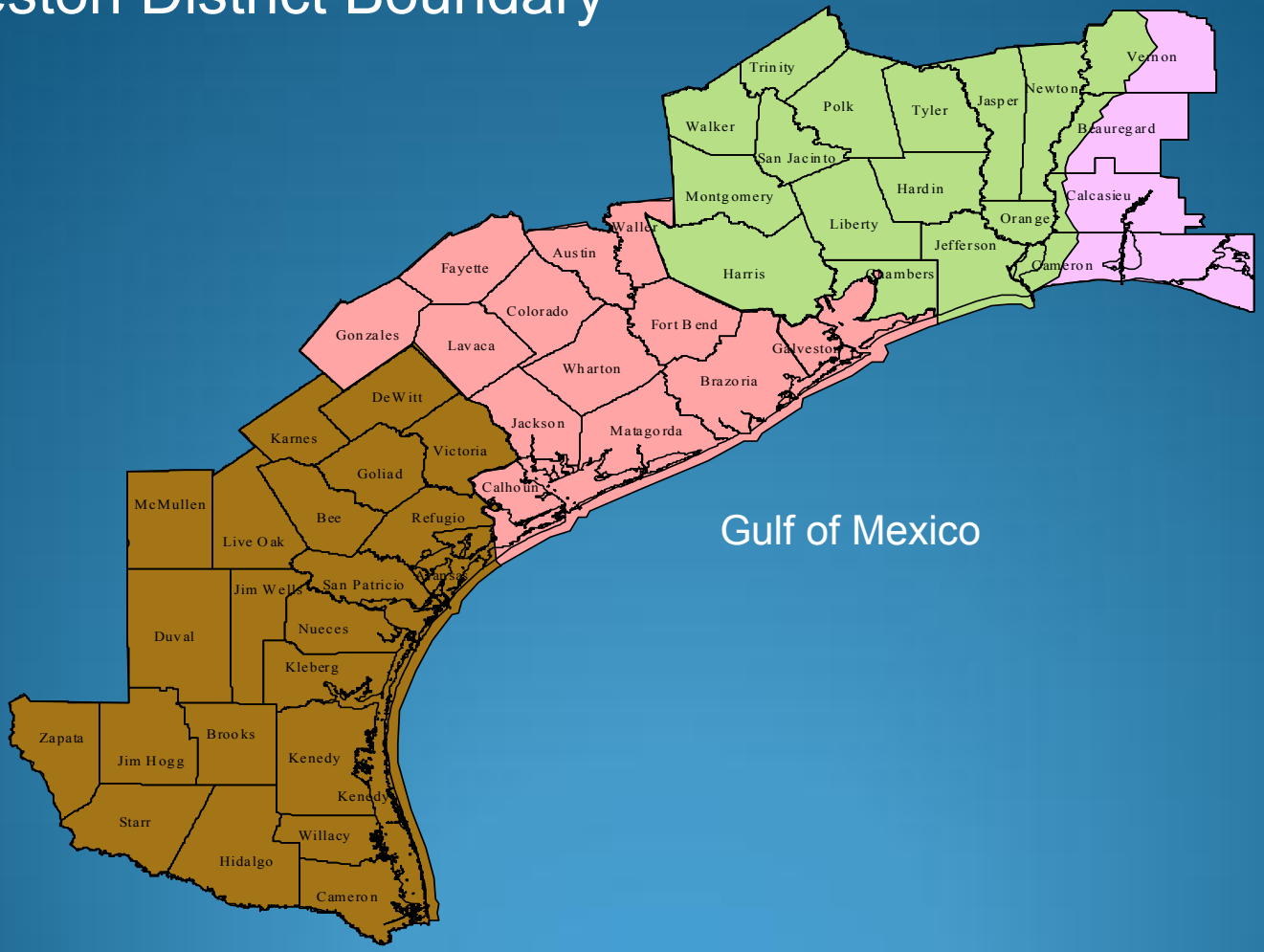
U.S. Army Corps of Engineers Galveston District

How Wetlands Influence Development

Galveston District Boundary



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Main laws that regulate projects

Section 10 of the Rivers and Harbors Act – regulates work and/or structures in navigable waters of the United States.

Section 404 of the Clean Water Act – regulates the discharge of dredged and/or fill material into waters of the United States.

Fill Material

Material that has the effect of replacing a water of the U.S. with dry land or changing the bottom elevation of a water of the U.S. Examples include rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining, etc.


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Waters of the United States

- Waters used for interstate commerce including all tidal waters (navigable)
- Interstate waters, including wetlands
- Intrastate waters that could affect interstate commerce
- Impoundments of waters of the United States
- Tributaries of waters of the United States
- Wetland adjacent to waters above

Non-Waters

- Non-tidal drainage and irrigation ditches excavated on dry land that do not have relatively permanent flow.
- Artificially irrigated areas that would revert to uplands if irrigation ceased.
- Artificial lakes and ponds created by excavating or diking dry land to collect water for stock watering, irrigation, settling basins, or rice growing.

Non-Waters

- Artificial reflecting or swimming pools or other water bodies excavated from dry land to retain water for primarily aesthetic reasons
- Waterfilled depressions created in dry land incidental to construction and pits excavated in dry land for obtaining fill, sand, or gravel until abandoned and the resulting body of water meets the definition of waters of the United States

Definition of Wetlands

Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

What makes a wetland?

- Hydrology (water)
- Hydrophytic plants (plants adapted for wet conditions)
- Hydric (wet) soils

Wetland Functions

- Flood retention
- Improve water quality
- Protect shorelines from erosion
- Filter pollutants from stormwater
- Provide habitat for fish and wildlife
- Produce nutrients and detritus for the food chain


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Wetland Delineations

- The 1987 Wetland Delineation Manual will be modified and will maintain the technical guidance and procedures.
- The regional supplements contain wetland indicators, delineation guidance, and other information specific to the particular region.

US Army Corps of Engineers

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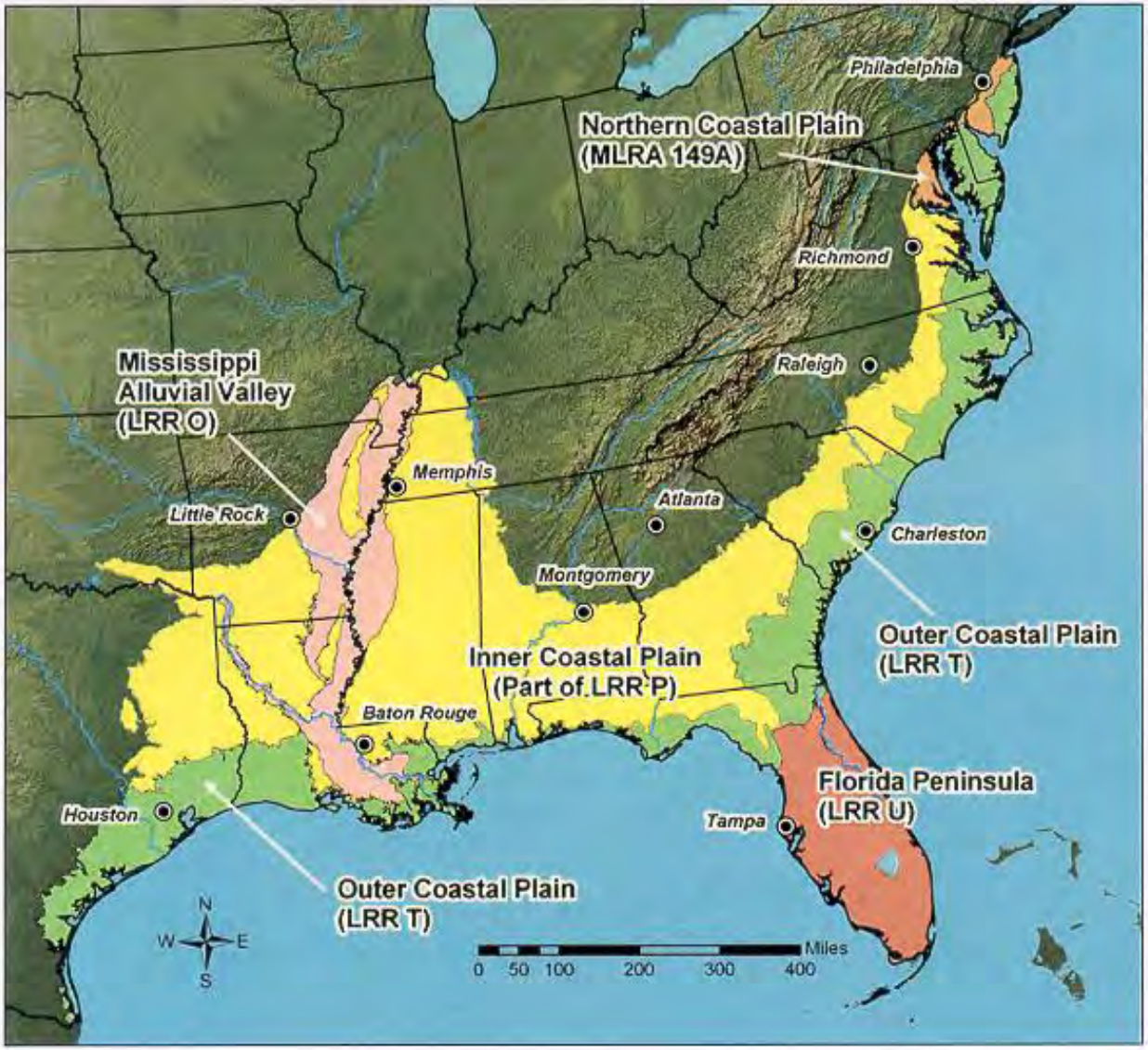
Actual or anticipated release dates for Regional Supplements (as of 13 Jan 2012).

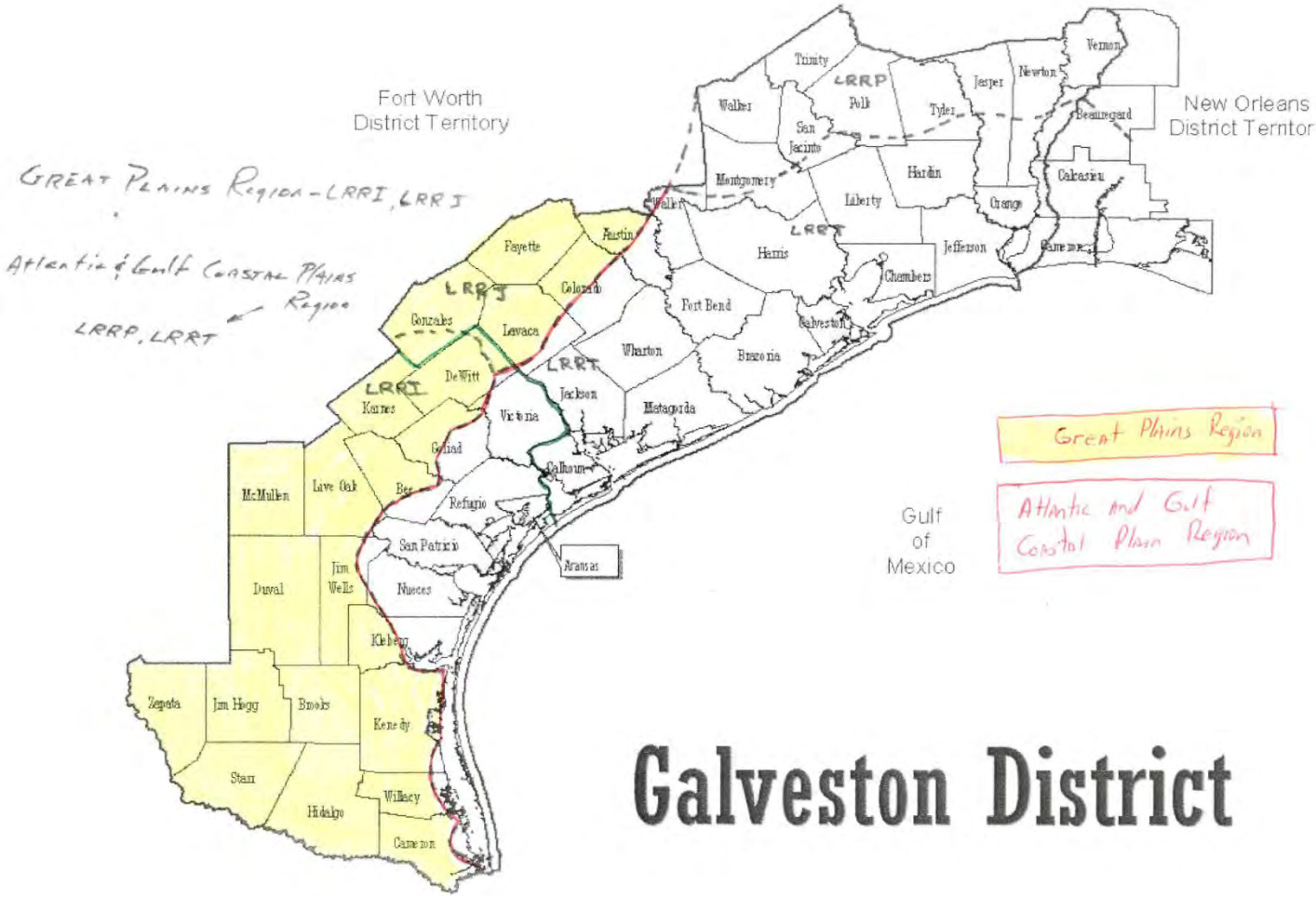
Region	Release Date	
	Interim Supplement	Version 2.0
Alaska	March 2006	October 2007
Arid West	December 2006	November 2008
Great Plains	April 2008	April 2010
Western Mountains, Valleys, Coast	May 2008	June 2010
Midwest	October 2008	September 2010
Atlantic and Gulf Coastal Plain	December 2008	November 2010
Caribbean Islands	October 2009	March 2011
Northcentral and Northeast	February 2010	January 2012
Hawaii and Pacific Islands	July 2010	March 2012
Eastern Mountains and Piedmont	September 2010	May 2012

Delineation Manual Supplement

- Galveston District covered by Atlantic and Gulf Coastal Plain Region and Great Plains Region Supplements.
- Methods will remain in 1987 Wetland Delineation Manual.
- Supplements cover regional indicators.
- Most changes in hydrology and hydric soils.
- New data sheet.


Northern Great Plains
(LRR F)
Black Hills
(MLRA 62)
Minneapolis
Western Great Plains
(LRR G)
Lincoln
Denver
Kansas City
Central Great Plains
(LRR H)
Albuquerque
Amarillo
Southwestern Prairies
(LRR J)
Houston
Southwest Plateaus & Plains
(LRR I)
N
W
E
S
Miles
0 50 100 200 300


Philadelphia
Northern Coastal Plain
(MLRA 149A)
Richmond
Raleigh
Mississippi
Alluvial Valley
(LRR O)
Memphis
Little Rock
Atlanta
Charleston
Montgomery
Outer Coastal Plain
(LRR T)
Inner Coastal Plain
(Part of LRR P)
Baton Rouge
Florida Peninsula
(LRR U)
Houston
Tampa
Outer Coastal Plain
(LRR T)
N
W
E
S
0 50 100 200 300 400
Miles


Fort Worth
District Terntory
New Orleans
District Terntor
GREAT PLAINS REGION - LRRI, LRRJ
Atlantic & Gulf Coastal Plains Region
LRRP, LRRT
LRRP
LRRT
LRRJ
LRRI
Trinity
Walker
Polk
Tyler
Jasper
Newton
Vernon
Beauregard
Calcasieu
San Jacinto
Montgomery
Hardin
Liberty
Orange
Jefferson
Chambers
Harris
Galveston
Brazoria
Fort Bend
Wharton
Matagorda
Austin
Colorado
Fayette
Gonzales
Lavaca
DeWitt
Karnes
Jackson
Victoria
Goliad
Calhoun
Refugio
Aransas
San Patricio
Bee
Live Oak
McMullen
Duval
Jim Wells
Nueces
Kleberg
Zapata
Jim Hogg
Brooks
Kenedy
Starr
Willacy
Hidalgo
Cameron
Gulf of Mexico
Great Plains Region
Atlantic and Gulf Coastal Plain Region
Galveston District

Atlantic & Gulf Coastal Plain

- Boundary determined by NRCS Land Resource Regions (LRR) and Major Land Resource Areas (MLRA)
- LRRs and MLRAs have broad transition zones tens or hundreds of miles wide
- Investigator must use experience and good judgment to select appropriate supplement and indicators based on physical and biological characteristics in transition zones

Atlantic & Gulf Coastal Plain

- For wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover during the peak of the growing season
- Use National Wetland Plant List 2012 for all plant indicator status beginning 1 June 2012.

Vegetation Strata

- 1987 Manual
  - Trees
  - Saplings/Shrubs
  - Woody Vines
  - Herbs
- Atlantic & Gulf Coastal
  - Trees
  - Saplings
  - Shrubs
  - Woody Vines
  - Herbs

Vegetation

- 1987 Manual
  - Use + and – modifiers on indicator status
  - Use 30-foot sampling radius for tree and woody vines strata
  - Use 5-foot radius for sapling/shrub and herb strata
- Atlantic & Gulf Coastal
  - Drop + and – modifiers on indicator status
  - Use 30-foot sampling radius for tree, sapling, shrub, woody vine and herb strata

Vegetation

- 1987 Manual
  - 50/20 Rule to select dominants
  - > 50% of dominants FAC or wetter
  - Use 50/20 rule and dominance determination across all strata
- Atlantic & Gulf Coastal
  - 50/20 Rule to select dominants
  - > 50% of dominants FAC or wetter (Dominance Test)
  - Use 50/20 rule within the stratum and the dominance test across all strata

Atlantic & Gulf Coastal Plain

- Species dominant in two or more strata are counted two or more times in the dominance test
- Use absolute percent cover in determining areal coverage and do not convert to relative cover
- Absolute percent cover is used in the prevalence index calculation

Atlantic & Gulf Coastal Plain

- Rapid test for hydrophytic vegetation (new)
  - All dominant species across all strata are OBL or FACW based on visual assessment
  - Dominant species are selected visually from each stratum using the 50/20 rule.
  - No need to gather quantitative data and only the dominant species in each stratum must be recorded on the data form.

Atlantic & Gulf Coastal Plain

- Dominance Test
  - Estimate absolute percent cover for *every* species
  - Rank all species in the stratum from most to least abundant
  - Calculate the total coverage for all species in the stratum (probably will not equal 100 percent)
  - Select species from the ranked list until the cumulative coverage exceeds 50 percent of the total absolute coverage for the stratum

Atlantic & Gulf Coastal Plain

- Dominance Test
  - If two or more species are equal in coverage, they all must be selected
  - Selected species are all dominants
  - Additionally, all other species that, by itself, is at least 20 percent of the total absolute cover in the stratum is also dominant
  - Repeat for each stratum

Table 2-2
Example of the selection of dominant species by the 50/20 rule.

Stratum	Species Name	Wetland Indicator Status[1]	Absolute Percent Cover	Dominant?
Herb	*Impatiens capensis*	FACW	30	Yes
	Boehmeria cylindrica	FACW	18	Yes
	Pilea pumila	FACW	12	No
	Athyrium filix-femina	FAC	3	No
	Symplocarpus foetidus	OBL	3	No
		Total cover	66	
		50/20 Thresholds: 50% of total cover =33.0% 20% of total cover =13.2%		
Shrub	*Ilex opaca*	FACU	18	Yes
	Viburnum dentatum	FAC	6	Yes
	Clethra alnifolia	FAC	3	No
	Vaccinium corymbosum	FACW	3	No
		Total cover	30	
		50/20 Thresholds: 50% of total cover =15.0% 20% of total cover = 6.0%		
Sapling	*Acer rubrum*	FAC	9	Yes
	Liquidambar styraciflua	FAC	9	Yes
	Fraxinus pennsylvanica	FACW	2	No
		Total cover	20	
		50/20 Thresholds: 50% of total cover =10.0% 20% of total cover = 4.0%		
Tree	*Acer rubrum*	FAC	18	Yes
	Liquidambar styraciflua	FAC	18	Yes
	Platanus occidentalis	FACW	12	Yes
	Fraxinus pennsylvanica	FACW	6	No
	Liriodendron tulipifera	FACU	3	No
	Nyssa sylvatica	FAC	3	No
		Total cover	60	
		50/20 Thresholds: 50% of total cover = 30% 20% of total cover = 12%		
Woody Vine	*Toxicodendron radicans*	FAC	5	Yes
	Lonicera japonica	FAC	4	Yes
	Parthenocissus quinquefolia	FACU	1	No
		Total cover	10	
		50/20 Thresholds: 50% of total cover = 5.0% 20% of total cover = 2.0%		
Hydrophytic Vegetation Determination	Total number of dominant species across all strata = 11. Percent of dominant species that are OBL, FACW, or FAC = 10/11 = 90.9%. Therefore, this community is hydrophytic by Indicator 1 (Dominance Test).			

[1] Indicator statuses according to the Region 1 (Northeast) plant list (Reed 1988).

Atlantic & Gulf Coastal Plain

- Prevalence Index (PI)
  - Used when the plant community fails the dominance test but indicators of hydric soil and wetland hydrology are present
  - Identify and estimate absolute percent cover for each species in the stratum
  - Sum the percent cover for any species present in more than one stratum

Hydric Soils

- 1987 Manual
  - Dig hole and describe profile to 16 inches
  - Look at soil colors immediately below the A-horizon or 10 inches, whichever is shallower
- Atlantic & Gulf Coastal
  - Dig hole and describe profile to 20 inches
  - Look at soil colors in the profile and match to NTCHS's Field Indicators of Hydric Soils in the United States, Version 7.0

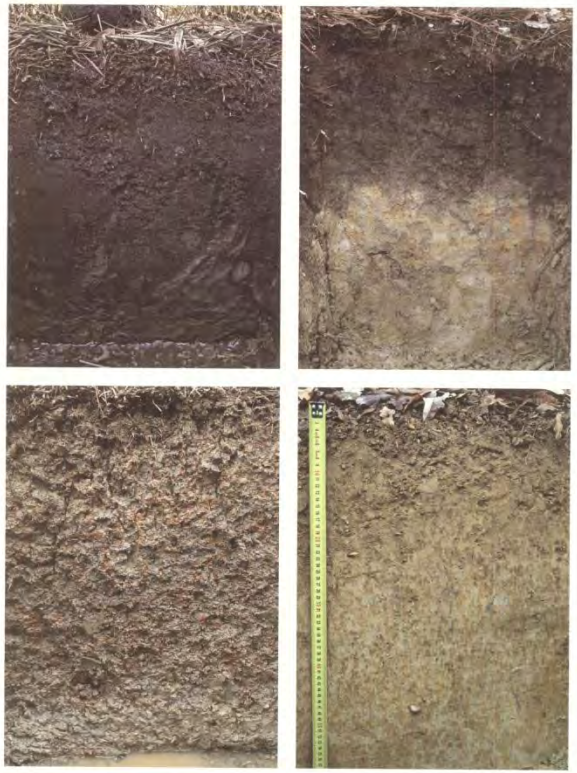
USDA United States Department of Agriculture

In cooperation with the National Technical Committee for Hydric Soils

NRCS Natural Resources Conservation Service

Field Indicators of Hydric Soils in the United States

A Guide for Identifying and Delineating Hydric Soils, Version 7.0, 2010



Atlantic & Gulf Coastal Plain

- During development of the indicators, soils in the interior of wetlands were not always examined, therefore, there are wetlands that lack any of the approved hydric soil indicators in the wettest interior portions.
- Delineators should concentrate sampling efforts near the wetland edge and if these soils are hydric, assume the interior soils are hydric even if they lack an indicator.

1987 Manual Hydric Soils

- Non-sandy Soils
  - Organic soils
  - Histic epipedons
  - Sulfidic material
  - Aquic or peraquic moisture regime
  - Reducing conditions
  - Soil colors
  - Soils appearing on hydric soils list
  - Iron and manganese concretions

1987 Manual Hydric Soils

- Sandy Soils
  - High organic matter content in the surface horizon
  - Streaking of subsurface horizons by organic matter
  - Organic pans

Atlantic and Gulf Coastal Plain Hydric Soils

- All Soils
  - Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Organic Bodies (A6)
  - 5 cm Mucky Mineral (A7)

Atlantic and Gulf Coastal Plain Hydric Soils

- All Soils (cont'd)
  - Muck Presence (A8)
  - 1 cm Muck (A9)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Coast Prairie Redox (A16)

Atlantic and Gulf Coastal Plain Hydric Soils

- Sandy Soils – loamy fine sand and coarser
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7)
  - Polyvalue Below Surface (S8)
  - Thin Dark Surface (S9)

Atlantic and Gulf Coastal Plain Hydric Soils

- Loamy and Clayey Soils – loamy very fine sand and finer
  - Loamy Mucky Mineral (F1)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
  - Marl (F10)

Atlantic and Gulf Coastal Plain Hydric Soils

- Loamy and Clayey Soils (cont'd)
  - Depleted Ochric (F11)
  - Iron-Manganese Masses (F12)
  - Umbric Surface (F13)
  - Delta Ochric (F17)
  - Reduced Vertic (F18)
  - Piedmont Floodplain Soils (F19)
  - Anomalous Bright Loamy Soils (F20)

Atlantic and Gulf Coastal Plain Hydric Soils

- Problem Soils
  - 2 cm Muck (A10)
  - Red Parent Material (TF2)
  - Very Shallow Dark Surface (TF12) (new)

Wetland Hydrology - Atlantic and Gulf Coastal Plain

- Groups
  - A – Observation of surface water or saturated soils
  - B – Evidence of recent inundation
  - C – Evidence of current or recent soil saturation
  - D – Evidence from other site conditions or data

Wetland Hydrology

- 1987 Manual (Primary)
  - Inundation
  - Saturation within 12 inches of surface
  - Watermarks
  - Drift Lines
  - Sediment deposits
  - Drainage patterns in wetlands
- Atlantic & Gulf Coastal (Primary)
  - Surface water (A1)
  - High water table (A2)
  - Saturation (A3)
  - Water marks (B1)
  - Sediment deposits (B2)
  - Drift deposits (B3)
  - Algal mat or crust (B4)
  - Iron deposits (B5)

Wetland Hydrology

- 1987 Manual (Primary)
- Atlantic & Gulf Coastal (Primary)
  - Inundation visible on aerial imagery (B7)
  - Water-stained leaves (B9)
  - Aquatic fauna (B13)
  - Marl deposits (B15)
  - Hydrogen sulfide odor (C1)

Wetland Hydrology

- 1987 Manual (Primary)
- Atlantic & Gulf Coastal (Primary)
  - Oxidized rhizospheres along living roots (C3)
  - Presence of reduced iron (C4)
  - Recent iron reduction in tilled soils (C6)
  - Thin muck surface (C7)

Wetland Hydrology

- 1987 Manual (Secondary)
  - Oxidized root channels in upper 12 inches
  - Water-stained leaves
  - Local soil survey data
  - FAC-Neutral Test
  - Other (explain)
- Atlantic & Gulf Coastal (Secondary)
  - Surface soil cracks (B6)
  - Sparsely vegetated concave surface (B8)
  - Drainage patterns (B10)
  - Moss trim lines (B16)
  - Dry-season water table (C2)

Wetland Hydrology

- 1987 Manual (Secondary)
- Atlantic & Gulf Coastal (Secondary)
  - Crayfish burrows (C8)
  - Saturation visible on aerial imagery (C9)
  - Geomorphic position (D2)
  - Shallow aquitard (D3)
  - FAC-neutral test (D5)
  - Sphagnum moss (D8) (new)

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region (DRAFT)

Project/Site: _____ City/County: _____ Sampling Date: _____

Applicant/Owner: _____ State: _____ Sampling Point: _____

Investigator(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _____	Depth (inches): _____
Water Table Present?	Yes _____ No _____	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No _____	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: _____

Tree Stratum (Plot sizes: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
Total Cover:			
Sapling Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
Total Cover:			
Shrub Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
Total Cover:			
Herb Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
Total Cover:			
Woody Vine Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** _____ **No** _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Delineations *vs.* Determinations

A **determination** is qualitative in that it only provides an answer if there is a jurisdictional area within the project area.

A **delineation** is quantitative in that it provides boundaries and acreage measurements for each individual type of water of the United States present in the project area.

The Corps of Engineers Delineation Verification Process

- Corps assigns project to PM and enters data
- Corps sends acknowledgement letter
- PM determines if site visit is necessary
- Conduct site visit for accuracy/adjustments
- Complete JD form for each aquatic resource
- Coordinate JD form with EPA if required
- PM writes memo and final letter

Corps of Engineers Expectations for Submitting Delineation Reports

- Complete Data Sheets
- Delineation map with transects, sample points, aquatic resource and upland areas
- Acreages of wetlands, open waters, uplands

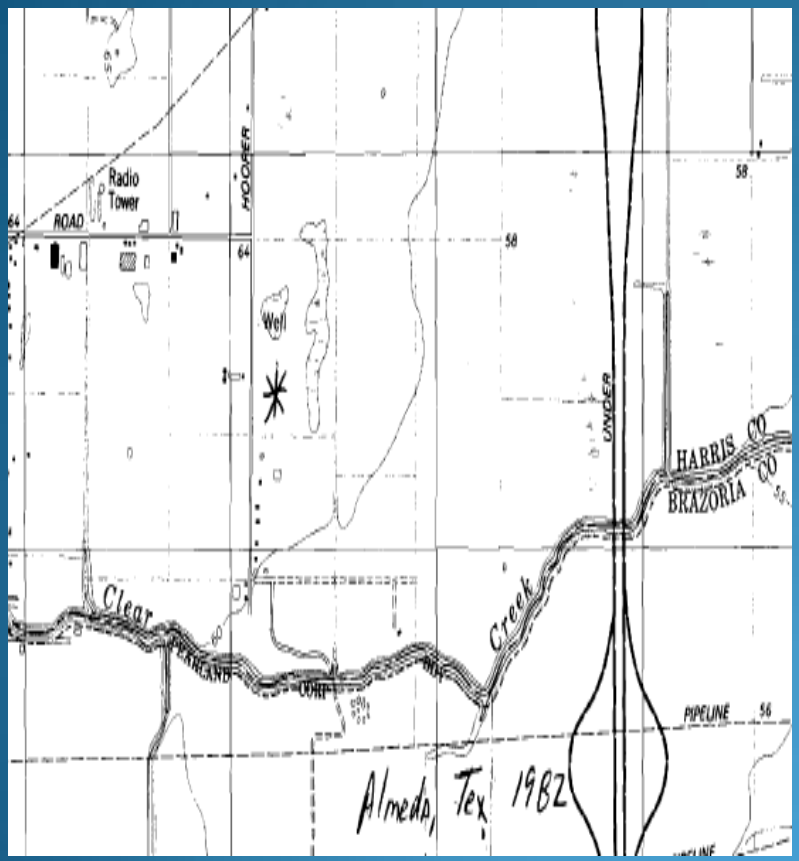
Corps of Engineers Requirements for Field Verifications

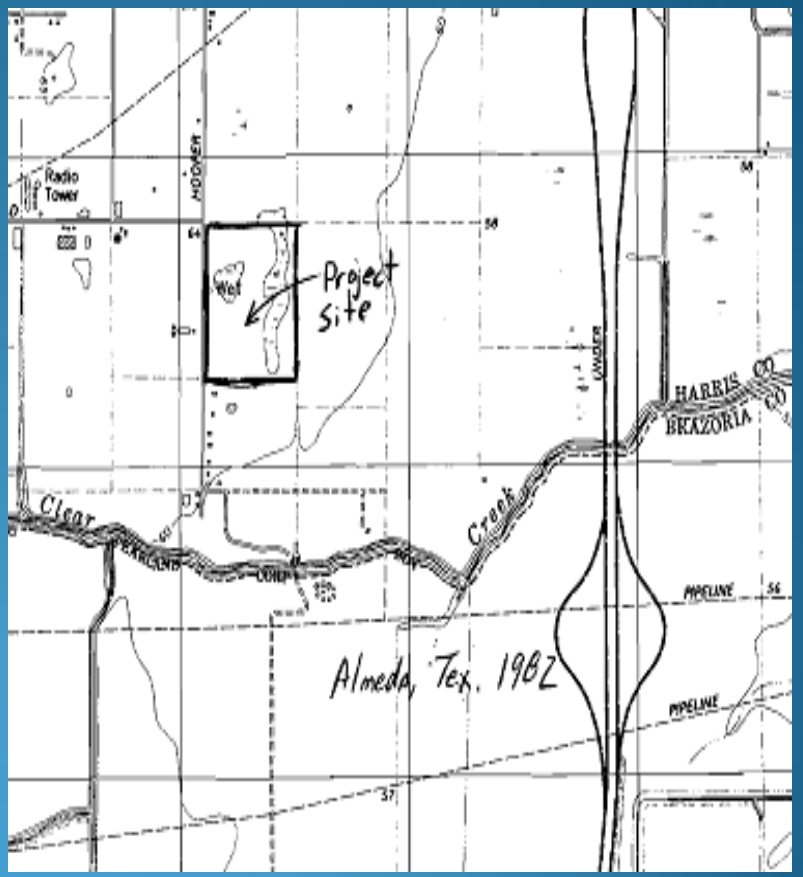
- Project boundaries must be staked/marked
- Aquatic resources must be staked/marked
- Transects, data points must be marked
- Delineator must be able to explain why an area is or is not called a wetland/water

Expectations for Submitting Jurisdictional Determinations

- Letter requesting jurisdictional determination
- Vicinity map indicating project site boundaries
- Detailed map showing property boundaries
- Other supporting info such as Quad map, floodplain map, site photos

Depicting project sites





Clean Water Act Goal

Restore and maintain the chemical, physical, and biological integrity of the Nation's waters

Commerce Clause

Power listed in the U.S. Constitution that allows Congress to regulate commerce with foreign Nations, and among the several states, and with Indian Tribes.

Clean Water Act History

- 1880s and 1890s, Congress directed the Corps to prevent dumping and filling in the Nation's harbors.
- Rivers and Harbors Act of 1899 – illegal to discharge refuse matter of any kind into navigable waters or tributaries of navigable waters. Also illegal to alter the course, condition or capacity of any port, harbor, channel, or any other areas within the reach of the Act.

Clean Water Act History

- 1912 – Public Health Service Act. Expanded mission of U.S. Public Health Service to study problems of sanitation, sewage, and pollution.

- 1924– Oil Pollution Act. Prohibited intentional discharge of fuel oil into tidal waters. Repealed by 1972 Federal Water Pollution Control Act.

- 1948 – Federal Water Pollution Control Act. Created comprehensive set of water quality programs. Enforcement limited to interstate waters.

Clean Water Act History

- 1972 – Federal Water Pollution Control Act significantly reorganized and expanded.

- 1977 – With amendments, became the Clean Water Act. Through Section 404, mandated to develop effective program for controlling pollution of Nation's 76 million acres of wetlands. One goal was to eliminate all discharges by 1985.

Clean Water Act History

- 1985 – U.S. v. Riverside Bayview Homes – U.S. Supreme Court held that intermingled (adjacent) wetlands of navigable waters are subject to Section 404 of the Clean Water Act.

Clean Water Act History

• 1986 – EPA clarified that waters of the U.S. at 40 CFR 328.3 also include waters which are or would be used as habitat by birds protected by the Migratory Bird Treaties; or which are or would be used as habitat by other migratory birds which cross state lines; or which are used as habitat for endangered species; or used to irrigate crops sold in interstate commerce. Also introduced non-waters reviewed earlier. Both in preamble to 1986 regulations.

Clean Water Act History

- 2001 – Solid Waste Agency of Northern Cook County; 5-4 Decision in U.S. Supreme Court. Concluded you can not solely use the Migratory Bird Rule to exert jurisdiction over isolated waters.

- 2006 – Rapanos & Carabell; 5 separate opinions (one plurality, two concurring, two dissenting) in U.S Supreme Court with no single opinion commanding a majority. Vacated and remanded case back down to Sixth Circuit Court of Appeals.

Clean Water Act History

Rapanos & Carabell Opinions

- Plurality – (Scalia, Roberts, Thomas, Alito) concluded that Section 404 should extend only to relatively permanent, standing or continuously flowing bodies of water connected to traditional navigable waters and to wetlands with a continuous surface connection to such relatively permanent waters.

Clean Water Act History

Rapanos & Carabell Opinions

- Kennedy – concluded that wetlands are waters of the U.S. if the wetlands either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. If the wetlands effects on water quality are speculative or insubstantial, they fall outside the statutory term 'navigable waters'.

Clean Water Act History

Rapanos & Carabell Opinions

- Dissenting – (Stevens, Souter, Ginsburg, Breyer) concluded that EPA's and Corps' interpretation of waters of the U.S. was a reasonable interpretation of the Clean Water Act.

Clean Water Act History

Rapanos & Carabell Opinions

- When there is no majority opinion in a Supreme Court case, controlling legal principles may be derived from those principles espoused by five or more justices. Therefore, jurisdiction under the Clean Water Act exists if a waterbody meets the plurality or Kennedy's standard.

Clean Water Act History

Rapanos & Carabell Opinions

- Received guidance based on Rapanos & Carabell opinions on 5 June 2007.

- Received revised guidance on 2 December 2008.

Corps/EPA Joint Guidance

- In response to Rapanos & Carabell opinions
- Coordination required with the EPA and Corps HQ on some waters
- JD sheet required for each aquatic resource
- New definitions

  Traditional Navigable Waters (TNWs)

  Relatively Permanent Waters (RPWs)

Corps/EPA Joint Guidance

- Aquatic resources not coordinated with EPA (Agencies will assert jurisdiction over the following waters)
  - Traditional navigable waters (TNWs)
  - Wetlands adjacent to TNWs
  - Relatively permanent waters (RPWs)
  - Wetlands abutting RPWs

Corps/EPA Joint Guidance

- Aquatic resources coordinated with EPA

(Agencies will decide jurisdiction based on a fact-specific analysis to determine if they have a significant nexus with a TNW)

- Tributaries above RPWs
- Wetlands adjacent to but not abutting RPWs
- Wetlands adjacent to non-RPWs
- Isolated wetlands

Corps/EPA Joint Guidance

- Non-waters of the U.S.

(Agencies generally will not assert jurisdiction over these features)

- Swales or erosional features

- Ditches excavated wholly in an draining only uplands and that do not carry a relatively permanent flow of water.

Corps/EPA Joint Guidance

- Significant Nexus Analysis
  - Assess the flow characteristics and functions of the tributary itself and the functions performed by all the wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, or biological integrity of the downstream TNW.
  - Includes consideration of hydrologic and ecologic factors such as volume, duration, frequency of flow, pollutant carrying capacity, flood storage, habitat, nutrient and organic carbon transfer capacity .

Corps/EPA Joint Guidance

- Published proposed guidance in Federal Register on 2 May 2011 for 60 days. Comment period extended to 31 July 2011.

Introduced Bills

• HR 1310 – Frank Pallone – Clean Water Protection Act, 3 March 2009, amend the CWA by redefining Fill Material to mean any pollutant that replaces portions of waters of the United States with dry land or that changes the bottom elevation of a water body for any purpose and to exclude any pollutant discharged into water primarily to dispose of waste, mountaintop mining. NO ACTION

Introduced Bills

• S 787 – Russell Feingold – Clean Water Restoration Act, 2 April 2009, amend the CWA to replace the term "navigable waters“ with the term "waters of the United States,“ to the fullest extent that these waters, or activities affecting them, are subject to the legislative power of Congress under the Constitution. NO ACTION

Introduced Bills

- HR 5088 – James Oberstar – America's Commitment to Clean Water Act, 21 April 2010, restore the definition of waters of the United States to that in place before the SWANCC and Rapanos decisions. (Replace Navigable waters with Waters of the United States) NO ACTION

Introduced Bills

- 14 April 2011 – 170 members of the House of Representatives sent a letter to President Obama asking him to end efforts to broaden Federal protection of wetlands.

Introduced Bills

• S 2245 – John Barrasso – Preserve the Waters of the United States Act, 28 March 2012, - Prohibits the USACE and the EPA from: (1) finalizing the proposed guidance described in the notice of availability and request for comments entitled "EPA and Army Corps of Engineers Guidance Regarding Identification of Waters Protected by the CWA"; or (2) using such guidance, or any substantially similar guidance, as the basis for any decision regarding the scope of the CWA or any rulemaking. Provides that the use of such guidance as the basis for any rule shall be grounds for vacation of such rule. NO ACTION

Introduced Bills

• HR 4965 – John Mica – Preserve existing rights with respect to waters of the U.S., 27 April 2012, Prohibits the USACE and EPA from: (1) finalizing, adopting, implementing, administering, or enforcing the proposed guidance described in the notice of availability and request for comments entitled "EPA and Army Corps of Engineers Guidance Regarding Identification of Waters Protected by the CWA"; or (2) using such guidance, or any substantially similar guidance, as the basis for any decision regarding the scope of the CWA or any rulemaking. Sent to House or Senate on 7 June 2012.

Introduced Bills

• HR 5325 – Rodney Frelinghuysen – Energy and Water Development Bill, 2 May 2012, None of the funds made available by this Act…may be used by the Corps of Engineers to develop, adopt, implement, administer, or enforce a change or supplement to the rule dated November 13, 1986, or guidance documents dated January 15, 2003 and December 2, 2008, pertaining to the definition of waters under the jurisdiction of the Federal Water Pollution Control Act. Passed House on 6 June 2012

Approved/Preliminary Jurisdictional Determinations

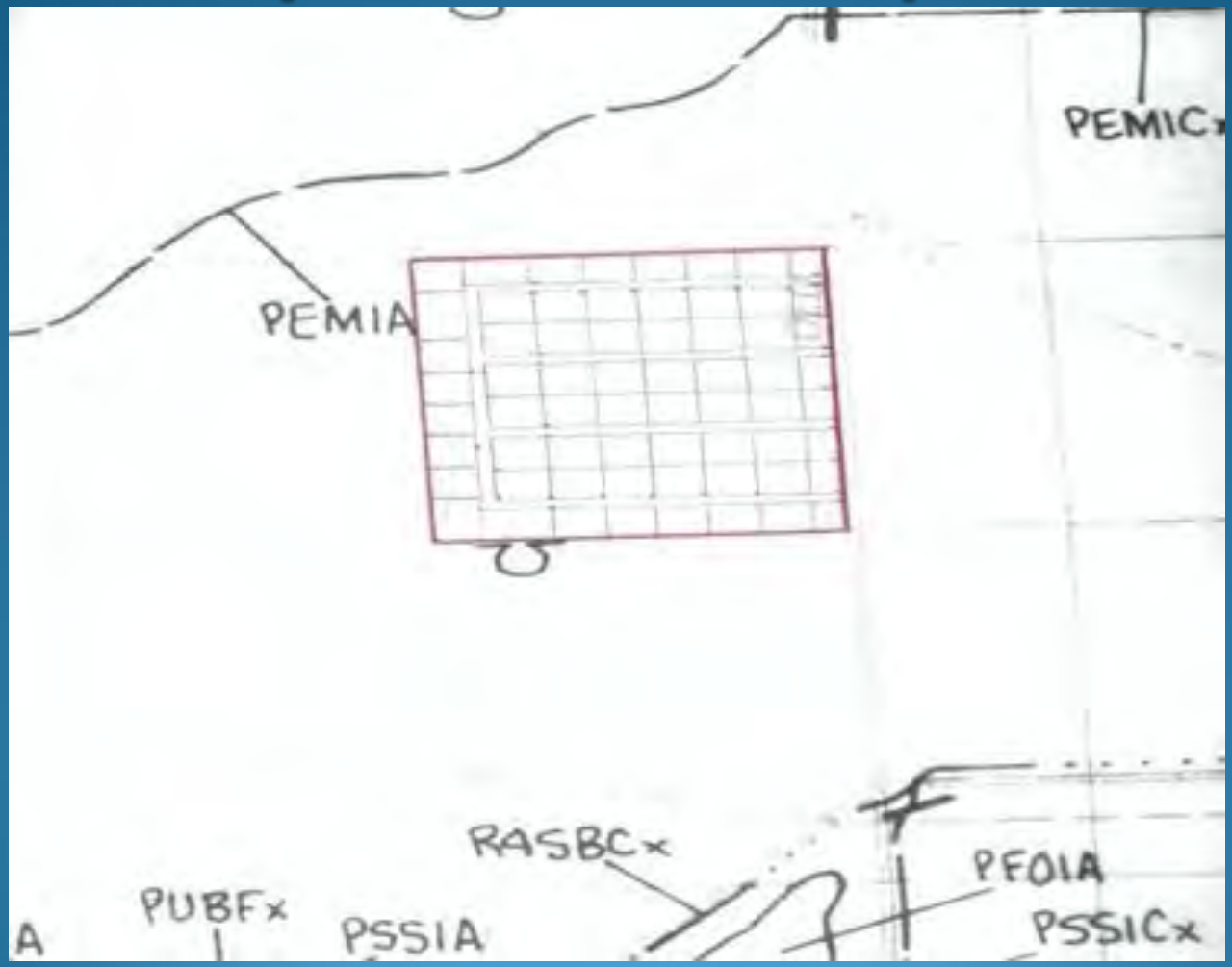
- 33 CFR 331.2.
- Approved JD - official USACE determination that jurisdictional waters of the U.S. or navigable waters of the U.S. are present or absent on a particular site or a written statement and map identifying the limits of waters.
- Preliminary JD – written indication that there may be waters of the U.S. on a parcel or of the approximate locations of waters.

Approved/Preliminary Jurisdictional Determinations

- Approved JD – appealable; may or may not delineate extent of jurisdiction; requires more information to confirm.
- Preliminary JD – not appealable; assumes all aquatic resources on site are jurisdictional; not as stringent to confirm (approximate locations); cannot be used to determine no wetlands or no jurisdictional wetlands.

Proposed Development

Proposed Development



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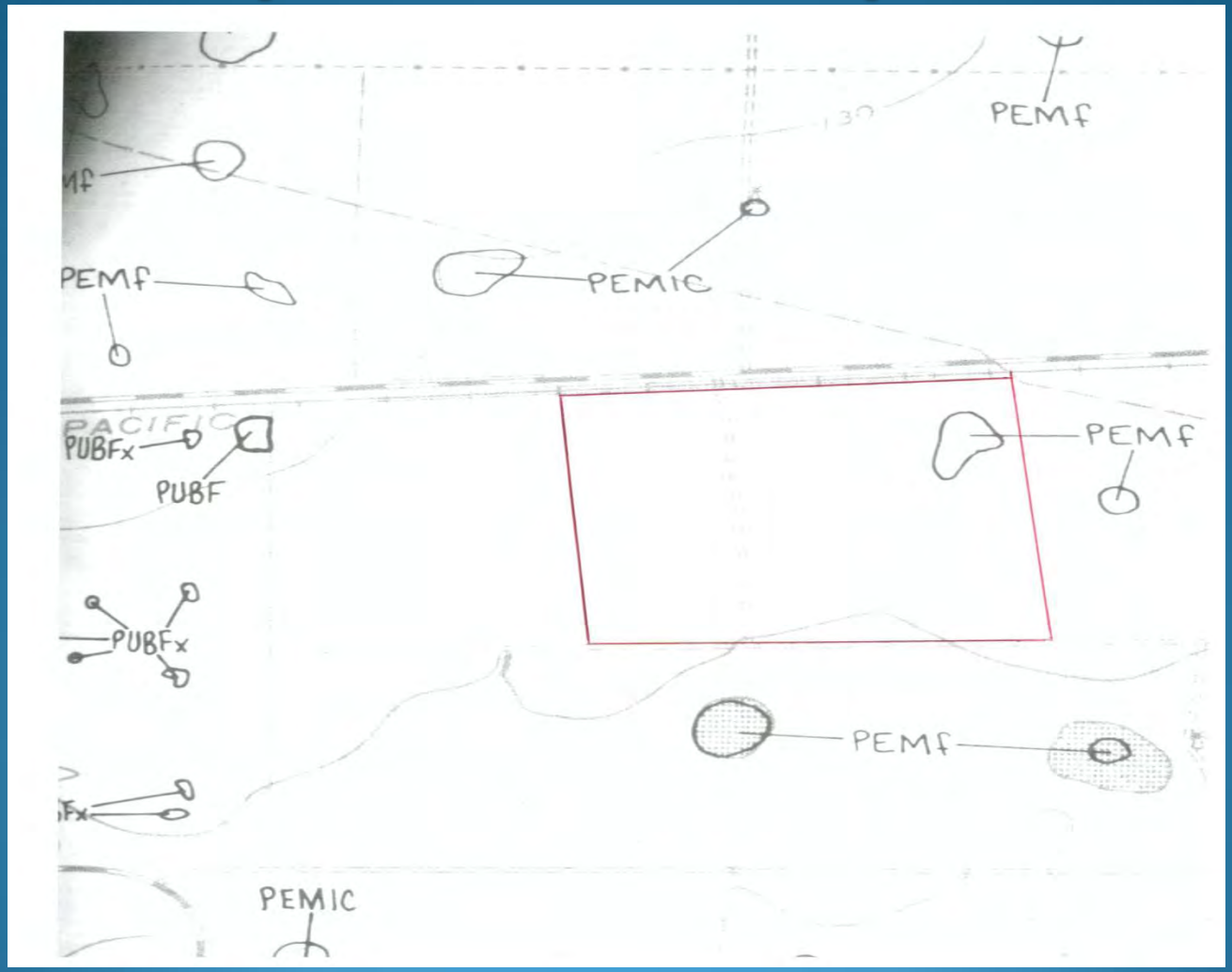

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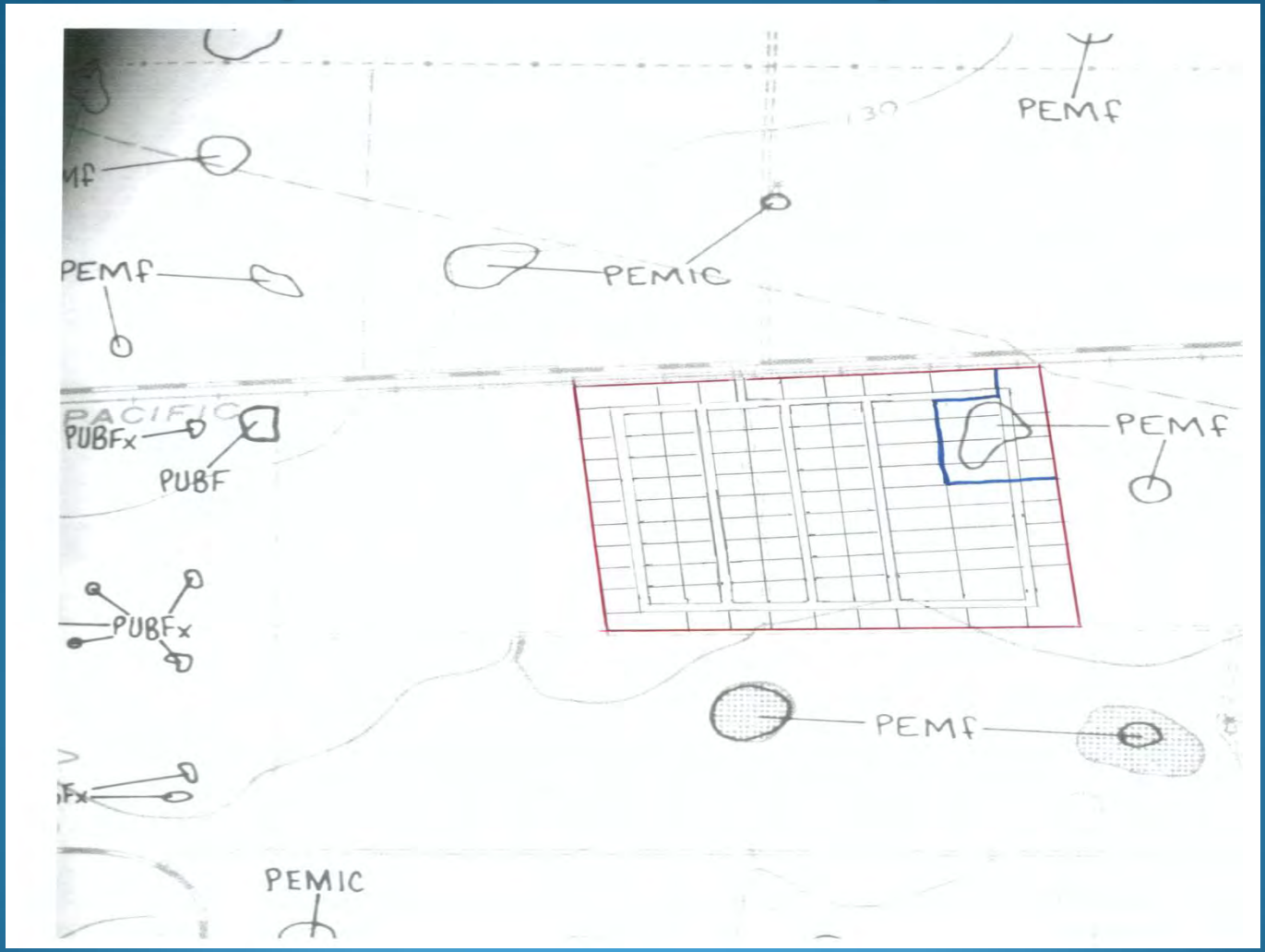

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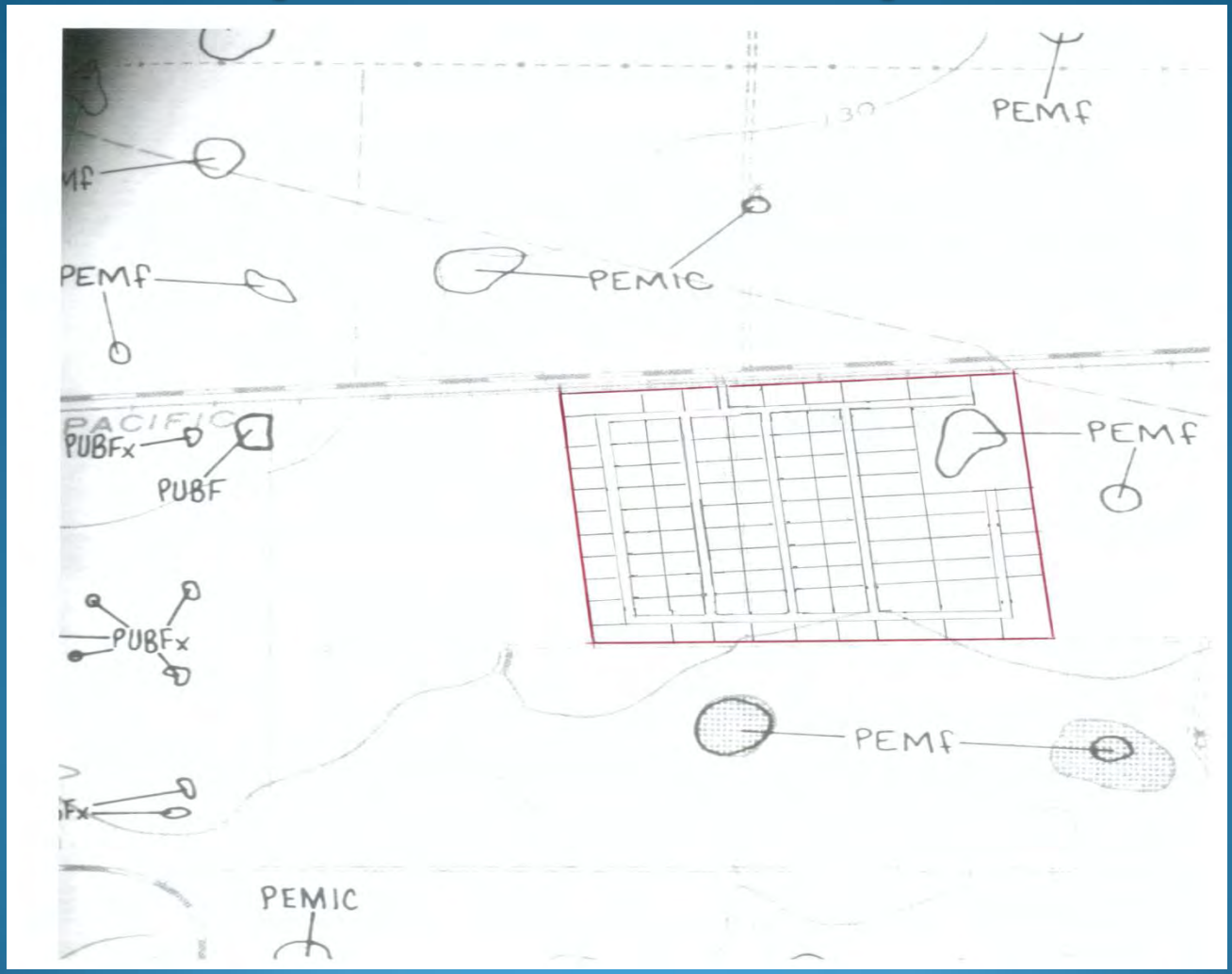

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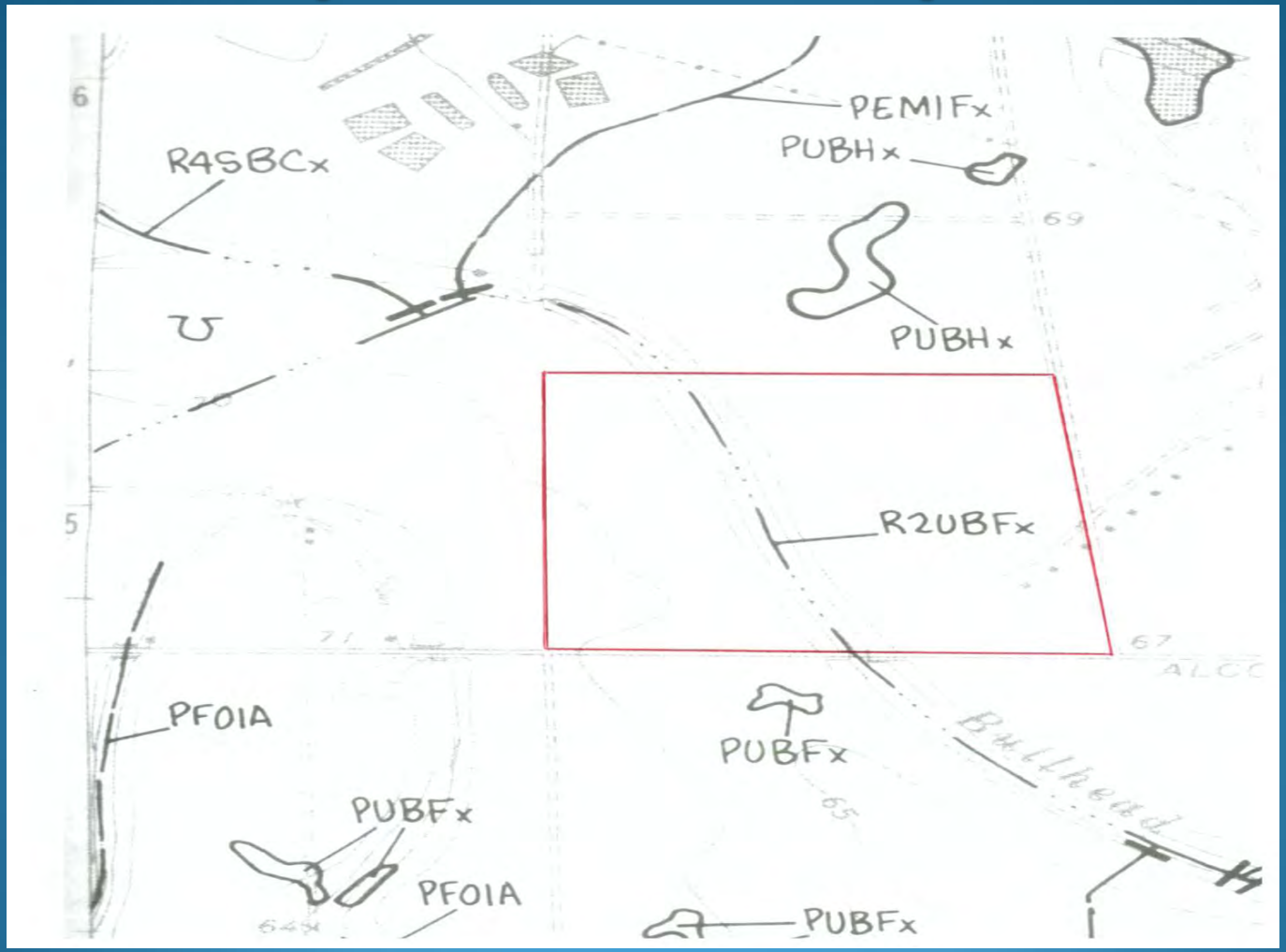

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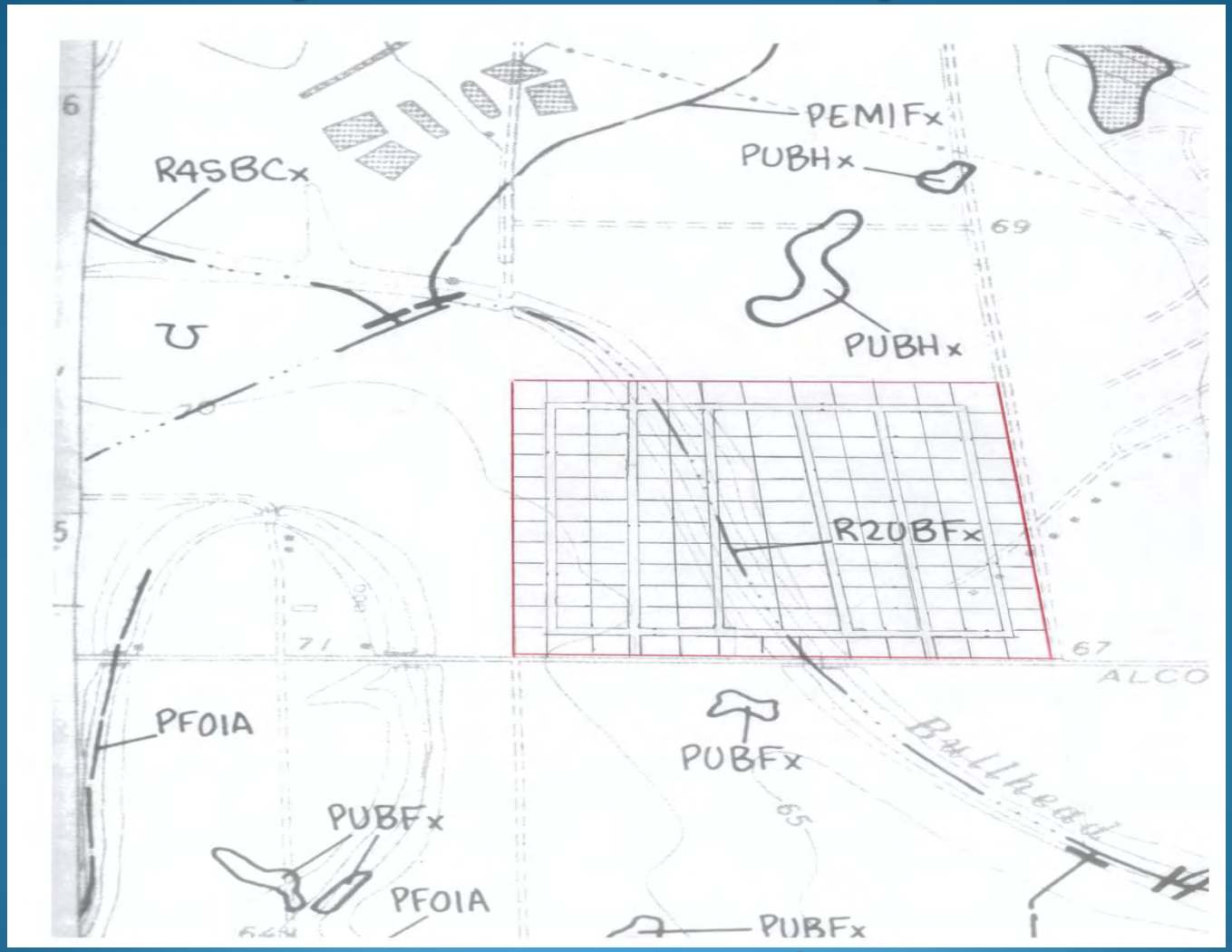

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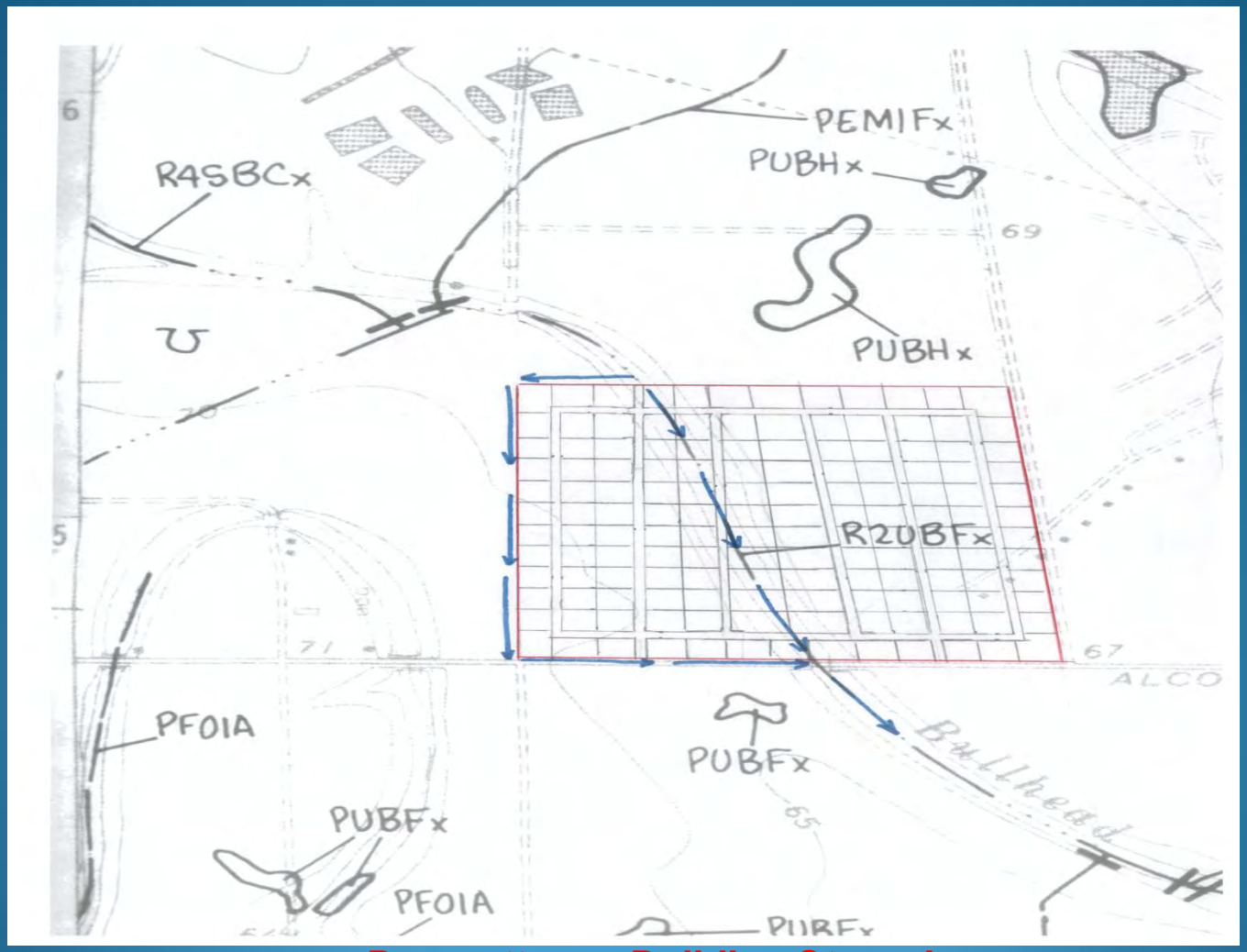

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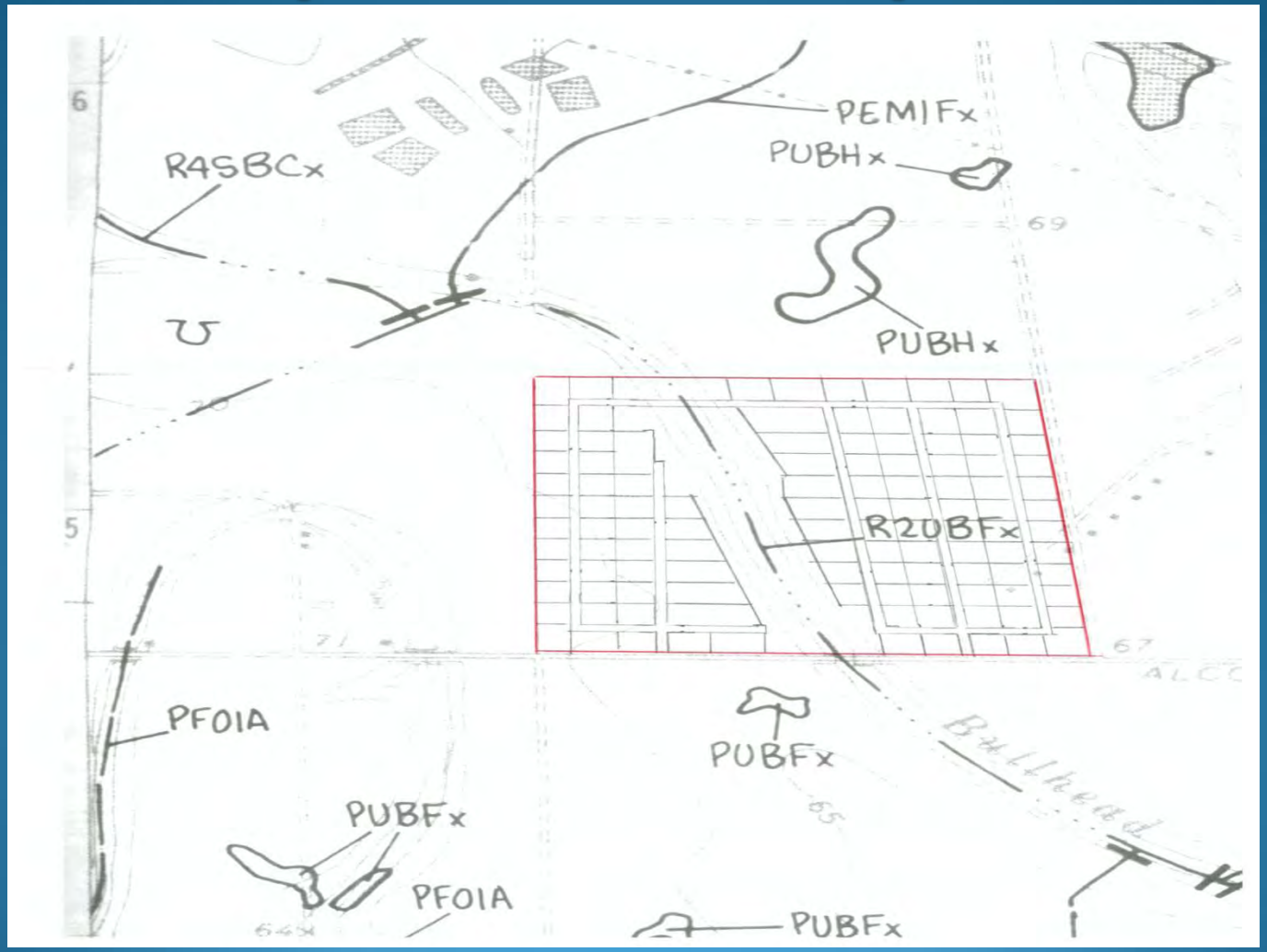

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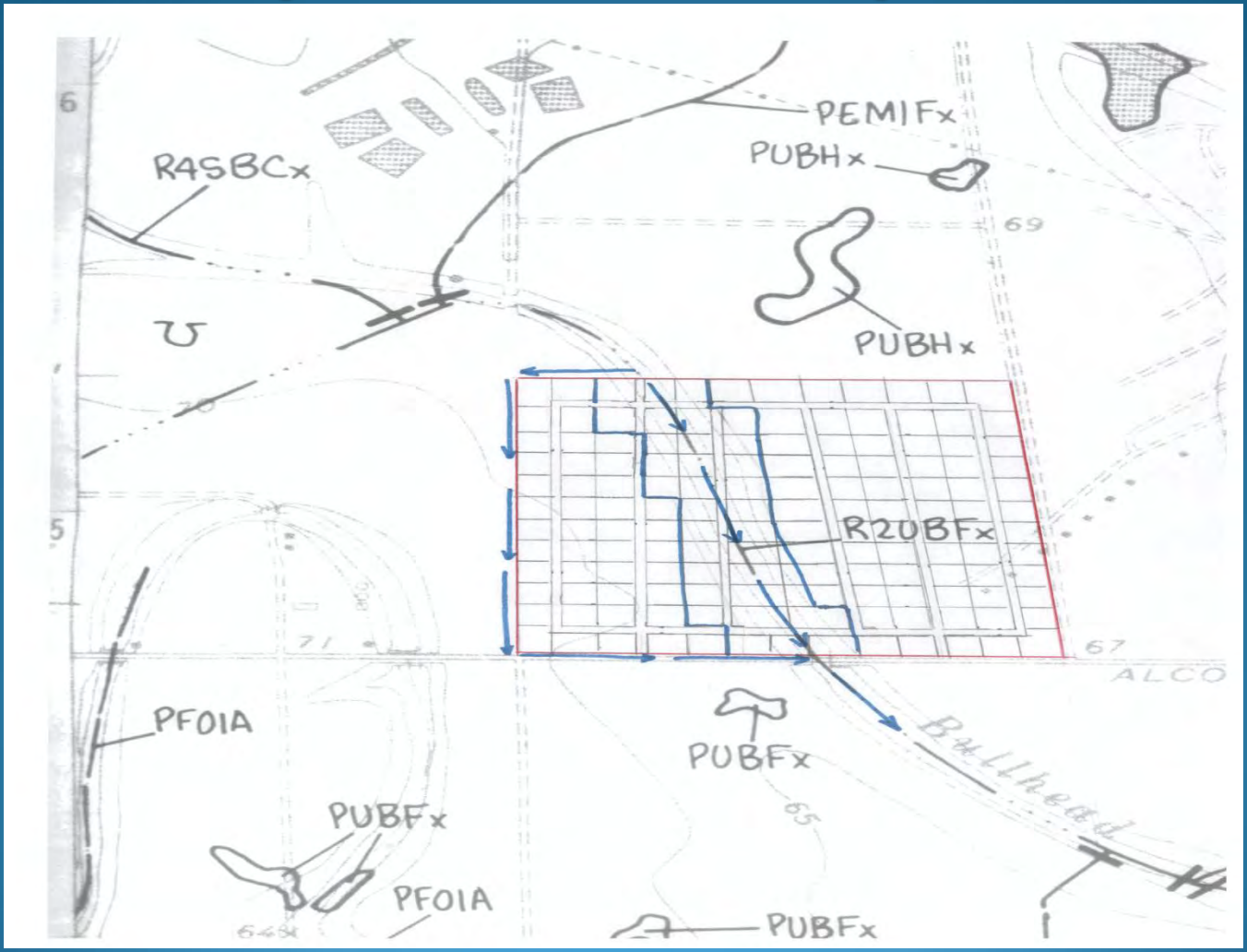

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: County/parish/borough: City:
Center coordinates of site (lat/long in degree decimal format): Lat: Pick List, Long: Pick List
Universal Transverse Mercator:
Name of nearest waterbody:
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC):
☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Pick List *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. *[Required]*
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Pick List *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. *[Required]*

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: Pick List
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain:

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank
☐ changes in the character of soil
☐ shelving
☐ vegetation matted down, bent, or absent
☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ the presence of litter and debris
☐ destruction of terrestrial vegetation
☐ the presence of wrack line
☐ sediment sorting
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by:
☐ oil or scum line along shore objects
☐ fine shell or debris deposits (foreshore)
☐ physical markings/characteristics
☐ tidal gauges
☐ other (list):
☐ Mean High Water Mark indicated by:
☐ survey to available datum;
☐ physical markings;
☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known.

---

[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**
- ☐ Riparian corridor. Characteristics (type, average width).
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings.
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics.

Subsurface flow: **Pick List**. Explain findings:
- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known.

(iii) Biological Characteristics. Wetland supports (check all that apply):
- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. **SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. **DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     - Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide estimates for jurisdictional waters in the review area (check all that apply)
- ☐ Tributary waters: linear feet width (ft)
- ☐ Other non-wetland waters: acres
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite scale & quad name:
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☐ Photographs: ☐ Aerial (Name & Date): .
  - or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature:
- ☐ Other information: (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

Regulatory Information

-Headquarters Webpage
www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx

-Galveston District Webpage
www.swg.usace.army.mil/BusinessWithUs/RegulatoryBranch.aspx

CONNECT WITH US!

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ON TWITTER
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ON YOUTUBE
www.YouTube.com/Galveston District

ON DVIDS
www.dvidshub.net/units/USACE-GD

ONLINE
www.swg.usace.army.mil


Northeast
(Region 1)
North Central
(Region 3)
Southeast
(Region 2)
South Plains
(Region 6)

Atlantic & Gulf Coastal Plain

- Prevalence Index (PI)
  - Organize all species into groups according to their indicator status and sum their cover values within
  - Calculate the prevalence index using the formula:

$$PI = \frac{A\,obl + 2A\,facw + 3A\,fac + 4A\,facu + 5A\,upl}{A\,obl + A\,facw + A\,fac + A\,facu + A\,upl}$$

  - Plant community is hydrophytic if PI is 3.0 or less

Table 2-3
Example of the Prevalence Index using the same data as in Table 2-2.

Indicator Status Group	Species name	Percent Cover by Species	Total Cover by Group	Multiply by:[1]	Product
OBL species	*Symplocarpus foetidus*	3	3	1	3
FACW species	*Boehmeria cylindrica*	18			
	Fraxinus pennsylvanica[2]	8			
	Impatiens capensis	30			
	Pilea pumila	12			
	Platanus occidentalis	12			
	Vaccinium corymbosum	3	83	2	166
FAC species	*Acer rubrum*[2]	27			
	Athyrium filix-femina	3			
	Clethra alnifolia	3			
	Liquidambar styraciflua[2]	27			
	Lonicera japonica	4			
	Nyssa sylvatica	3			
	Toxicodendron radicans	5			
	Viburnum dentatum	6	78	3	234
FACU species	*Ilex opaca*	18			
	Liriodendron tulipifera	3			
	Parthenocissus quinquefolia	1	22	4	88
UPL species	*None*	0	0	5	0
Sum			186 (A)		491 (B)
Hydrophytic Vegetation Determination		Prevalence Index = B/A = 491/186 = 2.64 Therefore, this community is hydrophytic by Indicator 2 (Prevalence Index).			

[1] Where OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5.
[2] These species were each recorded in two or more strata (see Table 2-2), so the cover estimates were summed across strata.