

# Gardener's Ecology

*Using ecological  
inspiration in your garden*

By Stephen Hornbeck



**HIGH PLAINS  
ENVIRONMENTAL  
CENTER**



# RESTORATION

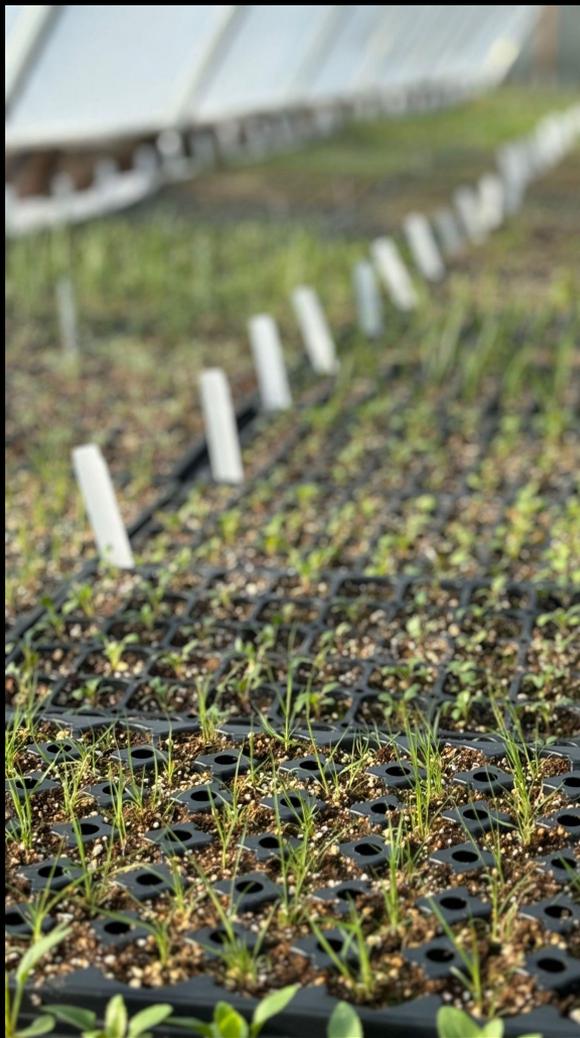


# EDUCATION



# CONSERVATION





## Native Plant Nursery

# About me: Kentucky & Appalachia



**"Variations on a theme"**



# FLORA OF THE INTERIOR



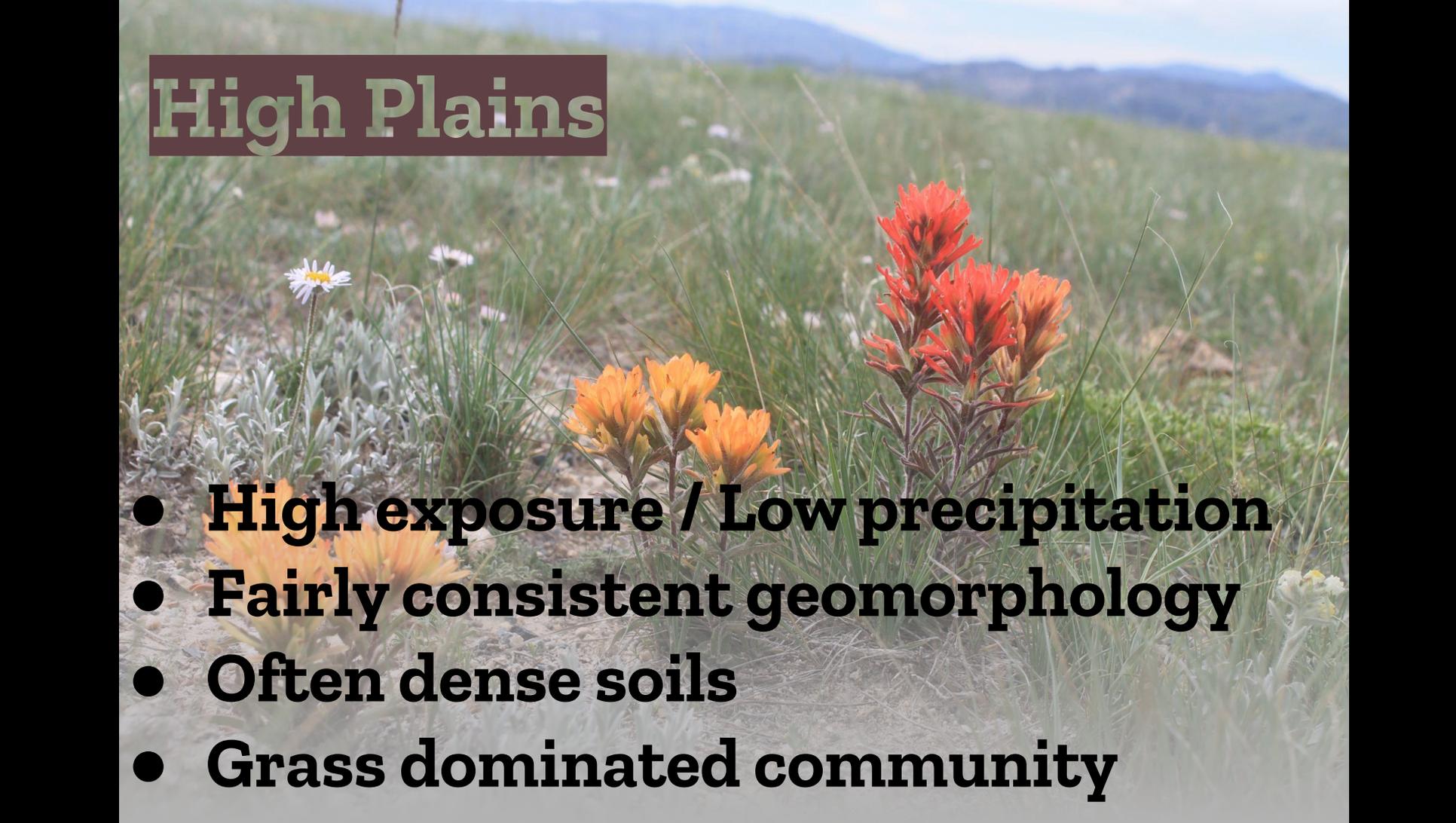
A satellite-style topographic map of North America, showing the continent's terrain with color-coded elevations (greens for lowlands, browns for plateaus, and greys for mountains). The 100th meridian is highlighted as a vertical white line passing through the central United States and northern Mexico. The surrounding oceans are dark blue, and the Arctic region is covered in white ice.

**Over the 100th Meridian**

# High Plains



# High Plains



- **High exposure / Low precipitation**
- **Fairly consistent geomorphology**
- **Often dense soils**
- **Grass dominated community**

# Foothills



A photograph of a rocky, hilly landscape. In the foreground, there are several tall, thin plants with clusters of small blue flowers. To the right, there are some yellow flowers. The background shows large, grey, rounded rocks and some green vegetation. A yellow rectangular box is overlaid in the upper right corner, containing the word "Foothills" in bold black text.

# Foothills

- **Greater precipitation**
- **Variable exposure**
- **Erratic geomorphology**
- **Parent geology - niche specialists**
- **Often Mineral & free draining soils**

# Ecotones



# Ecotones

A landscape photograph showing a transition from a grassy plain to a shrub-covered hillside under a cloudy sky. The foreground is dominated by dense, low-lying vegetation, including green shrubs and yellow wildflowers. The middle ground shows a rolling plain with sparse grasses and small shrubs. In the background, there are distant mountains under a blue sky with scattered white clouds.

- **Transitional environment and floral communities**
- **Species rich**
- **“Edge cases”**

# Grassland inspiration

- Density
- Matrix
- Emergents
- Texture
- Movement

**A Living  
Mosaic**



## Foreground:

*Penstemon virgatus*  
"Wand Penstemon"

*Bouteloua curtipendula*  
"Sideoats Grama"

*Echinacea angustifolia*  
"Narrow-Leaved Coneflower"

## Background:

*Penstemon strictus*  
"Rocky Mountain Penstemon"

*Artemisia frigida*  
"Fringed Sage"

*Gaillardia aristata*  
"Blanket Flower"



# Cracks, Crevices, and Containers

- Microclimates
- Customized soils
- Minimal footprints
- Displays



# Cracks, Crevices, and Containers

**Right:**

*Eremogone congesta*  
"Ball-headed Sandwort"

*Erigeron compositus*  
"Fern Leaf Fleabane"

**Left:**

*Eriogonum umbellatum*  
"Sulfur Buckwheat"

*Penstemon clutei*  
"Sunset Crater Penstemon"



# Cracks, Crevices, and Containers

Containers make great displays. They also protect plants & passerbys alike.



# Edge Plants

- **Low forms**
- **Hardy habits**
- **Boundary blurring**
- **Hydrology hacks**



# Edge Plants

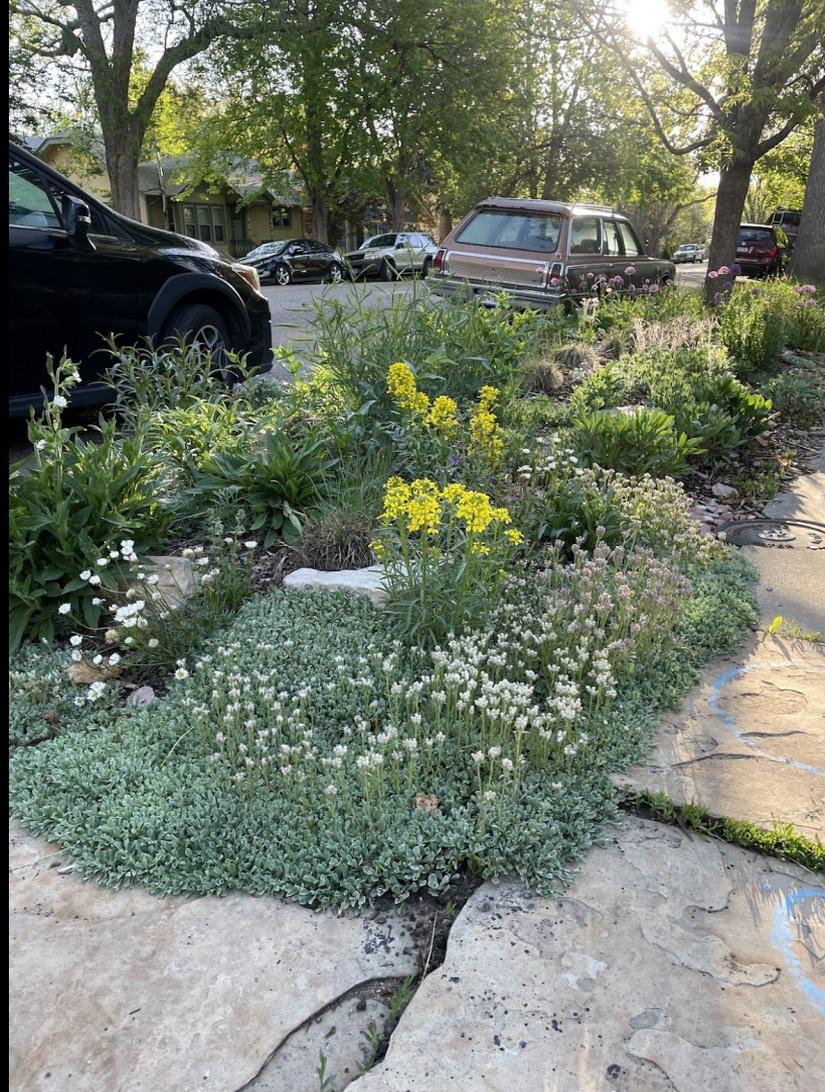


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*Penstemon caespitosus*  
"Mat penstemon"

->

*Antennaria parvifolia*  
"Little-leaf Pussytoes"



# Edge Plants

**Even borders can be diverse & contrasting!**

(Below) *Erigeron vetensis* & *Oenothera macrocarpa*

(Right) *Glandularia bipinnatifida* & *Oenothera serrulata*



**Remember: it starts  
with the site**





**Q&A**