

FOREST HEALTH PROGRAM

Peter Gag

Forest Health Manager

North Dakota Forest Service

June 24, 2021



NDSU NORTH DAKOTA
STATE UNIVERSITY

WHAT WE'LL TALK ABOUT

- What is Forest Health?
- Who we serve and where
- What Forest Health does for the NDFS
- Forest health management
- Forest health monitoring
- Challenges
- Opportunities

WHAT IS FOREST HEALTH?

GENERALLY

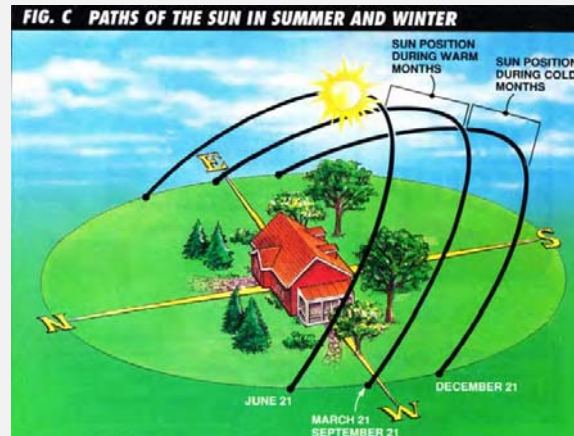
- Perceived condition of the forest
 - Age
 - Structure
 - Composition
 - Function/resilience
 - Level of insects and disease

NDFS

- Provide technical assistance
- Provide training
- Survey to assess tree/forest threats
- Generate timely reports

ECOSYSTEM SERVICES

- Benefits
 - Shading
 - Screening
 - Wildlife habitat
 - Soil and water quality
 - Ecological processes
 - Diversity
 - Aesthetics



<https://bestlife52.com/>



www.isa-arbor.com • www.treesaregood.org

WHO AND WHERE WE SERVE



FOREST HEALTH ROLE WITH NDFS

FH MANAGEMENT

- Technical assistance
- Working with cooperators
- Collaboration

FH MONITORING

- Trapping
- Assessments
- Inventories

FOREST HEALTH ROLE WITH NDFS

FH MANAGEMENT

- Technical assistance
- Working with cooperators
- Collaboration

FH MONITORING

- Trapping
- Assessments
- Inventories

MANAGEMENT

Technical assistance

Assess sites and trees



MANAGEMENT

Outreach

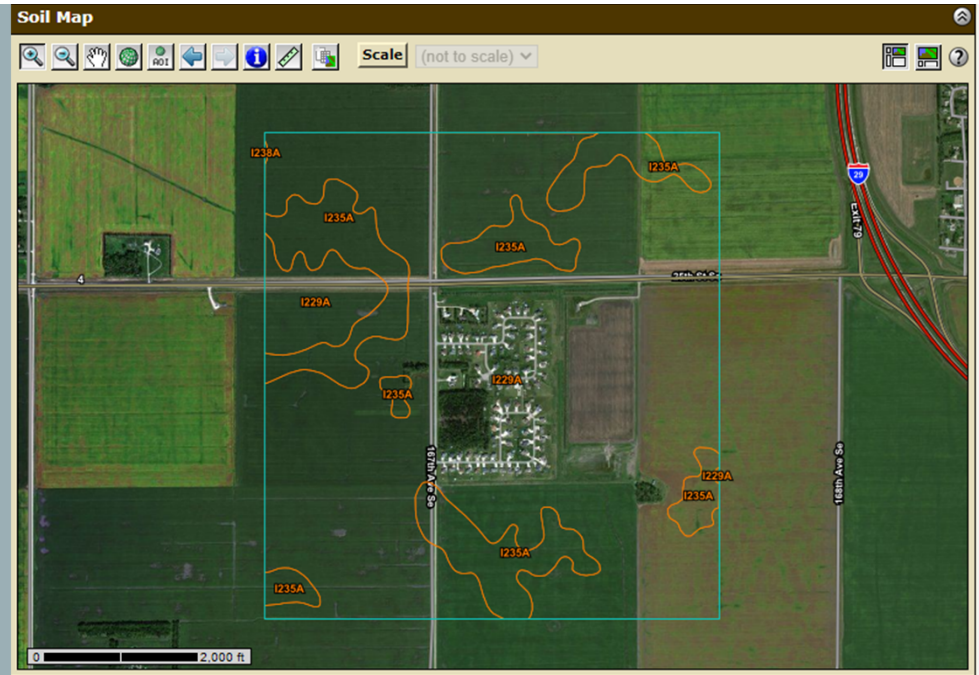
NDInvasives.org

The screenshot shows a web browser window with the URL ndinvasives.org/learn-about-eab-and-bark-foraging-birds. The page is titled "ND INVASIVES" and features a navigation menu with links for "ABOUT NDSU", "ACADEMICS", "ADMISSION", and "ATHLETICS". The main content area is titled "Learn about EAB and bark foraging birds" and includes a video player for "Bark Foraging Birds and Emerald Ash Borer". Below the video player is a "Sisk Tree Assistance Form" with the following fields:

- Please enter your first and last name.
- Please enter an email or phone number where you can be contacted.
- Date & Time Observed.
- What problem are you seeing with your tree/trees?
- Set the location as close to the sick tree as possible by clicking on the centering icon (circle with crosshairs). You may also scroll on the map if you are not at the tree.

MANAGEMENT

Education
Training



<https://websoilsurvey.sc.egov.usda.gov/>

INSECTS AND DISEASES OF NORTH DAKOTA TREES

Peter Gag
Forest Health Manager
North Dakota Forest Service

University of Cincinnati: Long-Lost Lake
Offers Clues to Climate Change



MANAGEMENT

Collaboration

NDDA

NDSU Extension

Emerald Ash Borer is Right Next Door



Get up-to-date information at:
www.emeraldashborer.info
www.ogdepartment.com

EAB was found in St. Paul in 2009 and Minneapolis in 2010.

Emerald Ash Borer (EAB) has not been found in North Dakota yet, but when it arrives, it could change our urban and rural forests drastically.



What Can You Do?

- Don't bring firewood into North Dakota; use local sources.
- If people you know are coming to North Dakota, tell them to leave firewood at home. If someone already has brought it, burn it immediately!
- Learn to know the signs and symptoms of emerald ash borer and report possible occurrences.
- Plant tree species other than ash (*Fraxinus* spp.). EAB only attacks ash trees. There are no known resistant species or cultivars. A high percentage of trees in North Dakota communities are ash.

with Dakota Forest Service
 with Dakota Department of Agriculture
 USDA Animal and Plant Health Inspection Service
 OSU Extension Service



Firewood ALERT

Help stop the spread of exotic pests

DON'T BRING FIREWOOD INTO NORTH DAKOTA!

Exotic insects like Emerald Ash Borer are a major threat to North Dakota's trees. Such pests are easily spread to new areas when infested firewood is brought from other states.

If you or someone you know is planning a trip to North Dakota:

- Don't bring firewood from out-of-state
- Use North Dakota sources of firewood



Emerald ash borer is spread to new areas by infested firewood.

If you have already brought firewood into the state, do not leave it or take it with you – **BURN IT IMMEDIATELY!**

For More Information Contact

North Dakota Department of Agriculture • (701) 233-7295
 North Dakota Forest Service • (701) 231-6138
 USDA APHIS Plant Protection and Quarantine • (701) 255-4473

Produced by the North Dakota Department of Agriculture, North Dakota Forest Service, North Dakota State University, USDA APHIS, and USDA Forest Service



FOREST HEALTH ROLE WITH NDFS

FH MANAGEMENT

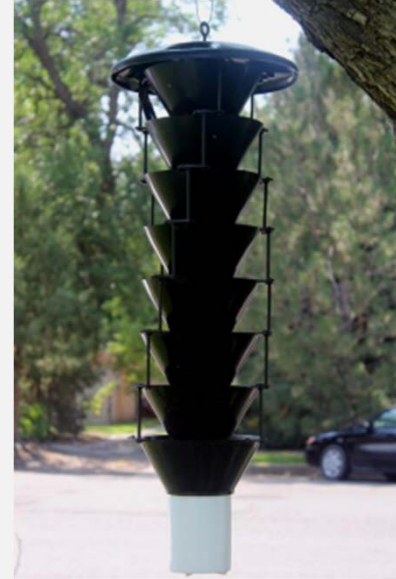
- Technical assistance
- Working with cooperators
- Collaboration

FH MONITORING

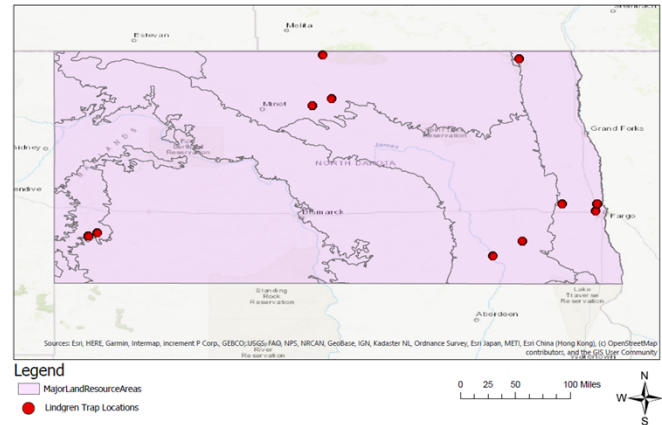
- Trapping
- Assessments
- Inventories

MONITORING

EAB w/ NDDA
Lindgren Funnel Trap



Lindgren Trap Locations
State of North Dakota
North Dakota Forest Service

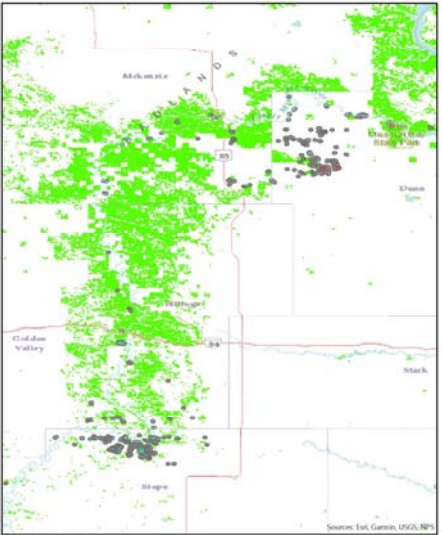


MONITORING

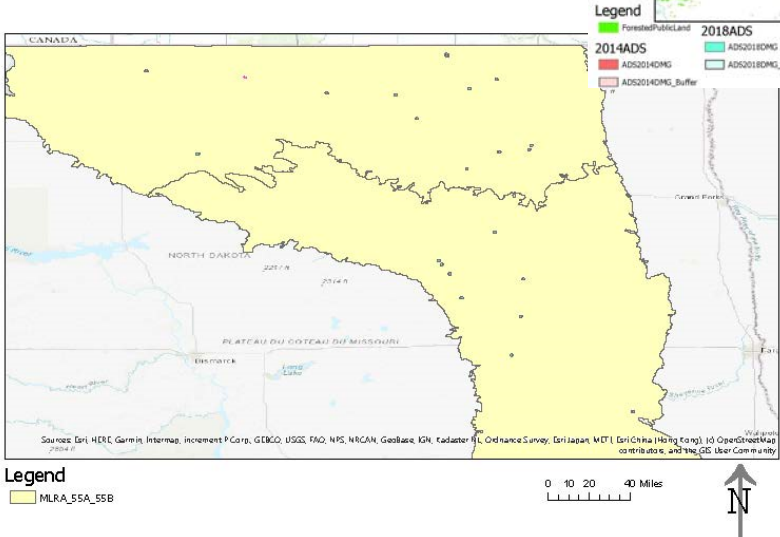
Soils and tree growth

Defoliation and forest productivity

Overlapping ADS Damage Zones (0.25 mi.) from 2014 and 2018 Flights Conducted over Public Land
Theodore Roosevelt National Park Area
North Dakota Forest Service



Potential Sample Sites of Colorado Blue Spruce on 2kk Soils MLRA 55a and 55b
North Dakota Forest Service



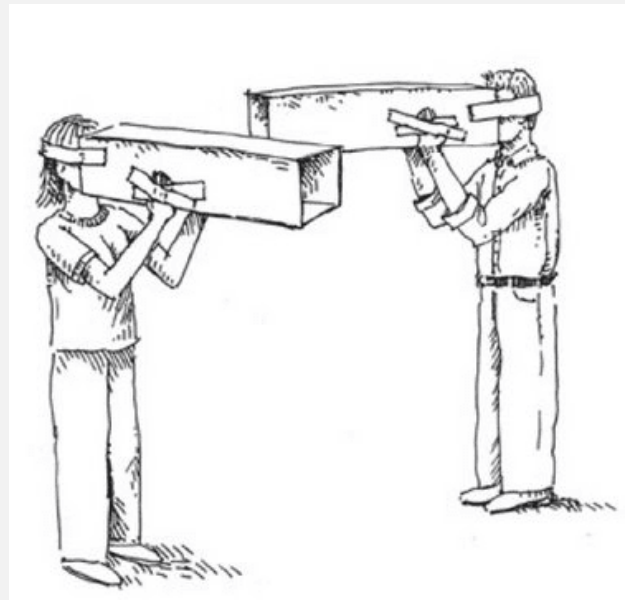
FOREST HEALTH CHALLENGES

- Societal disconnect
- Climate change
- Diversity
- Lack of natural disturbance
- Wood markets



SOCIETAL DISCONNECT

Engagement
Understanding



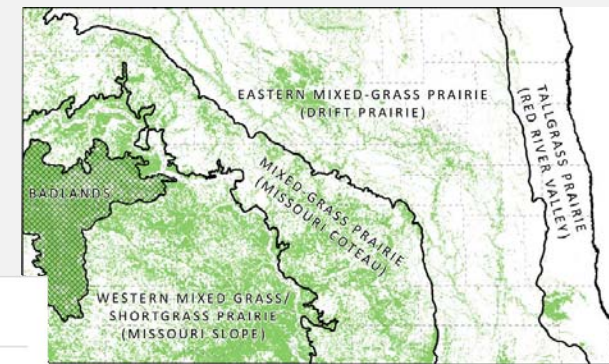
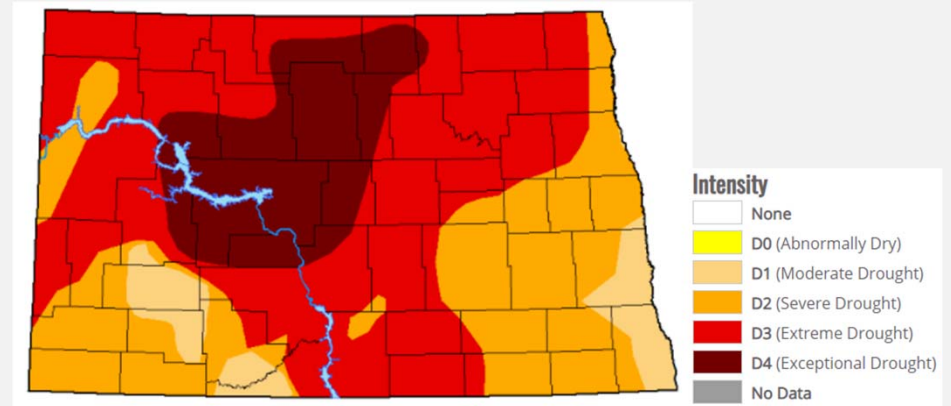
CLIMATE

How precipitation is distributed across the year?

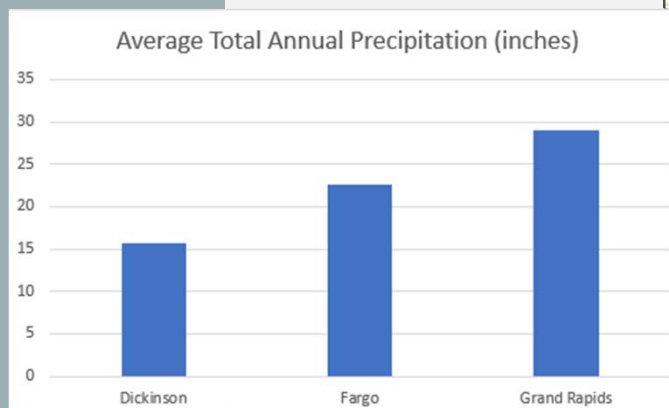
Warm-season tall-grass prairie

Increasing water availability and use, East to West

Trees – use more water



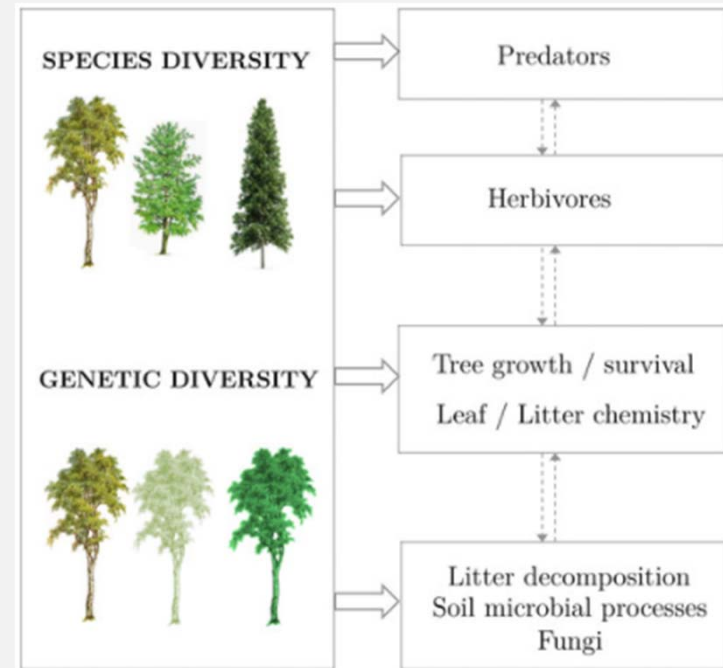
<https://gf.nd.gov/wildlife/habitats>



DIVERSITY

Planting different species
Limits loss from a pest

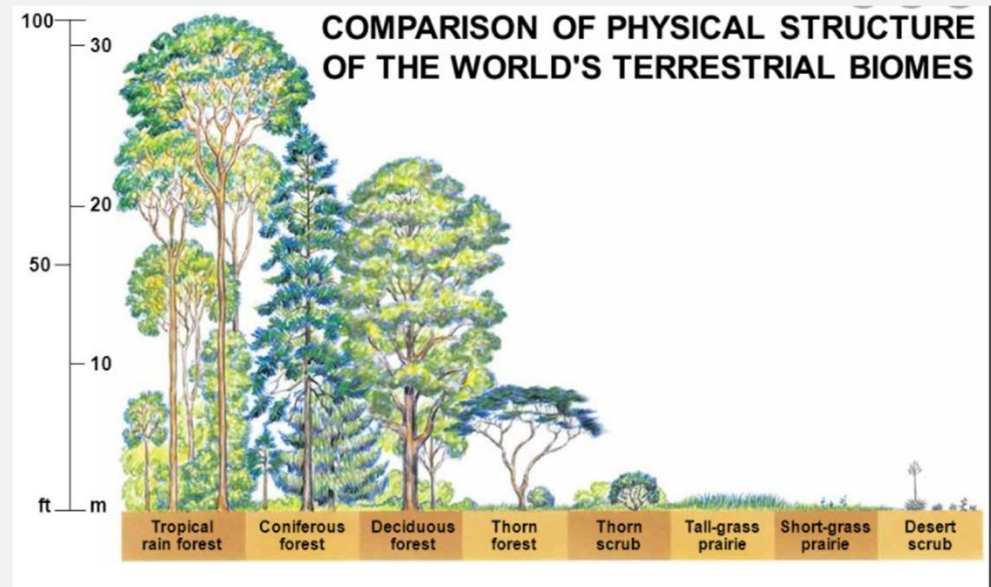
Planting at different times
Replacement for the loss of a tree



<http://www.sataforestdiversity.org/>

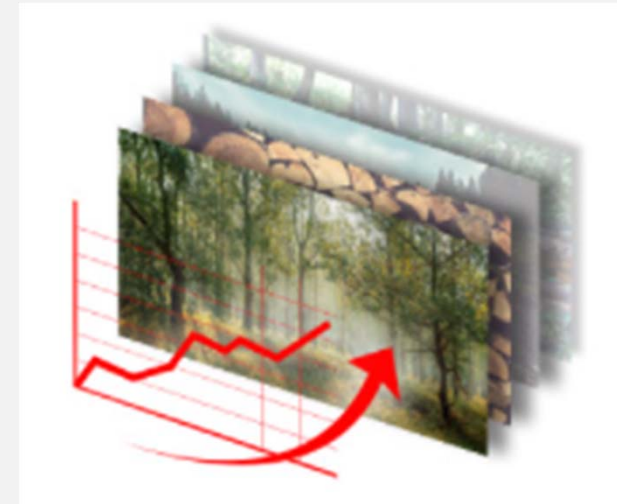
HISTORIC DISTURBANCE?

Fire
Flooding
Insects
Disease
Climate



WOOD MARKETS?

What is this?
Limited wood resource



OPPORTUNITIES



Biodiversity



Carbon



Water



Soil



Recreation

Peter Gag
North Dakota Forest Service
Forest Health Manager

Contact Information

Office: (701)231-5138

Cell: (701)809-4386

Email: peter.gag@ndsu.edu

Sick Tree Assistance Form

NDInvasives.org

