

Go Native: From Plain to Prairie

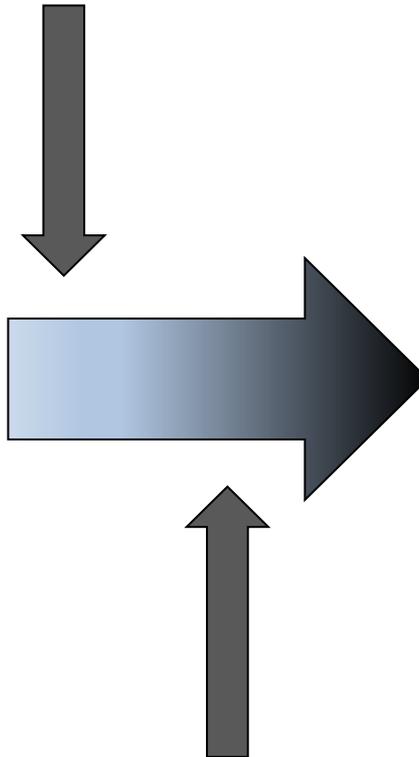
Steps to Restore, Manage, and Maintain Prairie on Your Property

Workshop Series Sponsored by
Grassland Heritage Foundation &
Douglas County Conservation District

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Limiting factors

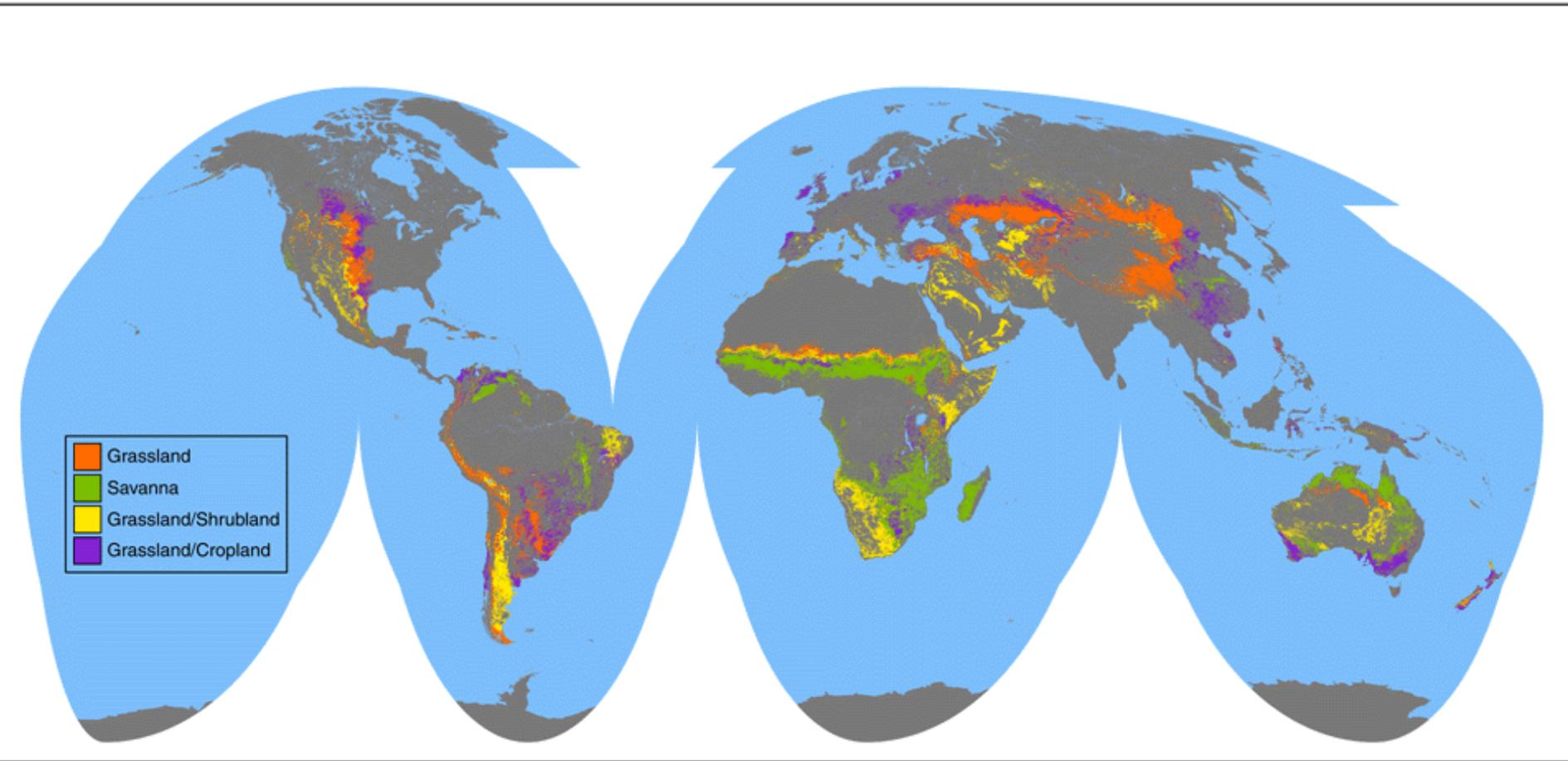
- ecological
- legal
- financial

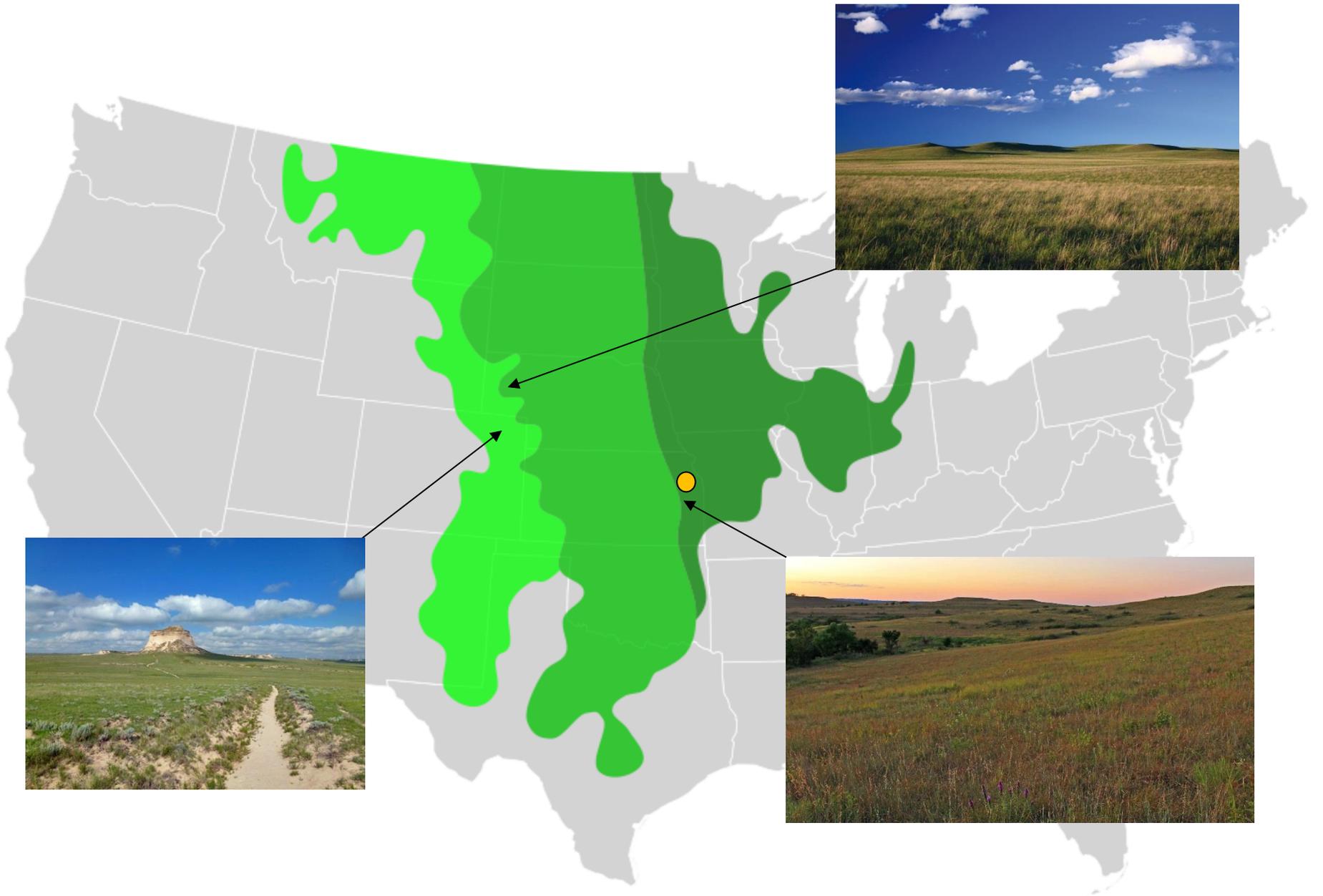


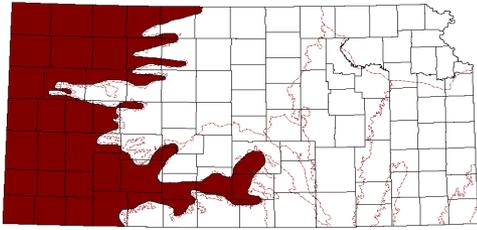
Inputs

- preparation
- materials
- maintenance

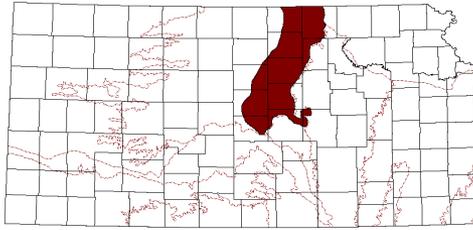
- Grasslands are the largest of the planet's terrestrial biomes, occupying ca. 25% of land surface



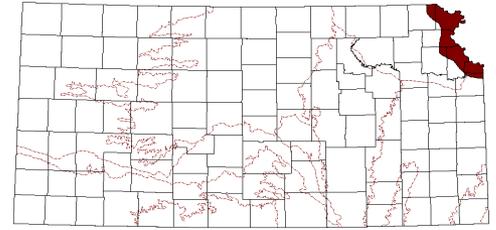




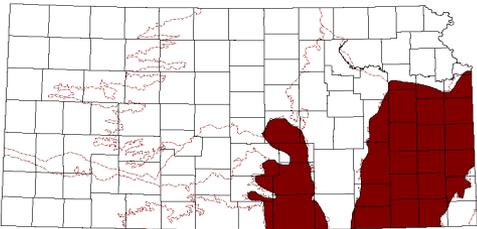
Western tallgrass prairie



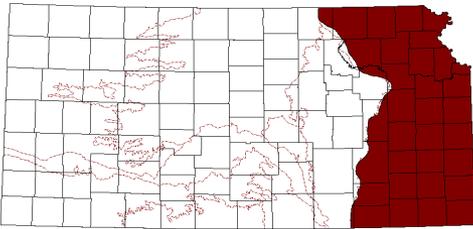
Dakota Hills tallgrass prairie



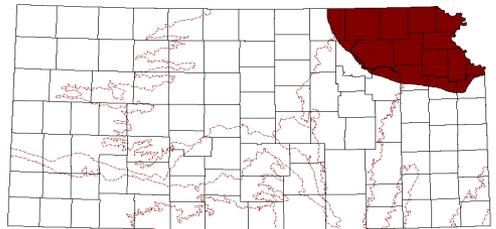
Loess hills tallgrass prairie



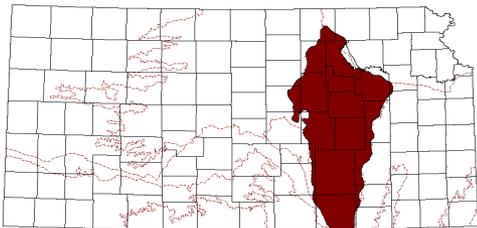
Unglaciated tallgrass prairie



Low prairie



Glaciated tallgrass prairie



Flint Hills tallgrass prairie

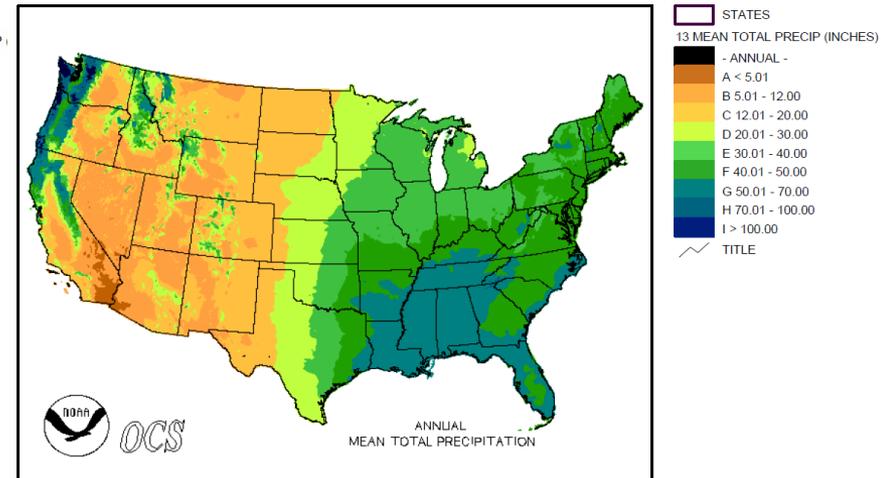
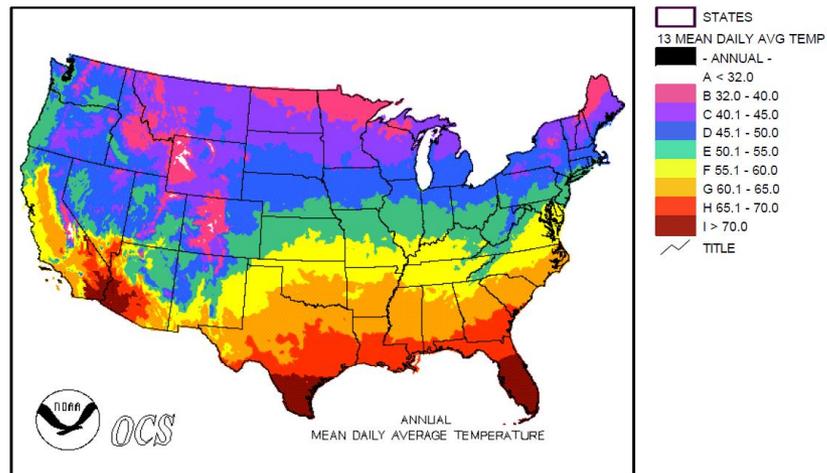


Sandstone prairie



Hardpan prairie

- continental climate
 - distinct wet/dry seasons
 - extreme temperature and precipitation variation within and between years
- longitudinal precipitation and latitudinal temperature gradients
- 70% of precipitation during growing season
- growing season ca. 185 days



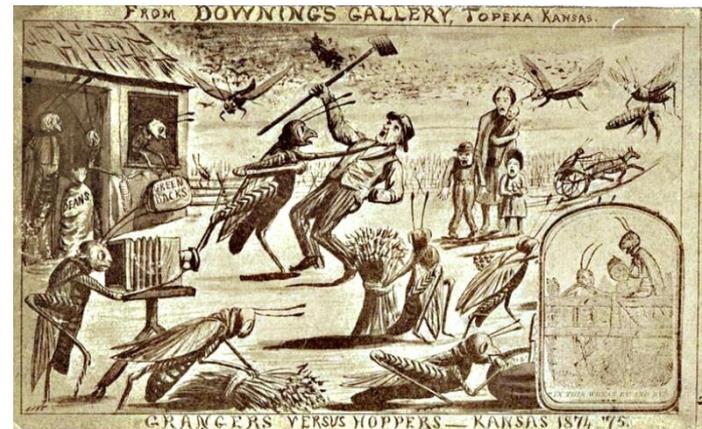
- grasslands of central North America in rain shadow of the Rocky Mountains
- eastern Kansas situated on sedimentary platform of Pennsylvanian and Permian limestones, shales, and sandstones
- unglaciated except for northeast part



- tallgrass prairie is a fire-adapted ecosystem
- fire removes accumulated litter, stimulates grass regrowth, suppresses spread of woody plants
- burn frequency of 3-5 years estimated for pre-1840 tallgrass prairie
- fire frequency in Flint Hills has increased as humans presence there increased; decreased elsewhere



- herbivores are a distinctive feature of grasslands
- large native grazers migratory; fire and grazing created vegetation mosaic
- large native grazers extirpated, mostly by 1900; replaced by non-native grazers
- small grazers still play important role





Tallgrass prairies provide crucial habitat for nearly half of the plants and animals documented in Kansas, including the largest and healthiest populations of some declining prairie species.

What is the point?

- You can control some environmental factors (biotic, soil, land use) but not others (topography, climate)
- Vegetation, which is a product of these factors, can provide valuable inferences about history, management, and land use of a site

- dominated by grasses and forbs (non-woody, non-grasslike plants)
- woody plants minor elements
- dominated by few species at any one site
- most species widespread and occur in multiple ecosystems (broad ecological amplitude)
- 40% of species in Asteraceae, Poaceae, Fabaceae, and Cyperaceae



Dominant species of tallgrass prairie are perennial, deep-rooted, warm-season grasses; canopy 0.5-2 m, but individuals can reach 3 m high



switch grass
Panicum virgatum



little bluestem
Schizachyrium scoparium



Indian grass
Sorghastrum nutans

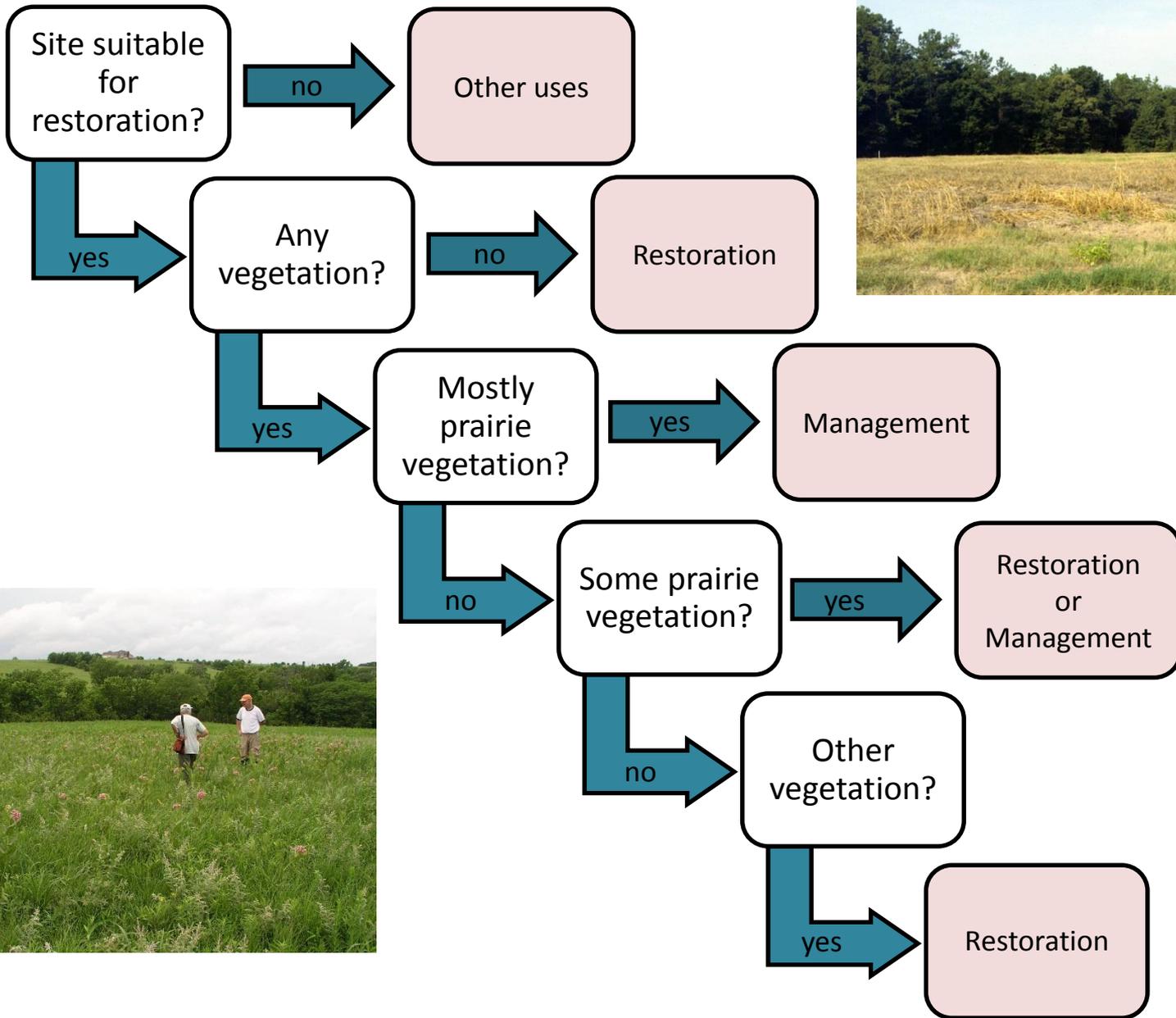


big bluestem
Andropogon gerardii



- grasses compose 80-90% of biomass; cover ca 60% grasses, 35% forbs, 5% shrubs
- 3-4× more species of forbs than grasses
- 1000 species of vascular plants; ca 120 species characteristic
- 60-70% of species perennial; many clonal
- most species form mycorrhizal associations, especially warm-season grasses and forbs
- 5-20% of species introduced





Vegetation features that can be used to compare a site of interest to native tallgrass prairie

