

Appendix I - Potential Forested Freshwater Wetland Restoration Sites for the CHSJS CCMP

Introduction

Approximately one-quarter of the historical (1942) freshwater marshes and forested wetlands of Clearwater Harbor and St. Joseph Sound still remain in the inland watersheds due to extensive development, most of which is residential land use. As described in the CCMP, restoring forested freshwater wetlands offers opportunities to improve water quality, flood protection, and fish and wildlife habitat. A net increase or at a minimum, no loss, in these habitats would seem an appropriate target.

A total of 1,058 acres of historical forested freshwater wetlands on public lands were identified as potential opportunities for restoration, enhancement, or preservation. The methods used to identify potential sites are detailed below and the sites themselves are listed in Table 1 and all 43 potential sites are mapped in Figure 1. Individual maps of the 43 potential sites are attached.

Methods

A Geographic Information System (GIS) was used to identify and prioritize potential forested freshwater wetland restoration sites. The location of historical forested freshwater wetlands was first used to identify potential restoration sites. Criteria were then developed to exclude sites that were non-restorable (e.g. due to land owner or size) and then prioritize sites that were restorable (e.g. current land cover or adjacent land use/ land cover).

Historical wetlands were photo-interpreted from historical (1942-1943) aerial photographs obtained from the National Archives and Records Administration in Washington D.C. Polygons were digitized in ArcMap at a scale of 1:6000 with flexibility to examine areas at a finer scale. The minimum mapping unit (MMU), or smallest land cover feature delineated and characterized on the map, was one acre for freshwater wetlands.

The Soil Survey Geographic (SSURGO) database for Florida was used in conjunction with signatures from historical aerial photography to assign Florida Land Use, Land Cover Classification System (FLUCFCS) codes. Historical freshwater wetlands were assigned FLUCFCS level 2 codes (e.g. 6200 – Wetland Coniferous Forest, 6400 – Vegetated Non-Forested Wetland, etc.). FLUCFCS codes for polygons with multiple small habitat components reflected the dominant habitat within the polygon.

Exclusionary criteria were applied that removed those wetlands that were not in public lands, were currently developed, smaller than one acre in size, and located directly adjacent to estuaries. Historical forested freshwater wetlands were clipped to public land boundaries and used to create a list of sites. Sites are composed of public land parcels with historical forested freshwater wetlands that can potentially be restored, enhanced, or preserved. Current aerial photographs were then used to identify non-restorable historical wetlands in public lands due to development (e.g. buildings, paved roads, or parking lots). These areas were erased from the restorable historical wetlands in public lands. Historical wetlands smaller than one acre in size and/or directly adjacent to the estuaries were also eliminated.

Potential wetland restoration sites were prioritized after exclusionary criteria were applied. Table 1 lists the sites by Map ID and their respective priority ranking. Sites with a total value of 3, 4, or 5 are shaded gray. Sites located in the St. Joseph Sound Watershed include Map ID numbers 1

through 28, in the Clearwater Harbor North Watershed include Map ID numbers 29 through 32, and in the Clearwater Harbor South Watershed include Map ID numbers 33 – 43. Figure 1 maps the location of the sites by Map ID.

Priorities were based on the restoration value of historical forested freshwater wetlands. For example, priorities were assigned to historical wetlands that were adjacent to current wetlands (+1) and Strategic Habitat Conservation Areas (SHCA) (+1). Historical wetlands that are undeveloped but not currently wetlands were given priority (+1). The value of restoring historical wetlands that are currently wetlands were lowered in value (-4). Sites that were restorable (+2) were given priority over those that were enhanceive (+1). Current wetlands that are neither restorable nor enhanceive could be preserved (0). Non-restorable sites were lowered in value (-4). Total value of restoring historical wetland could range from -8 to 5.

For example, site 10 (Table 1) is located in the St. Joseph Sound watershed on the Anclote River. It is not adjacent to a SHCA and was given a score of 0 for that criterion. However, it is adjacent to a wetland and was given a score of 1. It was given a score of -4 due to the fact that it is currently a wetland and has less restoration value than an undeveloped upland. It could be preserved because it is currently a wetland and was given a score of 0. The total value of restoring this historical wetland was -3.

On the other hand, site 33 is located in the Clearwater Harbor South Watershed in John Taylor Park. It is not adjacent to a SHCA and was given a score of 0 for that criterion. However, it is adjacent to a wetland and was given a score of 1. It was given a score of 1 because it is undeveloped but not currently a wetland. It is restorable and was given a score of 2. The total value of restoring this historical wetland was 4.

Results

A total of 43 sites and 1,058 acres of historical forested freshwater wetlands on public lands were identified as potential sites for restoration, enhancement, and preservation. Of the 43 sites, 16 are restorable, 4 are enhanceive, and 21 can be preserved.

Twelve of the 16 potentially restorable sites had a total restoration value greater than zero due to the fact that they are not currently a wetland. The four restorable sites that had values less than zero are predominantly a wetland with opportunities for partial restoration. Five of the twelve sites were located in the St. Joseph Sound watershed, two in the Clearwater Harbor North watershed, and five in the Clearwater Harbor South watershed. Two of the sites in the St. Joseph Sound watershed are located in or near recreation areas. Site 19 is located in the Brooker Creek Preserve and site 26 is located near Wall Springs Park. All five sites in the Clearwater Harbor North watershed were located in or adjacent to recreation areas including John Taylor Park, Ridgecrest Park, and Walsingham Park.

Potentially enhanceive wetlands appeared to be somewhat functional and/or included areas that were undeveloped and not currently a wetland. Three of the four potentially enhanceive sites are located in the southern half of the St. Joseph Sound watershed. One potentially enhanceive site (#37) is located in the Clearwater Harbor South watershed in Ridgecrest Park.

Sites were recommended for preservation when they appeared to be a functional forested freshwater wetland. Sixteen sites are located in the St. Joseph Sound watershed, two sites in the Clearwater Harbor North watershed, and three sites in the Clearwater Harbor South watershed.

Two sites, including Sites 20 and 43, are likely non-restorable. Site 20 is located in the St. Joseph Sound watershed and Site 43 is located in the Clearwater Harbor South. Both sites are labeled as non-restorable due to their configuration (canals less than 100 feet wide).

Table 1. Priority Ranking of Potential Forested Freshwater Restoration Sites

Watershed	Map ID	Parcel Number	Area (ac)	Adjacent to SHCA	Adjacent to Wetland	Current Land Use/ Land Cover	Restorable/ Enhance	Total
St. Joseph Sound	1	012716000001300000	27	0	1	-4	0	-3
	2	012716000002100100	25	0	1	-4	0	-3
	3	012716000003000000	74	0	1	-4	0	-3
	4	012815000004400110	2	0	1	-4	1	-2
	5	022716000003000000	95	0	1	-4	2	-1
	6	032716000001000100	101	1	1	-4	0	-2
	7	032716000001200200	4	0	1	-4	0	-3
	8	042716893520000020	13	1	1	-4	0	-2
	9	052716893700000020	1	0	1	-4	0	-3
	10	052716893700000170	33	0	1	-4	0	-3
	11	062816000002300200	4	0	1	-4	0	-3
	12	062816000002300710	3	0	0	-4	1	-3
	13	062816334060000002	2	0	0	-4	2	-2
	14	102716000002400110	1	0	1	1	2	4
	15	102716000002400200	15	0	1	-4	0	-3
	16	102716000003100200	2	0	1	1	2	4
	17	102716000003200300	6	0	1	-4	0	-3
	18	102815128160120500	5	1	1	-4	2	0
	19	112716000001000100	168	1	1	1	2	5
	20	112716000002300200	1	0	1	1	-4	-2
	21	112815000001300130	4	0	1	1	2	4
	22	112815298980051000	1	1	1	-4	0	-2
	23	112815298980051100	2	1	1	-4	0	-2

	24	122715899820960000	1	1	1	-4	0	-2
	25	122716000002100100	28	1	1	-4	0	-2
	26	262715000004100100	10	0	0	1	2	3
	27	352715000002401400	14	1	1	-4	0	-2
	28	362715893340000010	4	0	1	-4	1	-2
Clearwater Harbor North	29	072816000001300600	2	0	0	1	2	3
	30	182816000003100300	6	0	0	-4	0	-4
	31	192816000002100100	1	0	0	1	2	3
	32	262815000004400100	27	0	1	-4	0	-3
Clearwater Harbor South	33	043015000001200200	17	0	1	1	2	4
	34	043015704523000300	2	0	1	-4	0	-3
	35	043015704523001300	4	0	1	-4	0	-3
	36	093015000002100200	5	0	1	-4	0	-3
	37	093015000002300100	18	0	1	-4	1	-2
	38	093015704882000500	2	0	0	1	2	3
	39	173015000001400100	265	0	1	-4	2	-1
	40	203015706501000500	20	0	0	1	2	3
	41	203015706501001700	22	0	1	1	2	4
	42	203015706501002100	15	0	0	1	2	3
	43	203015706504000401	4	0	1	1	-4	-2

Figure 1. Potential Forested Freshwater Wetland Restoration Sites

