

HISTORY OF PRESERVATION IN THE UNITED STATES

In 1847, U.S. Congressman George Marsh called attention to the devastating impact of deforestation, and by the late 19th century many other prominent government officials, including President Benjamin Harrison, became concerned with the environment (Library of Congress, n.d.).

President Theodore Roosevelt signed the American Antiquities Act of 1906, established the Nation's first National Monument in Wyoming (the Devil's Tower National Monument), and also founded a national monument in Arizona known as the Petrified Forest National Monument. Since Roosevelt's administration, numerous presidents have also been committed to preserving natural areas (Library of Congress, n.d.).

Congress established the Forest Service (under the U.S. Department of Agriculture) in 1905 to provide quality water and timber for the benefit of the nation. Over the years, their mission has expanded to include managing national forests, ensuring land productivity, protecting environmental quality, and sustaining renewable resources such as water, forage, wildlife, wood, and recreation. There are currently 154 national forests and 20 grasslands encompassing 193 million acres, or approximately 8.5% of the continental United States land area (U.S. Department of Agriculture Forest Service, 2013).

The creation of a National Park Service was the culmination of a process that began many years before the founding of Yellowstone National Park in 1872. Incidents at Niagara Falls, in

which tolls were charged to visitors and cheap concessions and souvenirs were sold, as well as filth and squalor taking place, led a concerned Congress to take action to protect Yosemite Valley when similar exploitation began in the 1850's. It was clear that some sort of government protection was needed. In 1864, Yosemite Valley and a nearby grove of Giant Sequoias were turned over to the State of California to be managed as a public park. Yosemite Valley was later merged with Yosemite National Park in 1906 (Dilsaver, 2000).

NATURAL RESOURCES AND RECREATION LEGISLATION

As stated in *Title 54-National Park Service and Related Programs*, the most recent update of the National Park Service Organic Act (which became law on August 25, 1916), the purpose of the National Park Service is "is to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (U.S. House of Representatives, 2018).

Since the signing of the National Park Service Organic Act, much legislation has been directed at preserving the Nation's natural resources, including:

➤ **Outdoor Recreation Act, 1963**

- Established the Bureau of Outdoor Recreation
- Charged to provide technical assistance to states, local governments, and private interests to promote

conservation and utilization of recreation resources

(John F. Kennedy Presidential Library and Museum, n.d.)

➤ **Wilderness Act, 1964**

- Established the National Wilderness Preservation System which currently includes 765 wilderness areas (110,005,113 acres) in 44 states and Puerto Rico (Wilderness Connect, 2017)
- Defined wilderness as a place where the landscape is affected primarily by the forces of nature and where humans are visitors who do not remain
- Wilderness Areas designated by Congress are composed of existing federal lands that have retained a wilderness character

(Wilderness.net, n.d.b)

➤ **Wild and Scenic Rivers Act, 1968**

- Established system of areas distinct from the traditional park concept to protect river environment
- Preserved selected rivers and maintains their free-flowing condition

(National Park Service [NPS], 2018b)

➤ **National Trails System Act, 1968**

- Established national system of recreational, scenic, and historic trails
- Prescribed methods and standards for adding components to the system

(NPS, 2018a)

➤ **Endangered Species Act, 1973**

- Requires federal agencies to ensure actions do not jeopardize the continued existence of any endangered or threatened species
- Prohibits destruction or adverse modifications of critical habitat

(U.S. Fish and Wildlife Service [FWS], n.d.)

The Department of the Interior is now the nation’s principal conservation agency. It manages “some 70,000 people, including expert scientists and resource-management professionals, in nine technical bureaus” (U.S. Department of Interior, n.d.). It is a large, decentralized agency that manages about one-fifth of the land in the United States and includes:

➤ **Bureau of Land Management**

- 245.7 million acres of managed land
- 27 National Monuments
- 20 National Conservation Areas and other similar designations
- 224 Wilderness Areas (8.8 million acres)
- 517 Wilderness Study Areas (12.6 million acres)
- 69 Wild and Scenic Rivers (1,001,358 acres, or 2,423 miles)
- 13 National Historic Trails (5,078 miles)
- 5 National Scenic Trails (683 miles)
- 1 Forest Reserve (7,542 acres)

(Bureau of Land Management, 2018)

➤ **Bureau of Reclamation**

- 7.1 million acres managed
- 289 recreation areas
- 338 reservoirs
- Operates 53 hydroelectric power plants

(Bureau of Reclamation, 2018)

➤ **Fish and Wildlife Service**

- 150 million acres managed
- 2,412 protected species under the Endangered Species Act, with 1,669 in the United States
- 566 National Wildlife Refuges
- 38 Wetland management districts

(FWS, 2018a,b,c)

➤ **National Park Service**

- 84 million acres managed
- Consists of 417 units that include
 - 59 National Parks
 - 129 Historical Parks/Sites
 - 87 National Monuments
 - 25 Battlefields or Military Parks
 - 19 Preserves
 - 18 National Recreation Areas
 - 10 National Seashores
 - 4 National Lakeshores
 - 4 Parkways
 - 101 Other Designations

(NPS, 2017)

The designation of a specific area depends on several factors. Oftentimes the only difference in the designation of a federally protected area is the managing agency. For instance, National Forests fall under the Department of Agriculture and National Parks fall under the

Department of the Interior. Permissible usage also factors into the equation. If hunting, trapping, and mineral extraction are permitted in a protected area, the area will be designated a National Preserve instead of a National Park.

PRESERVATION OF NATURAL AREAS IN TEXAS

Texas' land area exceeds 268,000 square miles or approximately 170 million acres. It occupies approximately 7% of the total land and water area of the United States (Texas Almanac, 2018). The State contains 254 counties, which include twelve ecoregions (Texas Parks & Wildlife Department [TPWD], 2012b). Despite its large expanse, the state has relatively few federally protected natural areas:

➤ **National Wilderness Preservation System**

- Five wilderness areas managed by the National Forest Service
- One wilderness area managed by the National Park Service
- Total of 85,165 acres

(Wilderness.net, n.d.a)

➤ **U.S. Fish and Wildlife Service**

- 20 Wildlife Refuges
- Over 641,682 acres
- Majority located along the Gulf of Mexico

(FWS, 2018a&d)

➤ **National Park Service**

- Alibates Flint Quarries National Monument
- Amistad National Recreation Area
- Big Bend National Park – 801,163 acres
- Big Thicket National Preserve – 106,684 acres
- Chamizal National Memorial
- El Camino Real de Los Tejas Historic Trail – 2,580 miles, passes through San Antonio
- El Camino Real de Tierra Adentro Historic Trail – extends 404 miles from El Paso, Texas, to San Juan Pueblo, New México
- Fort Davis National Historic Site
- Guadalupe Mountains National Park
- Lake Meredith National Recreation Area
- Lyndon B. Johnson National Historical Park
- Padre Island National Seashore – 70 miles
- Palo Alto Battlefield National Historic Site

- Rio Grande Wild & Scenic River
 - San Antonio Missions National Historical Park
 - Waco Mammoth Site
- (NPS, 2017b)

WILDLIFE MANAGEMENT AREAS

Operated by the Wildlife Division of TPWD, wildlife management areas (WMAs) were established as sites to perform research on wildlife populations and habitat, conduct education on resource management, and provide a variety of outdoor recreation activities. There are currently 47 WMAs encompassing 714,094 acres of Texas. These areas are established to represent habitats and wildlife populations typical of each ecological region of Texas. With the exception of driving tours and special education events, WMAs require special permits for visitors (TPWD, n.d.c).

STATE NATURAL AREAS (SNAs)

The designation "Natural Area" is very similar to a state park. In general, SNAs are smaller than parks and require additional land use restrictions. There are currently seven SNAs in Texas (TPWD, n.d.b).

WETLANDS

Texas has the 4th largest wetland acreage in the lower 48 states and is one of the most important wintering areas for waterfowl in North America (TPWD, 2017). Wetlands comprise approximately 5% of the total land area of the state (over 9 million acres) (U. S. Department of Agriculture, 2015).

PRESERVATION IN BANDERA, BEXAR, COMAL, AND KENDALL COUNTIES

These four counties occupy a unique place in the state. Of the twelve distinct ecoregions in Texas, three converge in Bexar County:

➤ **Texas Blackland Prairie**

- Ranked as the most critically threatened ecoregion in the state
- Only an estimated 5,000 acres remain in their historic condition in terms of plant species

(TPWD, 2012c)

➤ **Edwards Plateau**

- Unique flora associated with karst (limestone, cave, spring, stream systems) – has the highest number of plant endemism of any ecoregion in the state
- Of the 400 endemic plants that grow in Texas, over 100 can be found only in the Edwards Plateau Ecoregion.

(TPWD, 2012a)

➤ **East Central Plains (Post Oak Savanna)**

- Mostly of level to rolling terrain, characterized by dense brush
- Priority for TPWD because of insufficient habitats to sustain many of the region’s threatened plants, animals, and communities

(TPWD, 2012d)

Bandera, Comal, and Kendall counties lie primarily within the Edwards Plateau region but Comal County also abuts the Blackland Prairie. Together these four counties are home to 43 designated Endangered and/or Threatened species:

THREATENED/ENDANGERED SPECIES	
✦ 2 Amphibians	✦ 11 Birds
✦ 6 Arachnids	✦ 1 Crustacean
✦ 3 Fish	✦ 5 Insects
✦ 4 Mammals	✦ 2 Plants
✦ 5 Reptiles	✦ 4 Mollusks
(TPWD, n.d.a)	

Within these counties are several state designated areas:

➤ **Bexar County**

- Government Canyon State Natural Area
 - Consists of more than 12,011 acres just outside San Antonio

➤ **Bandera County**

- Hill Country State Natural Area
 - 5,369.8 acres
 - Located in Bandera & Medina Counties, 45 miles northwest of San Antonio
- Lost Maples State Natural Area
 - 2,174.2 acres
 - Located in Bandera and Real Counties
- Albert and Bessie Kronkosky State Natural Area
 - 3,814 acres

- Still in the planning and design phase of development (not yet open)

➤ **Comal County**

- Honey Creek State Natural Area
 - 2,293.7 acres
 - Located in western Comal County, 30 miles north of downtown San Antonio
- Guadalupe River State Park
 - 1,938.7 acres
 - Located along the boundary of Comal and Kendall Counties
 - 4 miles of river frontage and is located in the middle of a 9-mile stretch of the Guadalupe River

➤ **Kendall County**

- Guadalupe River State Park

(TPWD, n.d.b)

PRESERVATION WITHOUT STATE/FEDERAL DESIGNATION

94 percent of Texas land is privately owned (TPWD, 2012a). Numerous avenues are available to individuals wishing to conserve and protect open spaces. The National Parks Service’s Rivers, Trails, and Conservation Program, in its publication Open Space: Protecting Open Space: Tools and Techniques (n.d.a), describes ten techniques available to Texans who want to preserve their land for the future. Included are:

- **Bargain Sale-** A landowner can conserve land and make a profit from the sale by agreeing to sell the property to a public or nonprofit agency for less than the fair market value. The seller benefits from charitable donation and reduced capital gains taxes and the municipality or nonprofit gets the land at a reduced price.
- **Parkland/Trail Dedication-** Also called an exaction, a local government enacts ordinances requiring subdivision developers to dedicate park or trail land, or to pay a fee that the government entity then uses to purchase and develop park/trail facilities.
- **Zoning for Conservation-** Municipal governments enact zoning ordinances that isolate specific resources not protected by existing zoning. Commonly protected by zoning are floodplains, wetlands, watersheds, historic districts and archeological areas.

- **Trail Easements-** Landowner grants the use of a corridor across private property for public access purposes. The easement constitutes a partial interest in the property – the right of the easement holder (government or trail management organization) to enter the property, develop a trail facility within a designated corridor, and allow use of the trail. Easements are recorded in deed records and are binding to future owners of the property. Trail easements are not usually in perpetuity as is the case with other types of easements.
- **Conservation Easements-** Permanently protects land from development while allowing ownership to remain private. Initiated by property owner in partnership with a nonprofit organization with a conservation mission (usually a land trust) or a public agency, CEs legally restrict what use can be made of the land. Restrictions may be voluntarily placed by landowner and landowner retains all rights not specifically restricted by the easement. There are significant savings for landowners in property, income, and estate or inheritance taxes. Conservation easements are usually irrevocable.
- **Purchase of Development Rights (PDR)-** Governmental or nonprofit agency essentially purchases a conservation easement. Landowner retains rights as in a conservation easement, but benefits from the value of its development potential. PDR is less expensive than outright land purchase and the landowner, not the purchase agency, is responsible for land management.
- **Transfer of Development Rights (TDR)-** Two areas are designated by ordinance: a sending area in which development is restricted and a receiving area where development is permitted. Development potential from the sending area is transferred to the receiving area, increasing the allowable development in the latter and permanently protecting the former.
- **Limited Development Option-** The landowner can subdivide the land and

conserve a portion while developing another. Deed restriction and easements can be placed on both parcels of land.

- **Conservation Subdivisions-** In general, the number of houses allowed in a space are usually designated per acre. In this case, the same number of houses are placed in a denser concentration to provide a shared open space.
- **Deed Restrictions-** Requires homebuyers to agree to certain terms that place restrictions and limits on the use of the property.

(NPS, n.d.a)

As of December 2015, 1,363 land trusts operated in the United States, some protecting small acreages, others protecting whole ecosystems. A land trust is a local, state or regional nonprofit organization directly involved in protecting land for its natural, recreational, scenic, historical or productive value. 56,434,181 acres of land were protected through land trusts. In Texas, 1,642,607 acres of land were reported to be protected by 32 active land trust organizations (Land Trust Alliance, 2016).

Numerous other conservation organizations work to conserve land and resources.

- *Green Spaces Alliance of South Texas*, formerly known as the Bexar Land Trust, founded in 1998, serves Bexar, Kendall, Guadalupe, Comal, Bandera, Atascosa, Wilson and Medina Counties. Its mission is to “sustain the natural environment and enhance urban spaces through land conservation, community engagement and education.” In San Antonio it funds and facilitates community gardens and a youth nature photography program” (Green Spaces Alliance of South Texas, n.d.).
- *The Nature Conservancy of Texas* owns more than 38 nature preserves and conservation properties, and helps monitor more than 130 voluntary land-preservation agreements that allow private landowners to conserve their land. In its history, the Nature Conservancy of Texas along with its partners has protected 900,000 acres throughout the state (The Nature Conservancy, 2018).

- *Cibolo Nature Center* studies and promotes various land stewardship techniques through a combination of research, volunteer, education, and arts activities. The Center protects four distinct ecosystems on 1,300 acres within the Cibolo Watershed (Cibolo Nature Center, 2018).

Preservation efforts address the serious consequences associated with declines in biodiversity. Ultimately, the health and livelihood of all wildlife species depends on the preservation of natural habitats and nature reserves. Preservation not only benefits wildlife species and local and regional environments, but provides numerous individuals with a source of entertainment and relaxation.

REFERENCES

- Bureau of Land Management. (2018). *Public land statistics: 2017*. Retrieved from <https://www.blm.gov/about/data/public-land-statistics>
- Bureau of Reclamation. (2018). *About us – fact sheet*. Retrieved from <https://www.usbr.gov/main/about/fact.html>
- Cibolo Nature Center. (2018). *Conserve*. Retrieved from, <http://www.cibolo.org/about/conserve.html>
- Dilsaver, L. (Ed.). (2000). *America's national park system: The critical documents*. Retrieved from https://www.nps.gov/parkhistory/online_books/anps/anps_toc.htm
- Green Spaces Alliance of South Texas. (n.d.). *Land conservation & stewardship*. Retrieved August 16, 2018, from <https://greensatx.org/conservation/>
- John F. Kennedy Presidential Library and Museum. (n.d.). *Legislative summary: Natural resources: 1963*. Retrieved August 13, 2018, from <https://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/Legislative-Summary-Main-Page/Natural-Resources.aspx>
- Land Trust Alliance. (2016). *National land trust census*. Retrieved from <http://www.landtrustalliance.org/census-map/#>
- Library of Congress. (n.d.). *Documentary chronology of selected events in the development of the American conservation movement, 1847-1920*. Retrieved August 13, 2018, from <http://memory.loc.gov/ammem/amrvhtml/cnchron1.html>
- National Park Service (NPS). (n.d.). *Open space: Protecting open space: Tools and techniques*. Retrieved August 16, 2018, from <https://focus.nps.gov/RTCA/AssetDetail/c04affa7-41d6-48ce-90b2-ae72c09c215a>
- National Park Service (NPS). (2017a). *NPS Overview*. Retrieved from <https://www.nps.gov/aboutus/upload/NPS-Overview-02-09-17.pdf>
- National Park Service (NPS). (2017b). *Texas*. Retrieved from <https://www.nps.gov/state/tx/index.htm>
- National Park Service (NPS). (2018a). *The National trails system act*. Retrieved from <https://www.nps.gov/subjects/nationaltrailssystem/index.htm>
- National Park Service (NPS). (2018b). *Wild and scenic rivers program*. Retrieved from <https://www.nps.gov/orgs/1912/index.htm>
- The Nature Conservancy. (2018). *Texas: Places we protect*. Retrieved from <https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/texas/placesweprotect/index.htm>
- Texas Almanac. (2018). *The physical State of Texas*. Retrieved from <http://texasalmanac.com/topics/environment/environment>
- Texas Parks & Wildlife Department (TPWD). (n.d.a). *Rare, threatened, and endangered species of Texas by county*. Retrieved August 16, 2018, from <http://tpwd.texas.gov/gis/rtest/>
- Texas Parks & Wildlife Department (TPWD). (n.d.b). *Texas state parks*. Retrieved August 16, 2018, from <https://tpwd.texas.gov/state-parks/nearby/all-parks>
- Texas Parks & Wildlife Department (TPWD). (n.d.c). *Wildlife management areas of Texas*. Retrieved August 16, 2018, from <http://tpwd.texas.gov/huntwild/hunt/wma/>
- Texas Parks & Wildlife Department (TPWD). (2012a). *Texas conservation action plan 2012–2016: Edwards plateau handbook*. Retrieved from http://tpwd.texas.gov/landwater/land/tcap/documents/edpt_tcap_2012.pdf
- Texas Parks & Wildlife Department (TPWD). (2012b). *Texas conservation action plan 2012–2016: Statewide/multi-region handbook*. Retrieved from <https://tpwd.texas.gov/landwater/land/tcap/>
- Texas Parks & Wildlife Department (TPWD). (2012c). *Texas conservation action plan 2012–2016: Texas blackland prairies handbook*. Retrieved from http://tpwd.texas.gov/landwater/land/tcap/documents/tbpr_tcap_2012.pdf
- Texas Parks & Wildlife Department (TPWD). (2012d). *Texas conservation action plan 2012–2016: Texas east central plains (post oak savanna) handbook*. Retrieved from http://tpwd.texas.gov/landwater/land/tcap/documents/ecpl_tcap_2012.pdf
- Texas Parks & Wildlife (TPWD). (2017). *2018 Texas outdoor recreation plan*. Retrieved from http://tpwd.texas.gov/business/grants/pwd_rp_p4000_1673_TORP.pdf
- U.S. Department of Agriculture. (2015). *2012 National resources inventory: Summary report*. Retrieved from <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/nri/>
- U.S. Department of Agriculture Forest Service. (2013). *By the numbers*. Retrieved from <https://www.fs.fed.us/about-agency/newsroom/by-the-numbers>
- U.S. Department of Interior. (n.d.). *Bureaus and offices*. Retrieved August 13, 2018, from <https://www.doi.gov/bureaus>
- U.S. Fish and Wildlife Service (FWS). (n.d.). *Endangered species act of 1973*. Retrieved August 13, 2018, from <https://www.fws.gov/laws/lawsdigest/esact.html>
- U.S. Fish and Wildlife Service (FWS). (2018a). *2017 Annual lands report and data tables*. Retrieved from <https://www.fws.gov/refuges/land/LandReport.html>
- U.S. Fish and Wildlife Service (FWS). (2018b). *About the U.S. Fish and Wildlife Service*. Retrieved from https://www.fws.gov/help/about_us.html
- U.S. Fish and Wildlife Service (FWS). (2018c). *Endangered species*. Retrieved from <https://www.fws.gov/endangered/>
- U.S. House of Representatives. (2018). *Office of the Law Revision Counsel: United States Code: Title 54-National park service and related programs*. Retrieved from <http://uscode.house.gov/view.xhtml?path=&req=%28title%3A54+section%3A100101+edition%3Aprelim%29+OR+%28granuleid%3AUSC-prelim-title54-section100101%29&f=treesort&fq=&num=0&hl=false&edition=prelim>
- Wilderness.net. (n.d.a). *List wilderness areas by location: Texas*. Retrieved August 16, 2018, from <http://www.wilderness.net/NWPS/stateView?state=TX>
- Wilderness.net. (n.d.b). *The Wilderness act of 1964*. Retrieved August 13, 2018, from <http://www.wilderness.net/nwps/legisact>
- Wilderness Connect. (2017). *The Beginnings of the National Wilderness Preservation System*. Retrieved from <https://www.wilderness.net/NWPS/fastfacts>