

PRATT

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

SOUTHWESTERN KANSAS

1:100,000 SCALE MAPS

PRATT SW

NATIONAL WETLANDS INVENTORY
1:100,000 MAP NARRATIVE
Pratt SW

INTRODUCTION

The U.S. Fish and Wildlife Service, Division of Habitat Resources is conducting an inventory of the wetlands of the United States. The National Wetlands Inventory (NWI) is establishing a wetland data base in both map and computer forms for the entire country. The NWI information will serve to identify the current status of U.S. wetlands and can be used as a reference point from which future changes in wetlands can be evaluated.

PURPOSE

The purpose of Notes to Users is to provide general information regarding the production of NWI maps and wetlands found within the same physiographic area. Notes to Users are not intended to include a complete description of all wetlands found in the area nor provide complete plant species information.

MAP PRODUCTION

The wetland classifications that appear on these National Wetland Inventory Base Maps are in accordance with Cowardin, et. al. (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photographs taken on various dates from June to September of 1985.

Limited initial field checking and ground truthing was conducted in June, 1986 to determine the general biologic and hydrologic systems of the area, and the degree of accuracy that could be portrayed by the condition and date of photography relative to those observed at that time.

The user of the map is cautioned that, due to the limitations of mapping primarily through aerial photointerpretation, a small percentage of wetlands may have gone unidentified. Changes in landscape could have occurred since the time of photography; therefore, some discrepancies between map and current field conditions may exist. Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any federal, state, or local government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specific

agency regulatory programs and proprietary jurisdictions that may affect such activities. Any discrepancies encountered in the use of the maps should be brought to the attention of Regional Wetlands Coordinator; U.S. Fish and Wildlife Service, Region 6, P.O. Box 24586, Denver, Colorado, 80225. Aerial photointerpretation was completed by Martel Laboratories, Inc., St. Petersburg, Florida.

GEOGRAPHY

The area covered by this study is between 99° and 100°W longitude and 37° and 37°30'N latitude, roughly southwestern Kansas.

Bailey's Ecoregion Classification (1980) identifies this area as Humid Temperate Domain, Prairie Division, Tall-Grass Prairie Province, Bluestem-Gramma Prairie Section (2533).

The eastern tall-grass prairie is characterized by flat and rolling plains with relief of less than 300 ft. The dominant natural vegetation includes many species of tall and mid grasses such as western wheatgrass, blue gramma, buffalograss, western ragweed, foxtail barley, switchgrass and sandgrass. Prickly pear and sand sage are also common in drier areas. Woody vegetation is rare except on the cottonwood floodplains. Very little of the natural vegetation remains as over 90% of the area is farmed, primarily for winter wheat, soybeans, and corn.

CLIMATE

The average annual rainfall is 20-24 inches, occurring predominantly from April to September. Evaporation and precipitation almost balance on a yearly basis and is therefore considered a subhumid climate. However, this area approaches a situation where evaporation rates exceed precipitation. Annual temperatures can range from highs over 110°F to lows of -20°F.

WETLAND COMMUNITIES

The Cimarron River located in southern Clark County is, in this area of Kansas, a permanent flowing river (R2UBH) with numerous flats flooded on a temporary or seasonal basis (R2USC, R2USA). Increased flow is credited to the decrease of pivot irrigation and the numerous tributaries, many which are spring fed, that empty into the Cimarron. Historically, however, the water level in the river was two to three feet higher, but due to the reduction in surface flow and the drastic drop of the Ogallala aquifer, the level has been reduced.

Riparian forested vegetation surrounding the Cimarron are temporarily flooded or upland with very little seasonal flooding. Large forested and shrub stands of eastern cottonwood (Populus deltoides), willows (Salix spp.), and salt cedar (Tamarix gallica) are common along the present floodplain (PFOA, PSSA) and upper terraces of the Cimarron. Emergent species of three square

(Scirpus americanus), water parsnip (Sium sp.), horsetail (Equisetum sp.), spikerushes (Eleocharis spp.), sedges (Carex spp.) (Cyperus sp.) (PEMC) are common on the lower flats that are seasonally flooded (PEMC). Foxtail barley (Hordeum jubatum), goldenrod (Solidago sp.), dock (Rumex sp.), lambsquarter (Chenopodium album), and smartweed (Polygonum sp.) dominate the drier river flats and understory in the willow-saltcedar-cottonwood wetland associations (PEMA, PSS/EMA).

Cavalry Creek, Sand Creek, East Kiowa Creek, Middle Kiowa Creek and the Nescatunga Creek support larger and wetter floodplains than the other creeks and streams in the mapping area but are still considered intermittent streams (R4SBF, R4SBC). These creeks are fed by numerous springs and support a variety of emergent and shrub vegetation from temporary to seasonal, with some rare instances of semipermanently flooded wetlands.

Big Sandy Creek, Bluff Creek, Rattlesnake Creek, Medicine River, Salt Fork, Mule Creek, and other smaller streams and creeks of the study area are characterized by marked reduction in streamflow with little wetland floodplain (R4SBF, R4SBC, R4SBA). The smallest creeks and un-named water courses are often reduced to pockets or disconnected linear segments of emergents because of agricultural practices. These emergent species are primarily foxtail barley, smartweed, and western wheatgrass (Agropyron smithii) that can adapt to the drier and more disturbed conditions.

Playa wetlands comprise a major source of wildlife habitat in Southwestern Kansas. State officials estimate, however, that over 90% of the basins present at the turn of the century have been actively altered or completely drained. In addition, the severe depletion of groundwater sources has cut off the natural recharge leaving less than 30% of the original basins still hydrologically active.

As a result, much of the natural diversity and variability of the habitat has been lost. The vast majority of the basins observed during field reconnaissance had surface water lasting only brief periods, generally after heavy rains or early in the spring; only enough to delay tillage a few weeks (PEMA). Common species for these wetland basins include foxtail barley, little barley (Hordeum pusillum), frogbite (Phyla cuneifolia), burr ragweed (Ambrosia grayii), smartweed, and spikerushes.

Seasonally flooded basins in this area support a more diverse community of emergents. In addition to the temporary species found along the periphery, these basins will also support a central zone of smartweed, spikerush, three square, sedges, dock, and occasionally cattail (Typha latifolia) or hardstem bullrush (Scirpus acutus) in the wettest zones.

Thousands of small (less than 20 acres) palustrine wetlands have been created by impoundments and excavations. The degree of flooding of these wetlands is a function of size and depth and the amount of surface drainage. Because of the nature of the water levels, drawdown and pioneering plants are the most effective invaders of the exposed flats of these small impoundments. Fireweed (Kochia sp), cocklebur (Xanthium strumarium), white clover (Melilotus albus), and common sunflower (Helianthus sp) are the most prevalent species. Because these species are considered pioneering, the waterbodies are classified as unconsolidated shore when seasonally or temporarily flooded (PUSCh, PUSAh). Semipermanently flooded impoundments, on the other hand, are considered to be stable enough to support aquatic species by the end of the growing season. Species such as duckweed (Lemna sp.), and algae (Endomorpha sp.) are expected in this situation (PABFh).

Pits and dugouts are considered to be unvegetated regardless of their size and permanence. The steep sides, rocky walls, and sterile bottoms offer little support to wetland plant growth. In addition, they are often poor in organic nutrients needed to support aquatic plant and animal life (PUSCx, PUSAx, PUBFx).

Lacustrine:

Lacustrine water bodies (greater than 20 acres) have been formed by adding impounding structures to the larger streams and creeks, or by large excavation operations along the rivers. The impounded lakes, generally known as "state lakes", are important wildlife and recreation areas. These lakes are considered to be permanent deep-water habitats (L1UBHh L1UBHx). Clark County State Lake is located in the north western section of Pratt SW. The northern end of Clark County State Lake supports a variety of palustrine wetland vegetation both herbaceous and woody. The more stable water supply lends itself to the establishment of species such as cattail, smartweed, dock, willow sapling, cottonwood, and green ash (Fraxinus pennsylvanica) (PEMFh, PEMCh, PSSCh, PSSAh, PFOAh).

Coldwater Reservoir, another large lacustrine-limnetic system, can be found just west of Coldwater. This reservoir or state lake contains sloping areas which are saturated. Although no ponding or surface water is present, the water table remains close to the surface throughout the growing season. This area contained an almost pure stand of three square (PEMB). The north end of this reservoir supports palustrine wetlands ranging from temporarily to semipermanently flooded, with such species as three-square cattail, goldenrod, duckweed, willow, and cottonwood (PEMCh, PEMAh, PSSCh, PSSAh, PFOAh).

SOILS

Soil is an important indicator of hydric conditions and is one of the basic criteria used in the definition of wetlands as defined by Cowardin et al. (1979). These soil surveys provide important collateral information which is important in understanding the general area including land use. The Soil Conservation Service (SCS) has published soil surveys that cover only the western section of Pratt SW. Soil surveys have not been published for Kiowa and Comanche counties which cover the eastern part of Pratt SW.

Soils listed by the SCS as having hydric characteristics include Ness and Randall soils were found to support basin-related hydric vegetation.

Soil surveys used for this study area are from the following counties:

Clark
Ford

PLANT LIST

(species listed as most commonly observed)

WOODY

PSSC

indigo bush (Amorpha fruticosa) (OBL)
rough leaf dogwood (Corus drummondii) (FAC)
seep willow (Baccharis salicina) (FAC)

PSSA

willow (Salix spp.) (FAC-OBL)
salt cedar (Tamarix gallica) (FACW)
russian olive (Elaeagnus angustifolia) (FAC)

PFOA

eastern cottonwood (Populus deltoides) (FAC-DRA)
green ash (Fraxinus pennsylvanica) (FACW)

U

American elm (Ulmus americana) (FAC)
locust (Gleditsia sp) (FAC)
catalpa (Catalpa speciosa) (FACU)
hackberry (Celtis occidentalis) (FACU)
mulberry (Morus rubra) (FACU)
walnut (Juglans sp) (FACU)

HERBACEOUS

PABF

duckweed (Lemna minor) (OBL)
watermeal (Wolffia sp.) (OBL) (Wolffia)
algae (Endomorpha sp.) (OBL)

PEMF

cattail (Typha latifolia) (OBL)
arrowhead (Sagittaria sp) (OBL)
hardstem bullrush (Scirpus acutus) (OBL)

PEMB

three square (Scirpus americanus) (OBL)

PEMC

three square (Scirpus americanus) (OBL)
fox sedge (Carex vulpinoidea) (OBL)
water parsnip (Sium sp.) (OBL)
sedge (Carex sp.) (Cyperus sp.) (FACW-OBL)
dock (Rumex sp.) (FAC-OBL)
horsetail (Equisetum, sp.) (FACW)

PEMA

needle spikerush (Eleocharis acicularis) (OBL)
smartweed (Polygonum spp.) (FACU-OBL)
foxtail barley (Hordeum jubatum) (FACW)
saltgrass (Distichlis spicata) (FACW)
barnyard grass (Echinochola crusgalli) (FACW-DRA)
goldenrod (Solidago sp.) (FACU-FACW)
marsh elder (Iva sp.) (FAC)
frogbite (Phyla cuneifolia) (FAC) (AKA: Lippia cuniata)
little barley (Hordeum pusillum) (FAC)
burr ragweed (Ambrosia grayii) (FAC)
yellow clover (Melilotus officinalis) (FACU-DRA)
lambsquarter (Chenopodium album)

U

showy milkweed (Asclepias speciosa) (FAC)
fireweed (Kochia sp.) (FACU)
cocklebur (Xanthium strumarium)
sand verbenia (Abronia fragrans)
japanese brome (Bromus japonicus) (FACU)
downy brome (Bromus tectorum)
buffalo grass (Buchloe dactyloides) (FACU)
western wheatgrass (Agrophron smithii) (FAC-FACU)
bull thistle (Cirsium sp.) (FACU)
common ragweed (Ambrosia artemisiifolia) (FACU-DRA)
pigweed (Amaranthus retroflexus) (FACU)
sand sage (Artemisia filifolia)
poison ivy (Rhus radicans)
Schenardus paniculatus
Festuca oxtiflora
Haplopappus ciliatus
common sunflower (Helianthus sp.)
primrose (Oenothera grandous)
wild plum (Prunus americana)
bedstraw (Gallium sp.)
prickly poppy (Argemone sp.)
white clover (Melilotus albus)

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION/SUBSTRATE
R2UB	Riverine - Lower Perennial Unconsolidated Bottom	River	Unvegetated: Sand, mud, gravel
R2US	Riverine - Lower Perennial Unconsolidated Shore	River bank River bar, Sand bar River island	Unvegetated: Sand, mud, gravel
R4SB	Riverine - Intermittent Stream bed	Creek, Stream Canal	Unvegetated: Sand, mud, gravel organic Vegetated: Pioneering species (non-emergent)
PFO	Palustrine - Forested	River forest Riparian River/Creek bed	Vegetated: Eastern Cottonwood (<u>Populus deltoides</u>) Green Ash (<u>Fraxinus pennsylvanica</u>) Hackberry (<u>Celtis occidentalis</u>) American Elm (<u>Ulmus americana</u>)
PSS	Palustrine - Scrub Shrub	River shrub River bank	Willow (<u>Salix</u> spp.) Salt Cedar (<u>Tamarix gallica</u>) Russian Olive (<u>Elaeagnus angustifolia</u>)
PEM	Palustrine - Emergent	Marsh, Playa, Basins, Slowmoving or drying stream or river choked with emergents "wallow" "mudhole"	Three Square (<u>Scirpus americanus</u>) Smartweed (<u>Polygonum</u> spp.) Foxtail Barley (<u>Hordeum jubatum</u>) Western Wheatgrass (<u>Agropyron smithii</u>) Spikerush (<u>Eleocharis</u> spp.)

NWI CODE	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION/SUBSTRATE
PAB	Palustrine Aquatic bed	Pond, Impoundment, Slow moving or drying stream or river choked with aquatics, Beaver dams	Dock (<u>Rumex</u> sp.) Water Parsnip (<u>Sium</u> sp.) Cattail (<u>Typha latifolia</u>) Duckweed (<u>Lemna</u> sp.) Watermeal (<u>Wolffia</u> sp.) Algae (<u>Endomorpha</u> sp.)
PUB	Palustrine - Unconsolidated Bottom	Reuse pit Gravel pit	Unvegetated: Gravel, Sand, mud Vegetated: Pioneering species
PUS	Palustrine - Unconsolidated Shore	Impoundment Reuse pit	Unvegetated: Sand, mud, gravel Vegetated: Pioneering species
L1UB	Lacustrine - Limnetic Unconsolidated Bottom	Lake, Reservoir	Unvegetated Sand, mud, gravel
L2US	Lacustrine Littoral Unconsolidated Shore	Lake flat Drawdown	Unvegetated: Sand, mud, gravel Vegetated: Pioneering species

COLLATERAL DATA

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SPECIAL INTERPRETATION CONSIDERATIONS:

Wetland basin signatures range from slight changes in soil tones to very distinct colors and textures. Interpretation was conservative on basins south of Protection, Kansas as the June 28, photography appears wetter than ground truthing indicated. The majority of wetlands were found to be temporarily flooded (PEMA) with very few seasonally flooded basins (PEMC). Sheet water also present on this date of photography restricted delineations to central zones. Soil surveys, topographic information, and photo overlap comparisons were used to determine the best classification of the basins.

Kiowa, Nescatunga, Calvalary, and Sand Creeks support wetter and broader wetland floodplains, not necessarily restricted to the channel or adjacent banks. Forested areas were found to be on higher terraces and for the most part to be uplandbut did support some wetland communities. These signatures and conditions were restricted only to these creeks.