United States National Windbreak Perspective

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USDA Natural Resources Conservation Service
Great Plains Windbreak Renovation & Innovation Conference
July 24-26, 2012
International Peace Garden

GOOD MORNING EVERYONE!

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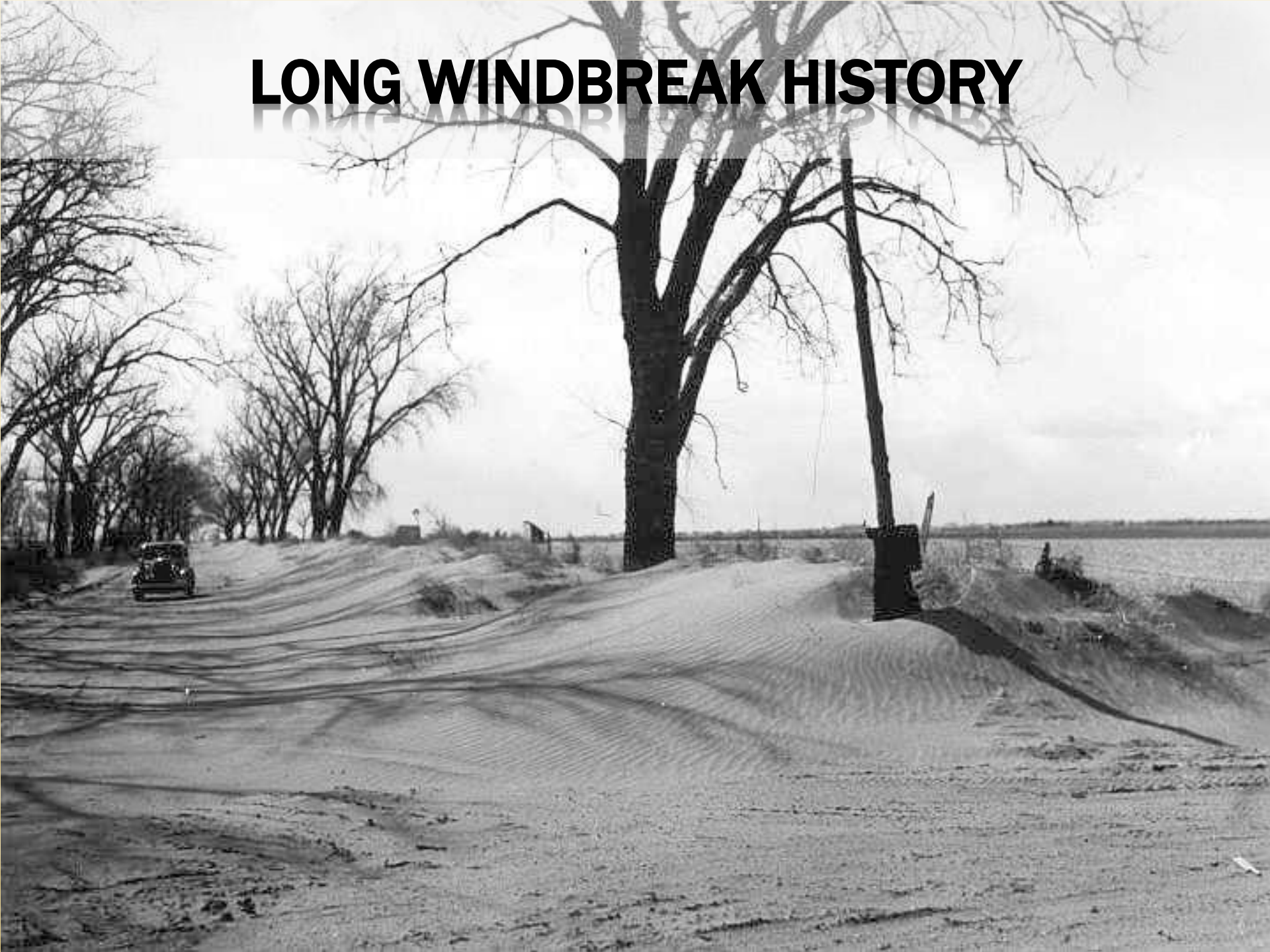
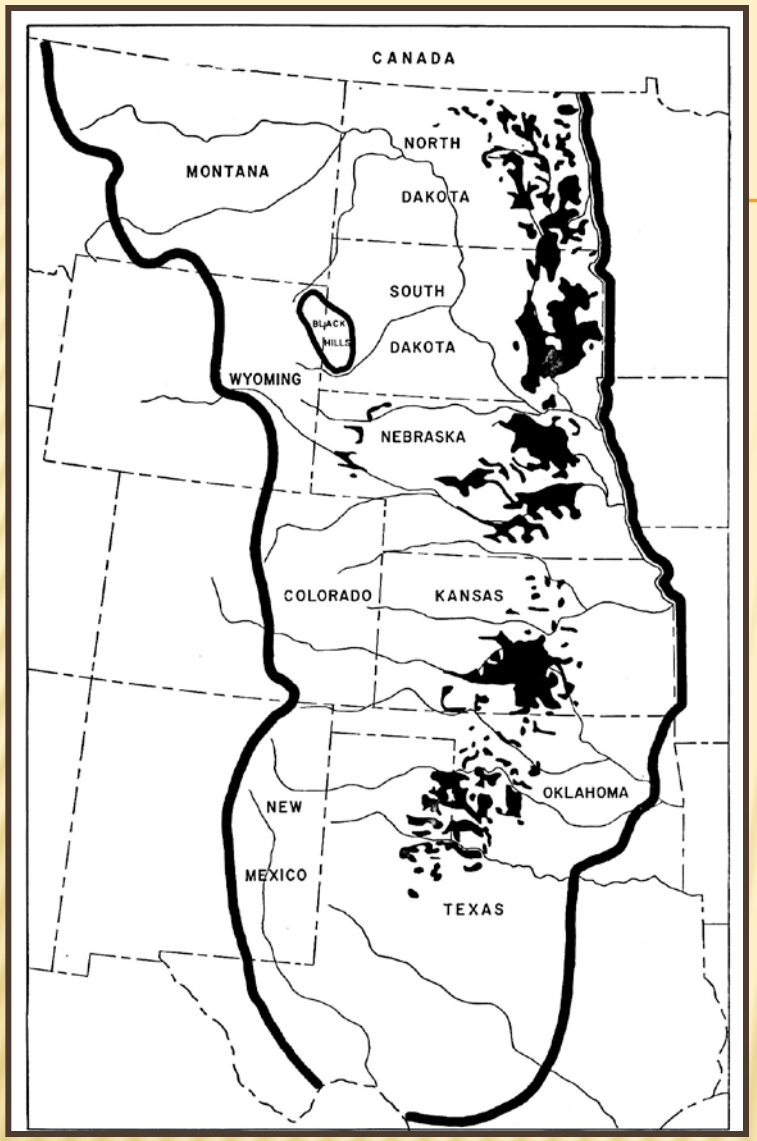
LONG WINDBREAK HISTORY



WHERE WERE THEY PLANTED?



From 1935 - 1942, the Prairie States Forestry Project planted 18,600 miles of shelterbelts using about 217 million trees.

1930's Conquest, Saskatchewan project included planting 960 miles of shelterbelts using about 7 million seedlings

HOW WERE THEY PLANTED?

Conquest, Sask. - 1938
W.R. Johnson, Farmer
1st mechanical tree planter

Bon Homme Co., SD - 1936
Prairie States Forestry Project
Planting Crew

WHAT REMAINS OF YESTERDAY'S LEGACY?

THE OLD SHELTERBELTS SERVED THE LAND WELL…

..But those remaining are struggling to keep *working*.

Can we extend their life as we replant new windbreaks?

What is the role of windbreaks in today's agriculture?

WINDBREAK TRENDS

- From 1982 to 1992 the overall extent of windbreaks declined.
- In the entire United States the decline was about 5%

WHY?

WINDBREAK TRENDS

Possible reasons:

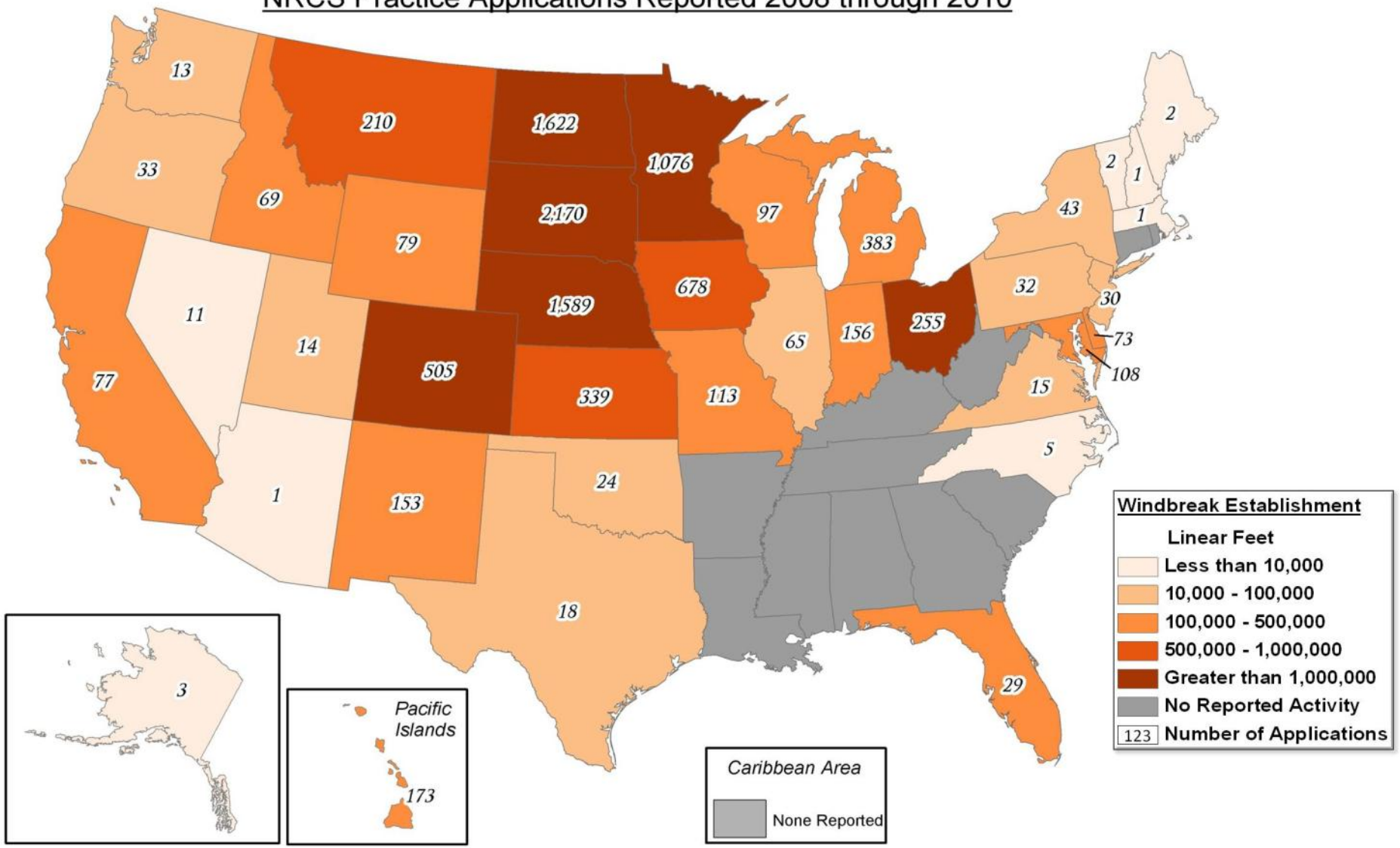
- Age of the windbreaks
- Changes in size of fields and equipment
- Changes in attitudes toward windbreaks

Is the trend changing?


PAST
ARE WINDBREAKS STILL NEEDED?
PRESENT

Windbreak Establishment

NRCS Practice Applications Reported 2008 through 2010

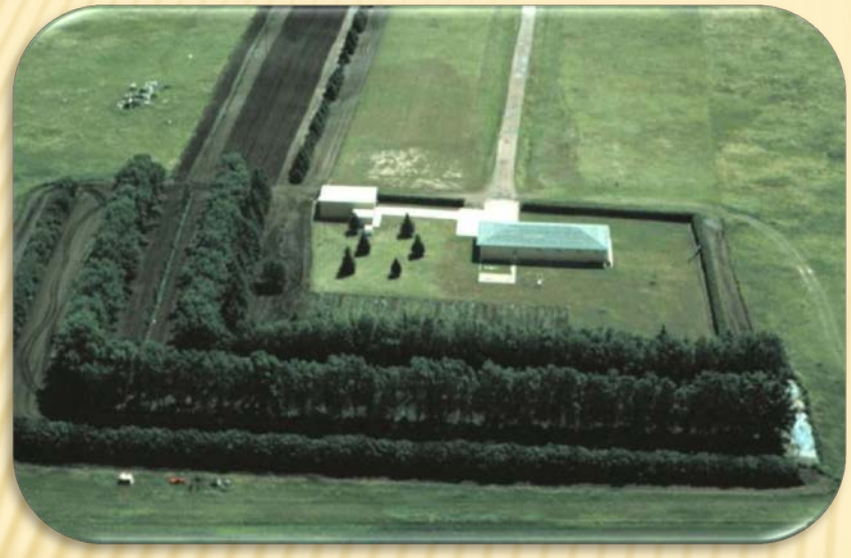


WINDBREAKS ARE USED IN MAJORITY OF STATES

WINDBREAKS CAN ADDRESS MANY CROPLAND RESOURCE CONCERNS

- Crop protection
- Crop production
- Snow management
- Wind erosion reduction
- Irrigation efficiency
- Cropping flexibility
- Water quality

MEETING RESOURCE CONCERNS AROUND FARM AND RANCH HOMES



- Protect structures, outside work and play areas
  - Energy
  - Snow
  - Wind damage
  - Dust
- Reduce noise
- Screen unsightly areas
- Enhance aesthetics
- Provide wildlife habitat

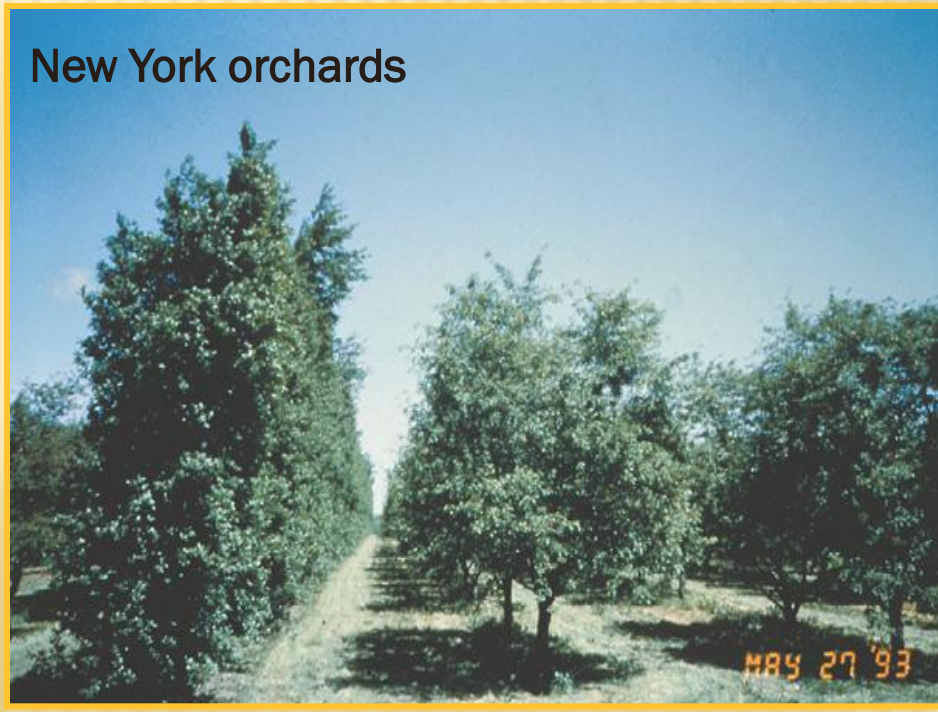
Protecting Field Crops

Protecting Specialty Crops


Oregon orchards


Michigan flowers


Michigan orchards

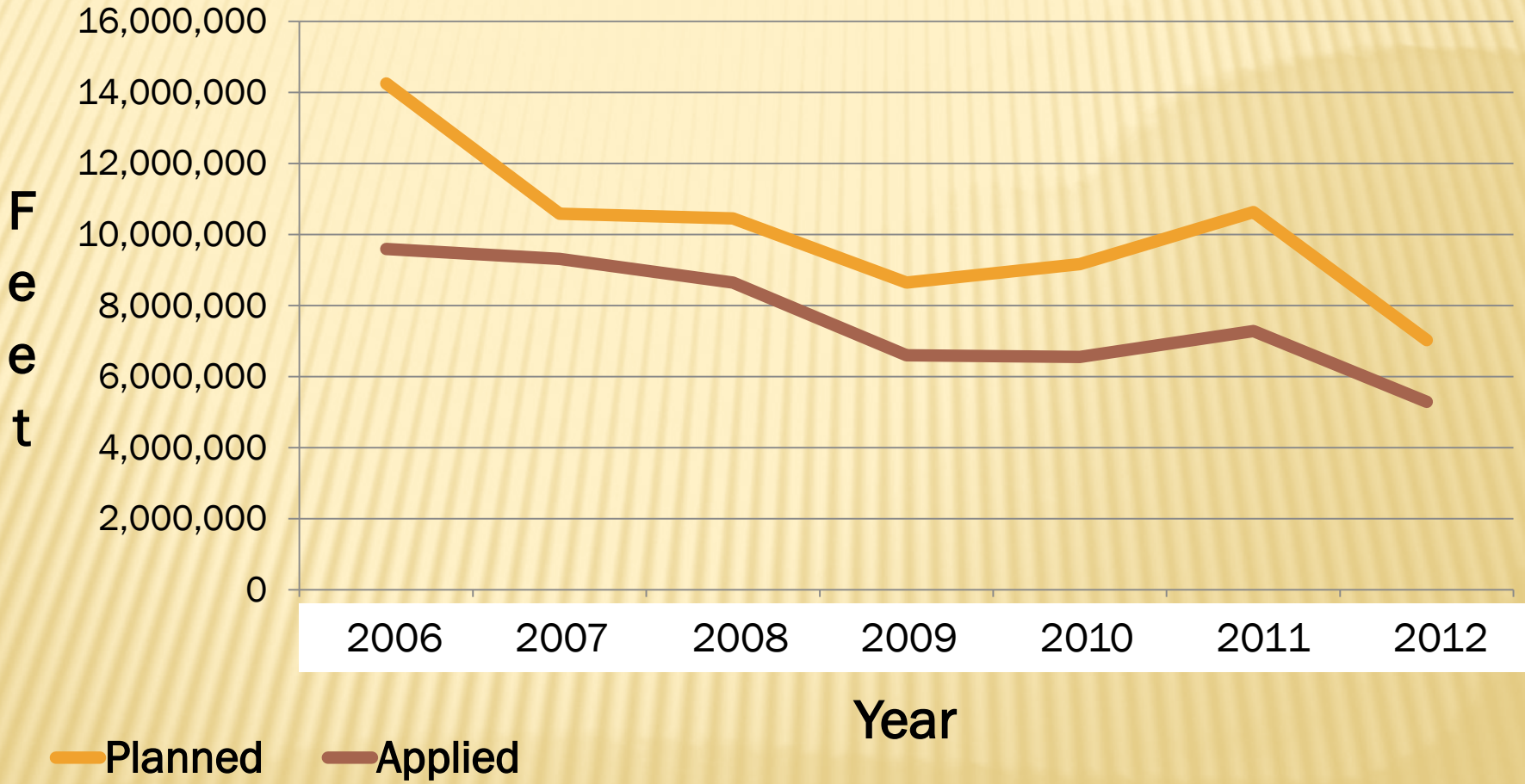


Protecting Buildings

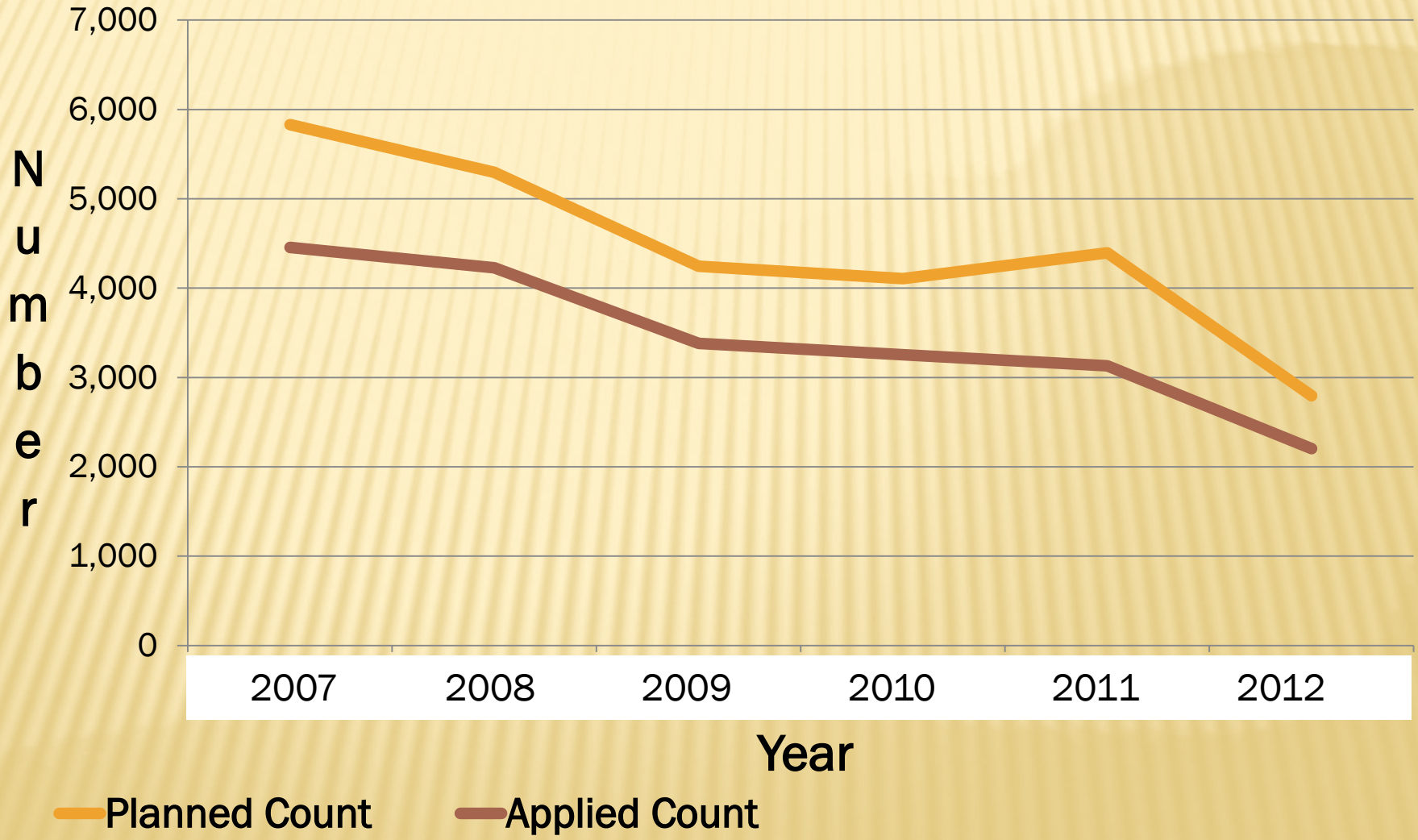
Protecting Livestock

LIVING SNOW FENCES FROM EAST TO WEST

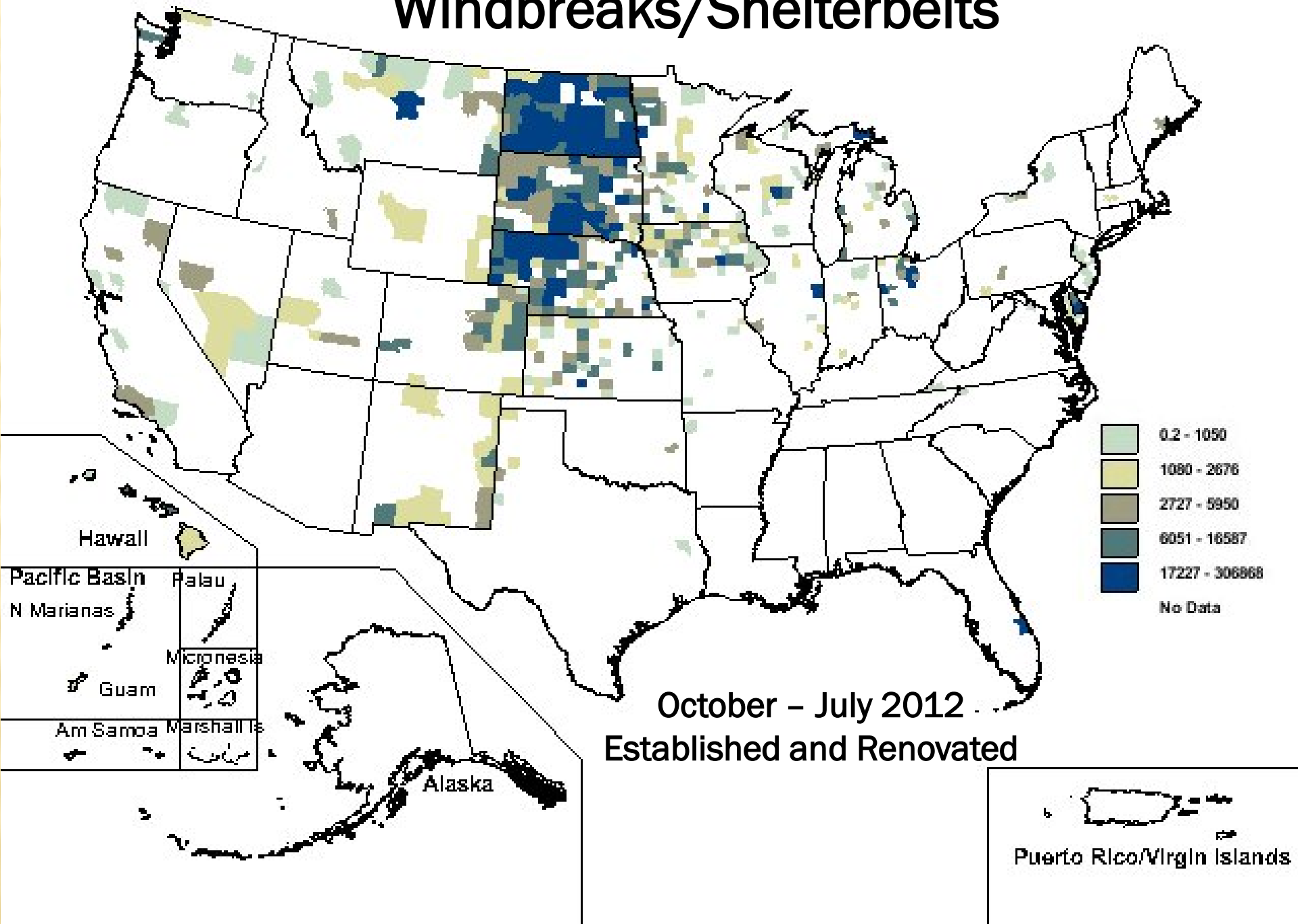
WINDBREAK/SHELTERBELT ESTABLISHMENT



WINDBREAK/SHELTERBELT ESTABLISHMENT

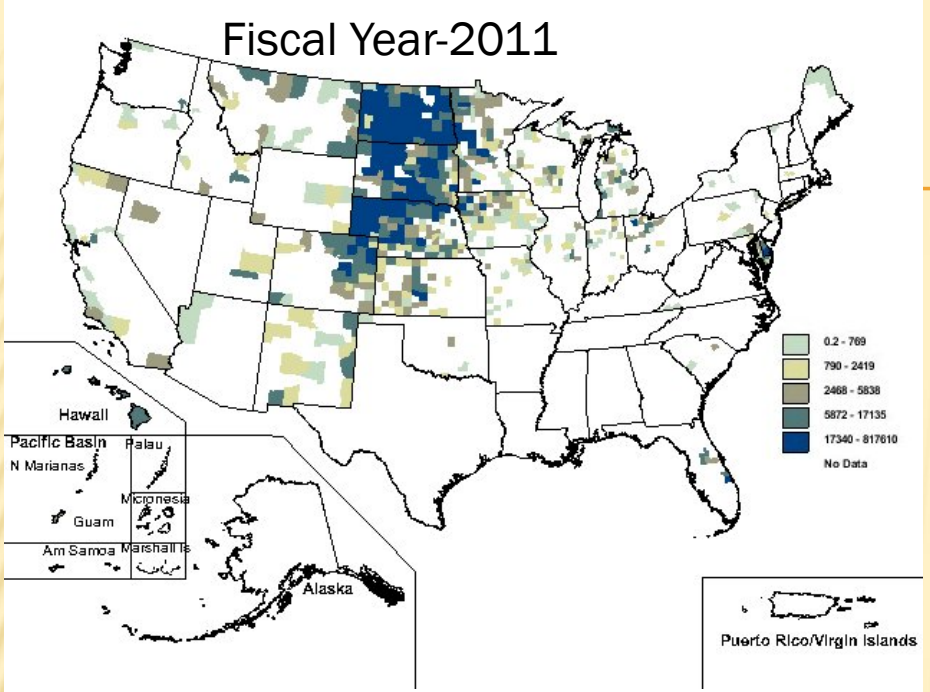


Windbreaks/Shelterbelts

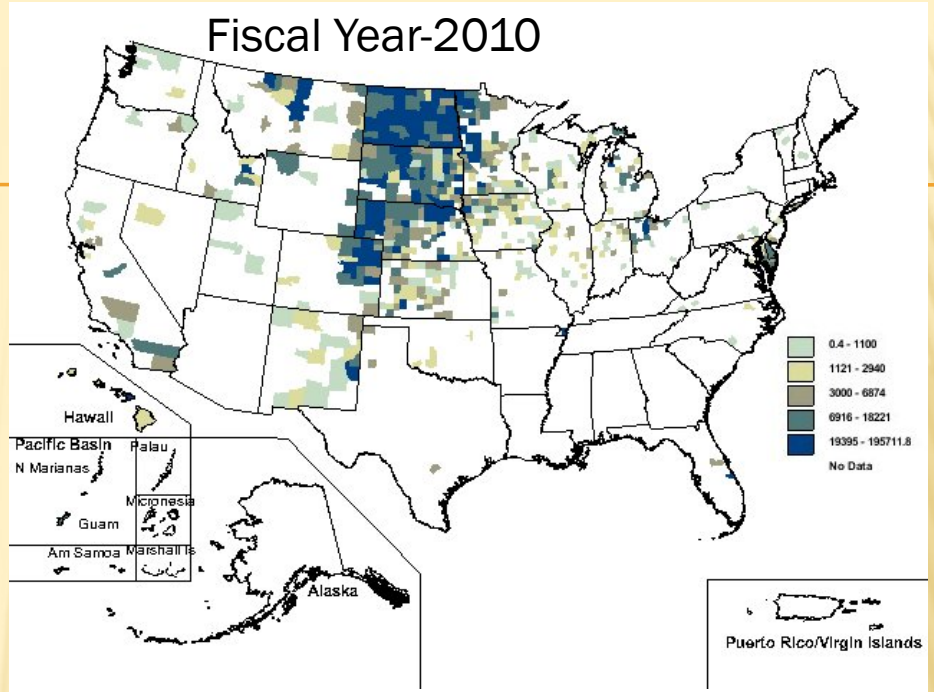


October – July 2012
Established and Renovated

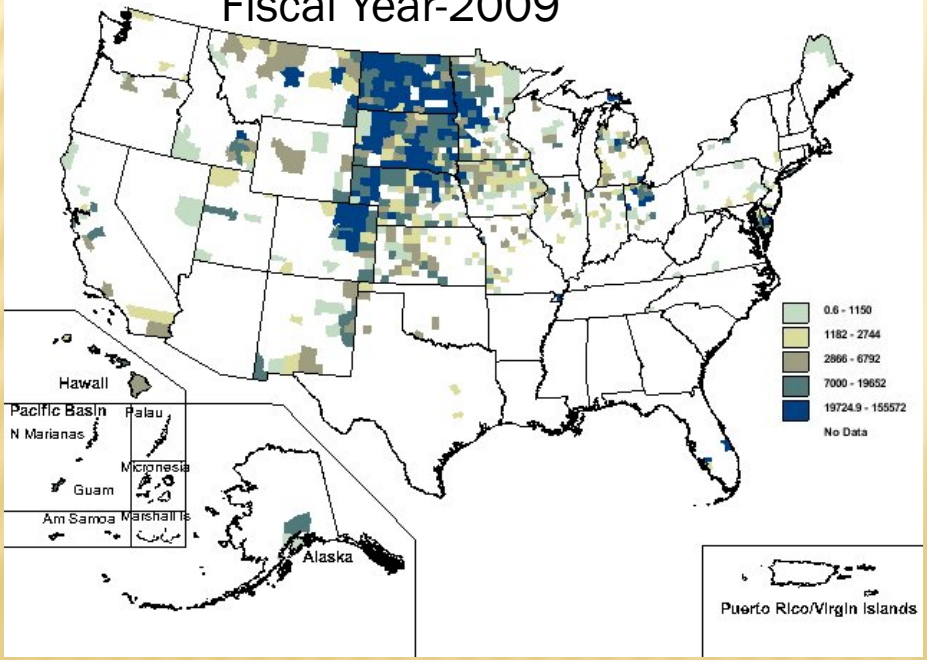
Fiscal Year-2011



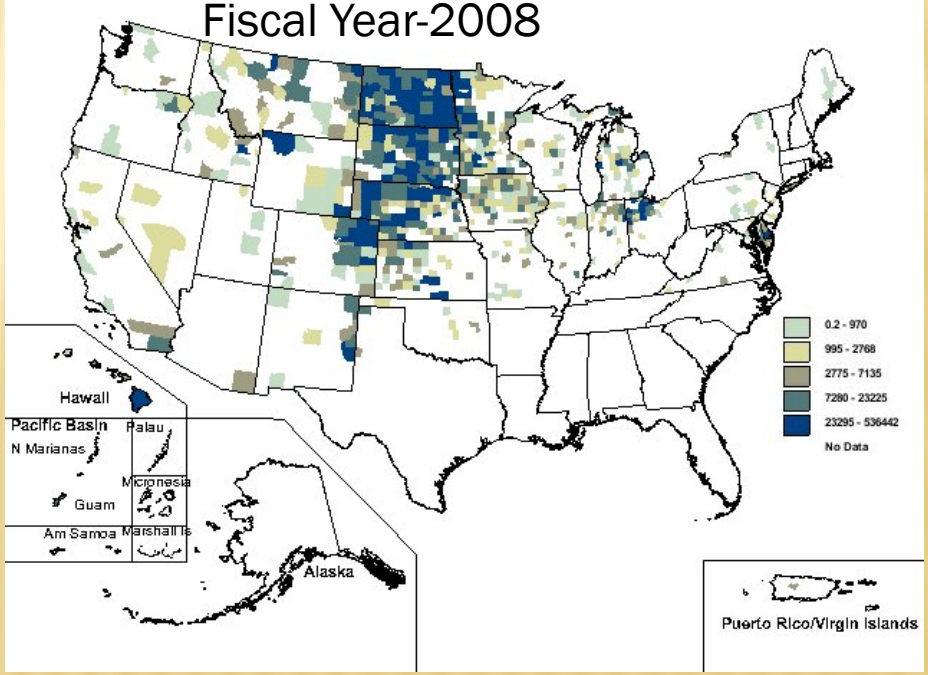
Fiscal Year-2010



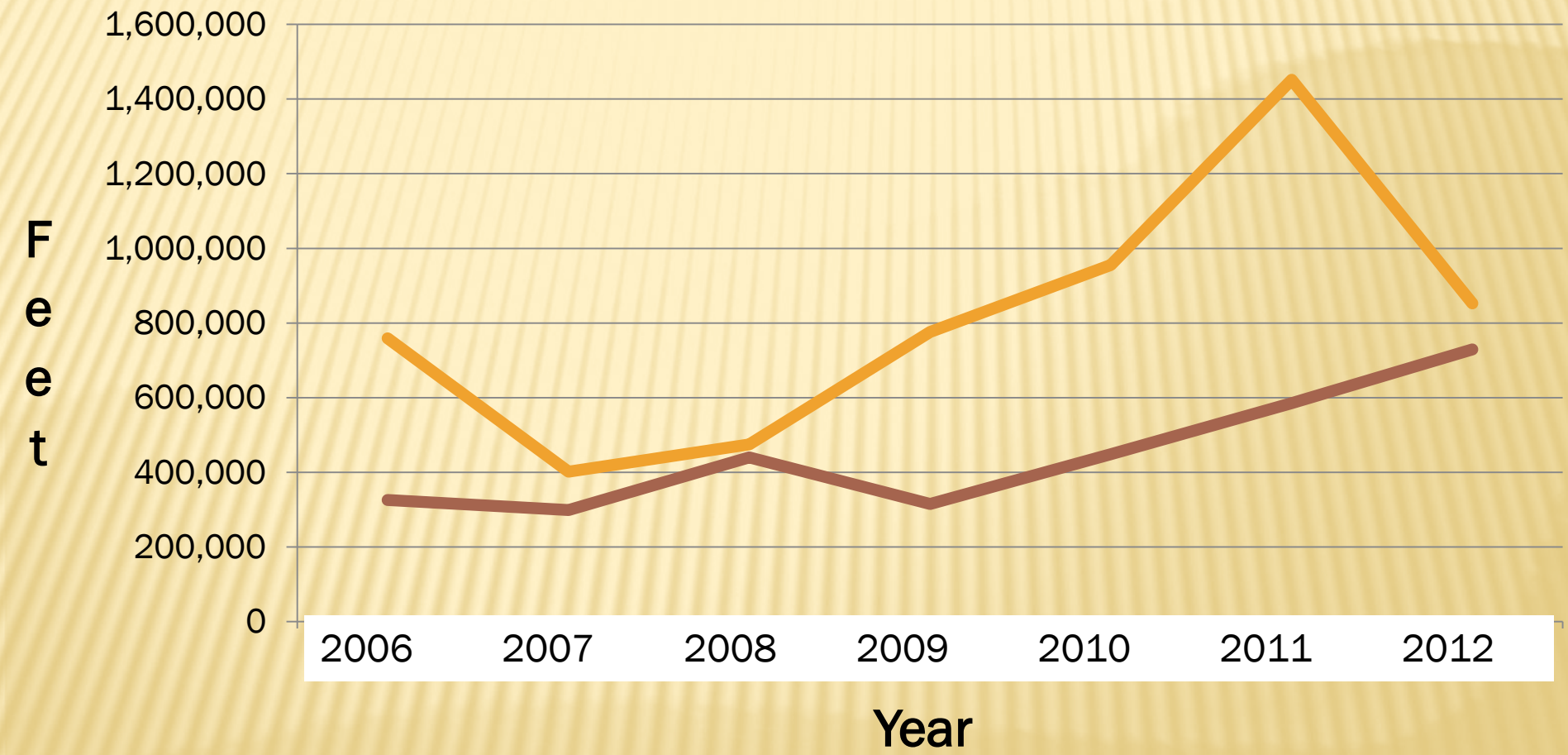
Fiscal Year-2009



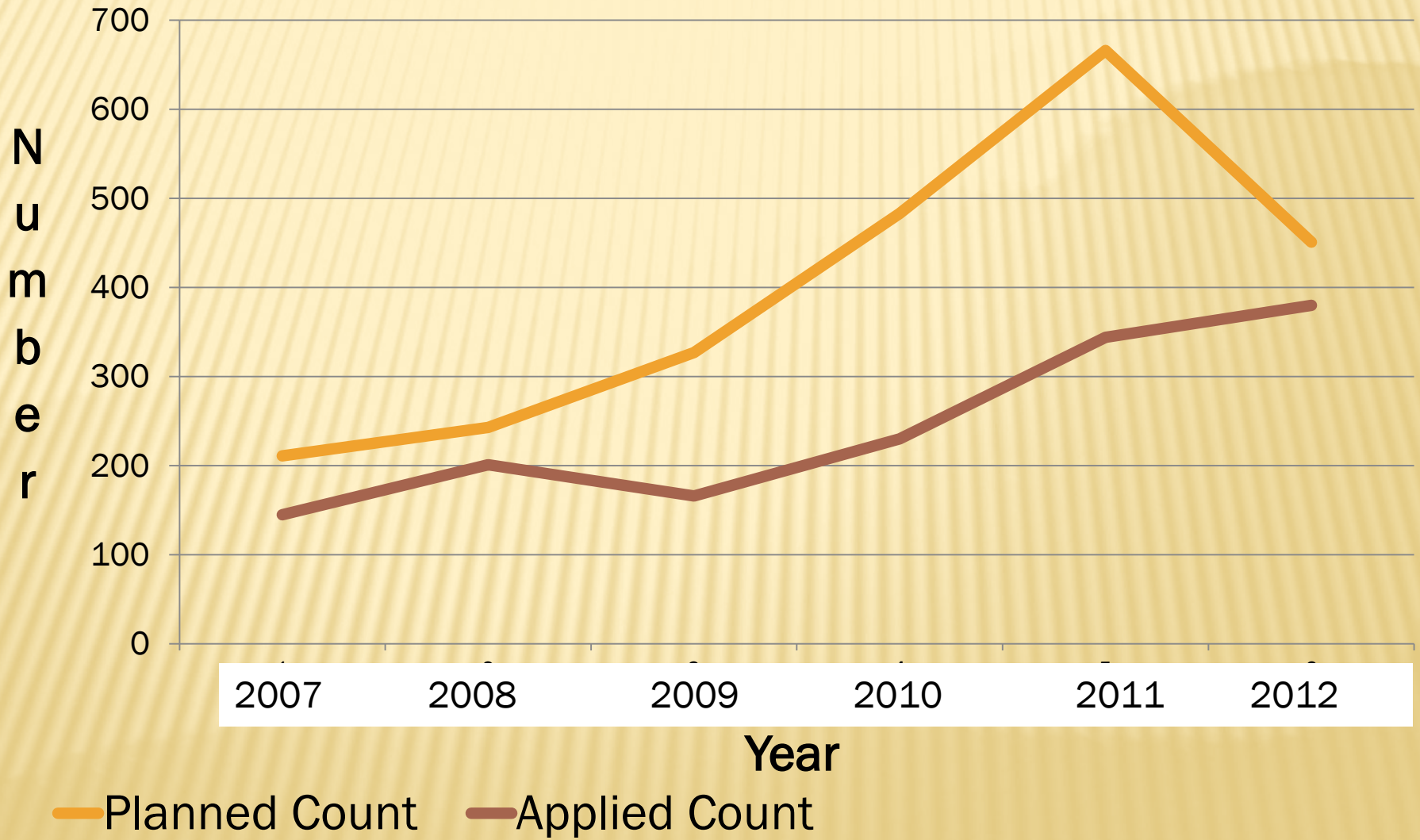
Fiscal Year-2008

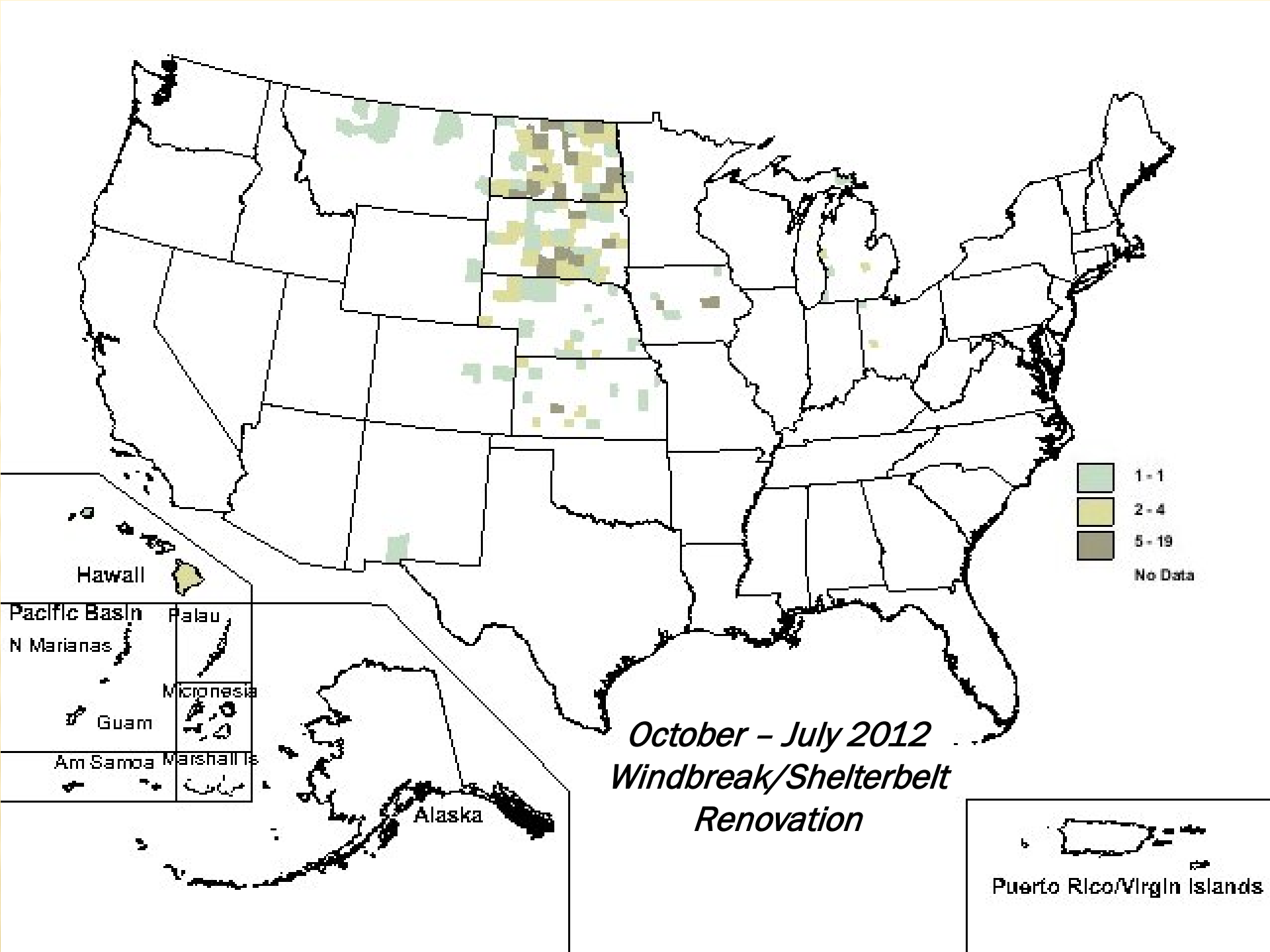


WINDBREAK/SHELTERBELT RENOVATION



WINDBREAK/SHELTERBELT RENOVATION

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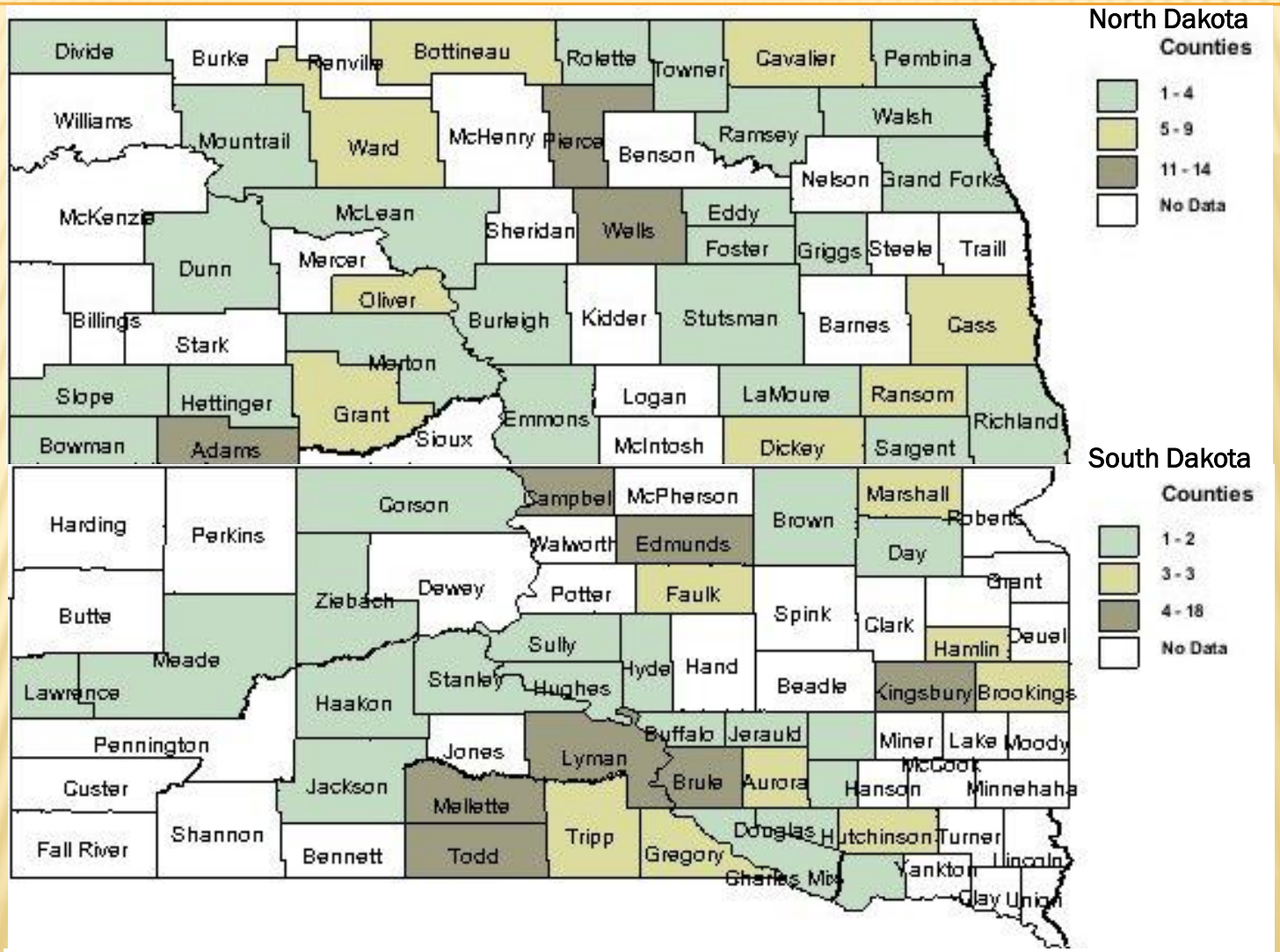
2 - 4
5 - 19
No Data
Hawaii
Pacific Basin
Palau
N Marianas
Micronesia
Guam
Am Samoa
Marshall Is
Alaska
Puerto Rico/Virgin Islands
October – July 2012
Windbreak/Shelterbelt
Renovation

WINDBREAK RENOVATION CONCENTRATION



October – July 2012
Windbreak/Shelterbelt Renovation

WINDBREAK RENOVATION

University of Nebraska Cooperative Extension EC 98-1777-X

Windbreak Renovation

By Craig Sturgeon, USDA Natural Resources Conservation Service; Jon Wilson and Jim Brandle, University of Nebraska; and Mike Kuhns, Utah State University

Windbreaks are an integral part of many farms and ranches and provide critical protection for farmsteads, livestock and crops. Unfortunately, many windbreaks planted in the 1930s and 1940s are losing their effectiveness due to age, poor health or neglect. In some cases, the windbreak no longer has the necessary density to provide winter protection. In other cases, overcrowding may have reduced the health and vigor of the windbreak, or the windbreak may have been invaded by aggressive sod-forming grasses such as smooth brome, reducing tree growth. Whatever the reason, many older windbreaks need renovation.

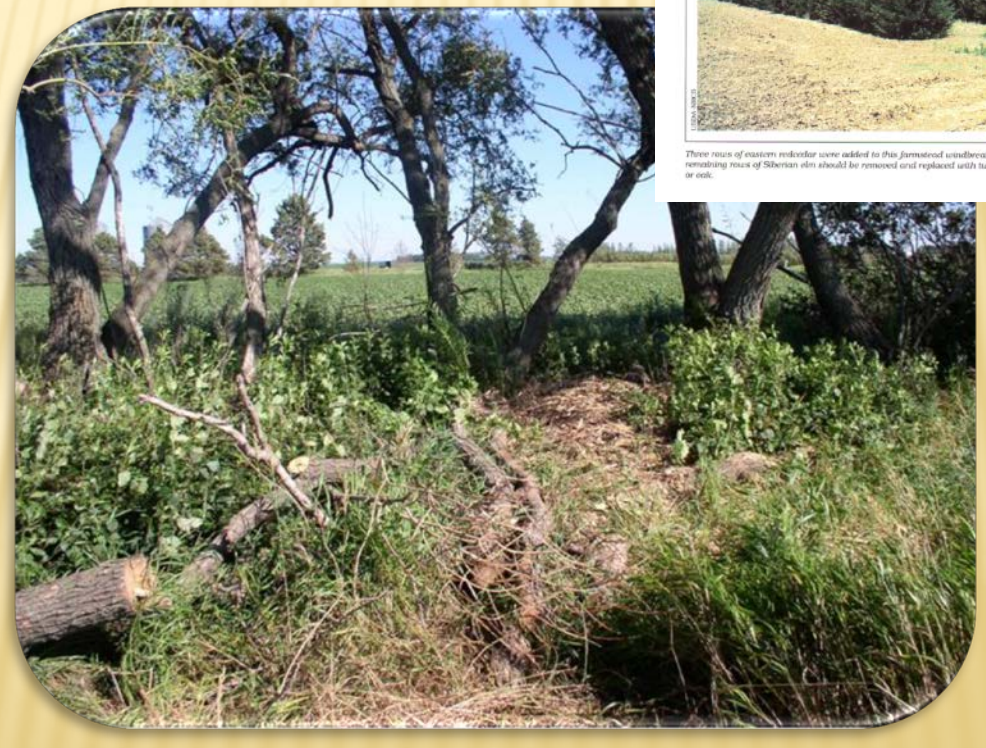
All windbreaks, even well-designed ones, need regular maintenance in order to maintain their overall structure and to continue to function as effective wind barriers. While maintenance should be done throughout the life of the windbreak, windbreak renovation is usually restricted to older or neglected windbreaks.

There are many techniques available. This guide is designed to provide a step-by-step approach for restoring the effectiveness of your windbreak. With careful planning and follow-through, renovation of your windbreak should lead to the development of a healthy and functional windbreak.

Three rows of eastern redcedar were added to this farmstead windbreak providing protection from blowing snow. In several more years the remaining rows of Siberian elm should be removed and replaced with two or more rows of tall, deciduous trees such as green ash, hackberry or oak.

The seven techniques are:

- Supplemental planting
- Sod release
- Coppicing
- Pruning
- Thinning
- Row removal
- Root pruning



Windbreaks for

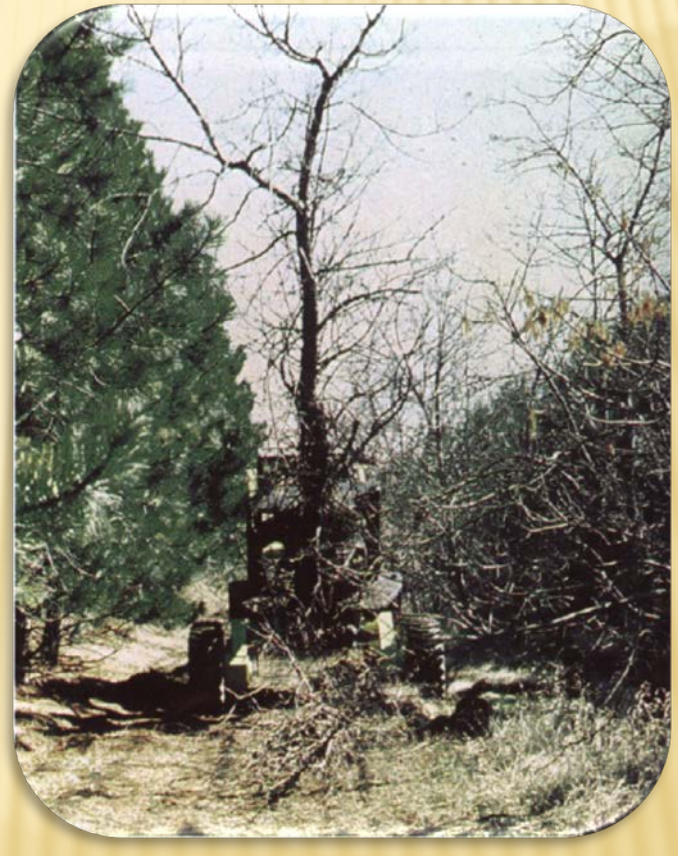
...many reasons!

More reasons!

WHAT WILL THE FUTURE BRING?

2012 Drought and Beyond?

PLANTING AND RENOVATING WINDBREAKS CAN MAKE A DIFFERENCE!



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