NUMBER

DRAWING NUMBER

DRAWING NUMBER
3695-213

DRAWING

PLAN HOLD CORPORATION • IRVINE, CALIFORNIA
REORDER BY NUMBER 075AR

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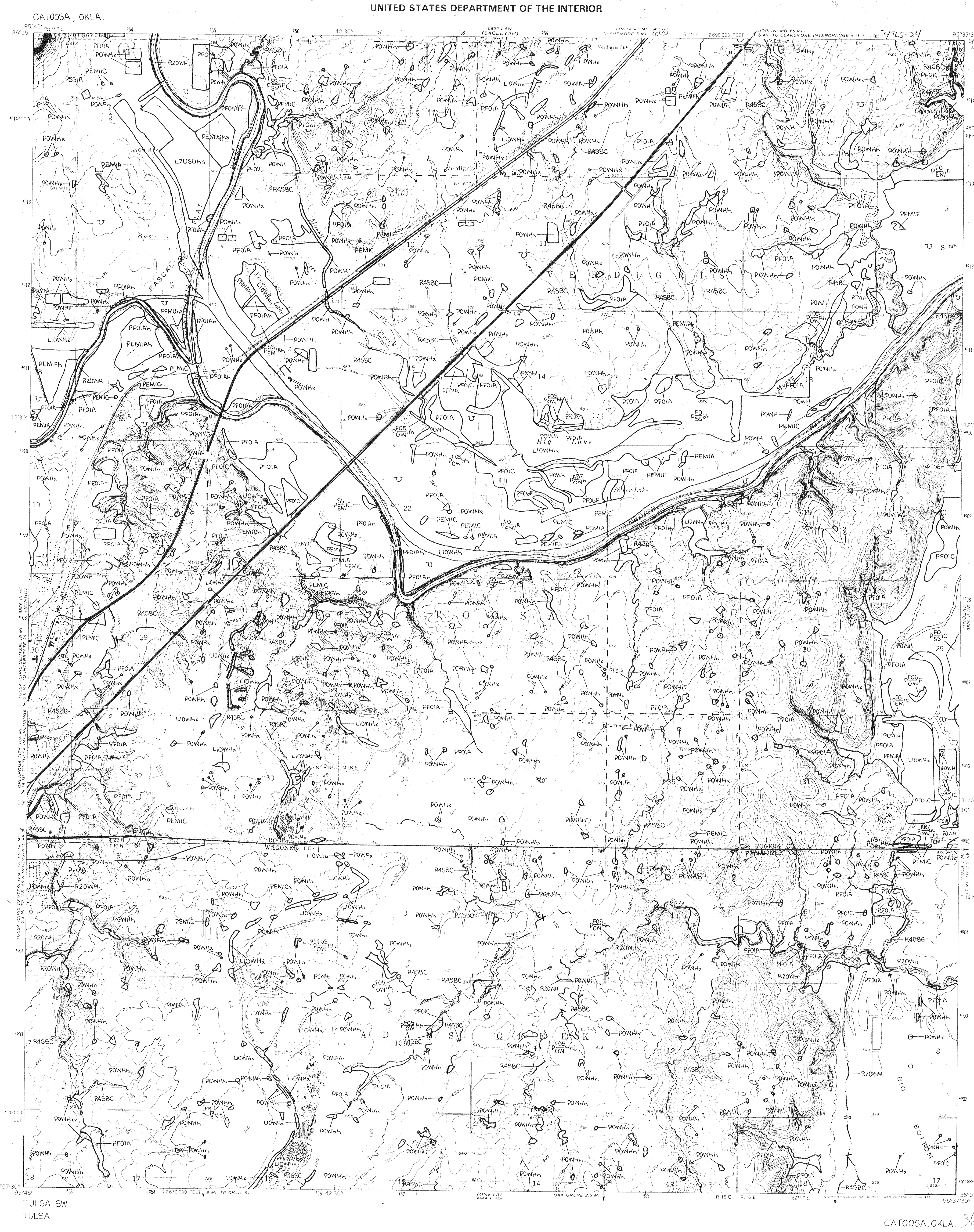
NATIONAL WETLANDS INVENTORY
UNITED STATES DEPARTMENT OF THE INTERIOR

CATOOSA, OKLA.



TULSA SW
TULSA

CATOOSA, OKLA. 3695—213

SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

Other information concerning the wetland resources depicted on this document may be available. For information, contact:

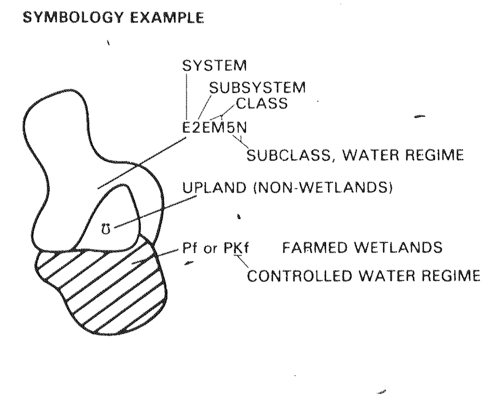
Regional Director (ARDE) Region II
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, New Mexico 87103

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with **Classification of Wetlands and Deep-Water Habitats of the United States** (An Operational Draft), Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

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 the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the 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 specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Some areas designated R4SB, R4SBW, or R4SBJ (intermittent streams) may not meet the definition of wetlands.

AERIAL PHOTOGRAPHY

DATE: 4 / 80
SCALE: 1:58 000
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DATE: / /
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DATE: / /
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U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Prepared by Office of Biological Services
for the National Wetlands Inventory

WETLAND LEGEND

U — Primarily represents **upland** areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.

ECOLOGICAL SYSTEM — E — ESTUARINE

Ecological Subsystem: 1 — Subtidal

CLASS	Subclass
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 4 Floating-leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
RF — REEF	2 Mollusc, 3 Worm
OW — OPEN WATER/Unknown Bottom	

Ecological Subsystem: 2 — Intertidal

CLASS	Subclass
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent, 7 Unknown Surface
RF — REEF	2 Mollusc, 3 Worm
FL — FLAT	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
SB — STREAMBED	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
RS — ROCKY SHORE	1 Bedrock, 2 Boulder, 6 Vegetated Non-pioneer
BB — BEACH/BAR	1 Cobble/Gravel, 2 Sand
EM — EMERGENT	1 Persistent, 2 Nonpersistent, 3 Narrow-leaved Nonpersistent, 4 Broad-leaved Nonpersistent, 5 Narrow-leaved Persistent, 6 Broad-leaved Persistent
SS — SCRUB/SHRUB	1 Broad-leaved Deciduous, 3 Broad-leaved Evergreen, 4 Needle-leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
FO — FORESTED	1 Broad-leaved Deciduous, 3 Broad-leaved Evergreen, 4 Needle-leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen

ECOLOGICAL SYSTEM — M — MARINE

Ecological Subsystem: 1 — Subtidal

CLASS	Subclass
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent
RF — REEF	1 Coral, 3 Worm
OW — OPEN WATER/Unknown Bottom	

Ecological Subsystem: 2 — Intertidal

CLASS	Subclass
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent
RF — REEF	1 Coral, 3 Worm
FL — FLAT	1 Cobble/Gravel, 2 Sand, 3 Mud, 6 Vegetated Non-pioneer
RS — ROCKY SHORE	1 Bedrock, 2 Boulder, 6 Vegetated Non-pioneer
BB — BEACH/BAR	1 Cobble/Gravel, 2 Sand

ECOLOGICAL SYSTEM — P — PALUSTRINE (No Subsystem)

CLASS	Subclass
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating-leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
FL — FLAT	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
ML — MOSS/LICHEN	1 Moss, 2 Lichen
EM — EMERGENT	1 Persistent, 2 Nonpersistent, 3 Narrow-leaved Nonpersistent, 4 Broad-leaved Nonpersistent, 5 Narrow-leaved Persistent, 6 Broad-leaved Persistent
SS — SCRUB/SHRUB	1 Broad-leaved Deciduous, 2 Needle-leaved Deciduous, 3 Broad-leaved Evergreen, 4 Needle-leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
FO — FORESTED	1 Broad-leaved Deciduous, 2 Needle-leaved Deciduous, 3 Broad-leaved Evergreen, 4 Needle-leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
OW — OPEN WATER/Unknown Bottom	

ECOLOGICAL SYSTEM — L — LACUSTRINE

Ecological Subsystem: 1 — Limnetic

CLASS	Subclass
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating-leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
OW — OPEN WATER/Unknown Bottom	

Ecological Subsystem: 2 — Littoral

CLASS	Subclass
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating-leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
FL — FLAT	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
RS — ROCKY SHORE	1 Bedrock, 2 Boulder
BB — BEACH/BAR	1 Cobble/Gravel, 2 Sand
EM — EMERGENT	2 Nonpersistent, 3 Narrow-leaved Nonpersistent, 4 Broad-leaved Nonpersistent
OW — OPEN WATER/Unknown Bottom	

ECOLOGICAL SYSTEM — R — RIVERINE

Ecological Subsystem: 1 — Tidal; 2 — Lower Perennial; 3 — Upper Perennial; 4 — Intermittent; 5 — Unknown Perennial

CLASS	Subclass
EM — EMERGENT(1)	2 Nonpersistent, 3 Narrow-leaved Nonpersistent, 4 Broad-leaved Nonpersistent
RB — ROCK BOTTOM	1 Bedrock, 2 Boulder
UB — UNCONSOLIDATED BOTTOM	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
AB — AQUATIC BED	1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating-leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
FL — FLAT	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
SB — STREAMBED	1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
RS — ROCKY SHORE	1 Bedrock, 2 Boulder
BB — BEACH/BAR	1 Cobble/Gravel, 2 Sand
OW — OPEN WATER/Unknown Bottom	

(1) EM — EMERGENTS are only found in the **Riverine Tidal** and **Riverine Lower Perennial** Ecological Subsystem. All other classes are found in all Riverine Ecological Subsystems.

MODIFYING TERMS

In order to more adequately describe wetland and aquatic habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME(1)

Non-Tidal: A Temporary; B Saturated; C Seasonal; D Seasonal Well-drained; E Seasonal Saturated; F Semipermanent; G Intermittently Exposed; H Permanent; J Intermittently Flooded; K Artificial; Z Intermittently Exposed/Permanent; W Intermittently Flooded/Temporary; Y Saturated/Semipermanent/Seasonal; U Unknown

Tidal: K Artificial; L Subtidal; M Irregularly Exposed; N Regular; P Irregular; R Seasonal Tidal; S Temporary Tidal; T Semipermanent Tidal; V Permanent Tidal; U Unknown

WATER CHEMISTRY

Coastal Salinity: 1 Hyperhaline; 2 Euhaline; 3 Mixohaline (Brackish); 4 Polyhaline; 5 Mesohaline; 6 Oligohaline; 0 Fresh

Inland Salinity: 7 Hypersaline; 8 Eusaline; 9 Mixosaline; 0 Fresh

pH Modifiers for all Fresh Water: a Acid; t Circumneutral; i Alkaline

SOIL: g Organic; n Mineral

SPECIAL MODIFIERS: b Beaver; d Partially Drained/Ditched; f Farmed; h Diked/Impounded; r Artificial; s Spoil; x Excavated

(1) Information on the water regime modifiers found on this legend, but not found in the classification system, may be obtained from the above listed source.