

ATTACHMENT II.A-4

Brevard County – Wetland Study

Landscape-Level Polygon Development (12/27/13):

Landscape-Level Wetlands are defined as wetlands that are **EITHER** 1) five (5) acres or larger; **OR** 2) located within the Landscape-Level polygon **AND** the Army Corps of Engineers (ACOE) determines the wetland is hydrologically connected to the St. Johns River or Indian River Lagoon System.

The polygon developed to be used to identify the potential presence of land-scape level wetlands was created by assimilating information from several data sources. The initial map utilized was the current FEMA map. Zones A, AE, AO, FW, and VE were utilized to identify wetlands that interact with adjacent wetlands that are connected to floodplains of the St. Johns River and the Indian River Lagoon.

Additional data was utilized to further refine the flood plains. Modeled water elevations were used for the St. Johns River. New draft FEMA maps were assessed and an additional data set from Brevard County was included that identifies depressional areas that undergo flooding problems in large-scale rain events.

The inclusion of these data sources results in a polygon that likely approximates the locations of land-scape level wetland systems that are influenced by large-scale flooding events within the county.

The table below indicates where the additional data sources modified (Data_Modifier shape file) the FEMA flood zones that were utilized as the initial map.

Township, Range	Rationale	Activity
20 S, 35	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
21 S, 36	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
23 S, 35	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
23 S, 36	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
23 S, 37	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
24 S, 36	Brevard Depressional, FEMA revision	Merger Brevard layer, review FEMA
25 S, 36	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
25 S, 36	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
29 S, 36	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
29 S, 37	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
30 S, 37	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
Delespine	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly
Delespine	SJRWMD data, elevation data	Incorporate flood elevation into FEMA poly

The activities utilized to incorporate additional data, included revising line work to incorporate areas where additional data was available and merging polygons that were not included in the initial FEMA maps. The wetland community map (CLCV polygon) was also used to include wetland systems that are connected to the floodplain polygon. These contiguous systems were included in the developed floodplain polygon. It is anticipated that the resulting polygon reflects the areas that the SJR floodplain and increased precipitation have an effect on the wetland systems that are contained within them. The

resulting land-scape level polygon approximates a five to ten year floodplain for the St. Johns River system.

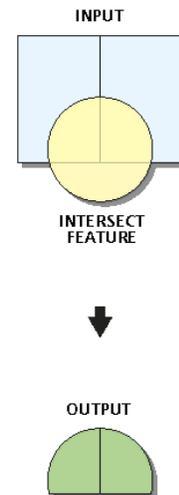
GIS Procedure:

Spatial data layer of Cooperative Land Cover (CLCV) was clipped with Brevard County Boundary layer.

- The *CLCV_Brevard* layer was reselected based on field *LC_name* = wetland land cover types producing *CLC_wetlands* layer.
- A wetland field was added to *CLC_wetlands* layer and was calculated equal to 100.
- Overlapping boundaries of wetlands were dissolved (dissolve item = wetlands).
- A spatial intersection was performed with FEMA flood zones A, AE, AO, FW and VE where the input feature was *CLC_wetlands* and the intersect feature was FEMA_Floodzones with zones A, AE, AO, FW, and VE selected.
- The resulting polygon was then edited to move the polygon edge to correspond with St. Johns River floodplain water elevations and the available LIDAR land elevation data.
- A layer of the Federally managed lands and an additional layer of the municipalities are overlaid on the Land-scape level polygon to identify areas that are not under the jurisdiction of the County.

Intersect

Computes a geometric intersection of the input features. Features or portions of features which overlap in all layers and/or feature classes will be written to the output feature class.



Data Sources:

Brevard County

Florida Geographic Data Library (www.fgd.org)

Florida Natural Areas Inventory (<http://www.fnai.org/LandCover.cfm>)

St. Johns River Water Management District

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Effective dates from 1987-1997. (Draft FIRM data also utilized).