



Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Halsey



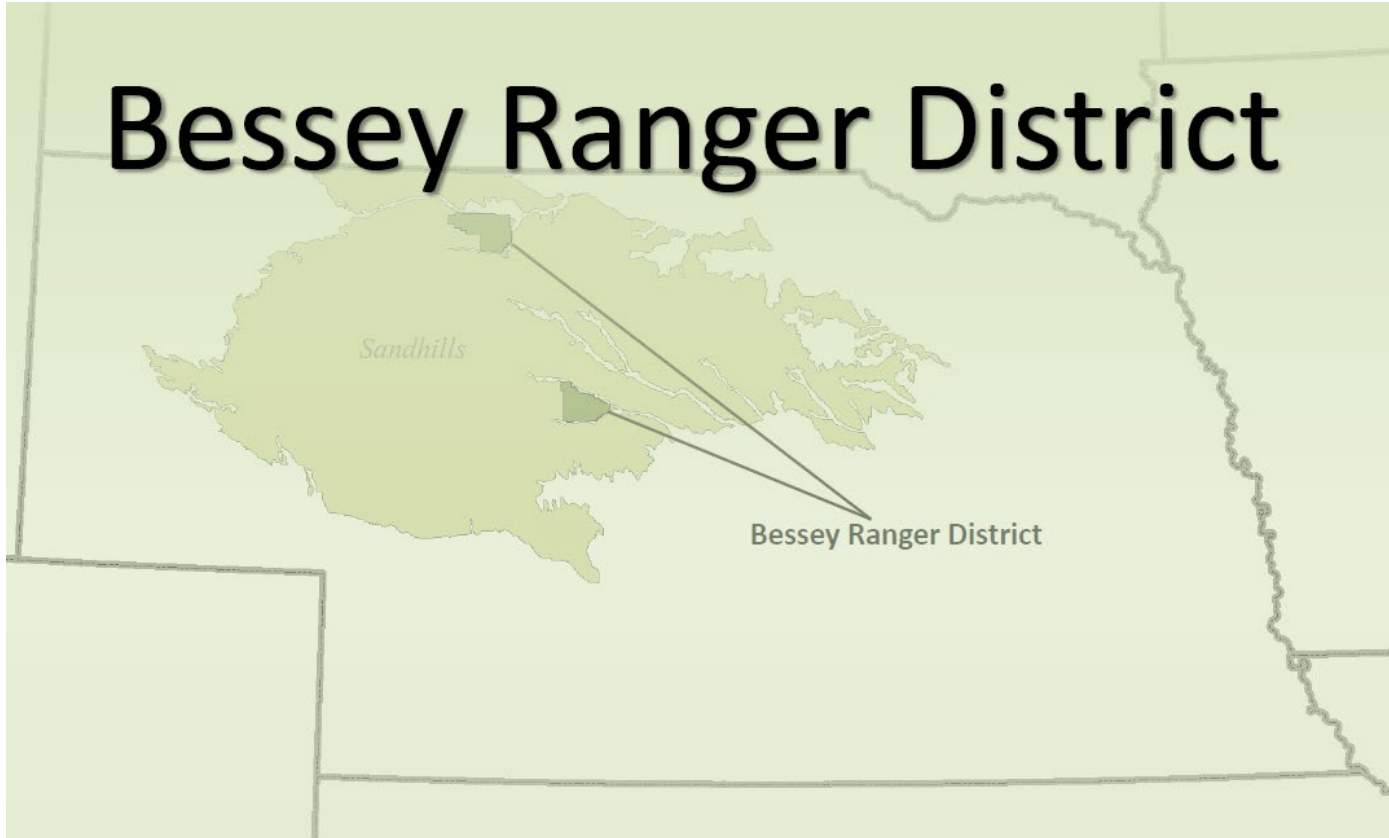
a conversation about outcomes and opportunities
in one of the earliest cedar infestations in the
Nebraska sandhills

Greg Wright

Bessey Ranger District,

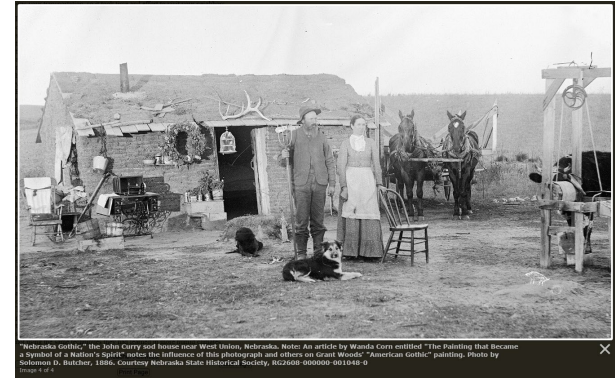
Nebraska National Forests and Grasslands

Bessey Ranger District



A Forest in the Sandhills – 1930 to 2015

- Arbor Day 1872 – 8 million trees planted per year
- Bessey – plantings started in 1904
- Resulting in the largest seed source of ERC in the Sandhills



Foresting the Sandhills – USDA Video 1929

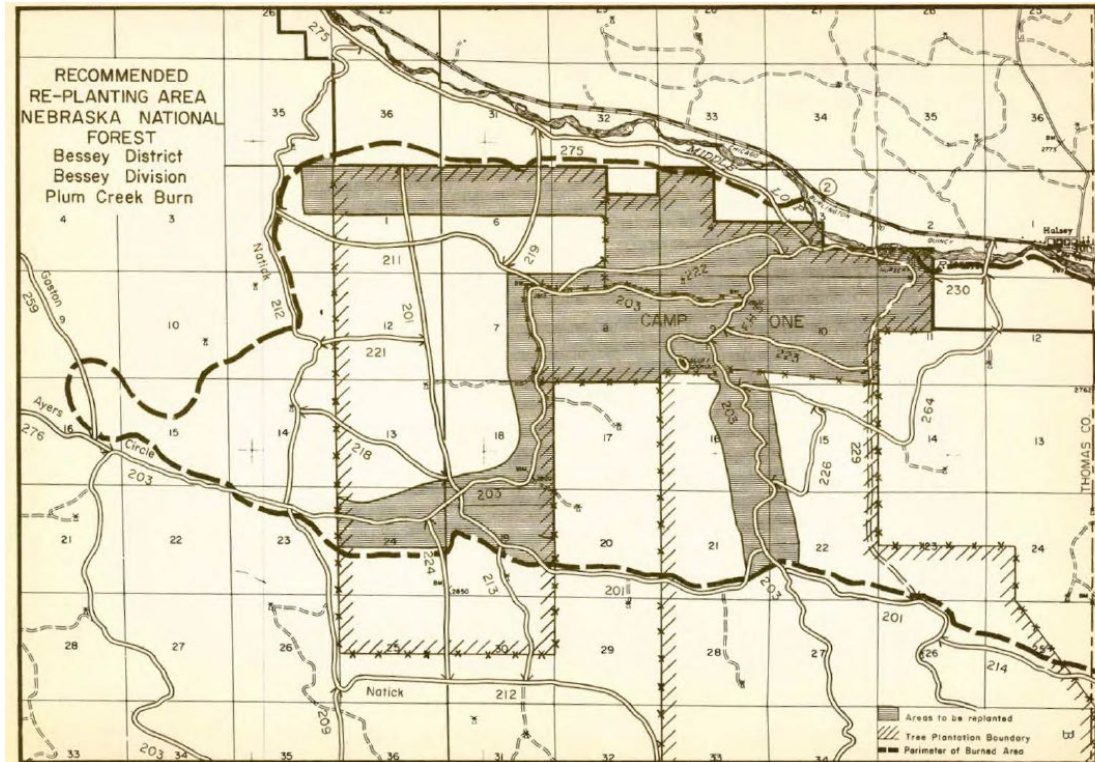


- The sandhills' best crop?
- Forests are expensive to manage
- Forests change the fuel model



Large fires offer opportunities to reflect and reevaluate.

1965: Plum Creek Fire Burns ~10,000 acres



Findings & Recommendations:

1. Native grassland best suited to production of forage.
2. Ideal watershed.
3. Recreation.
4. Tree planting and culture should be an integral part of Great Plains agriculture.

Recognition of the experiment's outcomes.

1964: Letter from Regional Forester to Forest Supervisor

I'm sure we all agree that we have largely accomplished what was contemplated at the time the planting program was started; that is, whether trees could be established on the plains for fuel, fence posts, windbreaks, etc., and which species were best adapted to these purposes. The need for fuel wood has practically disappeared. Use of local materials for fence posts and poles has been at consistently low levels due to strong competition from imported pressure-treated posts, expanding use of metal posts, etc.

The need for shelterbelts and protective type plantings in the plains, on the other hand, is greater than ever. The role of such plantings on Forest Service lands should be to demonstrate and sell the effectiveness of plantings for these specific purposes. Accordingly, and to avoid possibility of further confusion, the following policies are established for tree planting on Forest Service controlled lands in Nebraska.

1. Bessey Division

No extension of block plantings. Proposals for in-plantings of established plantations, with reasons therefor will be submitted to the Regional Forester annually with the Forest's planting program.

Other planting on the Bessey Division will likewise be approved annually by the Regional Forester within the following guide lines:

Traditions have been made and uses have broadened.


- Horseback riding
- Camping
- ATV trails
- Bike riding
- Historical interest
- Hiking
- Hunting
- Fishing


Nebraska National Forest
Hunter's Coffee

Friday, November 12th, 6PM
At the Bessey Picnic Shelter

Hunters will have an opportunity to talk with local game wardens and Forest Service staff, look at maps, ask questions, and enjoy coffee with a homemade cinnamon roll.

Find more information online at:
www.outdoornebraska.gov/deer
or
<https://www.fs.usda.gov/detail/nebraska>

NEBRASKA
- GAME  PARKS -

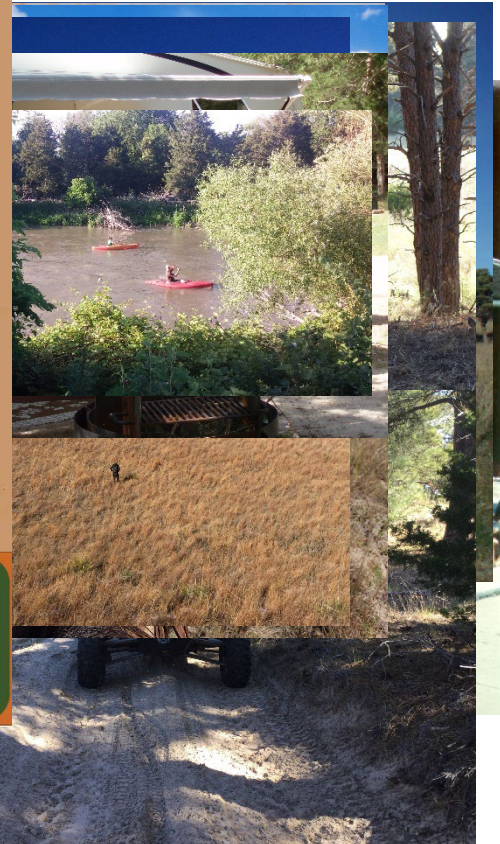
 FOREST SERVICE
DEPARTMENT OF AGRICULTURE

Report unethical hunting,
forest violations or crimes to:

Forest Service Tip Line: 308-533-8130
Or
Nebraska Wildlife Crime Stoppers: 1-800-742-7627

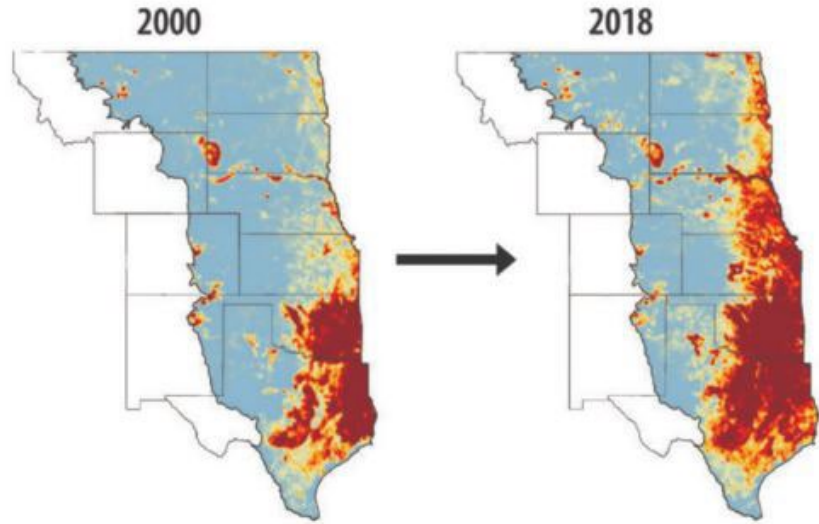
You can remain anonymous and might be eligible for a cash reward.

Stop Poaching



Recognizing costs and creating solutions – 2015 to 2025

“We have a problem”



2015 to 2025

- Synergy of academia and land management
- NNF starts mechanical removal and Rx burning



A Forest in the Sandhills – 2022 / 2023 Drought and fires



The main point: learn from our treasured Forest in the sandhills



The main point: understand implications of this future fuel model



The main point: use the opportunities these lessons have taught us



Recovery



Objective:

This project would allow for **rehabilitation efforts to restore and improve the lands** recently damaged by wildfire on the Nebraska National Forest. Since these **areas are unlikely to recover** to a management desired condition without intervention, actions must be taken to **improve the ecological health, resilience, and habitat conditions**. These actions include the **removal of fire damaged timber**, minor infrastructure repairs, the **reduction of fuel loading** due to dead or dying timber and vegetation, and **restoration efforts**.

Why is area “unlikely to recover”?

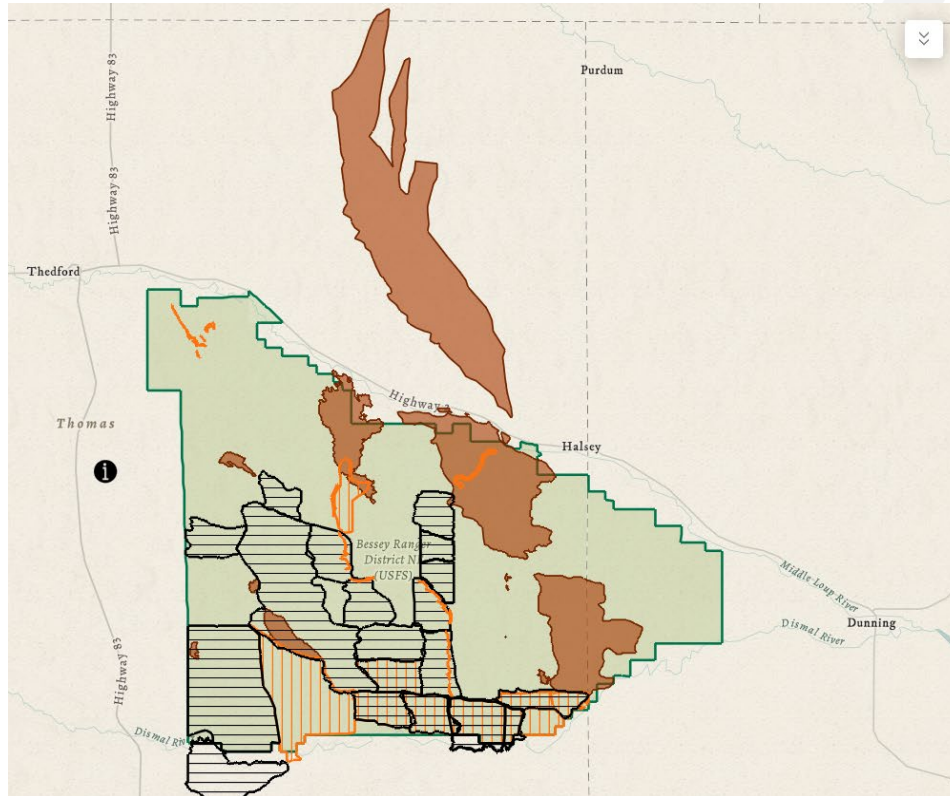
- Hand-planted forest, planted from 1904-1930s, some acres replanted in 1960s following Plum Fire
- Most species are on the edge of their range or outside their range; exhibit reduced natural regeneration
- Eastern redcedar is also an issue, as it encroaches in midstory underneath pine overstory, shading out potential pine seedlings and saplings in the understory

What area was selected for treatment?

- 1,135 acres within the burn area: forested acres, severe mortality
- Priority along roads and trails: safety, visibility, practicality (accessible by equipment)
- Leave-tree marked: trees with 50%+ green crowns were retained

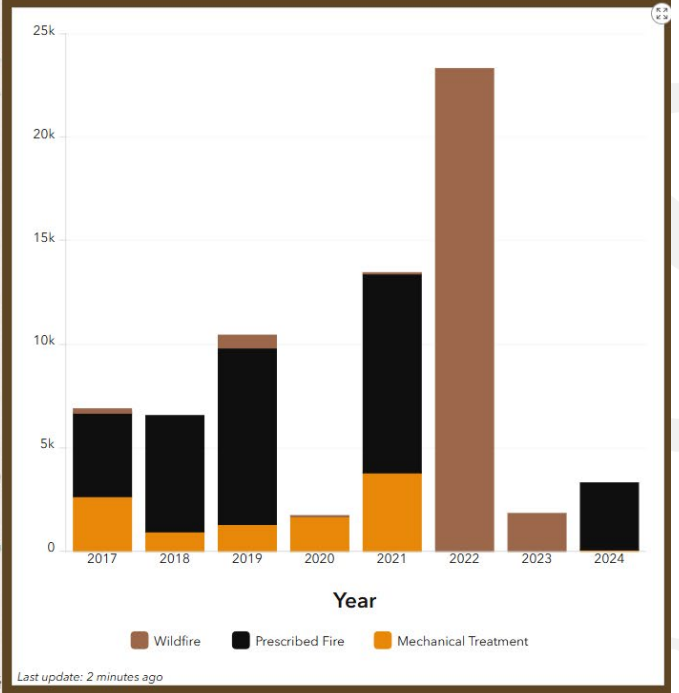


How the Rainwater Basin Joint Venture helps – 2015 to 2025



Treatment Acre Totals

Graph and totals update as you zoom in and out of the map to represent what is being displayed.



Surprisingly, Halsey's most important role in our state is likely one that its creators never intended. It offers a glimpse at the future of our state's condition and fair warning that if we don't do the right things now, someone will have to pay for it in the future.



Questions?

Timeline:

Bovee Fire, October 2022

Bovee IRSC (Stewardship Contract), January 2024-May 2024:

- Predominantly pine stands
- 658 acres cut, and material decked (\$1,750/ac)
- 200 acres masticated (\$1,525/ac)
- Generated about 7,000 ccf of decked pine logs

Biomass permits, June 2024-October 2024:

- Available to the public for the decked pine generated by the IRSC
- 8 permits sold for up to 800 ccf each
- About 1,000 ccf was removed in total by 4 permit holders
- Material to be used for firewood, wood chips, custom furniture and building materials
- Sentimental value, aesthetic value from blue stain fungus

Stewardship Agreement with Mule Deer Foundation, November 2024-present:

- Removal of remaining pine decks
- Treatment of 277 ac of cedar stands
- Cedar treatment: up to 75% mastication, 25% cut-and-deck, actual breakdown dependent on costs



Specifications:

- Slash depth was restricted to 12"
- Logs were processed in the units; no limbs and tops were piled at landings
 - Utilizes slash for soil stabilization, returns nutrients to the soil, minimizes size of landings
 - In-woods processing and forwarding also has a reduced impact on the soil (no skidding/dragging needed)
 - Requires specialized equipment

Operations:

- Miller Timber in Oregon is the largest cut-to-length system contractor in the country, utilizing Ponsse equipment from Finland
- Ponsse Harvesters and Forwarders worked in tandem
- At height of IRSC operations, 3 sides (pairs) of equipment were operating
- An additional Ponsse Mammoth forwarder was used to “bump” logs from the units along 203E to a centralized landing closer to pavement



Results:

- Operations concluded before the growing season: grasses and forbs moved in quickly where there was bare soil
- Most are opportunistic, weedy species that prefer disturbed soil
- Most of the slash is already buried by shifting sandy soils; does not seem to have a negative impact (either preventing growth or creating a buildup of fuels)

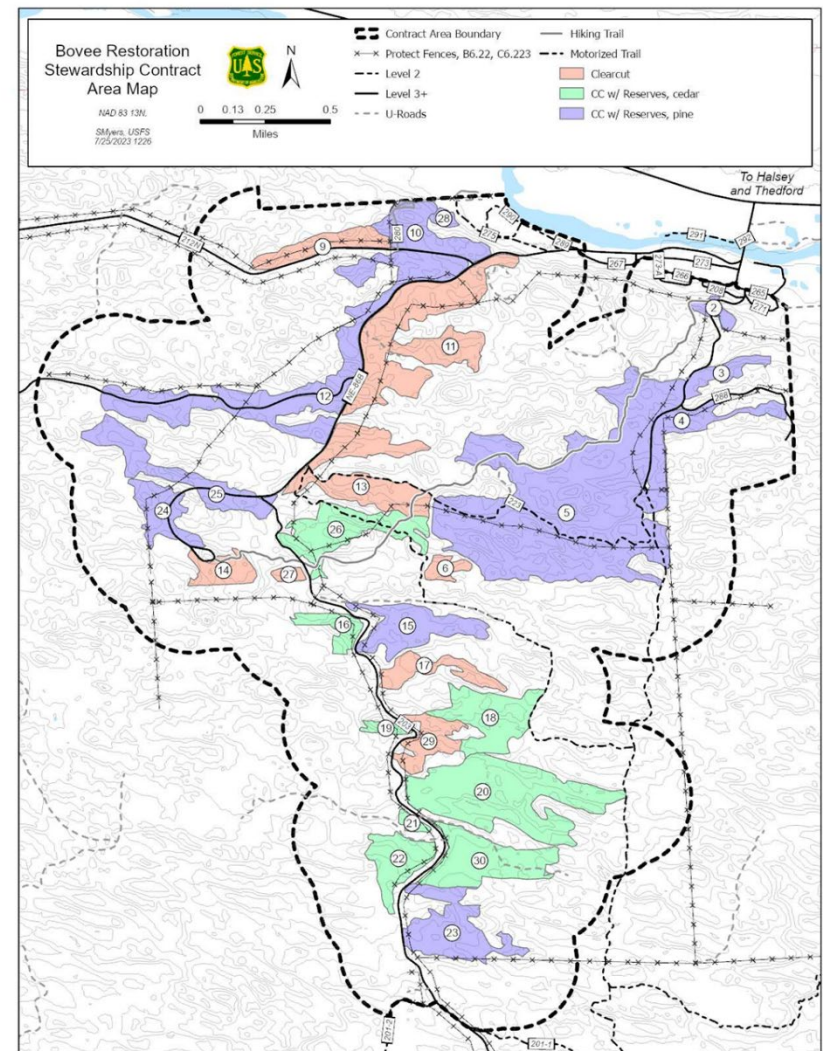
What's next?:

Reforestation. Questions remain: what species, where, what density, where is the seed coming from.

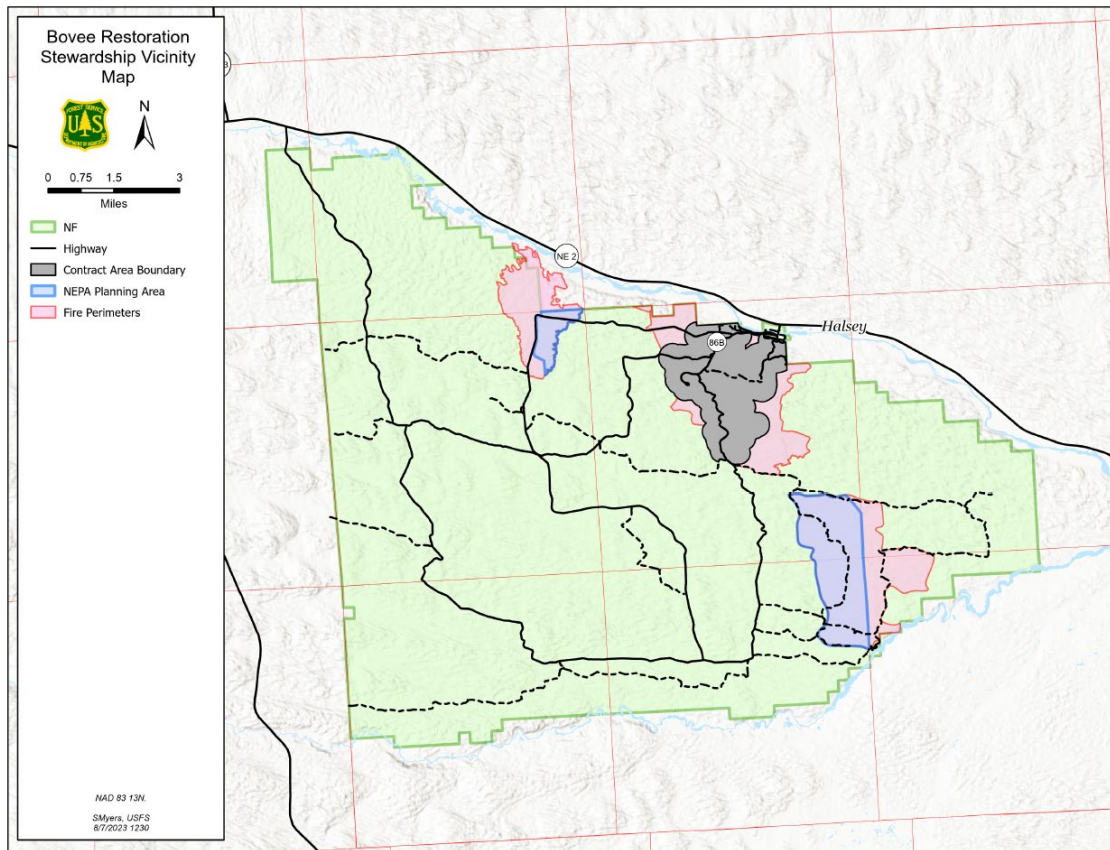
- Plan developed by end of FY25: sowing request is due September 2025, for planting March/April 2027
- Identify target species, priority areas for planting, areas suited for each species, seed sources
- Ongoing regeneration surveys to see if natural regeneration is occurring, and to see if cedar encroachment needs to be treated prior to planting

Potential species include Ponderosa pine and Jack pine, which constituted the majority of burned trees

- Potential for limber pine (present on Pawnee NG in CO, Pine Bluffs WY, Kimball NE)
- Possibility of planting hardwoods: nuts and fruits, aspen, bur oak
- Research on adaptation: plant some seed from original historic seed source, some seed collected at Bessey, and compare vigor and form of both to natural regeneration (over time)



- 203 Fire – May 2022
- Bovee Fire – October 2022
- Natick Fire – May 2023





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Questions?



