Root Systems of Prairie Plants

The fundamental basis for encouraging use of native plant species for improved soil erosion control in streams and stormwater facilities lies in the fact that native plants have extensive root systems which improve the ability of the soil to infiltrate water and withstand wet or erosive conditions. Native plant species, like those listed in this Guide, often have greater biomass below the surface. In this illustration, note the Kentucky Bluegrass shown on the far left, which, when compared to native grass and forb species, exhibits a shallow root system. Illustration provided by Heidi Natura of the Conservation Research Institute.

Kentucky Blue Grass *Poa pratensis*

Lead Plant *Amorpha canescens*

Missouri Goldenrod *Solidago missouriensis*

Indian Grass *Sorghastrum nutans*

Compass Plant *Silphium laciniatum*

Porcupine Grass *Stipa spartea*

Heath Aster *Aster ericoides*

Prairie Cord Grass *Spartina pectinata*

Big Blue Stem *Andropogon gerardii*

Pale Purple Coneflower *Echinacea pallida*

Prairie Dropseed *Sporobolus heterolepis*

Side Oats Gramma *Bouteloua curtipendula*

False Boneset *Kuhnia eupatorioides*

Switch Grass *Panicum virgatum*

White Wild Indigo *Baptisia leucantha*

Little Blue Stem *Andropogon scoparius*

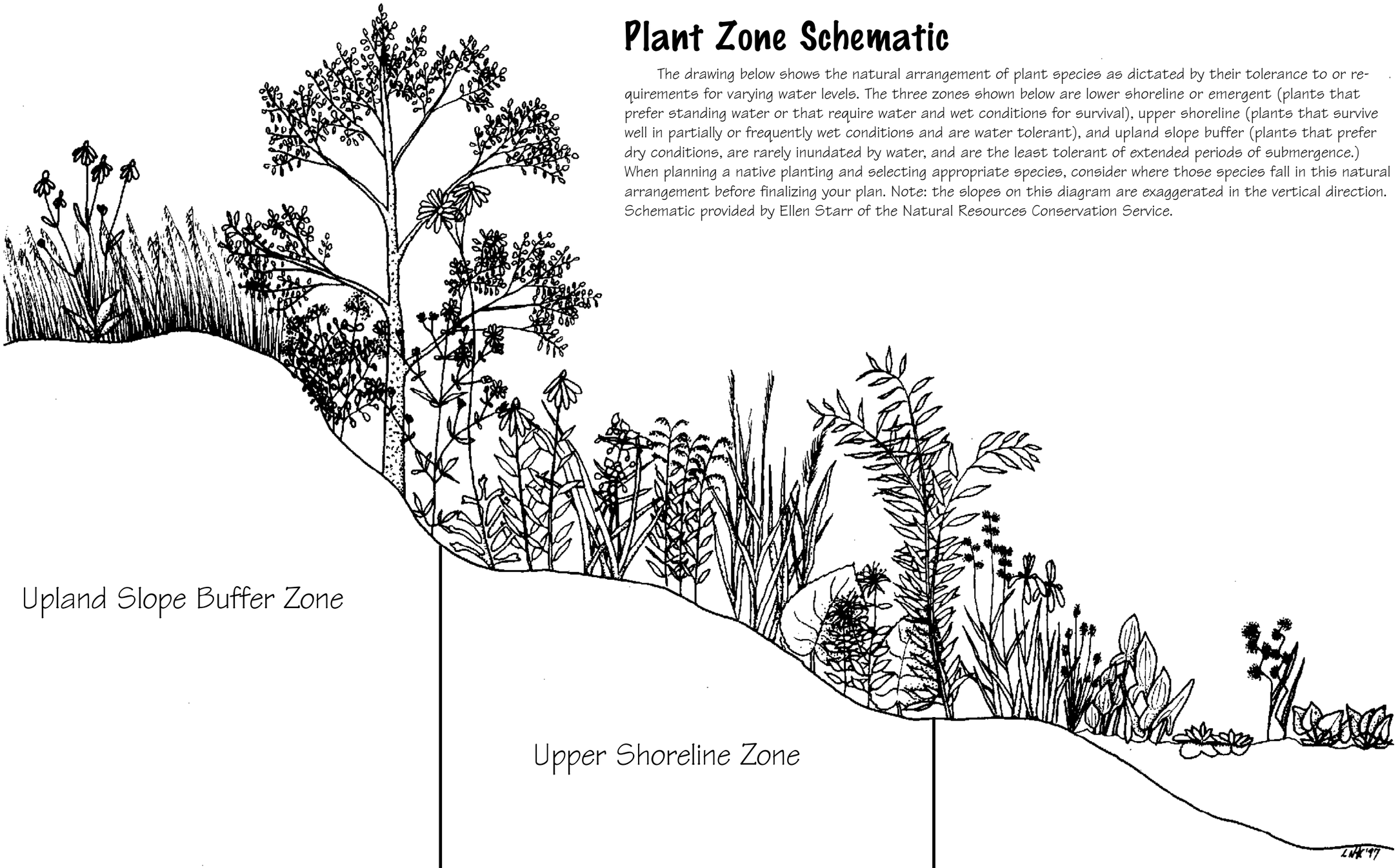
Rosin Weed *Silphium perfoliatum*

Purple Prairie Clover *Petalostemum purpureum*

June Grass *Koeleria cristata*

Cylindric Blazing Star *Liatris cylindracea*

Buffalo Grass *Buchloe dactyloides*

Plant Zone Schematic

The drawing below shows the natural arrangement of plant species as dictated by their tolerance to or requirements for varying water levels. The three zones shown below are lower shoreline or emergent (plants that prefer standing water or that require water and wet conditions for survival), upper shoreline (plants that survive well in partially or frequently wet conditions and are water tolerant), and upland slope buffer (plants that prefer dry conditions, are rarely inundated by water, and are the least tolerant of extended periods of submergence.) When planning a native planting and selecting appropriate species, consider where those species fall in this natural arrangement before finalizing your plan. Note: the slopes on this diagram are exaggerated in the vertical direction. Schematic provided by Ellen Starr of the Natural Resources Conservation Service.