

Riparian Areas- What are they Worth?

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What is a Riparian Area?

- The band of vegetation that occurs adjacent to the stream bank
- Transitional zone between the wetlands and upland areas



Characteristics of a Healthy Riparian Zone:

- **Diverse collection of native vegetation that are normally found in close association with water. Many of these plants have deep roots that bind the soils of the streambank and protect against erosion**



Benefits of Healthy Riparian Areas:

- Provide important habitat for wildlife and fish
 - Shade, food, cover
- Improve water quality
 - Filter & catch sediment
 - Assimilate pollutants
- Streambank stability
 - Reduce velocity of flood water
 - Armor banks



Benefits of Healthy Riparian Areas:

- Sustained stream flows
 - Store water in banks and floodplain
 - Prolong base flow
 - Recharge aquifer



Benefits of Healthy Riparian Areas:

- Important recreational resource for anglers, hunters, canoeists, etc.



Types of Plants found in Riparian Areas

Woody Plants
(Trees &
Shrubs)

Sedges/Rushes

Grasses

Forbs



Functions/Roles of Riparian Vegetation

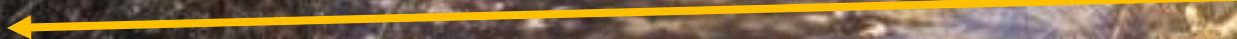
Erosion control



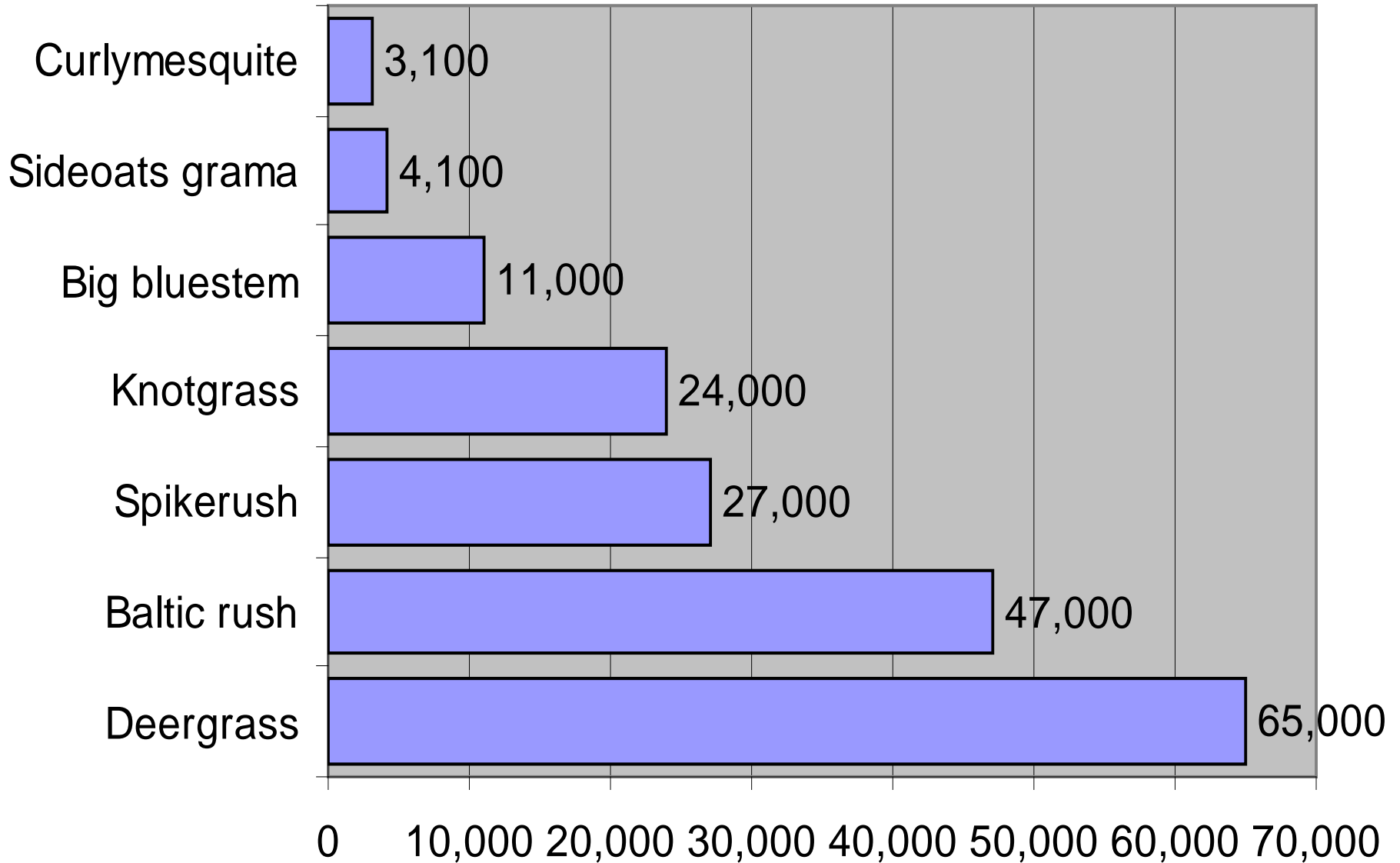
Sediment trap



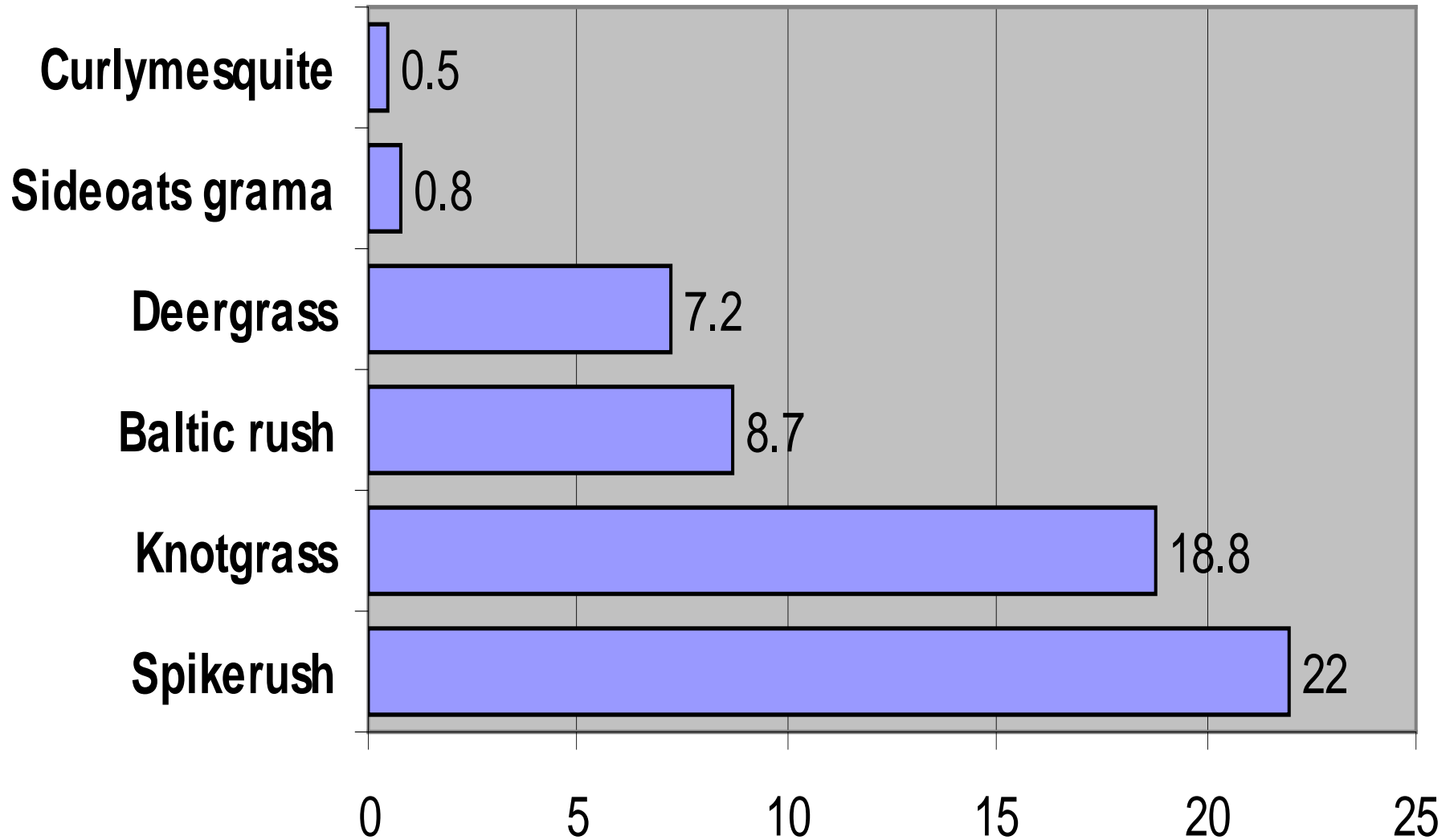
Store water



Rootmass; Pounds per Acre



Root Length; Miles per Cubic Foot





Recognizing an Impaired Riparian Zone:

- Lack of vegetation, exposed soil, and eroding banks
- Presence of vegetation more typical of upland sites
- Sites dominated by exotic or introduced species
- Park-like settings or ones that have been continuously grazed



How Does a Riparian Zone become Impaired?

- Altered stream flow
- Overgrazing or overbrowsing
- Construction along stream banks
- Removing vegetation
- Planting introduced species



What Can Happen when a Riparian Zone becomes Impaired?

- Stream bank stability problems
- Reduced wildlife habitat
- Degraded fish habitat
- Silt and pollutants can more readily enter the stream



What can be done to improve or maintain riparian zone health?

- **Maintain or restore appropriate native vegetation**
 - Rotational grazing
 - Smaller recreational footprint
 - Replant with a mixture of native trees, grasses, and shrubs



Bear Creek Riparian Restoration

Central Oregon
3500', 12" Rainfall



Intermittent flow – No fish
Accelerated erosion - Sediment loss
Wet riparian area (sponge) = 4 acres / mile
Water storage = 1.5 ac ft / mile



1977

A Change in Grazing Management

- 1977 – 1984:** No grazing / Reduced grazing to jump-start recovery
- 1985 – Present:** Rotational grazing during late winter to maintain adequate riparian vegetation



1983



1986



June 1987



Aug 1987



1988

- Perennial flow; prime aquatic habitat
- Riparian “Sponge” = 12 Ac/Mile (was 4 acres)
- Water Storage = 2,100,000 Gal/Mile
(net gain of 4.9 ac ft of
storage/mile – was 1.5 ac ft)
- 10x Increase in livestock forage

1988



Riparian Chain Reaction

Adequate Vegetation:

Protects banks from excess erosion

Dissipates energy and slows the velocity of floodwater

Sediment dropped

Sediment trapped and stabilized

Floodplain / riparian sponge is enlarged

Increased groundwater recharge

Base-flow is sustained over time

The logo for Texas Parks & Wildlife is a teal square with a white border. It contains the text "TEXAS" at the top, "PARKS &" in the middle, and "WILDLIFE" at the bottom, all in white, uppercase, sans-serif font. Horizontal lines separate the words.

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