

Grasses of Grand Staircase-Escalante National Monument

Marc Coles-Ritchie

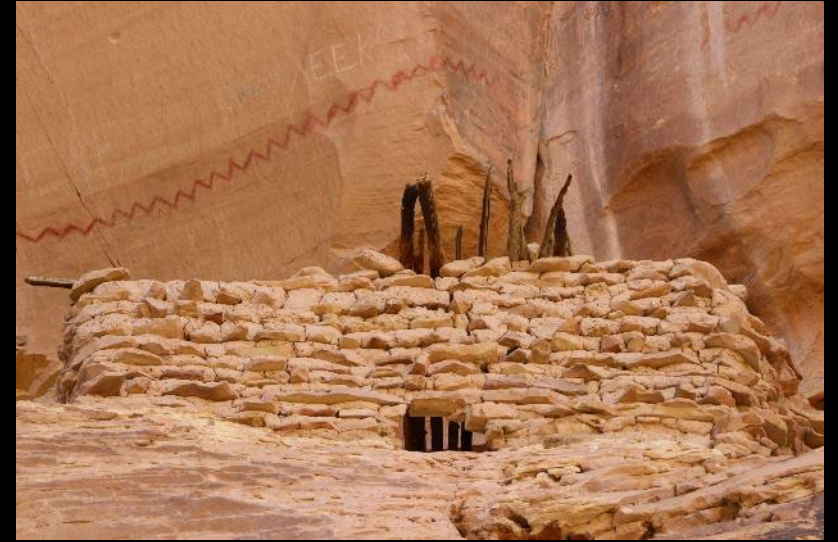
BLM Ecologist and Science Coordinator at
Grand Staircase-Escalante National Monument

Kanab Library, August 2024



Recognizing Indigenous Knowledge

- Tribes connected to this land include Southern Paiute, Hopi, Zuni, Pueblo, Dine' (Navajo), Ute and others.
- Indigenous knowledge holders knew and know the plants to use for food, medicine, construction, ceremony and other important uses.



Previous talk:
Wildflowers of Grand
Staircase-Escalante
National Monument



Tips for learning grasses

- Be patient; grasses are challenging
- Look for patterns
- Look closely
- Observe grasses at different seasons
- Take photos (close and far)
- Use apps, books, internet, etc.



Outline

- Grass basics
- Over 200 native grasses in Utah; almost that many in Grand Staircase
- 15 species presented here; 1 or 2 slides per species
 - Upland native perennials
 - Non-native grasses: annual and perennial
 - ~~Riparian grasses~~
 - ~~Grass likes~~
- Resources to help you learn and identify grasses

Photos by Marc at Grand Staircase and Kanab area (nearly all)

Presentation will be shared with those who provide email address



- Native: naturally grows in Western US since before Anglo settlement
- Non-native: introduced from another continent or region



Bunchgrass: individual plants
grow as small clump



Rhizomatous: spreads out
through underground stems
(rhizomes)



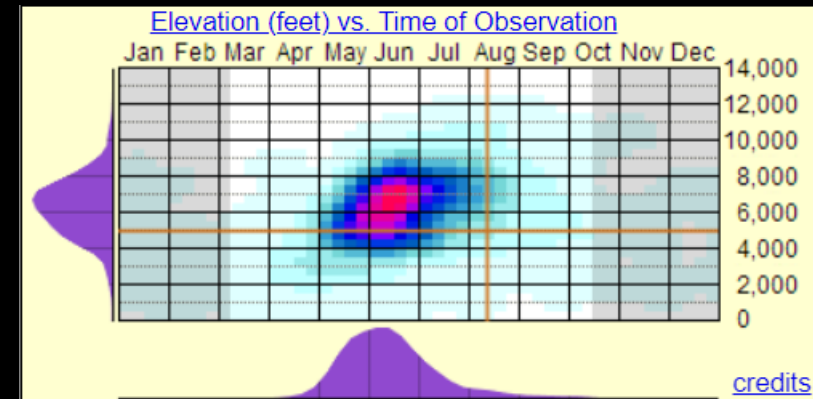


Inflorescence
**the flowering part of
a plant, and its mode
of arrangement**



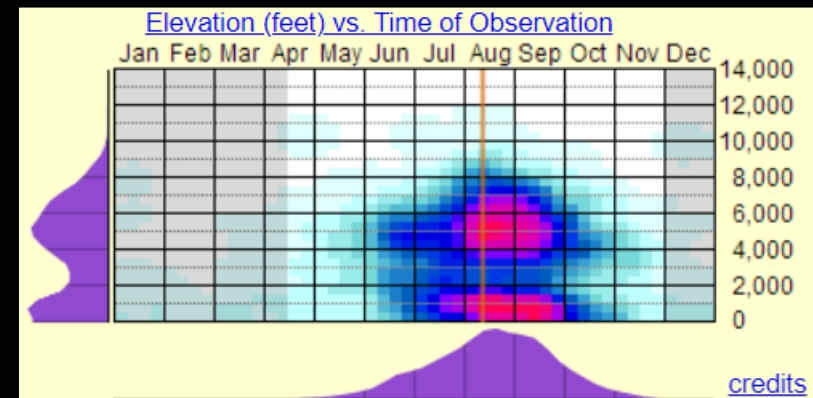
Flowering time: when flowers and seeds are produced

Cool season grasses (C3 plants):
April to July approx.



Indian
ricegrass

Warm season grasses (C4 plants):
July to September approx.



Sand
dropseed



Indian ricegrass

Achnatherum hymenoides

- Native, perennial
- Bunchgrass, 1 to 2 feet tall
- Inflorescence: open, hair-like branches, large seeds
- Flowering: spring /early summer (cool season)



Indian ricegrass *Achnatherum hymenoides*



Sand bluestem

Andropogon hallii

- Native, perennial
- Bunchgrass, 2 to 5 feet tall, reddish
- Inflorescence: silky hairs on internodes
- Flowering: late summer (warm season)



Sand bluestem *Andropogon hallii*





Purple three-awn

Aristida purpurea

- Native, perennial
- Bunchgrass, 8-16" tall, tolerates disturbance
- Inflorescence: seeds have 3 sharp awns
- Flowering: spring /early summer (cool season)



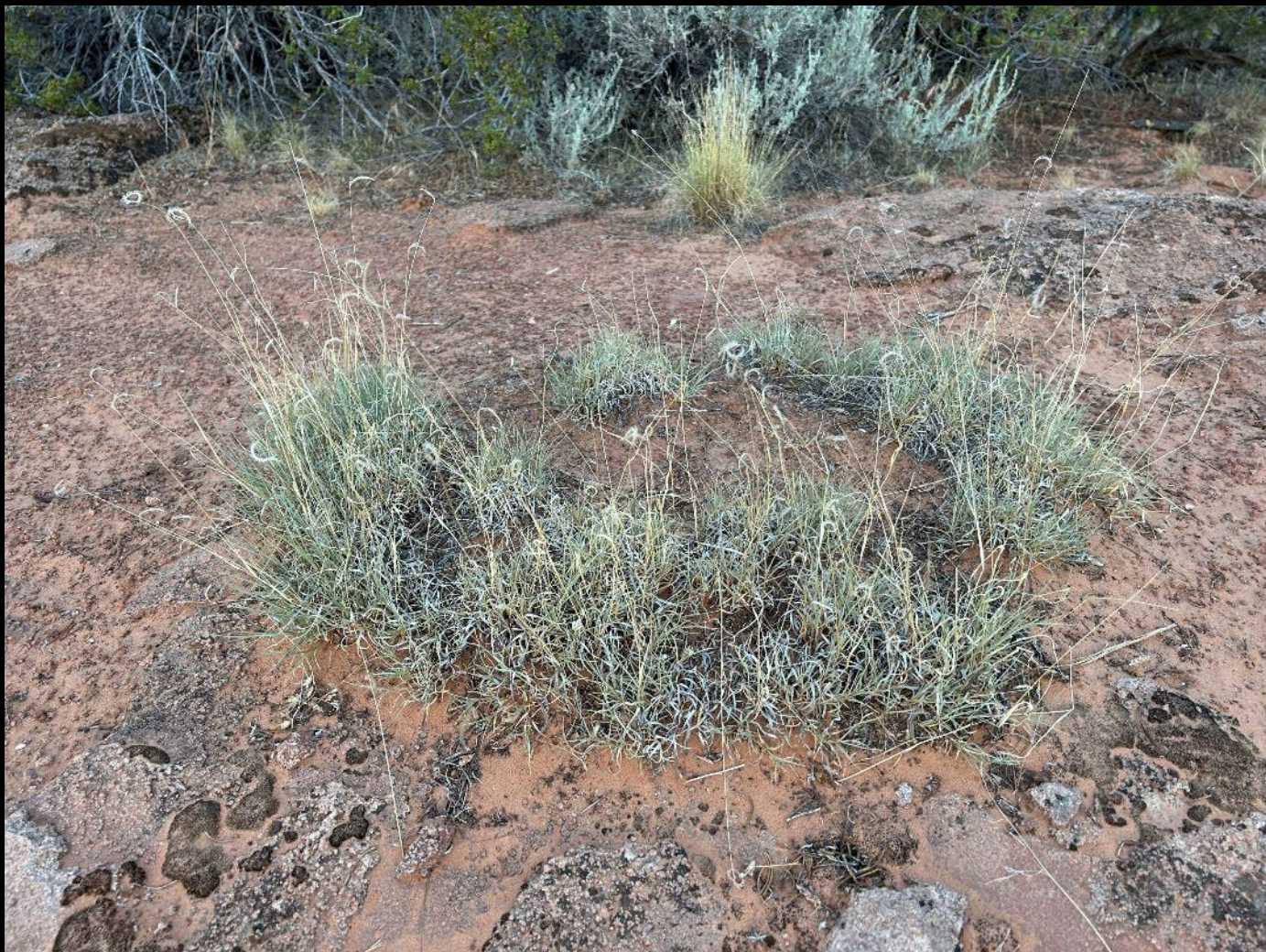
Purple three-awn *Aristida purpurea*



Blue grama

Bouteloua gracilis

- Native, perennial
- Rhizomatous, 6-20" tall
- Inflorescence: spikes that curve as they dry
- Flowering: mid-summer to fall (warm season)



Blue grama *Bouteloua gracilis*





Needle-and-thread
Hesperostipa comata

- Native, perennial
- Bunchgrass, but dense, height 1 to 4 feet tall
- Inflorescence: seeds with awns 4-5" long
- Flowering: spring (cool season)



Needle-and-thread *Hesperostipa comata*





**New Mexico
feathergrass**

Hesperostipa neomexicana

- Native, perennial
- Bunchgrass, 2 to 3 feet tall
- Inflorescence: 4-7" long "undulant-spreading awns" covered in hairs (feathery)
- Flowering: spring or summer (cool season)



Galleta grass

Hilaria jamesii

- Native, perennial
- Rhizomatous, 3-20" tall (can be short)
- Inflorescence: spike, with hairs (fuzzy look)
- Flowering: summer (warm season)



Galleta grass *Hilaria jamesii*



Mutton-grass

Poa fendleriana

- Native, perennial
- Bunchgrass, 1-2 feet tall
- Inflorescence: narrow, dense; flattened spikelets
- Flowering: spring or early summer (cool season)



Sandhill muhly grass
Muhlenbergia pungens



- Native, perennial
- Bunchgrass, 4-24" tall, forms circles
- Inflorescence: delicate (hairlike), reddish
- Flowering: mid and late summer (warm season)



Sandhill muhly grass *Muhlenbergia pungens*



Sandhill muhly grass *Muhlenbergia pungens*



By Matt Lavin

Sand dropseed

Sporobolus cryptandrus



- Native, perennial
- Bunchgrass, 1 to 2.5 feet tall, erect to spreading
- Inflorescence: delicate with small seeds
- Flowering: summer (warm season)



bottlebrush squirreltail

Elymus elymoides

- Native, perennial
- Bunchgrass, 6 to 18" tall
- Inflorescence: dense bristly, divergent at maturity
- Flowers: late spring (cool season)



Giant sandreed
Calamovilfa gigantea

- Native, perennial, on sand dunes
- Rhizomatous, 4 to 8 feet tall; robust
- Inflorescence: open , 1 to 2 feet long
- Flowering: summer (warm season)



Giant sandreed *Calamovilfa gigantea*



Foxtail barley
Hordeum jubatum

- Native (seems weedy)
- Bunchgrass; 1 to 2 feet tall
- Inflorescence: spike, becomes nodding, bristly
- Flowers: in spring or summer (cool season)

There are many more native grasses



At burned sites, goal is for native grasses to quickly re-establish, from seed and roots/rhizomes.

Non-native grasses



Cheatgrass

Bromus tectorum

- Introduced (invasive), annual
- 2 to 24" tall
- Inflorescence: drooping, hairy seed cover, awns
- Flowering: spring (cool season)



Crested wheatgrass

Agropyron cristatum

- Introduced, perennial, forage grass
- Bunchgrass, 1.5 to 2.5 feet tall
- Inflorescence: dense spikes, flattened heads
- Flowering: spring (cool season)

Numerous other non-native grasses

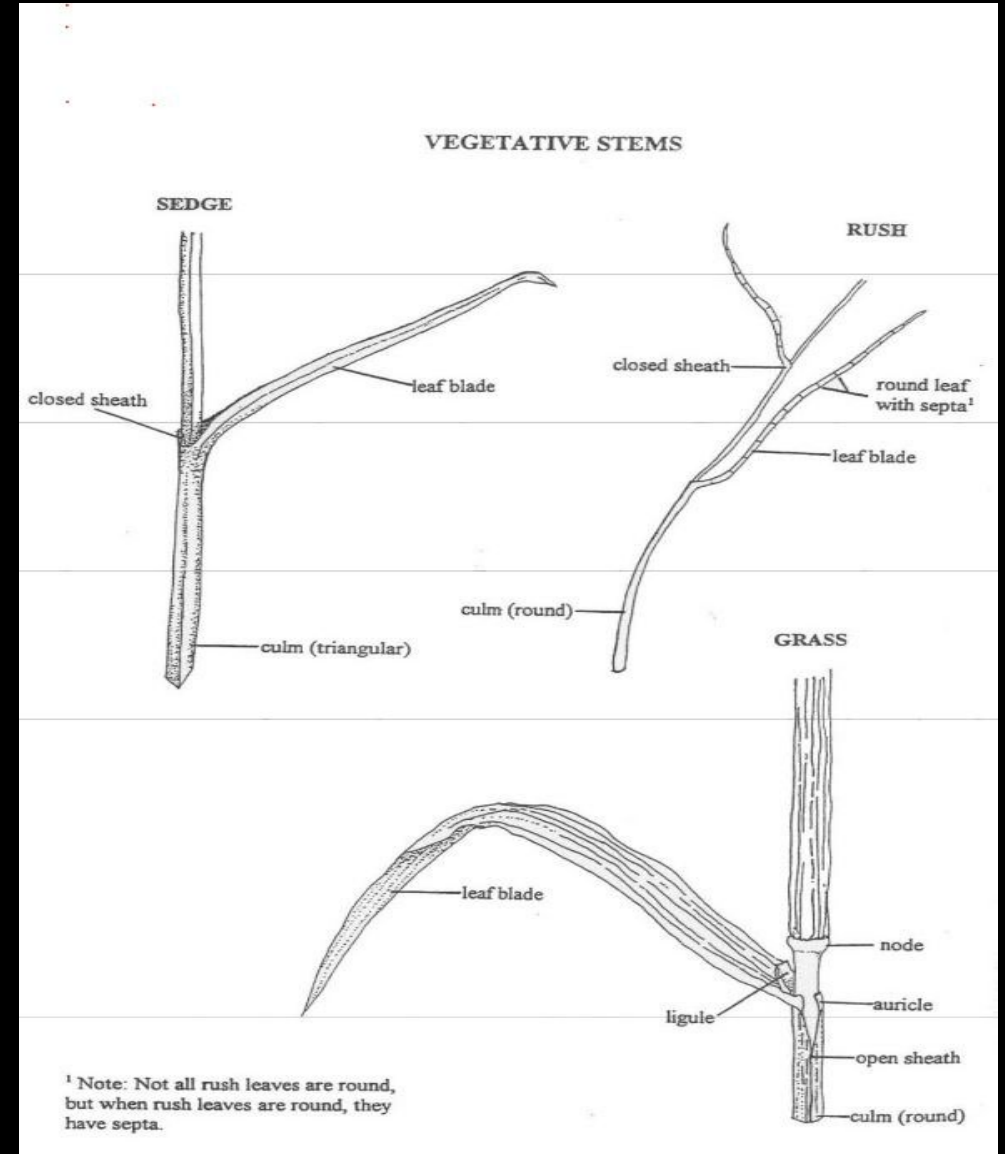
- Orchard grass
- Smooth brome
- Ripgut brome
- Intermediate wheatgrass
- Kentucky bluegrass
- ... and more

Grasslikes

Sedges have edges

Rushes are round

Grasses have joints (knees, etc.)

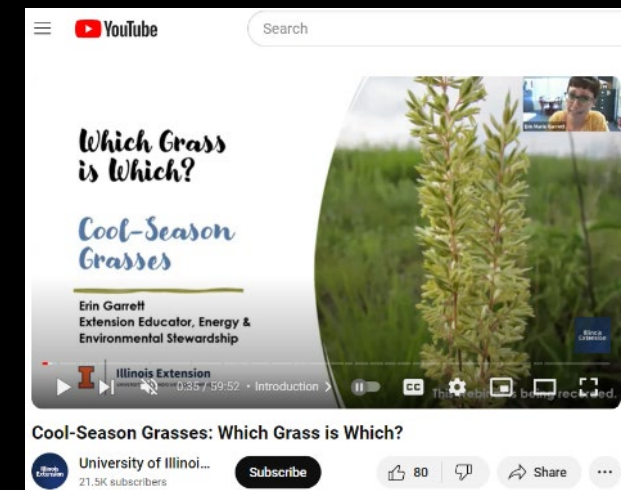
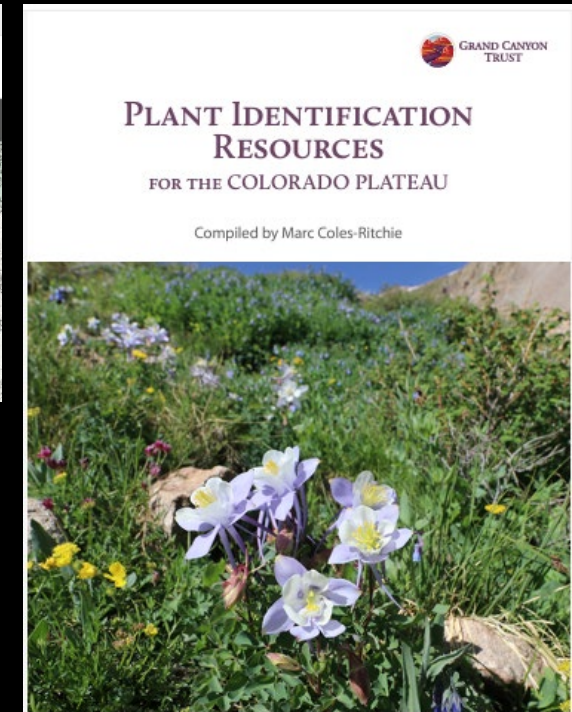
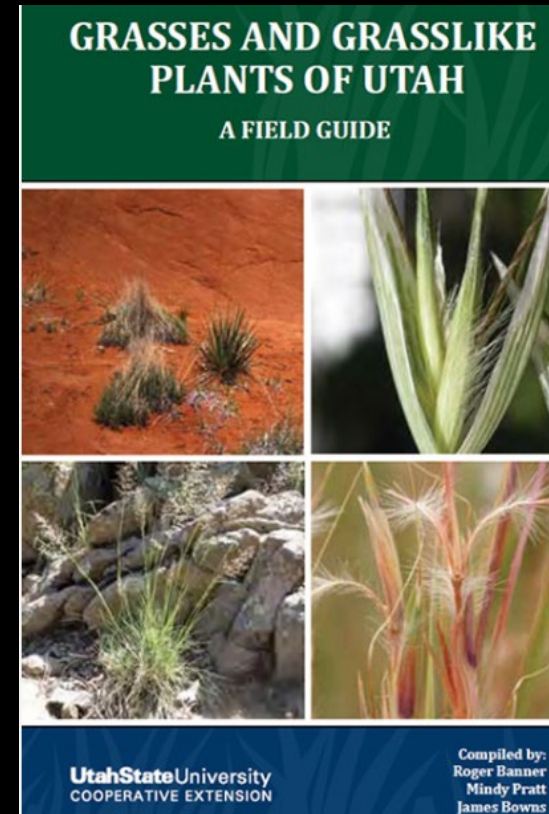
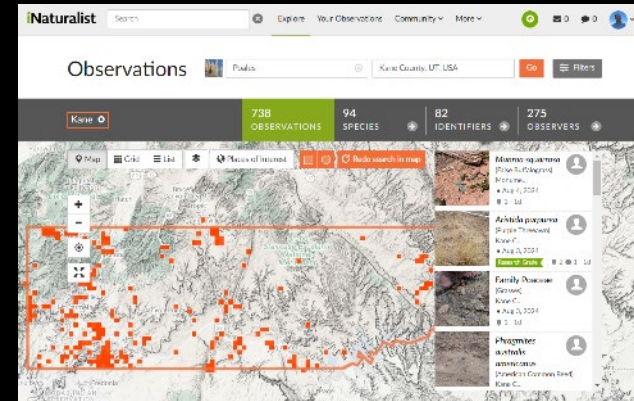


Riparian Grasses and Grass-like

...another day



Plant Identification Tools





Observations



Poales



Kane County, UT, USA

Go



Filters

Kane

738

OBSERVATIONS

94

SPECIES



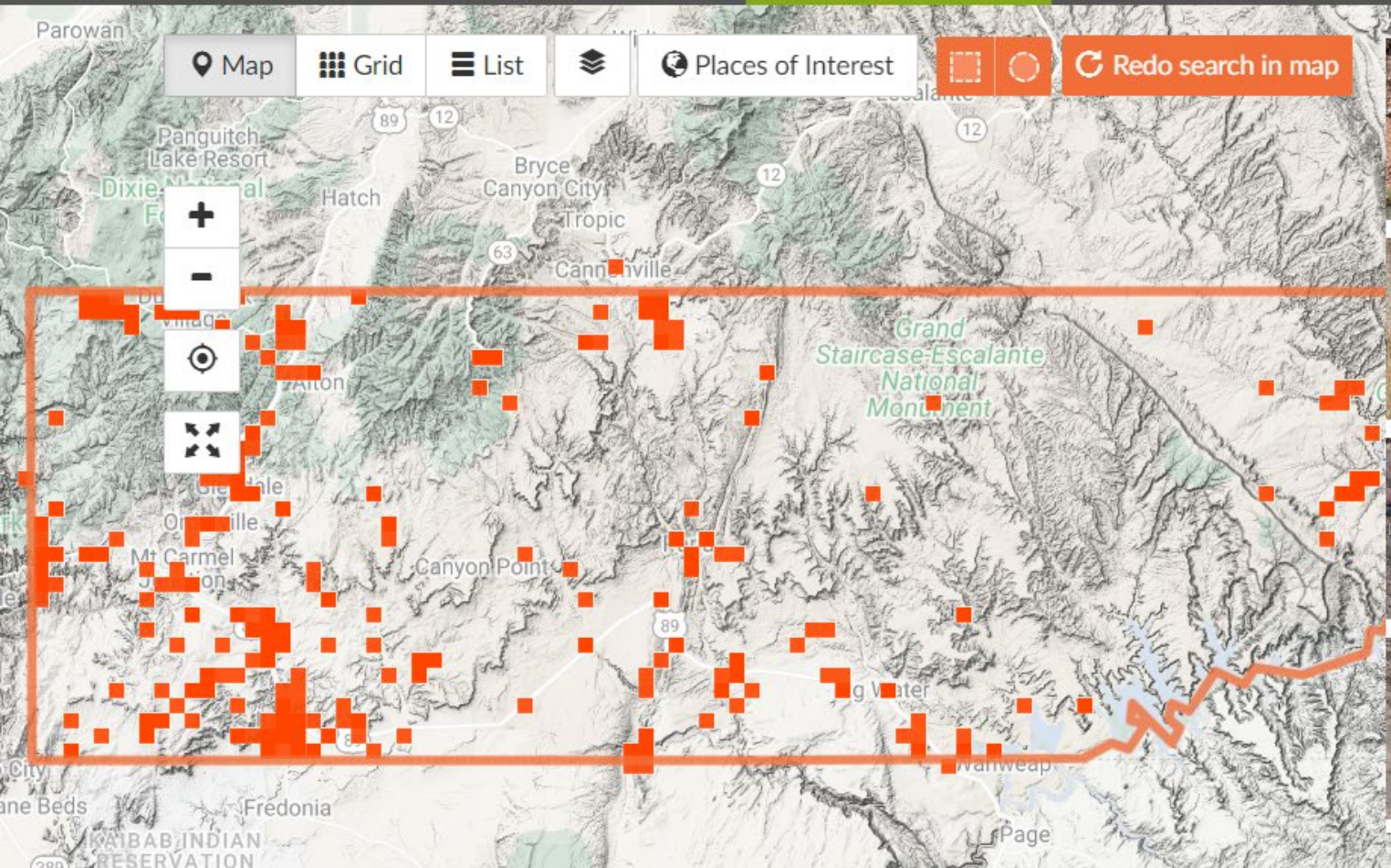
82

IDENTIFIERS



275

OBSERVERS



Map

Grid

List



Places of Interest



Redo search in map



Munroa squarrosa

(False Buffalograss)

Monume...

• Aug 4, 2024

1 1d



Aristida purpurea

(Purple Threeawn)

Kane C...

• Aug 3, 2024

Research Grade

2 1 1d



Family Poaceae

(Grasses)

Kane C...

• Aug 3, 2024

1 1d



Phragmites australis

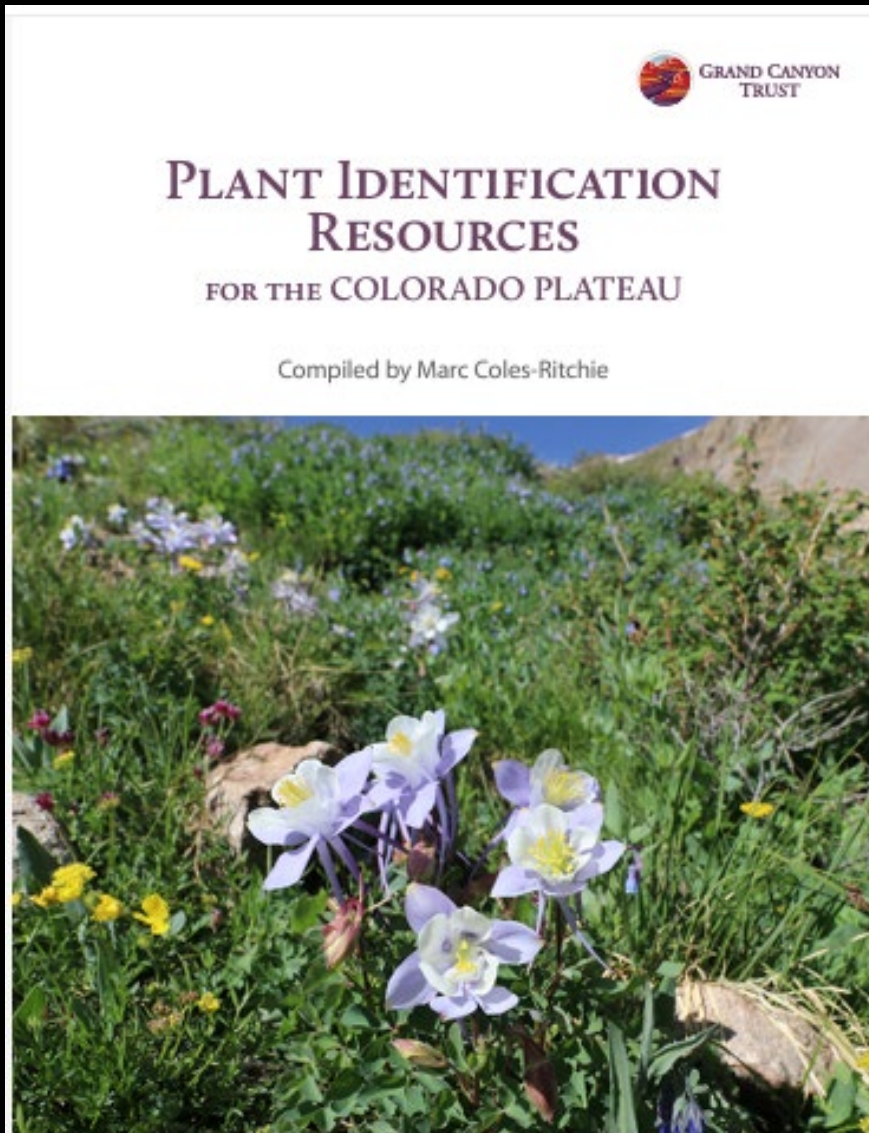
americanus

(American Common Reed)

Kane C...



<https://www.grandcanyontrust.org/plant-identification-resources>



TITLE	GEOGRAPHIC FOCUS	DESCRIPTION	AUTHORS AND PUBLISHER
Forbs/Wildflowers (may include some shrubs, trees, and grasses)			
<i>A Field Guide to the Plants of Arizona</i>	Arizona	Color photographs and descriptive text for 850 plant species found in Arizona.	Arne Orth Epple, Falcon Guides, 1997.
* <i>Capital Reef Wildflowers</i>	Central Utah	Field guide to 209 plants of the Capital Reef area, with color photographs; includes 48 endemic species.	Deborah J. Clark. Published by Impact Photographics Inc. 2006.
<i>Rocky Mountain Flora: A Colorado Mountain Club Field Guide</i>	Colorado	Organized by color, with images, taxonomy, and detailed descriptions of each flower.	James Ellis, Colorado Mountain Club, 2012.
* <i>Sandstone Country Wildflowers Mountain Edition: A Field Guide to the Wildflowers of the Moab Region and Beyond</i>	Southeast Utah and adjacent states	Descriptions and color photos for many of the common wildflowers and shrubs of the foothills and mountains of southwestern Utah.	Arne Duri and Dave Montgomery. Red Shoe Guides, 2018.
* <i>Sandstone Country Wildflowers: The Red Shoe Guide</i>	Southeast Utah and adjacent states	Descriptions and color photos for 135 of the common wildflowers and shrubs of the canyons, cliffs, and mesas of southeastern Utah.	Arne Duri and Dave Montgomery. Red Shoe Guides, 2015.
* <i>Spring Wildflowers of Utah's Red Rock Desert</i>	Southeast Utah and adjacent states	Features 500 common spring wildflowers, trees and grasses of the red rock desert with photographs and full descriptions of about half these plants.	Peter Lesica and Walter Fertig. Published by Trillium Press, 2018.
* <i>Wildflowers & Other Herbaceous Plants of Utah: Bongatlands: A Field Guide</i>	Utah	A handy booklet with descriptions and color photos of 83 of the common wildflowers in Utah.	Roger Banner, Mindy Pratt, James Bowers, and Chad Reid. Utah State University Cooperative Extension, Logan, UT, 2013.
<i>Wildflowers of the Mountain West</i>	New Mexico, Colorado, Wyoming, Idaho, Utah, Nevada and Oregon	Descriptions and color photos organized by flower color.	Richard M. Anderson, JayDee Gurnell, Jerry L. Goodspeed. Utah State University Press, Logan, UT, 2012.

Grasses video
(series)

<https://youtu.be/s257A3VMeAs>

and others

The image shows a YouTube video player interface. At the top, the YouTube logo and a search bar are visible. The video title is "Which Grass is Which?" in a large, black, serif font. Below the title, the subtitle "Cool-Season Grasses" is displayed in a blue, cursive font. The presenter's name, "Erin Garrett", and her title, "Extension Educator, Energy & Environmental Stewardship", are listed below the subtitle. The video thumbnail shows a close-up of a green grass plant. In the top right corner of the video frame, there is a small inset video of Erin Garrett. The video player controls at the bottom show the video is at 0:35 / 59:52, with a progress bar and various control icons. Below the video player, the video title "Cool-Season Grasses: Which Grass is Which?" is repeated. The channel name "University of Illinois..." and its subscriber count "21.5K subscribers" are shown. A "Subscribe" button is present. To the right of the button are icons for likes (80), dislikes, share, and a menu icon.

YouTube

Search

Which Grass is Which?

Cool-Season Grasses

Erin Garrett
Extension Educator, Energy & Environmental Stewardship

Illinois Extension

0:35 / 59:52 • Introduction >

Cool-Season Grasses: Which Grass is Which?

University of Illinois...
21.5K subscribers

Subscribe

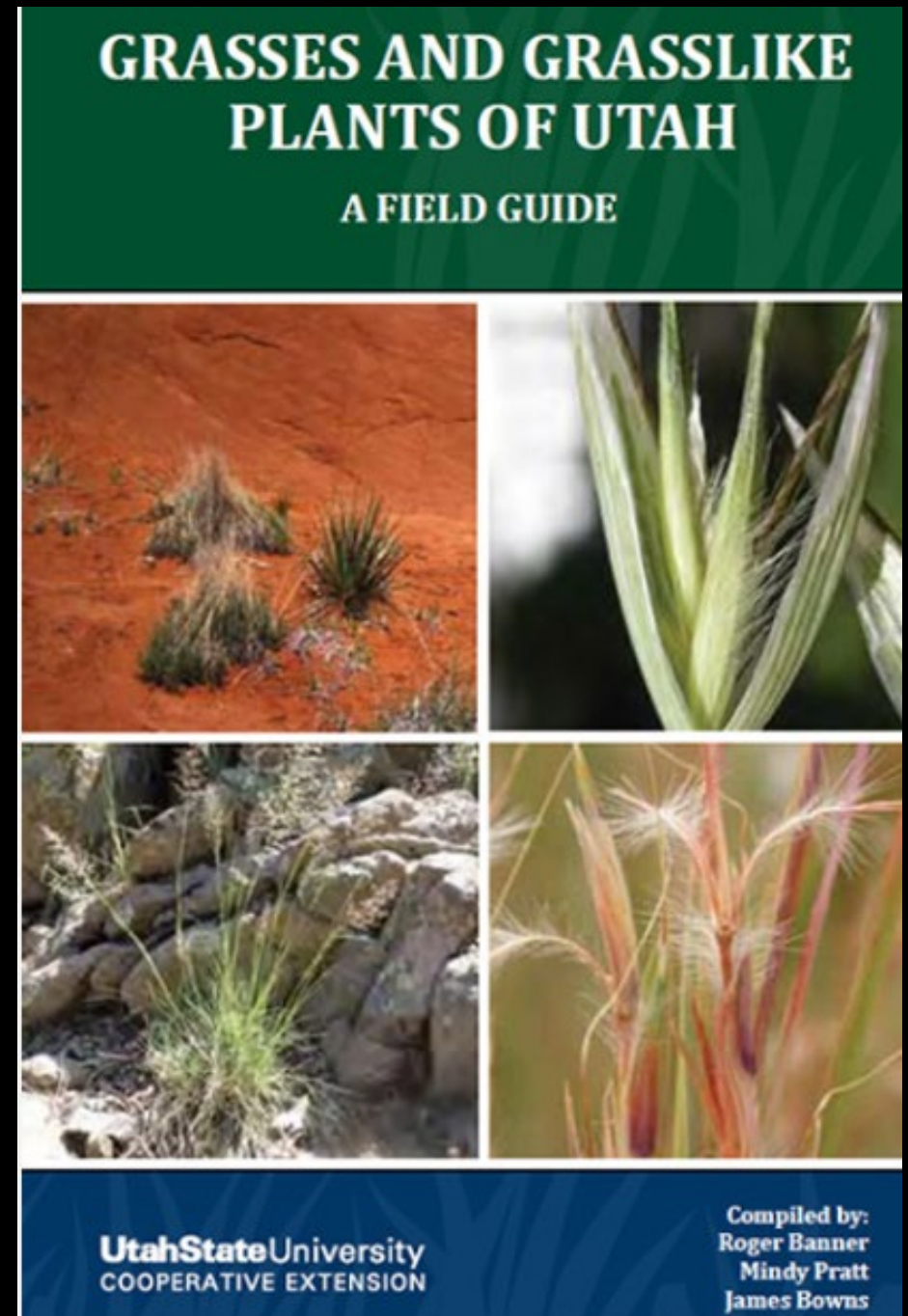
80

Share

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Engagement with Grand Staircase Landscape

- GSENM Citizen Science website:
<https://www.blm.gov/working-us> -
- GSENM Science & Research website:
<https://www.blm.gov/programs/national-conservation-lands/utah/grand-staircase-escalante-national-monument/science-research> -



Upcoming Events

Talks at Kanab Library on Science of Grand Staircase-Escalante Region (6pm in future)

- September: none
- October 9: Shrubs
- November 13: Cultural Site Stewardship (Lexi Little)
- December 11: Lichens (Steve Leavitt)
- January 15: Cactus
- February 12: Riparian and wetland plants
- February 26: Wildlife (Joel Berger)
- March 12: Tyrannosaurs (Dr. Alan Titus)
- April 9: Landscaping with native Plants

Other ecology events

- March 20-22, 2025: Symposium on Grand Staircase-Escalante Region, in Escalante and on Zoom

The End

Many of these photos are in this Flickr album called “Plants of Grand Staircase-Escalante National Monument”

<https://flic.kr/s/aHsmVnwKU8>