



Instructions

Wetland and Stream Delineation Data

Introduction

These instructions are for providing ENV with wetland and stream delineation data for inclusion in ENV's statewide database ("TxDOT Waters"), which is intended to be a useful resource for future projects and other TxDOT initiatives. These instructions are separate and distinct from ENV's instructions for preparing delineation reports and otherwise applying for and documenting authorization under Section 404 of the Clean Water Act in ECOS (e.g., **ENV's Documentation Standard for Waters of the U.S. Delineation Report**, Environmental Guide Volume 2 Activity Instructions for "Obtain Section 404/10 Permit," etc.). Compliance with these instructions is not needed for Section 404 project authorization, but rather is requested of district environmental staff and consultants to assist ENV with a statewide Geographic Information Systems (GIS) project.

Background

TxDOT is building a geodatabase of delineated wetlands, streams, and associated features called TxDOT Waters. The TxDOT Waters geodatabase was created by combining National Wetland Inventory (NWI) features, waters identified through desktop evaluation, including those identified within the TxDOT Wetland Predictive Model, and field delineated data. Where there is overlap of the NWI data with recent delineated areas, the NWI data will be replaced with the current field delineated information.

To ensure consistent and complete data within the geodatabase, TxDOT is providing a submittal template (Delineated_Waters_Submittal.gdb). The template identifies the types of information that must be inputted, as well as the format that must be followed. The TxDOT Waters submittal template geodatabase should be used and completed for each Waters of the U.S. (WOTUS) delineation completed. This includes delineations performed by both TxDOT and consultants. It also includes delineations that result in a determination that no United States Army Corps of Engineers (USACE) authorization is needed for the project, as well as those that result in a determination that USACE authorization is required. The data submitted in this template, with standard fields and format, will improve the quality of the TxDOT Waters geodatabase. Submitting data in other formats or providing incomplete and/or inconsistent data inputs will result in potential errors in data outputs from the geodatabase.

Timing

District environmental staff or the consultant should submit the stream and/or wetland delineation data to ENV according to these instructions shortly after any delineation is finalized. If a delineation is submitted to the Corps in connection with a request for USACE authorization under Section 404, then the delineation is not considered "finalized" until it has been approved by the USACE.

Data Submission

Delineation data must still be submitted via KMZ, CAD, or any other file type listed within TxDOT ENV guidance and the project Work Authorization using the TxDOT Waters submittal template geodatabase (Delineated_Waters_Submittal.gdb) available on the ENV Natural Resources Toolkit. After delineations are finalized, the delineation geodatabases should be emailed to ENV_GIS@txdot.gov, the district, and ENV points of contact as found within the project work authorization. Do not upload to ECOS. Submission of completed delineation geodatabases to TxDOT Waters is required in addition to all other



data submission requirements in work authorizations. District environmental staff who conduct delineations can email completed delineation directly to ENV_GIS@txdot.gov.

Data submitted will be added to the TxDOT Waters geodatabase available on the Water Resources Handbook Viewer. The complete TxDOT Waters geodatabase will also be available on ArcGIS Online (search for TxDOT Waters).

TxDOT Waters geodatabase schema and field descriptions

The TxDOT Waters geodatabase is provided in NAD 1983 HARN Texas Centric Mapping System (Lambert). This projection is widely used by state agencies. The advantage to using one projection for the entire state is that GIS data from various sources or projects can be seamlessly integrated into mosaic map views.

The TxDOT Waters geodatabase is comprised of two feature classes. One for line features (OHWM, streams, creeks) and one for polygon features (wetlands). Both features share the same fields. The TxDOT Waters geodatabase will be the authoritative record of water features delineated on behalf of TxDOT. Some fields must be populated when the data is collected, and other fields must be populated by TxDOT ENV GIS staff in post-processing. The table below details who should populate each field and at what time. Explanations of each field follow the table.

| Field | Populated when collected | Not populated | Populated by TxDOT during data post-processing |
|--------------|--------------------------|---------------|--|
| Organization | X | | |
| Del_Date | X | | |
| NWIFID | | X | |
| TXFID | | | X |
| NWI_TYPE | | X | |
| TX_WTYPE | X | | |
| Attribute | X | | |
| STYPE | X | | |
| FNAME | X | | |
| SLinearF | X | | |
| PJD | X | | |
| AJD | | | X |
| AJD date | | | X |
| Vnumber | | | X |
| TXROW | X | | |
| Notes | X | | |
| Confidence | X | | |
| Lat/Long | X | | |
| Acres | X | | |
| Attachment | X | | |



Wetland and Stream Delineation Data

| Field Name | Alias | Field Type | Length | Examples |
|--------------|--------------|------------|--------|----------|
| Organization | Organization | String | 100 | TxDOT |

List the organization or company which originally collected the data. This may be TxDOT, NWI, or a consulting firm.

| Field Name | Alias | Field Type | Length | Examples |
|-----------------|------------------|------------|--------|----------|
| <i>Del_Date</i> | Delineation Date | Date | NA | 4/1/2021 |

Del_Date refers to the date the water feature was delineated.



Wetland and Stream Delineation Data

| Field Name | Alias | Field Type | Length | Examples |
|------------|------------------------|------------|--------|----------|
| NWFID | NWI Wetland Feature ID | Number | NA | 4567895 |

Each wetland is assigned an Identification name (ID). NWI features will retain the assigned NWI name. When collecting new wetland data, a zero should be used for newly delineated TxDOT features as they will be assigned a Unique TxDOT ID after being uploaded into the database. This field is not filled out by the consultant or district performing the delineation.

| Field Name | Alias | Field Type | Length | Examples |
|------------|--------------------------|------------|--------|--------------|
| TXFID | TxDOT Wetland Feature ID | String | 100 | PR-SR-0001-W |

Each newly delineated feature will receive a Unique ID when added to the database, which will be constructed by concatenating the district abbreviation, county abbreviation (See Appendix I), and next available number with a "W" for wetland and "S" for stream. Where wetlands cross county boundaries, the wetland feature will inherit the county code of the county where most of the wetland is located. This field is populated by TxDOT during postprocessing

| Field Name | Alias | Field Type | Length | Examples |
|------------|----------------|------------|--------|-----------------------------|
| NWI_Type | NWI Water Type | String | 50 | Freshwater Emergent Wetland |

This field is already populated by the original source material and does not need to be updated or changed. General description of the wetland based on the Cowardin wetland classification.

Estuarine and Marine Deepwater: Open water estuary, bay, sound, open ocean. Estuarine and Marine subtidal water (E1, M1).

Estuarine and Marine Wetland: Vegetated and non-vegetated brackish and saltwater marsh, shrubs, beach, bar, shoal or flat. Estuarine intertidal and Marine intertidal wetland (E2, M2).

Freshwater Emergent Wetland: Herbaceous marsh, fen, swale and wet meadow. Palustrine emergent (PEM).

Freshwater Forested/Shrub Wetland: Forested swamp or wetland shrub bog or wetland. Palustrine forested and/or Palustrine shrub (PFO, PSS).

Freshwater Pond: Pond. Palustrine unconsolidated bottom, Palustrine aquatic bed (PUB, PAB).

Lake: Lake or reservoir basin. Lacustrine wetland and deepwater (L).

Other: Farmed wetland, saline seep, and other miscellaneous wetland. Palustrine wetland (Misc. types, PUS, Pf..).

Riverine River or stream channel. Riverine wetland and deepwater (R).

| Field Name | Alias | Field Type | Length | Examples |
|------------|-------------------------|------------|--------|------------|
| TX_WTYPE | <i>TxDOT Water Type</i> | String | 50 | Open water |

TxDOT delineated water types feature classification.

TxDOT Water Types

| Wetlands | Streams and Ditches |
|--------------------------------|---------------------|
| Palustrine emergent wetland | Perennial stream |
| Palustrine scrub-shrub wetland | Intermittent stream |
| Palustrine forested wetland | Ephemeral stream |



Wetland and Stream Delineation Data

| Wetlands | Streams and Ditches |
|---|---------------------|
| Other non-stream, non-wetland waterbodies | Drainage ditch |
| Special aquatic site-freshwater | Other stream |
| Special aquatic site-marine | Other wetland |
| Seagrass beds | Irrigation ditch |
| Playa lake | Roadside ditch |
| Open water | |
| Freshwater Pond/Impoundment | |
| Estuarine/Marine deepwater | |
| Estuarine/Marine wetland | |
| Riverine wetland | |
| Lake | |
| Freshwater Pond/Impoundment | |

| Field Name | Alias | Field Type | Length | Examples |
|------------|-----------|------------|--------|----------|
| Attribute | Attribute | String | 15 | L2USAh |

The attribute field contains the wetland classification codes which are a series of letter and number codes that have been developed to adapt the NWI classification system to map form. These alpha-numeric codes correspond to the classification nomenclature that best describes a particular wetland habitat. For example, PFO1A = Palustrine (P), Forested (FO), Broad-leaved Deciduous (1), Temporarily Flooded (A). This field is NA unless it is stated in the documentation.

| Field Name | Alias | Field Type | Length | Examples |
|------------|--------------------|------------|--------|----------|
| STYPE | <i>Stream type</i> | String | 20 | empher |

Stype refers to the stream type or enter "NA" if the feature is not a stream.

| Field Name | Alias | Field Type | Length | Examples |
|------------|-------------------|------------|--------|-------------|
| FNAME | Feature Name (ID) | String | 250 | Clear Creek |

FNAME is the name of the feature if the feature is named; otherwise, it is the name it was given in the delineation report. If it does not have a name, add unknown.

| Field Name | Alias | Field Type | Length | Examples |
|------------|--------------------|------------|--------|----------|
| SLinearF | Stream Linear foot | Double | NA | 2.25 |

SLinearF refers to the length of a delineated stream segment or "0" if feature is not a stream.

| Field Name | Alias | Field Type | Length | Examples |
|------------|--|------------|--------|----------|
| PJD | Potential Jurisdictional Determination | String | 4 | Yes/No |

PJD refers to whether or not the consultant/TxDOT believes that the feature is jurisdictional. Enter "Yes" or "No."



Wetland and Stream Delineation Data

| Field Name | Alias | Field Type | Length | Examples |
|------------|-------|------------|--------|----------|
| AJD | AJD | String | 4 | yes/no |

State if feature does or does not have an Approved Jurisdictional Determination (AJD) from the the U.S. Army Corps of Engineers (USACE).

An AJD is an official determination by the USACE as to the type and extent of a specific water feature and whether or not it falls under USACE jurisdiction. This field is populated by TxDOT during postprocessing.

| Field Name | Alias | Field Type | Length | Examples |
|------------|----------|------------|--------|----------|
| AJD date | AJD_Date | Date | NA | 4/1/2021 |

Include the date the USACE issued the AJD or enter "NA" if the feature does not have an AJD. This field is populated by TxDOT during postprocessing.

| Field Name | Alias | Field Type | Length | Examples |
|------------|---------------------|------------|--------|----------|
| Vnumber | Verification number | String | 15 | 123456 |

Vnumber refers to the USACE action identification number (action ID) which is unique letter and number combination provided in a specific format that is assigned to each USACE review denoting the USACE district, submittal year, and review number; shared across all actions/reviews for the same applicant on a given project (e.g., both an AJD request and permit application for an applicant's project would share the same action ID, even when submitted separately to two separate USACE branches within the same USACE district). An example would be SWG-2021-00726. Enter the USACE action ID associated with the water feature or enter "0" if a USACE action ID is not associated with the water feature. This field is populated by TxDOT during postprocessing.

| Field Name | Alias | Field Type | Length | Examples |
|------------|-----------|------------|--------|----------|
| TXROW | TxDOT ROW | String | 3 | Yes/No |

TXROW means the majority of the wetland is within the existing TxDOT ROW.

| Field Name | Alias | Field Type | Length | Examples |
|------------|-------|------------|--------|---|
| Notes | Notes | String | 250 | Wetland appears to be an abandoned stock pond |

Notes that would be useful to users of the data can be written in this space.

| Field Name | Alias | Field Type | Length | Examples |
|------------|------------------|------------|--------|----------|
| Confidence | Confidence Score | Short | NA | 1 |

The confidence score is a number between 1 and 5. The higher the score, the greater the confidence in the accuracy of the collected wetland. The following table indicates the pre-determined confidence score per data source.

| Confidence Score | Score |
|-------------------------------|-------|
| NWI | 1 |
| Desktop Delineated | 2 |
| TxDOT Predictive Wetland Tool | 3 |
| Field Delineated | 4 |
| AJD | 5 |



Wetland and Stream Delineation Data

| Field Name | Alias | Field Type | Length | Examples |
|------------|----------|------------|--------|----------|
| Lat | Latitude | Double | NA | 30.28572 |

Lat refers to the Y coordinates of the central point of the feature in Decimal Degrees out to a minimum of 5 decimal places.

| Field Name | Alias | Field Type | Length | Examples |
|------------|-----------|------------|--------|-----------|
| Long | longitude | Double | NA | -97.72942 |

Long refers to the longitude of the X coordinates of the central point of the feature in Decimal Degrees out to a minimum of 5 decimal places.

| Field Name | Alias | Field Type | Length | Examples |
|------------|-------|------------|--------|----------|
| Acres | Acres | Double | NA | 3.25 |

Acres refers to the total number of acres of the wetland or stream feature.

Attachments

This dataset has attachments that provide a flexible way to add additional information that is related to the water features. Attachments allow you to add files to individual features and can be images, PDFs, text documents, or any other type of file. Please keep the attachments to 5 megabytes or less.

Texas County Codes (to be used within the TXFID Field)

| Texas County Codes | | | | | | | |
|--------------------|----|---------------------|----|----------------------|----|--------------------------|----|
| 1. Anderson | AN | 65. Donley | DY | 129. Kaufman | KF | 193. Real | RE |
| 2. Andrews | AD | 66. Duval | DV | 130. Kendall | KE | 194. Red River | RR |
| 3. Angelina | AG | 67. Eastland | EA | 131. Kenedy | KN | 195. Reeves | RV |
| 4. Aransas | AS | 68. Ector | EC | 132. Kent | KT | 196. Refugio | RF |
| 5. Archer | AR | 69. Edwards | ED | 133. Kerr | KR | 197. Roberts | RB |
| 6. Armstrong | AM | 70. Ellis | EL | 134. Kimble | KM | 198. Robertson | RT |
| 7. Atascosa | AT | 71. El Paso | EP | 135. King | KG | 199. Rockwall | RW |
| 8. Austin | AU | 72. Erath | ER | 136. Kinney | KY | 200. Runnels | RN |
| 9. Bailey | BA | 73. Falls | FA | 137. Kleberg | KL | 201. Rusk | RK |
| 10. Bandera | BN | 74. Fannin | FN | 138. Knox | KX | 202. Sabine | SB |
| 11. Bastrop | BP | 75. Fayette | FY | 139. Lamar | LR | 203. San Augustine | SA |
| 12. Baylor | BY | 76. Fisher | FS | 140. Lamb | LA | 204. San Jacinto | SJ |
| 13. Bee | BE | 77. Floyd | FL | 141. Lampasas | LM | 205. San Patricio | SP |
| 14. Bell | BL | 78. Foard | FD | 142. La Salle | LS | 206. San Saba | SS |
| 15. Bexar | BX | 79. Fort Bend | FB | 143. Lavaca | LC | 207. Schleicher | SL |
| 16. Blanco | BC | 80. Franklin | FK | 144. Lee | LE | 208. Scurry | SC |
| 17. Borden | BD | 81. Freestone | FT | 145. Leon | LN | 209. Shackelford | SF |
| 18. Bosque | BQ | 82. Frio | FR | 146. Liberty | LB | 210. Shelby | SY |
| 19. Bowie | BW | 83. Gaines | GA | 147. Limestone | LT | 211. Sherman | SH |
| 20. Brazoria | BO | 84. Galveston | GV | 148. Lipscomb | LP | 212. Smith | SM |
| 21. Brazos | BZ | 85. Garza | GR | 149. Live Oak | LK | 213. Somervell | SV |
| 22. Brewster | BS | 86. Gillespie | GL | 150. Llano | LL | 214. Starr | SR |



Wetland and Stream Delineation Data

| Texas County Codes | | | | | | | |
|---------------------------|--------------------------|---------------------------|---------------------------|--|--|--|--|
| 23. Briscoe BI | 87. Glasscock.....GC | 151. Loving.....LV | 215. Stephens.....SE | | | | |
| 24. Brooks BK | 88. Goliad GD | 152. Lubbock.....LU | 216. Sterling.....ST | | | | |
| 25. Brown BR | 89. Gonzales GZ | 153. Lynn.....LY | 217. Stonewall SN | | | | |
| 26. Burleson BU | 90. Gray..... GY | 154. Madison.....MA | 218. Sutton SU | | | | |
| 27. Burnet..... BT | 91. Grayson..... GS | 155. Marion MR | 219. Swisher SW | | | | |
| 28. Caldwell CW | 92. Gregg GG | 156. Martin MT | 220. Tarrant TR | | | | |
| 29. Calhoun CL | 93. Grimes..... GM | 157. Mason..... MS | 221. Taylor..... TA | | | | |
| 30. Callahan CA | 94. Guadalupe..... GU | 158. Matagorda MG | 222. Terrell..... TE | | | | |
| 31. Cameron CF | 95. Hale HA | 159. Maverick MV | 223. Terry TY | | | | |
| 32. Camp CP | 96. Hall HL | 160. McCulloch.....MK | 224. Throckmorton..... TH | | | | |
| 33. Carson CZ | 97. Hamilton HM | 161. McLennan..... ML | 225. Titus TT | | | | |
| 34. Cass..... CS | 98. Hansford..... HF | 162. McMullen MC | 226. Tom Green..... TG | | | | |
| 35. Castro CAS | 99. Hardeman..... HX | 163. Medina..... ME | 227. Travis..... TV | | | | |
| 36. Chambers CH | 100. Hardin..... HN | 164. Menard MN | 228. Trinity TN | | | | |
| 37. Cherokee CE | 101. Harris..... HR | 165. Midland..... MD | 229. Tyler..... TL | | | | |
| 38. Childress CI | 102. Harrison..... HS | 166. Milam..... MM | 230. Upshur UR | | | | |
| 39. Clay CY | 103. Hartley HT | 167. Mills MI | 231. Upton UT | | | | |
| 40. Cochran CQ | 104. Haskell..... HK | 168. Mitchell MH | 232. Uvalde UV | | | | |
| 41. Coke CK | 105. Hays HY | 169. Montague MU | 233. Val Verde..... VV | | | | |
| 42. Coleman CN | 106. Hemphill HH | 170. Montgomery MQ | 234. Van Zandt..... VN | | | | |
| 43. Collin..... COL | 107. Henderson..... HE | 171. Moore MO | 235. Victoria..... VT | | | | |
| 44. CollingsworthCG | 108. Hidalgo HG | 172. Morris MX | 236. Walker WA | | | | |
| 45. Colorado..... CD | 109. Hill HI | 173. Motley..... MY | 237. Waller WL | | | | |
| 46. Comal CM | 110. Hockley..... HQ | 174. Nacogdoches NA | 238. Ward WR | | | | |
| 47. Comanche..... CJ | 111. Hood..... HD | 175. Navarro..... NV | 239. Washington..... WT | | | | |
| 48. Concho CC | 112. Hopkins HP | 176. Newton NW | 240. Webb WB | | | | |
| 49. Cooke CO | 113. Houston HO | 177. Nolan NL | 241. Wharton WH | | | | |
| 50. Coryell CV | 114. Howard HW | 178. Nueces NU | 242. Wheeler WE | | | | |
| 51. Cottle CT | 115. Hudspeth HZ | 179. Ochiltree OC | 243. Wichita WC | | | | |
| 52. Crane CR | 116. Hunt..... HU | 180. Oldham OL | 244. Wilbarger WG | | | | |
| 53. Crockett..... CX | 117. Hutchinson HC | 181. Orange OR | 245. Willacy WY | | | | |
| 54. Crosby CB | 118. Irion IR | 182. Palo Pinto PP | 246. Williamson WM | | | | |
| 55. Culberson CU | 119. Jack JA | 183. Panola PN | 247. Wilson..... WN | | | | |
| 56. Dallam DA | 120. Jackson JK | 184. Parker..... PR | 248. Winkler..... WK | | | | |
| 57. Dallas..... DL | 121. Jasper..... JP | 185. Parmer..... PM | 249. Wise..... WS | | | | |
| 58. Dawson DS | 122. Jeff Davis..... JD | 186. Pecos PC | 250. Wood WD | | | | |
| 59. Deaf Smith DF | 123. Jefferson..... JF | 187. Polk PK | 251. Yoakum YK | | | | |
| 60. Delta DT | 124. Jim Hogg JH | 188. Potter..... PT | 252. Young YN | | | | |
| 61. Denton DN | 125. Jim Wells JW | 189. Presidio PS | 253. Zapata..... ZP | | | | |
| 62. De Witt..... DW | 126. Johnson..... JN | 190. Rains RA | 254. Zavala..... ZV | | | | |
| 63. Dickens..... DK | 127. Jones..... JS | 191. Randall RD | | | | | |
| 64. Dimmitt DM | 128. Karnes..... KA | 192. Reagan..... RG | | | | | |



Appendix A: Revision History

The following table shows the revision history for this interim guidance document.

| Revision History | |
|-------------------------------|--------------------------------------|
| Effective Date Month, Year | Reason for and Description of Change |
| July 2022 | Version 1 was released. |