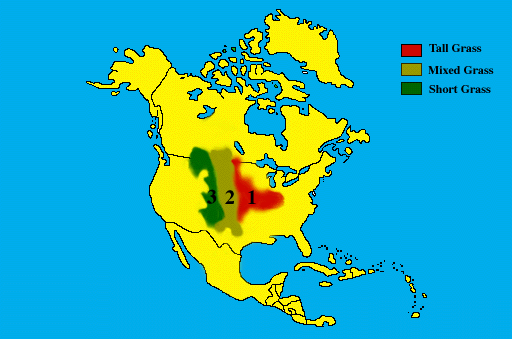
**Chapter 10 Grasslands**

**A prairie is a type of grassland that is predominantly covered by grasses and other plants, with few trees.**

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**Tall grass prairie.**



**The easternmost section of the North American grasslands, the tall grass prairie extends into regions of humid climate, both continental and subtropical With the extermination of the bison and the suppression of prairie fires in the late 1800s, that part of the prairie that had not been put under the plow reverted to oak-hickory forest in the US and to aspen woodland in the north, in Canada. Today prairie preserves are managed with controlled burns.**

**Tall Grass Prairie**

**What plants grow in tall grass prairie?**

**-There are some trees in this habitat, mainly on riverbanks, but also scattered in the grass. Species include cottonwoods, and American elm. Bur oak is the most**

**common upland prairie tree.**

**What animals inhabit tall grass prairies?**

**Mixed Grass Prairie**

**[](http://images.search.yahoo.com/images/view;_ylt=A0PDoV2JTl9QuC0AnxKJzbkF;_ylu=X3oDMTBlMTQ4cGxyBHNlYwNzcgRzbGsDaW1n?back=http%3A%2F%2Fimages.search.yahoo.com%2Fsearch%2Fimages%3Fp%3Dmiddle%2Bgrass%2Bprairie%26_adv_prop%3Dimage%26va%3Dmiddle%2Bgrass%2Bprairie%26fr%3Dyfp-t-701%26tab%3Dorganic%26ri%3D40&w=600&h=467&imgurl=aprairiehaven.com%2Fuploads%2Fimg43e2c3a4a8519.jpg&rurl=http%3A%2F%2Fwww.aprairiehaven.com%2F%3Fpage_id%3D4256&size=98.3+KB&name=close+view+of+the+center+of+the+prairie+with+side+oats+gramma+prairie+...&p=middle+grass+prairie&oid=b8c1b37ba617c93e15ebec64c42678ce&fr2=&fr=yfp-t-701&tt=close%2Bview%2Bof%2Bthe%2Bcenter%2Bof%2Bthe%2Bprairie%2Bwith%2Bside%2Boats%2Bgramma%2Bprairie%2B...&b=31&ni=96&no=40&ts=&tab=organic&sigr=11avckap6&sigb=14a8d0c5g&sigi=11efghu9s&.crumb=SCAKLBcutav)[](http://images.search.yahoo.com/images/view;_ylt=A0PDoV2JTl9QuC0AmxKJzbkF;_ylu=X3oDMTBlMTQ4cGxyBHNlYwNzcgRzbGsDaW1n?back=http%3A%2F%2Fimages.search.yahoo.com%2Fsearch%2Fimages%3Fp%3Dmiddle%2Bgrass%2Bprairie%26_adv_prop%3Dimage%26va%3Dmiddle%2Bgrass%2Bprairie%26fr%3Dyfp-t-701%26tab%3Dorganic%26ri%3D36&w=800&h=528&imgurl=www.tallgrassretreats.com%2FPrairie_chickens__2__op_800x528.jpg&rurl=http%3A%2F%2Fwww.tallgrassretreats.com%2FPrairie_Chickens.html&size=66+KB&name=Tallgrass+Spiritual+Retreat+Center+-+Prairie+Chickens&p=middle+grass+prairie&oid=fae57d91a0f369b12a1b31cc352e861f&fr2=&fr=yfp-t-701&tt=Tallgrass%2BSpiritual%2BRetreat%2BCenter%2B-%2BPrairie%2BChickens&b=31&ni=96&no=36&ts=&tab=organic&sigr=11miaps6n&sigb=14allgcmj&sigi=11t6276sh&.crumb=SCAKLBcutav)**

**-found in the middle portion of the Midwestern United States. The grasses here grow to be two to three feet tall. There is 15 to 25 inches of rain per year. This is the prairie where the buffalo once roamed.**

**Where can you find mixed prairie?**

**Sometimes called the Great Plains, North America’s mixed prairie habitat covers**

**approximately 140 million acres and ranges throughout North and South Dakota,Nebraska, and Kansas, and part of central Oklahoma and north central Texas.**

**What are the dominant features of mixed prairie habitats?**

**What kinds of plants are found in mixed prairies?**

**What kinds of animals are found in mixed prairies?**

**Why is the mixed prairie habitat rare?**

**Since European settlement, people have systematically converted North American**

**prairies to agricultural and development uses. After the construction of railroads, in just 30 years, settlers decimated the bison population and reduced the mammal’s numbers to 1,000 by 1889. Fire suppression also altered this fire-dependent landscape. North Americans exterminated many grassland animals that they considered pests, such as**

**prairie dogs. Today, only 30% of the original mixed grass prairie remain.**

**Major threats**

**Short Grass Prairie**

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**-found in the western portion of the Midwest hugging the edge of the deserts and the Rocky Mountains. The grasses here grow to be no more than two feet tall. There is little more than ten inches of rain per year. Prairie dogs are common in here.**

**What are the key features of a shortgrass prairie?**

**-Shortgrass prairies are characterized by harsh winters, low precipitation (in some places 10” a year is average, with most of it falling between May and July), a short growing season, and periodic, severe drought. In general, this is an arid climate where few trees can grow.**

**What plants grow in short grass prairie?**

**What animals lived in the shortgrass prairie?**

**What are people doing to protect and restore the short grass prairie?**

**-Conservation groups are working to**

**encourage ranchers to graze cattle in ways that mimic natural conditions (instead of**

**opposing grazing altogether).**

**-Reintroducing native grazers such as bison and prairie dogs.**

**-Planting native seedlings.**

**-Reintroducing the native black-footed ferret and bison.**

**Chapter 11 Urban plant life**



**WHAT NOT TO DO. This bed was planted at a city hall to show off the potential of native landscaping, but unfortunately the result was a weedy, unattractive flowerbed. Messy, jumbled, and too tall, the plants just flop over and result in a jumbled, undifferentiated mess of vegetation sprouting from the center of a parking lot. Tall plants such as cup plant (Silphium perfoliatum), big blue stem (Andropogon gerardii), and sweet coneflower (Rubeckie subtomentosum) grow so tall they should only be used in very large areas. Also, showy tick trefoil (Desmodium candense) is famous for its production of "stick tights," and is not a good ambassador for native plants – and the water-loving monkey flower (Mimulus ringens) and cardinal flower (Lobelia cardinalis) will be lost in the first drought.**

[](http://images.search.yahoo.com/images/view;_ylt=A0PDoX_.UF9QMxYAhwKJzbkF;_ylu=X3oDMTBlMTQ4cGxyBHNlYwNzcgRzbGsDaW1n?back=http://images.search.yahoo.com/search/images?p=urban+plant+species&fr=yfp-t-701&fr2=piv-web&tab=organic&ri=92&w=233&h=320&imgurl=upload.wikimedia.org/wikipedia/commons/thumb/5/5f/Plants_diversity.jpg/233px-Plants_diversity.jpg&rurl=http://www.urbanministry.org/wiki/natural-environment&size=31.2+KB&name=there+are+many+plant+species+on+the+planet&p=urban+plant+species&oid=c2e0cb05a01b72ad3277a3d3e53ecd27&fr2=piv-web&fr=yfp-t-701&tt=there+are+many+plant+species+on+the+planet&b=91&ni=88&no=92&ts=&tab=organic&sigr=11l26ickq&sigb=13dhha2on&sigi=131ngnckv&.crumb=SCAKLBcutav)

**-Cities in both, the US and Europe harbor more plant species than rural areas**

**-If the right (native) plants are used, and the site is managed properly until the native species re-seed and fill in any bare ground, an attractive, low-maintenance, low-input, cottage-garden style flowerbed of native wildflowers will result**

**-Unfortunately, many attempts at establishing native plantings in small-scale urban settings have not gone well, often resulting in overgrown, weedy, and generally unattractive flowerbeds. These failed plantings give native landscaping a bad name, and set back other efforts to use native plants in urban landscapes by providing “nay-sayers” an excuse to promote mowed grass and traditional landscaping. This is especially unfortunate because not only are native plantings low input, and lead to better soil and water quality, they also provide much-needed habitat for native birds, butterflies, pollinators, and other animals.**

**Many things can and do go wrong with native landscaping projects.**

**1.Site Preparation and Design**

**-A couple applications of herbicide and/or tilling won’t kill brome, crown vetch, red clover, and many other species that are problematic if present in a native planting -Time spent monitoring the re-appearance of problem species after herbicide treatment, prior to planting, is critical to success.**

**2.Inexperienced site designers:**

**-These sites are usually doomed from the outset – by the time someone realizes things have gone awry, the site is a weedy mess (quite possibly including undesirable native species) that would be an enormous, if not impossible job to correct. -Additionally, inappropriate species mixes are often selected by inexperienced designers (see “Plant Selection Problems”).**

**3.Plant Selection Problems**

**-establishing small prairie beds is not a case of just using the same mix of species found in “real” prairies. Also, plant species are often described with a height range, so it’s important to use the maximum height**

**Management problems and how to avoid them**

**Lack of monitoring and timely maintenance during establishment and beyond: There are many people, businesses and agencies that will assist in the design and installation of a native planting, but very few who offer to ensure that the site is managed properly both during establishment and later. It only takes one round of weeds being allowed to set seed before a site becomes a real challenge to recover. Let it go for a couple of years, and it can be almost impossible to bring it back to an attractive and functional state. A new native planting needs to be checked routinely for at least two growing seasons, and management (usually weed-pulling, sometimes introduction of new species based on success/failure of initial selection) must be done in a timely fashion (i.e., before weeds drop any seed or invade bare ground). After the bed has been filled in by a selection of successful species that have re-seeded into the empty spots, occasional monitoring for weeds is still needed. Monitoring is also needed after extremes of weather that may stress or kill selected species, even after several years of growth.**

**Also, unexpected soil conditions (draining faster or slower than predicted, non-uniform clay layers, etc.) or changes in environmental conditions (shade trees installed nearby post-planting, water flow changes, etc.) may cause some species to establish poorly. These are reasons why an experienced ecologist should repeatedly evaluate plant establishment in the first years after planting, and recommend new species (based on those that are thriving) to be planted in a timely manner. This monitoring should begin within a month of initial planting. Allowing bare or sparsely covered ground to remain only provides opportunity for weeds to establish**