



Chapter 5: The Blackland Prairies

Prior to Anglo-European settlement, a swath of tall grassland and scattered woods extended from the vicinity of present-day San Antonio to the Red River, covering more than eight million acres. After some decades of utilization as rangeland, this Blackland Prairie was broken and cultivated in the late nineteenth century. The water-retentive, calcareous dark clay soils yielded highly productive farmland, in contrast to the dry woodlands and sandy soils of adjacent regions. Similar soils occur in two separate belts of grasslands to the southeast, the Fayette Prairie and the San Antonio Prairie (so called because the original road from East Texas to San Antonio followed it); both areas were also grazed and cultivated beginning in the mid-nineteenth century. Dominant grasses of the prairies included little bluestem, big bluestem, Indiangrass, switchgrass, tall dropseed, eastern gammagrass, and many other grasses, with a profusion of composites, mints, legumes, and other forbs (Tharp 1926, Launchbaugh 1955, Riskind and Collins 1975).

The Blackland Prairies of central Texas are now among the most profoundly altered landscapes in the United States. Perhaps 99 percent of native grasslands have been converted to agricultural land or planted in non-native pasture grasses such as bermudagrass, Johnsongrass, Dallisgrass, and King Ranch bluestem (Riskind and Collins 1975). Many formerly abundant species such as big bluestem are now uncommon. Woody species have encroached in uplands; fallow pastures are dominated by weedy forbs such as nightshades and ragweeds (Dyksterhuis 1946). A second transformation in land use is now taking place as the suburbs of Dallas, Austin and other urban areas displace farms and ranches.

Plant Communities of the Blackland Prairies

27. Upland Vertisol tall grasslands.

Synonyms: Bluestem prairie (Küchler 1974); Little Bluestem-Indiangrass Series, in part (Diamond 1993); Little Bluestem-Yellow Indiangrass Herbaceous Alliance, in part (Weakley et al. 2000).

Description: Dark, calcareous Vertisols (e.g. Houston Black, Ferris, and Heiden associations) supported millions of acres of grassland on the rolling uplands of the Blackland Prairie, Fayette Prairie, and scattered inclusions in East Texas. Abundant grasses included little bluestem, Indiangrass, big bluestem, switchgrass, tall dropseed, sideoats grama, knotroot bristlegrass, Texas cupgrass, and littletooth sedge. A diverse array of forbs carpeted the prairies, including Maximilian sunflower, heath aster, coneflowers, prairie bluets, cusp gayfeather, prairie phlox, prairie-bishop, firewheel, winecups, compass plant, Indian-paintbrushes, goldenrods, noseburns, daleas, prairie bundleflower, lemon beebalm, and many other species. Upland grasslands were intermixed with stands of switchgrass and eastern gammagrass in wet areas. Invasion by mesquite, sumacs, sugarberry, and redcedar occurs in the absence of mowing or

other management (Collins et al. 1975, Smeins and Diamond 1983, Diamond and Smeins 1985, Amos 1986, Carr 1993, TPWD 1993).

Status: These grasslands vanished in less than a century. Today, fewer than 100 small unplowed remnants exist (Diamond and Smeins 1985). Most have been invaded by non-native grasses and clovers, weedy forbs, or woody plants. Most remaining examples are small tracts that were utilized as hay meadows. Protected acreage totals roughly 6,000 acres, with perhaps 1,000-2,000 acres relatively unaltered in species composition. The largest remnants in protected areas are located within the Cedar Hill State Park, Hagerman National Wildlife Refuge, and Clymer Meadow, Leonhardt Prairie, and County Line Prairie preserves owned by the Nature Conservancy of Texas. Small remnants of prairie are located at Eisenhower State Recreation Area and on lands owned by the city of Garland (Rosehill Prairie), the city of Benbrook, the city of Ennis (Kachina Prairie), Collin County (Parkhill Prairie), and the city of Dallas (TPWD 1990a; Eidson, O'Kennon, Singhurst, J. Williams pers. comm.).

Suggested Priority for Further Protection of Community: High

28. Upland Alfisol tall grasslands.

Synonyms: Little Bluestem-Indiangrass Series, in part (Diamond 1993); Little Bluestem-Yellow Indiangrass Herbaceous Alliance, in part (Weakley et al. 2000).

Description: Like most other central Texas grasslands, grass openings on Alfisols in the Post Oak Savannas, southeastern Blackland Prairie, and San Antonio Prairie are typically dominated by little bluestem, Indiangrass, switchgrass, longspike tridens, and rosettegrasses. Flowering plants include gayfeathers, green wild indigo, sunflowers, coreopsis, goldenrods, prairie rose-gentian, prairie bluets, bush-clovers, sennas, Texas croton, phloxes, firewheels, and pinweeds (Brackett 1939, Timmons 1942, Launchbaugh 1955, Collins et al. 1975, Yantis 1984, Diamond and Smeins 1985, Weakley et al. 2000, Eidson pers. comm.).

Status: There are very few protected examples of this community of significant size and quality. Small areas (less than 100 acres) are protected at Fort Parker and Cooper Lake State Parks and Somerville WMA (Singhurst pers. comm.).

Suggested Priority for Further Protection of Community: High

29. Switchgrass-gammagrass mesic tall grasslands.

Synonyms: Gammagrass-Switchgrass Series (Diamond 1993); Switchgrass-Eastern Gammagrass Herbaceous Alliance, in part (Weakley et al 2000).

Description: Low or poorly drained sites within the Blackland and Coastal Prairies originally supported tall grass communities dominated by switchgrass, eastern gammagrass, tall dropseed, and Indiangrass; other species included bluestems, Canada wildrye, sedges, Florida paspalum, asters, coneflowers, prairie acacia, and many other forbs (Collins et al. 1975, Smeins and Diamond 1983, Diamond and Smeins 1984). Switchgrass, gammagrass, and Indiangrass may form communities in mesic locations in grasslands throughout much of the state, including the Panhandle and Edwards Plateau.

Status: As with all native tall grasslands in Texas, virtually all examples have been plowed (USDA 1996). Approximately 3,400 acres are preserved statewide, with the best examples at the Hagerman National Wildlife Refuge and the Nature Conservancy's Clymer Meadow Preserve and Mathews Prairie, a property under conservation easement (Eidson, J. Williams pers. comm.). This is perhaps one of the most threatened vegetation types in Texas.

Suggested Priority for Further Protection of Community: High

30. Silveanus dropseed Alfisol tall grasslands.

Synonyms: Silveanus Dropseed Series (Diamond 1993); Silveus Dropseed Herbaceous Alliance (Weakley et al. 2000).

Description: Loamy uplands in the northeastern Blackland Prairie in Lamar and adjacent counties (more than 35 inches of annual rainfall) support a distinct, apparently natural grassland type dominated by Silveanus dropseed, Mead

sedge, and longspike tridens as well as species of mesic grasslands such as Indiangrass, big bluestem, Florida paspalum, rosettegrasses, and eastern gammagrass. Forbs include wild indigos, coreopsis, gayfeathers, yellow-puff, and many others (Collins et al. 1975, Weakley et al. 2000, Eidson pers. comm.).

Status: Like other native grasslands of eastern Texas, almost all examples have been cultivated or otherwise modified. The Nature Conservancy's Tridens Prairie protects a 97-acre remnant, and the City of Paris Gambill Goose Refuge protects a site of comparable size (Eidson pers. comm.).

Suggested Priority for Further Protection of Community: High

31. Deciduous mesic slope forests.

Synonyms: None.

Description: Mesic slopes in the Red and upper Trinity river basins (e.g. Dallas, Fannin, Hunt, and adjacent counties) support deciduous forests with calciphilic species. Trees include chinquapin oak, Shumard oak, and slippery elm, with white oak present from Fannin County east. Associated species include roughleaf dogwood, coralberry, caric-sedges, and a number of southeastern vernal forbs (Orzell 1990, Singhurst et al. 1998, Singhurst pers. comm.).

Status: This community has not been well studied and its status is unknown. Examples occur at Spring Creek Forest Preserve in the city of Garland, Pat Mayse WMA, Eisenhower State Park, and some municipal parks in the Dallas area (Singhurst pers. comm.)

Suggested Priority for Further Protection of Community: Medium

32. Bur oak-Shumard oak mesic forests.

Synonyms: Pecan-Sugarberry Series, in part (Diamond 1993).

Description: Mesic drainages and higher terraces of floodplains influenced by calcareous soils may support deciduous bottomland forests of bur oak, Shumard oak, elms, pecan, and green ash. Elms, sugarberry, pecan, and eastern cottonwood are dominant in lower floodplains. This type is common in north

Texas but also occurs throughout the Blackland Prairies and outer Coastal Plain. Associated species often include yaupon, roughleaf dogwood, elderberry, bois d'arc, Virginia wildrye, sedges, rattan-vine, Virginia-creeper, peppervine, autumn bluegrass, low ruellia, frostweed, and forbs typical of floodplain forests (Tharp 1926, TPWD 1978, Nixon et al. 1991, Singhurst et al. 1998).

Status: Many bottomland areas have been cleared for pasture or farmland. The Spring Creek Forest Preserve owned by the city of Garland contains a mature, possibly old-growth example (Nixon et al. 1991). Good examples also occur at Hagerman National Wildlife Refuge, Brazos Bend and Palmetto State Parks, Big Lake Bottom WMA, and Rochester Park and other parks in the city of Dallas (TPWD 1978; J. Williams, Singhurst pers. comm.).

Suggested Priority for Further Protection of Community: Medium

Table 5. Conservation areas in the Blackland Prairies, with types of vegetation occurring within each area.

Conservation Area and Manager	Vegetation Types Occurring in Area (fair condition or better)	Acreage of Conservation Area	Source of Information
Cedar Hill State Park (COE/TPWD), Dallas Nature Center, and Escarpment Preserve (Dallas County)	26 (7%),27 and 80 (17%),68b, 71b (40%)	1,810 (TPWD) 296 (Dallas Co.)	TPWD 1993,1996; Hellmann pers. comm.
Cedar Mountain Preserve (Dallas County)	71b	110	
Clymer Meadow Preserve (TNC)	27 (36%),29 (48%)	823	Eidson pers. comm.
Cottonwood Creek Preserve (Dallas County)	Not available	220	
County Line Prairie Preserve (TNC)	27 (40%),29 (12%)	40	Eidson pers. comm.
Eisenhower State Park	27 (19%),31, 71b (74%)	457	TPWD 1996, 1990a
Elm Fork Preserve (Dallas County)	26	22	Flood pers. comm.
Ennis Kachina Prairie (City of Ennis)	27 (75%)	25	
Fish Creek Preserve (Dallas County)	Not available	37	
Gambill Goose Refuge (City of Paris)	30 (16%)	670	Eidson pers. comm.
Goat Island Preserve (Dallas County)	Not available	294	
Granger State WMA (COE/TPWD)	26 (20%),77 (5%)	6,642 (land)	TPWD 1996
Grapevine Springs Park Preserve (Dallas County)	Not available	16	
Great Trinity Forest Park (City of Dallas)	26,32	210	Hellmann pers. comm.
Joppa Preserve (Dallas County)	26	114	
L. B. Houston Park (City of Dallas)	32	part of 476	Hellman pers. comm.
Leonhardt Prairie Preserve (TNC)	27 (95%)	40	Amos 1986
Lester Lorch Park (Dallas County)	Not available	82	
Mathews Prairie Preserve (TNC conservation easement)	29 (100%)	100	Eidson pers. comm.
McCommas Bluff Preserve (Dallas County)	21,71b,76b	111	Seaman pers. comm.
McKinney Falls State Park (TPWD)	26	630	
Monument Hill/Kreische Brewery State Historical Park (TPWD)	21 (42%),27 (25%)	40	TPWD 1996
Muddy Creek Preserve (Dallas County)	Not available	206	

North Mesquite Creek Preserve (Dallas County)	Not available	22	
Oak Cliff Preserve (NAPA)	32,71b	111	
Palmetto-Alligator Slough Preserve (Dallas County)	18,32,68b,76b	267	Seaman pers. comm.
Parkhill Prairie (Collin County)	27 (10%),29 (2%)	436	
Post Oak Preserve (Dallas County)	21	335	Flood pers. comm.
River Bend Preserve (Dallas County)	Not available	252	
Rochester Park (City of Dallas)	26,32	part of 985	
Rosehill Prairie (City of Garland)	27 (55%),29 (45%)	70	
Rowlett Creek Preserve (Dallas County)	Not available	96	
Spring Creek Forest Preserve (Dallas County)	26,31,32,71b,80	116	
Tenmile Creek Preserve (Dallas County)	Not available	47	
Tridens Prairie Preserve (TNC)	26 (5%),30 (95%)	97	Eidson pers. comm.
Trinity Island Preserve (Dallas County Audubon Society)	19,26,32?	40	
Trinity River Greenbelt Preserve (Dallas County)	76b	530	
Trinity River/Mountain Creek Preserve (Dallas County)	Not available	52	
Veda Farrington Preserve (NAPA)	32,71b,80?	314	
White Rock Creek Park/Greenbelt (City of Dallas)	31,32,80	part of 770	Singhurst pers. comm.
Windmill Hill Preserve (Dallas County)	Not available	75	
Woodland Basin Nature Area (City of Rowlett)	Not available	300	
Total: 18,000 acres (.18 percent of region)			
Abbreviations of Managing Entities: TPWD=Texas Parks and Wildlife Dept. USFWS=U.S. Fish and Wildlife Service COE=U.S. Army Corps of Engineers NAPA=Natural Area Preservation Assoc. TNC=Nature Conservancy of Texas			