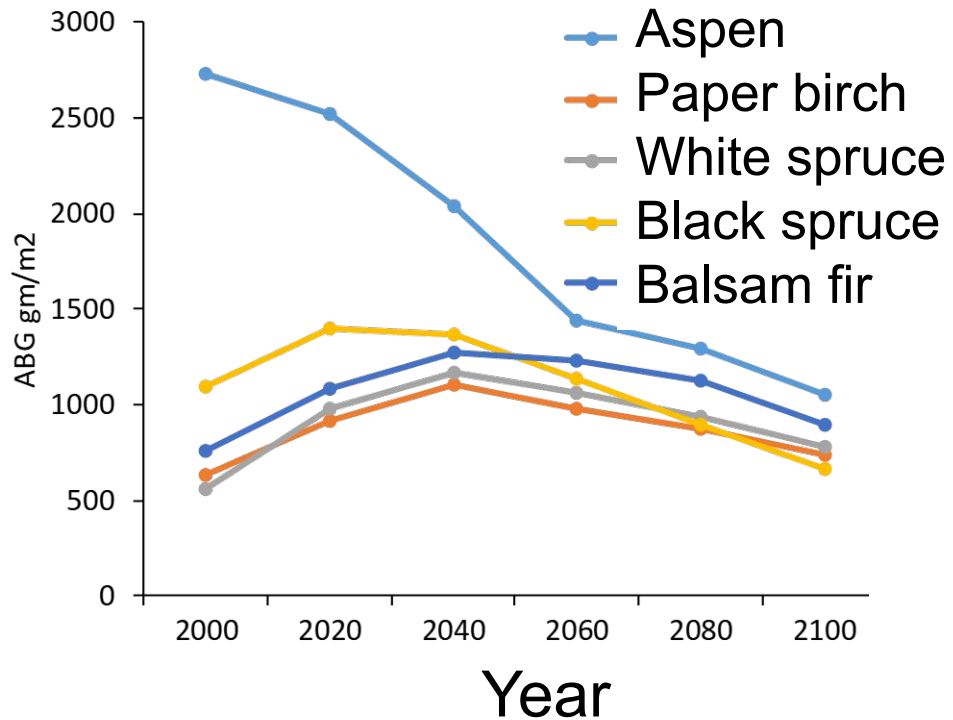
Biomes



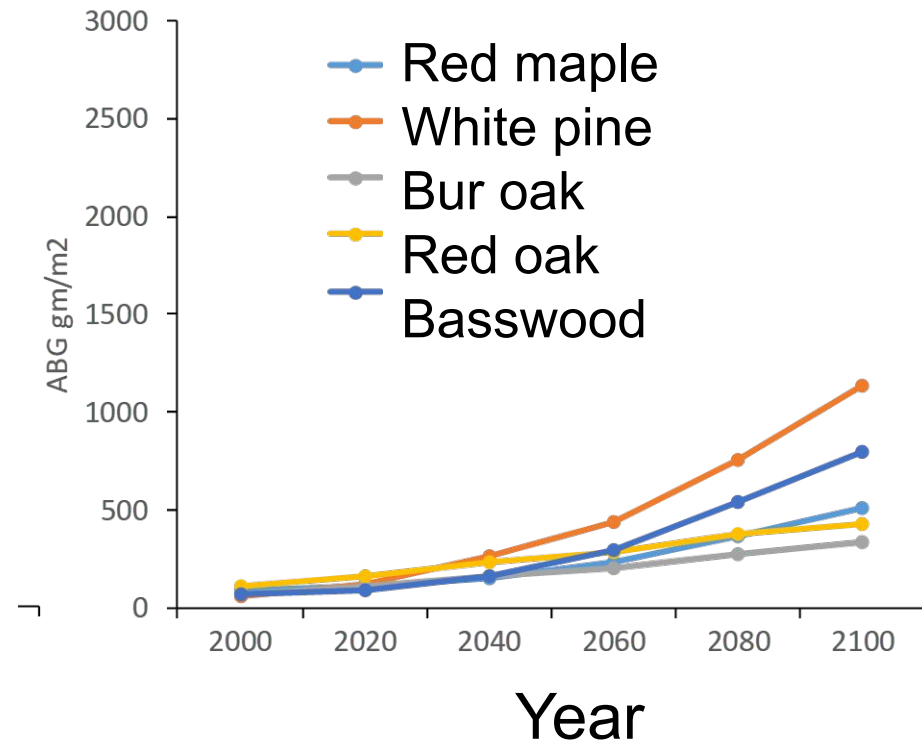
What species should be planted?

Predicted to thrive

Boreal species decline



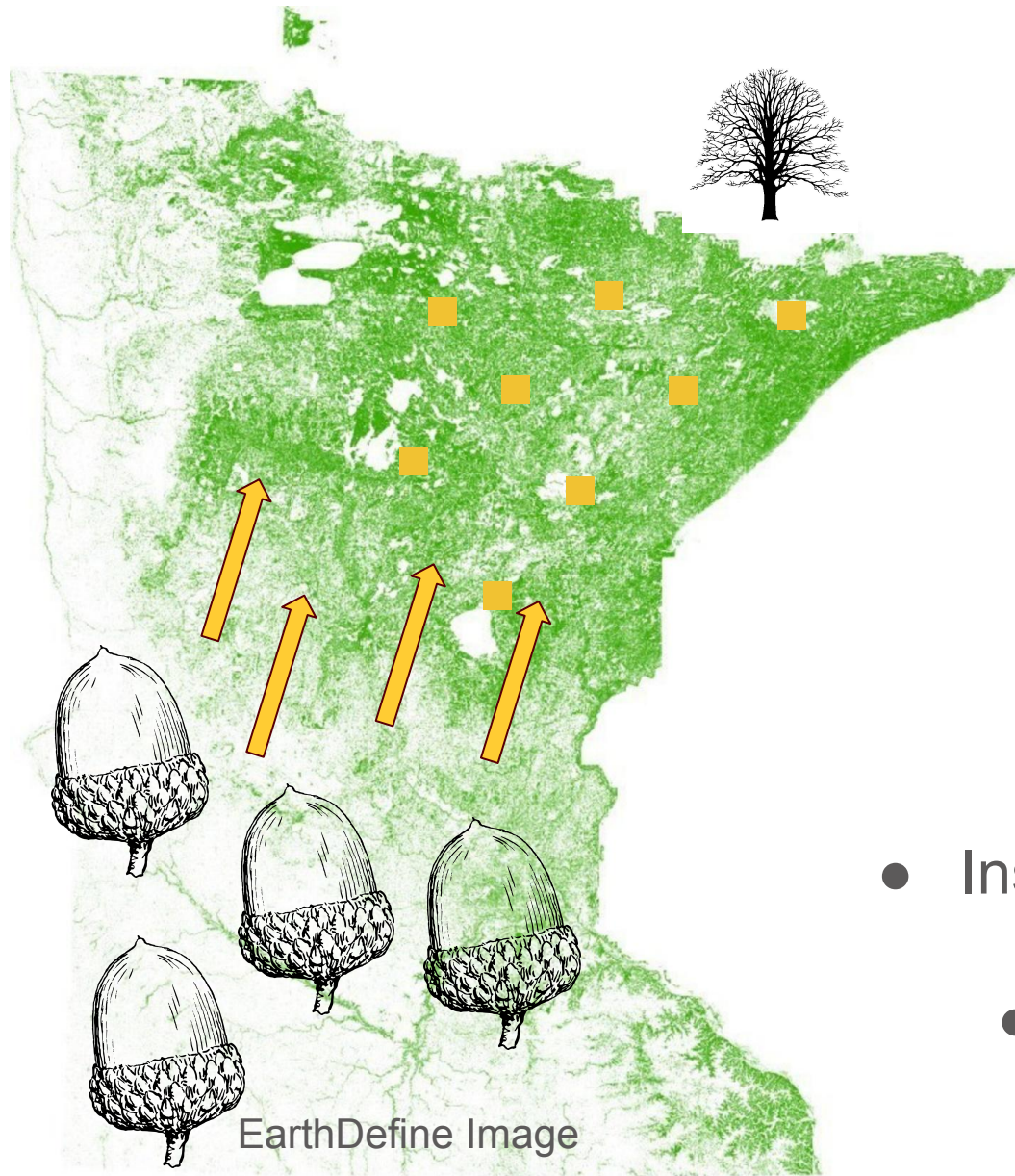
Temperate species increase



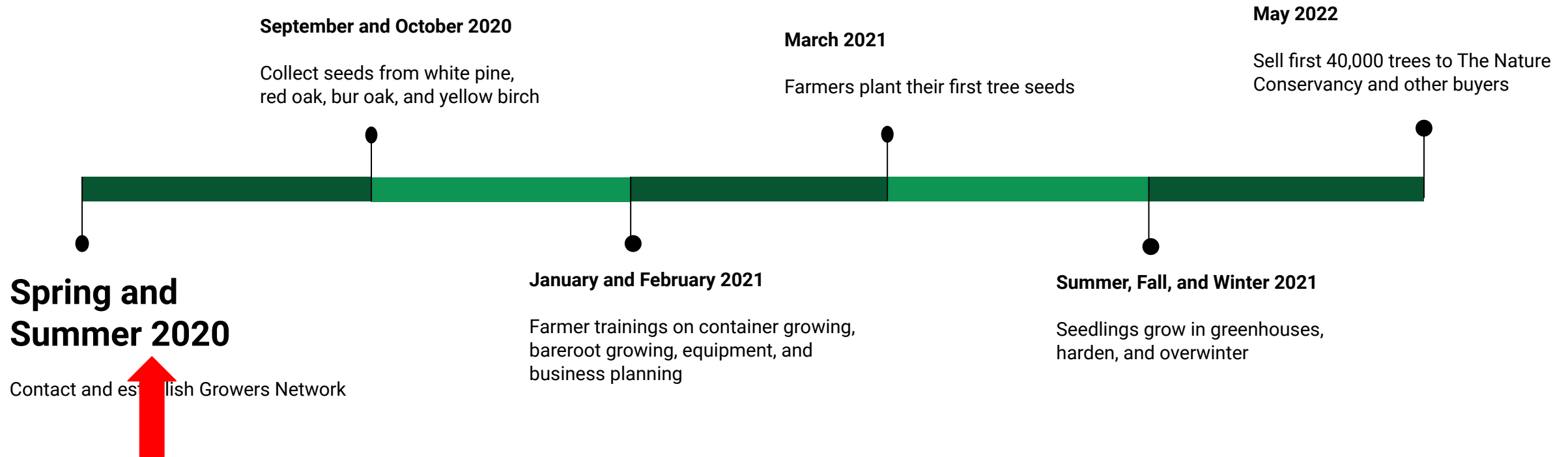
Forest Assisted Migration Project

NEED
Coordinated
(long-term)
initiative

- Research/Seeds
- Institution Collaboration/Buyers
- Growers Network ACT



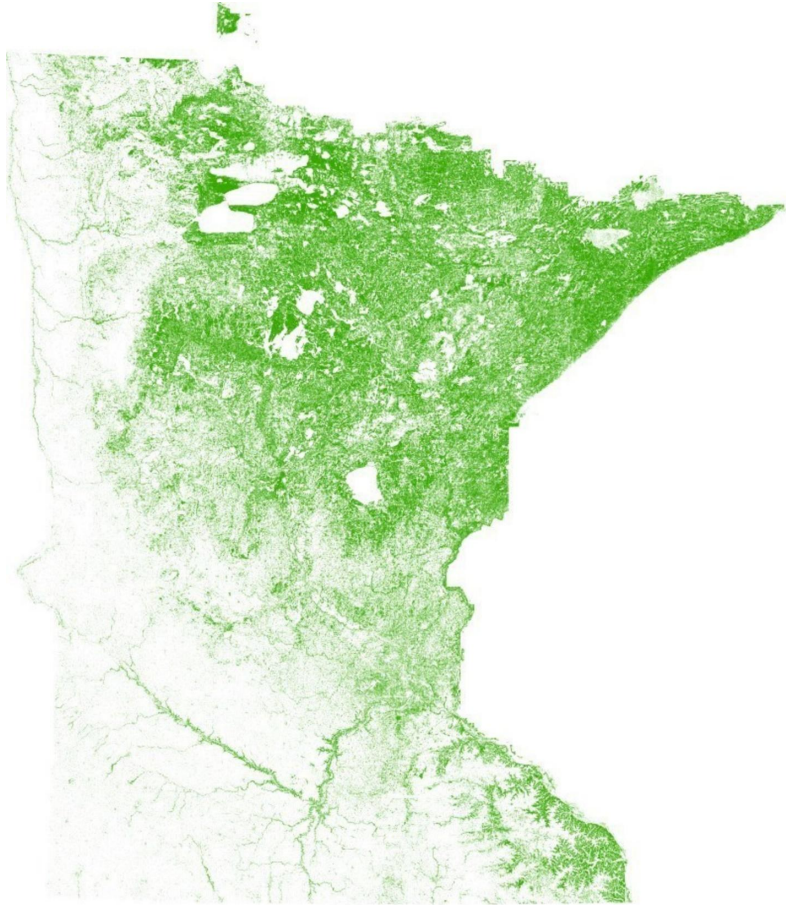
Project Timeline



Forest Assisted Migration Project - Growers Network



Forest Assisted Migration Project - Growers Network



UMD Students – ES 4010 Seminar Capstone Project

1. Recruit nursery owners and farmers that are interested in growing tree seedlings for this project
2. Research the certification and state regulation needs



Alaina Lawrence



Emily Pilz



Emily Rakos

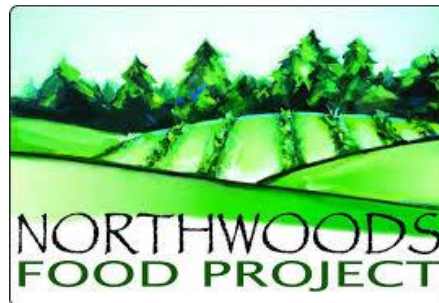


Forest Assisted Migration Project - Growers Network

Growers Network
Local Nurseries &
Farmers



Lake Superior Chapter &
Greater Mille Lacs Chapter

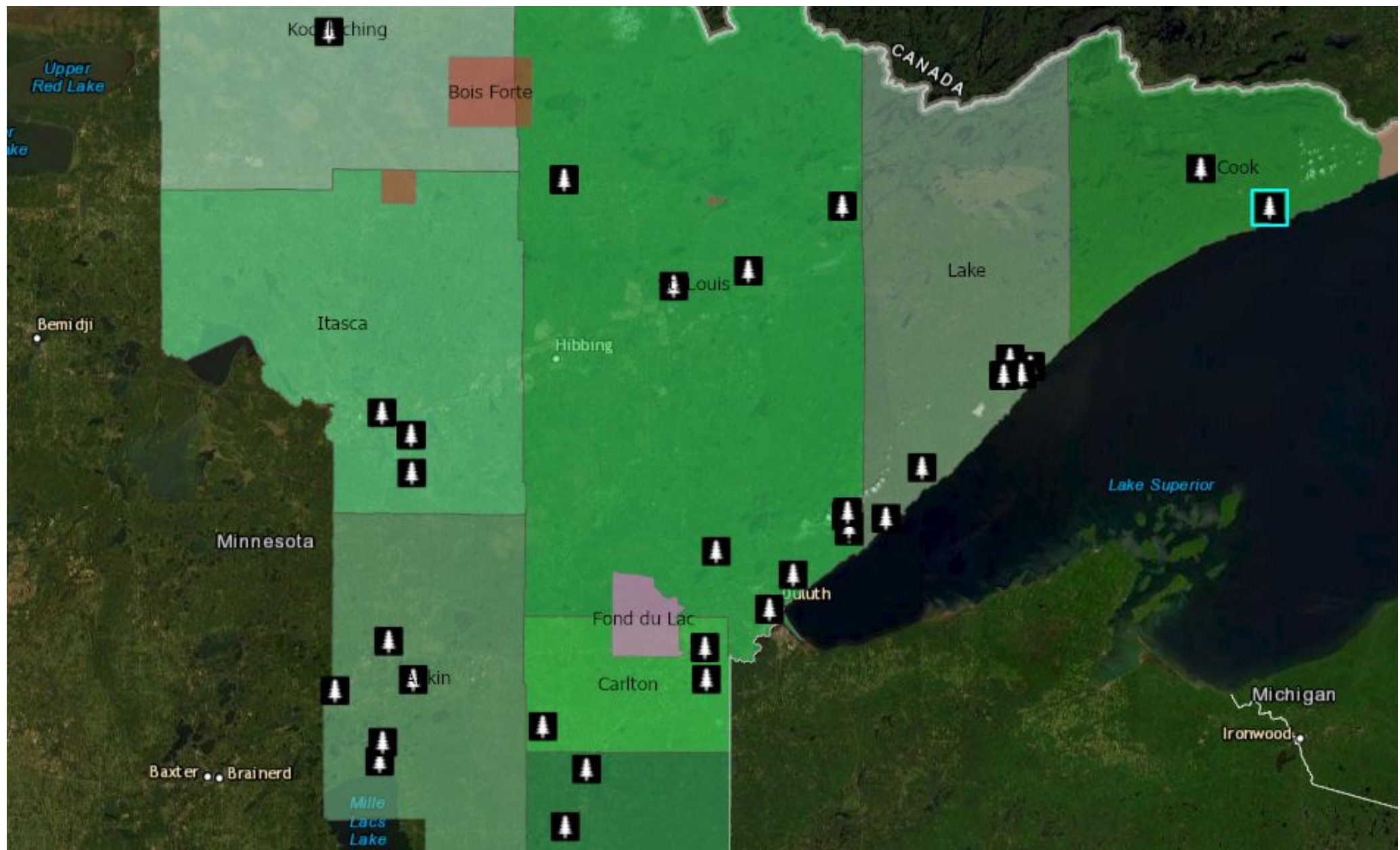




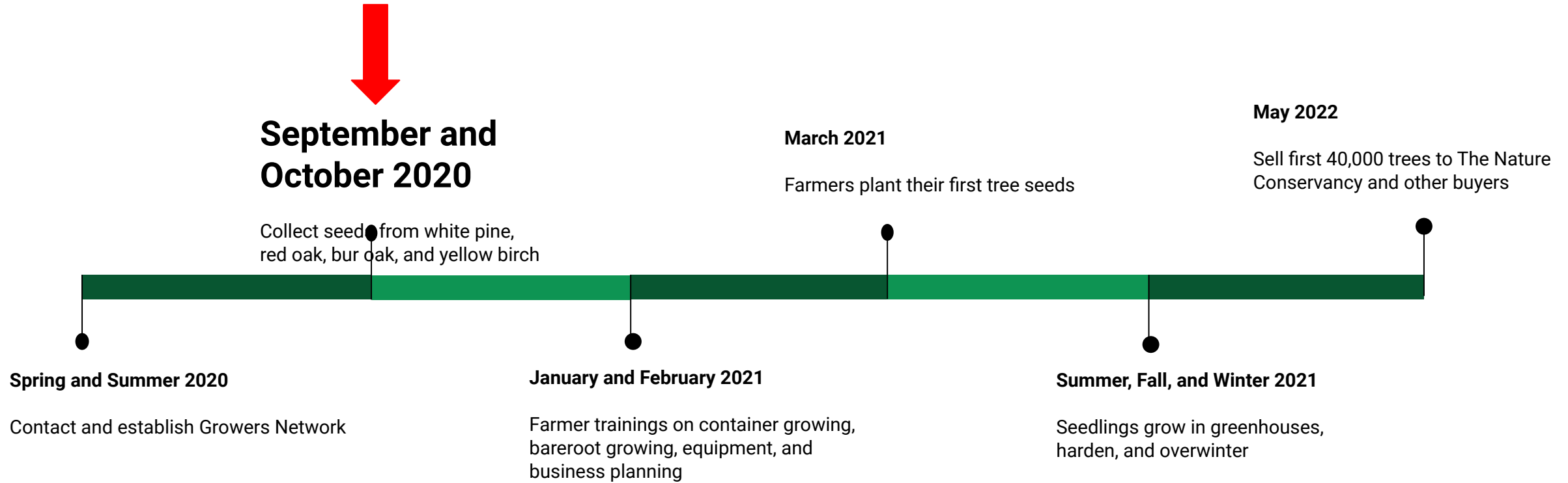
Growers Network (37 growers – 8+ Northeast MN Counties)

- Clover Valley Farm
- Shoreview Natives LLC
- Justin and Mark Osadjan
- John Beaton
- CR Hops Farm
- Richard Pierce
- Jeff Kroll and Dwan Trexel
- Early Frost Farms
- Kelly Dahl
- Round River Farm
- North Shore AgroEcology Center
- Wolf Ridge Organic Farm
- Maxwell's Woodland Nursery
- Jayson Newman
- Mark Roalson
- Maple Hill Farm & Sugarbush
- Butkiewicz Family Farm
- UMD Land Lab
- LSC Living Land Lab
- Sara Rybak Farm
- Farm LoLa
- Kelly Smith
- Kevin Flowers
- Christian McShane
- Allison Rian
- Matthew Nix
- Hannah Bernhardt
- John Sauxhaug
- Chelsea Morning Farm
- Faber Farms
- Joe Gans
- Joyce Washburn
- Stephanie Hibon
- Lynn Sue Mizner
- Shary Zoff
- Denise Rodgers
- Katie Nelson





Project Timeline



Forest Assisted Migration Project



The Nature Conservancy 



UMD UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover



Seeds Gathering

Northeast
Regional Sustainable
Development Partnership 

UNIVERSITY OF MINNESOTA
EXTENSION



Forest Assisted Migration Project

Trees of Interest – final choices to be determined...

- | | |
|----------------------|-------------------------|
| 1. American Basswood | 1. Eastern Hemlock |
| 2. American Beech | 2. Eastern Red Cedar |
| 3. Big Toothed Aspen | 3. Eastern White Pine |
| 4. Black Cherry | 4. Northern White Cedar |
| 5. Black Willow | 5. Red Pine |
| 6. Bur Oak | |
| 7. Northern Pin Oak | |
| 8. Northern Red Oak | |
| 9. Red Maple | |
| 10. Sugar Maple | |
| 11. Swamp White Oak | |
| 12. White Oak | |
| 13. Yellow Birch | |



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Trees of Interest – final choices to be determined...



Bur Oak



Northern Red Oak



Yellow Birch



White Pine



White Oak

1. American Basswood
2. American Beech
3. Big Toothed Aspen
4. Black Cherry
5. Black Willow
6. **Bur Oak**
7. **Honey Locust**
8. Northern Pin Oak
9. **Northern Red Oak**
10. Red Maple
11. Sugar Maple
12. Swamp White Oak
13. **White Oak**
14. **Yellow Birch**

1. **Eastern Hemlock**
2. **Eastern Red Cedar**
3. **Eastern White Pine**
4. Northern White Cedar
5. Red Pine



Eastern Red Cedar



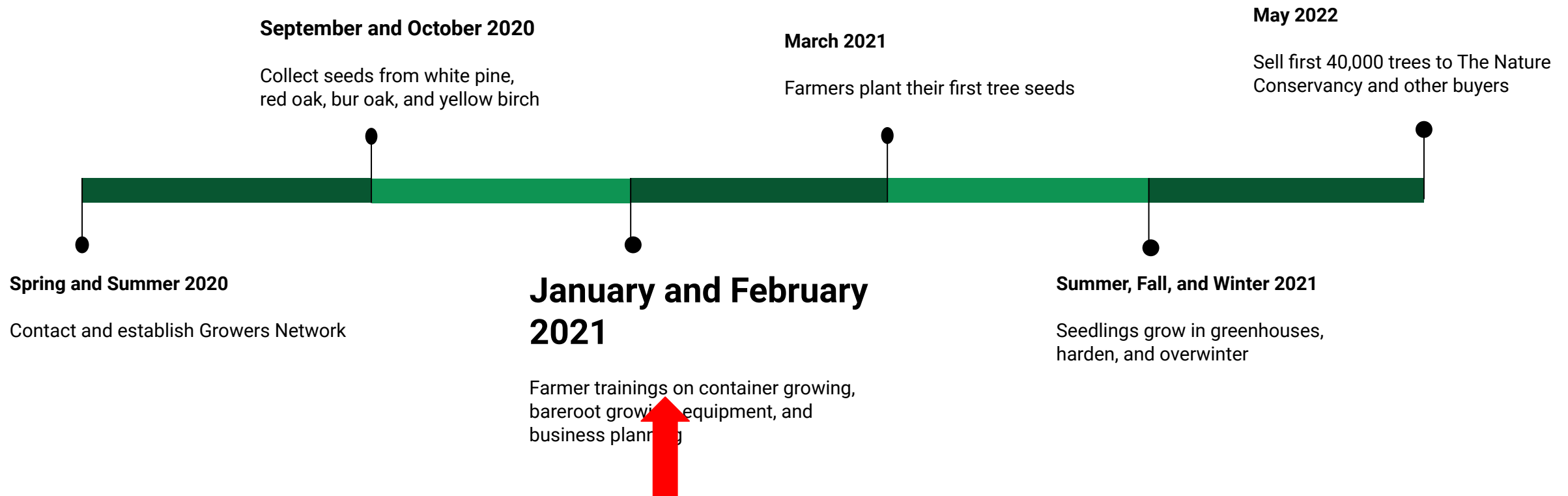
Honey Locust



Eastern Hemlock



Project Timeline



Trainings

- Container (plug) growing
- Bareroot growing
- Watering and fertilizing
- Equipment
- Business planning



Kristina Some

Supervisor at Bedoura DNR State Nursery



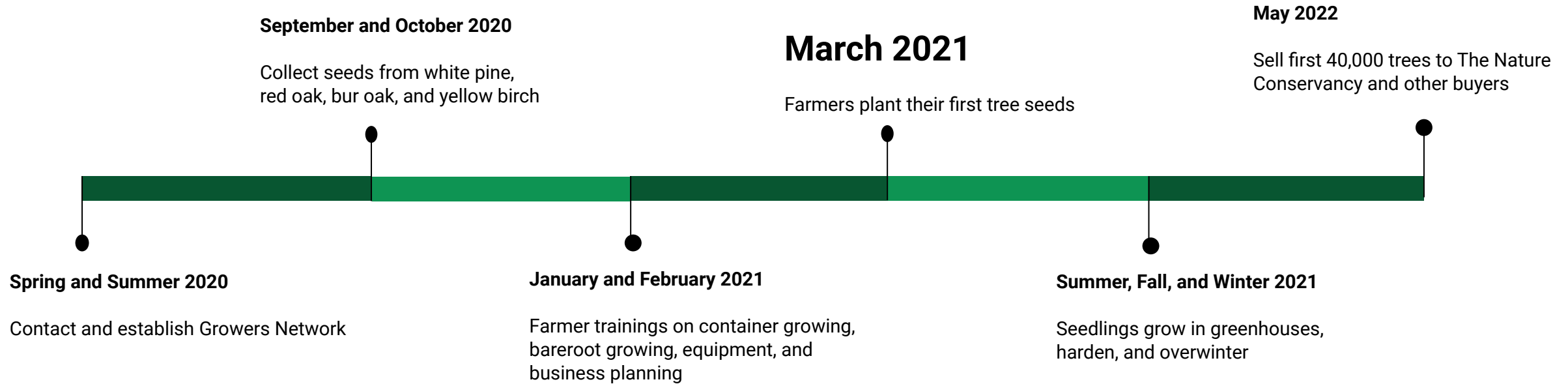
Trainings



- Container (plug) growing
- Bareroot growing
- Watering and fertilizing
- Equipment
- Business planning



Project Timeline

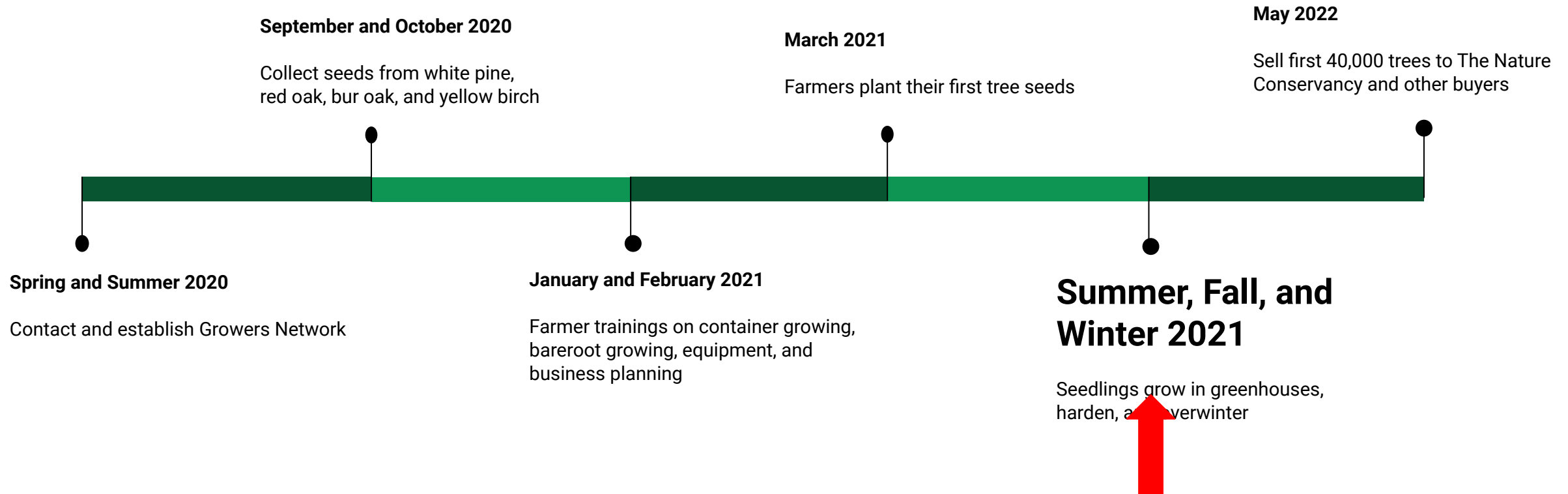


March 2021 - Planting

Planting acorns, white pine
and yellow birch seeds



Project Timeline



Summer 2021 - Growing the seedlings



Greenhouse
Container growing

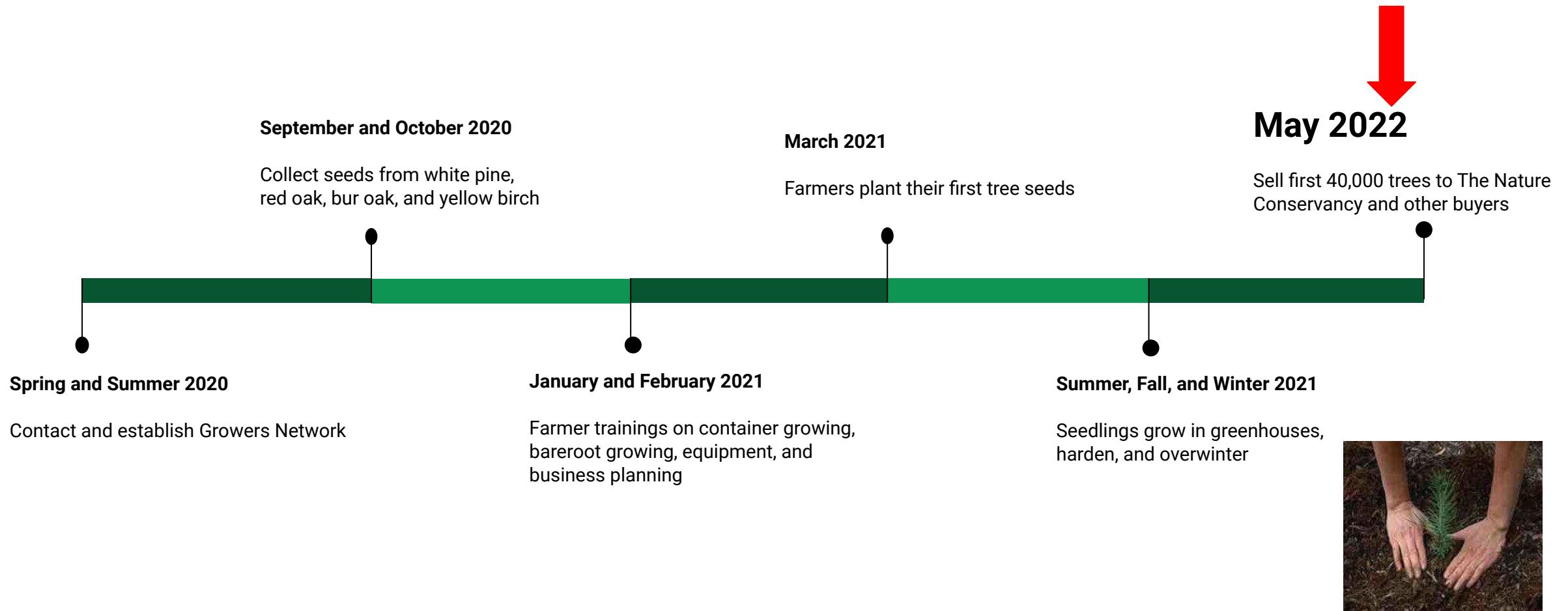
Bareroot growing



Fertilizing
Watering



Project Timeline



Spring 2022 - Shipping the seedlings

First Bare Root Tree Seedlings



First Tree Seedling Plugs



DELIVERY





Forest Assisted Migration Project - Growers Network

Questions/Discussion?



Contact - David Abazs
dwabazs@umn.edu
Northeast Regional
Sustainable Development
Partnership
218-940-2196

