

Eastern Redcedar

How do we answer the question of stewardship in planning and planting conservation structures

Addressing the uncontrolled spread of Eastern Redcedar through the Field Office Technical Guidelines

- Problem identified by the Conservation Partner's Roundtable
- Eastern Redcedar Task Force Formed to look develop recommendations for education, management and policy
- NRCS Forestry Subcommittee and the NARD Conservation Tree Working Group joint meeting to investigate challenges and opportunities.

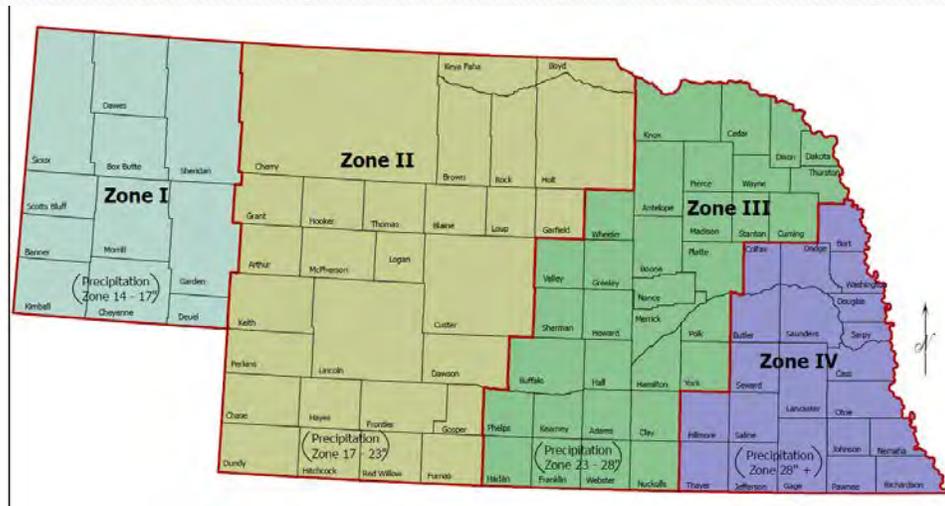
Developing Guidelines

THEY'RE MORE LIKE GUIDELINES REALLY



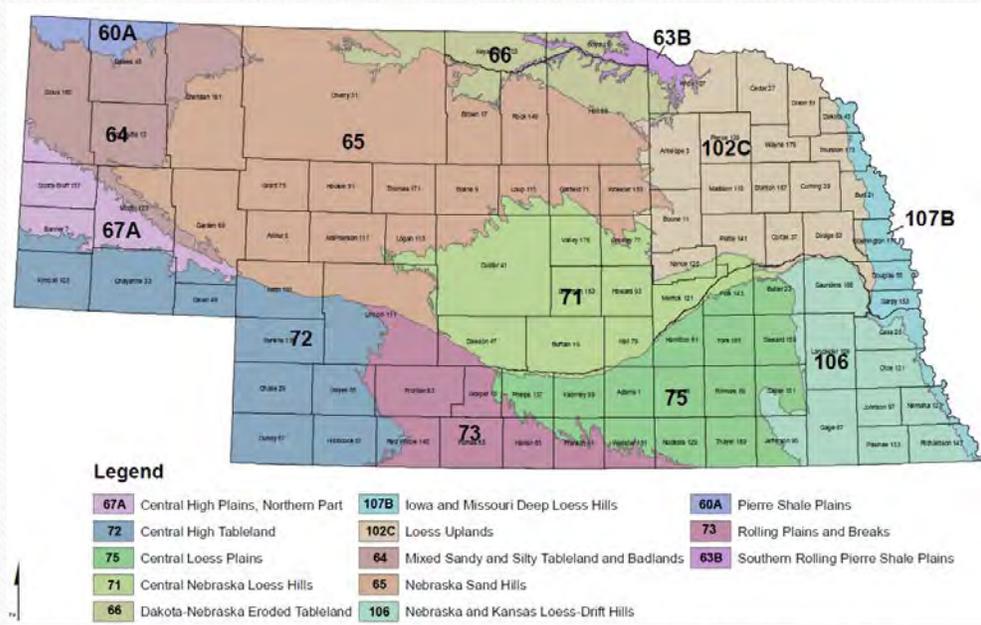
- The Forestry Subcommittee recommended revising the existing NRCS Conservation Tree and Shrub Group Field Office Technical Guide

Conservation Tree and Shrub Group



- This FOTG provides recommendations for the planting of trees or shrubs based on Vegetation Zone (which are based on precipitation)

Nebraska's Major Land Resource Area



- The revision recommendation was to look at recommendations based on the Nebraska's Major Land Resource Area.

The Proposed, Revised Conservation Tree and Shrub Group guidance

The screenshot shows a spreadsheet with the following content:

	A	B	C	D	E
1	Central Nebraska Loess Hills				
2	The purpose of this spreadsheet is to provide guidance in the planting of conservation tree species in the Central Nebraska Loess Hills Major Land Resource Area. The goal is to replace the current Vegetation Zone				
3	interpretations with a tool that is more targeted to soils and landscapes. The Ecological Site Quick Reference can be found online at:				
4	https://efotg.sc.egov.usda.gov/references/public/NE/MLRA_71_ECOLOGICAL_SITE_QUICK_REFERENCE.pdf				
5	MLRA Overview				
6					
7	Land Use:				
8	Nearly all of this area is in farms and ranches, and almost two-fifths is dry-farmed. About one-half of the area supports native grasses used for grazing. Winter wheat, grain sorghum, and alfalfa are the major dry-farmed cash crops. Between 5 and 10 percent of the area, consisting of flood plains and terraces along the Platte River and its larger tributaries, is irrigated. Corn, soybeans, alfalfa, and seed crops are the principal irrigated crops. Alfalfa is commercially grown in the Platte River Valley.				
9	The major soil resource concerns are wind erosion, water erosion, maintenance of the content of organic matter and tilth of the soils, and soil moisture management. The resource concerns on rangeland are wind erosion and water erosion; plant productivity, health, and vigor; and the spread of noxious and invasive plant species.				
10	Elevation and Topography:				
11	This MLRA is in the High Plains Section of the Great Plains Province of the Interior Plains. This area is the eastern extent of the fluvial plain created by the ancient rivers that drained the rapidly eroding Rocky Mountains after the mountains were uplifted. This smooth plain has been dissected by present-day rivers, and thick deposits of loess derived from the fluvial plain occur on ridges between the broad stream valleys. Elevation ranges from 1,640 to 2,620 feet (500 to 800 meters), increasing from east to west. Nearly level to gently sloping, loess-mantled, narrow ridgetops are separated by steep slopes bordering drainages. Some stream valleys have nearly level flood plains and large stream terraces. Nearly level soils occur on high stream terraces in the southern part of the area, in the Platte River Valley. Local relief is 20 to 100 feet (5 to 30 meters).				
12					
13	Climate:				
14	The average annual precipitation in this area is 21 to 29 inches (535 to 735 millimeters). Most of the precipitation falls from spring through autumn, but the maximum occurs from late spring to early summer. The rainfall occurs as frontal storms in spring and early summer and high-intensity, convective thunderstorms in late summer and early autumn. Precipitation in winter typically occurs as snow. The average annual temperature is 47 to 51 degrees F (8 to 11 degrees C). The freeze-free period averages 165 days and ranges from 140 to 190 days, increasing in length from west to east.				
15					
16	Water:				
17	The total withdrawals average 1,295 million gallons per day (4,900 million liters per day). About 59 percent is from ground water sources, and 41 percent is from surface water sources. The low, erratic precipitation is the source of water for crops and native grasses in most of the area. The Loup and Platte Rivers provide water for irrigation along their valleys. This water is of good quality and is suitable for all uses.				
18	The extent of the major Hydrologic Unit Areas (identified by four-digit numbers) that make up this MLRA is as follows: Loup (1021), 60 percent, and Platte (1020), 40 percent. The Platte River runs along the southern edge of this MLRA, and the North, Middle, and South branches of the Loup River join to form the Loup River in this area.				
19	Soils:				

At the bottom of the spreadsheet, there is a navigation bar with tabs for: Overview (selected), Special Concerns, Soils, CTSG 1, CTSG 1K, CTSG 1S, CTSG 1SK, CTSG 2, CTSG 2K, CTSG 3, CTSG 3K, CTSG 3S, CTSG 3SK, and CTSG 4.

Recommended Guidance for the planting of ERC in at-risk landscapes

A review of rangeland resources within the Rolling Plains and Breaks Major Land Resource Area has shown that the following ecological sites have been listed as at-risk to cedar encroachment.

When planning a conservation tree planting project you must always consider landowner goals and the purpose that the tree planting project will serve. When working with landowners who have lands in the ecological sites listed below it is recommended that you make them aware of and suggest alternative species listed in this document on rangeland, pastureland and hayland or crop ground adjacent to these lands. If there are no reasonable alternatives that will help them achieve their goals then suggest that they consider limiting the use of cedar by alternating with Rocky Mountain Juniper in the row or by replacing one row of cedar with two rows of a suitable pine or spruce species.

BLUE SHALE (R073XY001KS)	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY001KS
CLAY TERRACE R073XY006KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY006KS
CLAY UPLAND R073XY007KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY007KS
GRAVELLY HILLS R073XY010KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY010KS
LIMY UPLAND R073XY012KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY012KS
LOAMY LOWLAND R073XY013KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY013KS
LOAMY TERRACE R073XY014KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY014KS
LOAMY UPLAND R073XY015KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY015KS
SANDY LOWLAND R073XY023KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY023KS
SHALLOW LIMY R073XY028KS	https://esis.sc.egov.usda.gov/ESDReport/fsReport.aspx?approved=yes&id=R073XY028KS

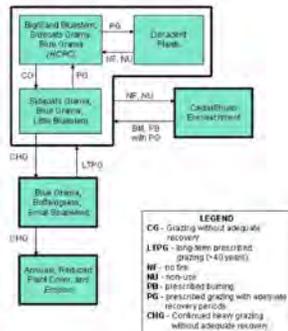
State and Transition Diagrams

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SITE: GRAVELLY HILLS R0735XY010KS

SITE DESCRIPTION: The site occurs on stream terraces and uplands where gravelly sediments are deposited. Slopes range from nearly level to very steep (0-60%). The soil surface texture may be very gravelly sandy loam, loam and coarse sand. The soils are excessively drained and permeability class is very slow to slow.

Plant Community	Community Description	Average Production #/ac	AUM/AC 30% Use	AUM/AC 60% Use
Big or Sand Bluestem / Sidrocks Grama / Blue Grama	The potential vegetation is 70-90% grasses and grass-like, 5-15% forbs and 0-10% shrubs. The dominant grasses are big and/or sand bluestem, blue grama, and sidrocks grama. Secondary grasses include little bluestem, sideoatsgrass, intermediatehead, and prairie sandreed.	2000	0.55	0.66
Sidrocks Grama / Blue Grama / Little Bluestem	Primary species include sidrocks grama, blue grama and little bluestem. Big and sand bluestem and tall grasses are secondary species. Forbs include western ragweed, aster, cutthroat gromwell, hairy goldenrod, dotted goldenrod and evening primrose.	1350	0.37	0.44
Blue Grama / Buffalograss / Small Soapweed	Blue grama and buffalograss dominate the site. There are no tall grasses and multi-grasses are present only as remnants. Small sparrow and pricklypear are common. Western ragweed, aster, Texas crotch, hairy gold aster, dotted goldenrod are common.	700	0.19	0.23
Annuals / Reduced Cover / Erosion	Blue Grama, Buffalograss and small soapweed are the dominant sites. Erosion-galls, and rills are common. Annual grasses and forbs are common.	400	0.11	0.13
Decadent Plants	This plant community occurs when grazing is removed for long periods of time. The plant community is similar to the Reference State, but production is reduced.	1400	0.36	0.46
Eastern Red Cedar / Brush Encroachment	Eastern red cedar and/or honey locust have invaded the site. Cedars will eventually dominate the site. This site develops when fire is withheld from the site over an extended period of time.	600	0.16	0.20



- The at-risk site are specifically identified in the Ecological Site Guides.
- Where Eastern Redcedar is identified as a threat to grassland, rangelands and / or pasture land they are included in the revised FOTGs
- *The Ecological Site Descriptions are still being developed and are an imperfect tool at this time. As we roll this out we will learn about additional at-risk areas we will want to include.*

Looking for alternatives

Revised Conservation Tree and Shrub Groups refined by MLRA

Tree/Shrub Type	Species	20-YEAR HEIGHT (ft) Vegetation Zone 1	MATURE Height/SPREAD (ft) Vegetation Zone 1	20-YEAR HEIGHT (ft) Vegetation Zone 2	MATURE Height/SPREAD (ft) Vegetation Zone 2
CONIFEROUS SHRUBS	Juniper, Common (Prostrate) 1/ <i>Juniperus communis</i>	4-7	4-7/15	4-7	4-7/15
CONIFEROUS TREES	Baldcypress <i>Taxodium distichum</i>	Not Recommended	Not Recommended	20-25	25-30/20
CONIFEROUS TREES	Fir, White <i>Abies concolor</i>	Not Recommended	Not Recommended	20-25	30-45/30
CONIFEROUS TREES	Juniper, Rocky Mountain 1/ <i>Juniperus scopulorum</i>	10-20	15-25/15	10-20	15-25/15
CONIFEROUS TREES	Pine, Austrian <i>Pinus nigra</i>	5-20	30-50/20-30	15-30	30-55/20
CONIFEROUS TREES	Pine, Eastern White <i>Pinus strobus</i>	Not Recommended	Not Recommended	25-30	35-40/20
CONIFEROUS TREES	Pine, Jack <i>Pinus banksiana</i>	15-20	30-40/15	15-20	35-45/15
CONIFEROUS TREES	Pine, Limber 1/ <i>Pinus flexilis</i>	10-15	25-40/15	10-15	25-45/15-20
CONIFEROUS TREES	Pine, Ponderosa 1/ <i>Pinus ponderosa</i>	15-25	30-50/20	15-30	30-55/20
CONIFEROUS TREES	Pine, Southwestern White 1/ <i>Pinus strobiformis</i>	15-25	30-50/20	15-30	30-55/20
CONIFEROUS TREES	Redcedar, Eastern 1/ <i>Juniperus virginiana</i>	10-20	20-25/15	10-20	20-25/15
CONIFEROUS TREES	Spruce, Colorado Blue <i>Picea pungens</i>	15-20	25-35/20-30	15-20	30-40/20-30
CONIFEROUS TREES	Spruce, Norway <i>Picea abies</i>	Not Recommended	Not Recommended	25-30	30-40/20
CONIFEROUS TREES	Spruce, White <i>Picea glauca</i> (variety Black Hills)	15-20	25-35/15	20-25	30-40/20

Development and Comment Process

- Nebraska Forest Service (August 9th)
- NRD Managers (August 30th)
- Conservation Tree Working Group (September 7th)
- NRD Annual Conference (September 27th)
- NRD Tree Planter's Roundtable (October 4th)
- NRCS Forestry Subcommittee (November 17th)
- NRCS State Technical Committee (December 1st)

Implementation

- NRCS will be looking at additional criteria both in the FOTG documents but also possibly as internal policy to help ensure that there are not wide scale inconsistencies in how conservation planners are providing alternatives to producers, especially when combined with financial incentives through Farm Bill conservation programs.

Recommendation

- The forestry Subcommittee is bringing forward a motion to the state technical committee to adopt the revised conservation tree and shrub field office technical guide for implementation.
- The Subcommittee acknowledges that we will need to refine this tool and develop “risk ratings” for ecological site to provide resource professionals with a better sense of when recommendations for alternate species would be more important.
- However, we feel that we need to roll this out and get feedback from NFS, NG&PC, NRCS and NRD staff about the value and utility of the revised FOTG.
- DuPlissis will develop an evaluation plan for the committee’s approval at a later meeting.

Questions?

