

APPENDIX C
ENVIRONMENTAL

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1 SECTION 404(B) EVALUATION

I) Project Description

- a) Location Big Fishweir Creek is a small tributary on the west side of the St. Johns River approximately 4 miles south of downtown Jacksonville, FL. Big Fishweir Creek enters the St. Johns River just north of the Ortega River. Little Fishweir Creek discharges to the north side of Big Fishweir Creek approximately 1,500 feet from the mouth of Big Fishweir Creek.

- b) General Description. The proposed project would involve restoration of aquatic ecosystems through management measures described in the Ecosystem Restoration Report. The management measures include removal of sediment from Big Fishweir and Little Fishweir Creeks, removal of upland berm material in the upper section of the stream, creation of a brackish marsh island, removal of nuisance and invasive species, and planting emergent and sub-aquatic vegetation in existing and created wetland systems. These measures would open up the confluence of the Big Fishweir Creek with the St. Johns River, re-establish hydrological connection from the upper stream to the mouth of the Creek, and restore ecological function to existing habitat for fish and wildlife. As described in the main report, the objectives of this work are to provide enhanced wildlife habitat, with particular attention to the federally protected West Indian manatee and wood stork.

- c) Authority and Purpose. This document is an Environmental Restoration Report (ERR) submitted under the authority of Section 206 of the Water Resources Development Act (WRDA) of 1996 (PL 104-303), as amended. The act reads, in part, as follows:

“...The Secretary may carry out an aquatic ecosystem restoration and protection project if the Secretary determines that the project - (1) will improve the quality of the environment and is in the public interest; and (2) is cost-effective.”

- d) General Description of Dredged or Fill Material.
 - 1) General Characteristics of Material. Dredged material from the project area consists primarily of sand, with some silt and muck.
 - 2) Quantity of Material. An estimated 32,000 cubic yards (cy) of dredge material would be removed from the project footprint and will be used

- to construct a 2.5 acre marsh island within the streambed at the confluence of Big Fishweir Creek and St Johns River.
- 3) Source of Material. Dredged material will come from the channel-dredged material within Big Fishweir Creek and Little Fishweir Creek.
- e) Description of the Proposed Discharge Site(s).
- 1) Location. Marsh island to be created within the streambed at the confluence of Big Fishweir Creek and St Johns River.
 - 2) Size. Approximately 2.5 acre.
 - 3) Type of Site: Proposed brackish water marsh restoration site.
 - 4) Type(s) of Habitat. Historically freshwater and/or brackish water marsh, but has eroded away and become open water.
 - 5) Timing and Duration of Discharge. Timing of project is undetermined and duration should be less than 16 months. However, additional material may need to be added to the restoration site after initial settling in order to achieve the desired elevation for brackish marsh which would lengthen the duration.
- f) Description of Disposal Method. A dredge methodology type has not been determined at this time. The dredged material will be placed in geotextile tubes configured as a foundation to contain loose remaining material for the construction of an on-site marsh island.

II) Factual Determinations

- a) Physical Substrate Determinations.
- 1) Substrate Elevation and Slope. The Big Fishweir Creek has a shallow bottom with an unauthorized depth of -2 to -5 feet. Actual depths can vary widely through the streambed due to shoal formation. Most of the shoreline along the stream has been altered from armoring by bulkhead and retention walls. The depths of the restoration site vary widely from -4.0 feet to -6.0 feet mean low water (MLW).
 - 2) Sediment Type. Unconsolidated with sand, silt, and muck.
 - 3) Dredged/Fill Material Movement. Dredged material will be contained within the restoration area with geo-tubes and will furnish the material for the proposed brackish marsh island creation.
 - 4) Physical Effects on Benthos. Benthic organisms would be impacted by dredging activity and marsh island construction operations. Re-colonization should begin in less than one year. However, full recovery may require additional time.

- 5) Actions to minimize impacts. Dredge location and placement operations would be monitored to insure that construction activities are performed in authorized project areas only, turbidity sampling shall be conducted, and containment structures used at the restoration site.

b) Water Circulation, Fluctuation and Salinity Determinations.

1) Water Column Effects

- (i) Salinity: No significant effect.
- (ii) Water Chemistry: No significant effect.
- (iii) Clarity: Turbidity would temporarily decrease clarity.
- (iv) Color: Turbidity would temporarily change color.
- (v) Odor: No significant effect.
- (vi) Taste: No significant effect.
- (vii) Dissolved Gas Levels: No significant effect.
- (viii) Nutrients: No significant effect.

2) Current Patterns and Circulation.

- (i) Current Patterns and Flow: Dredging and material-packed geotube placement operations would affect current patterns or flow, which should provide improved navigation benefits and reduce future sediment loading in the Big Fishweir Creek system. The proposed restoration of existing mixed hardwood bottomland and freshwater/brackish water marsh, along with the creation of the marsh island, would aid in maintaining the opened channel and provide intertidal action for this tributary. This connection was compromised by the sediment and nutrient loading in the streambed, and partial loss of estuarine marsh at the confluence with the St Johns River. Shoaling within the mouth of Big Fishweir Creek has also decreased the amount of flow or flushing effect coming from the freshwater upper stream portion of the Creek system, or from the lower St Johns River basin. Therefore, the Corps proposes to construct a flow improvement channel within the Big Fishweir Creek system, which should improve the flushing of silt through the lower St Johns River basin, as well as provide improved water quality for Essential Fish Habitat.
- (ii) Velocity: Velocities would change within the study area, but significant impacts are not anticipated.
- (iii) Stratification: No significant effect.
- (iv) Hydrologic Regime: Currents in the project area are primarily riverine originating from the headwaters of both Big Fishweir Creek and Little Fishweir Creek, and are tidally influenced. It is

anticipated that the tidal regime would be improved by the project activities.

- (v) Normal Water Level Fluctuations. Tides in the project area are semi-diurnal with varying levels throughout the year. The project would not affect normal water level fluctuations.
- 3) Salinity Gradients. The project would not affect salinity gradient.
- (i) Actions to minimize impacts. Turbidity would be monitored per the requirements of the state permit. If at any time the turbidity standard were exceeded, those activities causing the violation would cease.
- c) Suspended Particulate/Turbidity Determinations.
- 1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site. There will be a temporary increase in suspended particulates and turbidity levels in the vicinity of the disposal site. Upon completion of the construction activities, turbidity levels are expected to decrease to pre-project levels.
 - 2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column.
 - (i) Light Penetration: Light penetration would decrease during dredging and placement operations in open water sites.
 - (ii) Dissolved Oxygen: Dissolved oxygen levels would not be significantly altered by this project.
 - (iii) Toxic Metals and Organics: Sediments in the study area are not known to contain toxic metals and organics.
 - (iv) Pathogens: This project would not cause any release of pathogens.
 - (v) Aesthetics: Turbidity would temporarily impact aesthetic quality of the project channel and open water placement locations.
 - 3) Effects on Biota.
 - (i) Primary Production, Photosynthesis: The project would have a positive impact on primary production or photosynthesis.
 - (ii) Suspension/Filter Feeders: Turbidity would affect suspension/filter feeders, but the effects would be temporary.
 - (iii) Sight Feeders: Sight feeders would be affected by turbidity, but the effects would be temporary.
 - 4) Actions to minimize impacts. As stated earlier, turbidity would be monitored per the requirements of the state permit. If at any time the turbidity standard were exceeded, those activities causing the violation would cease.

- d) Contaminant Determinations. Levels of contaminants are not expected to have a significant impact on plankton, benthos, nekton, or the aquatic food web.
- e) Aquatic Ecosystem and Organism Determinations. .
- 1) Effects on Plankton: Significant effects on plankton are not anticipated.
 - 2) Effects on Benthos: Benthos would be impacted by the project, but benthic organisms would be expected to begin recovery within one year. However, full recovery may take a longer period of time.
 - 3) Effects on Nekton: Significant effects on nekton are not anticipated.
 - 4) Effects on Aquatic Food Web: As stated earlier, benthos would be impacted, but additional significant effects on the food web are not anticipated.
 - 5) Effects on Special Aquatic Sites.
 - (i) Sanctuaries and Refuges: No National Sanctuaries or Refuges are located within the vicinity of this project. This work would be performed in compliance with the Water Quality Certification issued by the state of Florida.
 - (ii) Wetlands: The proposed work would temporarily affect approximately 23 acres of mixed hardwood bottomland, freshwater marsh, freshwater/brackish water marsh, and tidal flat as part of the restoration effort. As none of these impacts are permanent, no mitigation will be required.
 - (iii) Mud Flats: No significant impacts to mud flats are anticipated.
 - (iv) Vegetated Shallows: Other than temporary impacts to existing marsh, impacts to other vegetated shallows are not anticipated.
 - (v) Coral Reefs: There are no coral reefs in the project area.
 - (vi) Riffle and Pool Complexes: There are no riffle and pool complexes in the project area.
 - 6) Threatened and Endangered Species. The project would not have a significant impact on threatened and endangered species.
 - 7) Other Wildlife. The project would not have a significant impact on wildlife except during activities related to dredge and construction. Impacts to wildlife using upland areas should be minimal.
 - 8) Actions to Minimize Impacts. Measures shall be taken to avoid or minimize impacts to threatened and endangered species as well as other wildlife (see Section 7.2 of the main report).
- f) Proposed Disposal Site Determinations

- 1) Mixing Zone Determination. This determination will be in accordance with the Water Quality Certification issued for this project.
 - 2) Determination of Compliance with Applicable Water Quality Standards. The work would be conducted in accordance with the Water Quality Certification issued for this project.
 - 3) Potential Effects on Human Use Characteristic.
 - (i) Municipal and Private Water Supply: No effects are anticipated.
 - (ii) Recreational and Commercial Fisheries: Impacts to fisheries would not be significant.
 - (iii) Water Related Recreation: Construction activities would temporarily disrupt water related recreation.
 - (iv) Aesthetics: Construction would temporarily impact aesthetics.
 - (v) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves: No effects are anticipated as these resources are not within the vicinity of the project. This work would be performed in compliance with the Water Quality Certification issued by the state of Florida.
 - g) Determination of Cumulative Effects on the Aquatic Ecosystem. Dredging and placement operations would have minor temporary impacts on the aquatic ecosystem. However, the proposed aquatic resource restoration would provide substantial wetland functions and values that should enhance these systems post-construction. Most temporary impacts during construction should be relatively short-term. The project in conjunction with other on-going activities should not have a significant cumulative effect on the aquatic ecosystem.
 - h) Determination of Secondary Effects on the Aquatic Ecosystem. The proposed work may provide a stimulus for economic growth such as increased commercial usage of businesses adjacent to Big Fishweir Creek, and increased residential property values. These actions are not anticipated to cause further impact the aquatic ecosystem.
- III) Findings of Compliance or Non-Compliance with the Restrictions on Discharge
- a) Adaptation of the Section 404(b)(1) Guidelines to this Evaluation: No significant adaptations of the guidelines were made relative to this evaluation.

- b) Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem: The proposed discharge site is a brackish water marsh restoration area, which shall provide substantial wetland functions and values.
- c) Compliance with Applicable State Water Quality Standards: Dredging and material placement activities would be performed in compliance with the Water Quality Certification issued by the state of Florida.
- d) Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 Of the Clean Water Act: The discharge operation would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
- e) Compliance with Endangered Species Act of 1973: The proposed project would not jeopardize the continued existence of any species listed as threatened or endangered or result in the destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973.
- f) Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972: This act does not apply to this project.
- g) Evaluation of Extent of Degradation of the Waters of the United States
 - 1) Significant Adverse Effects on Human Health and Welfare
 - (i) Municipal and Private Water Supplies: No effect.
 - (ii) Recreation and Commercial Fisheries: No substantial adverse impacts are anticipated.
 - (iii) Plankton: No substantial adverse impacts are anticipated.
 - (iv) Fish: No substantial adverse impacts are anticipated.
 - (v) Shellfish: No substantial adverse impacts are anticipated.
 - (vi) Wildlife: No substantial adverse impacts are anticipated.
 - (vii) Special Aquatic Sites: No substantial adverse impacts are anticipated.
 - 2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems: Most impacts should be relatively short-term, and not significant.
 - 3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability: No significant adverse effects on aquatic ecosystem diversity, productivity and stability are anticipated.

- 4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values: Recreation and aesthetic values would be temporarily disrupted due to construction activity, but significant effects are not anticipated.

- h) Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Measures shall be taken to minimize impacts (please see Section 7 of the main report for more information).

- i) On the basis of the guidelines the proposed disposal site(s) for the discharge of dredged or fill material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.

2 FLORIDA COASTAL ZONE MANAGEMENT PROGRAM

2.1 FEDERAL CONSISTENCY EVALUATION PROCEDURES

1. Chapter 161, Beach and Shore Preservation. The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed plans and information will be submitted to the state in compliance with this chapter.

2. Chapters 163(part II), 186, and 187, County, Municipal, State and Regional Planning. These chapters establish the Local Comprehensive Plans, the Strategic Regional Policy Plans, and the State Comprehensive Plan (SCP). The SCP sets goals that articulate a strategic vision of the State's future. Its purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed project has been coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure.

3. Chapter 252, Disaster Preparation, Response and Mitigation. This chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The proposed project involves the increased flushing of water in the streambed which can alleviate the potential threat of flooding to properties along the banks. Therefore, this project would be consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands. This chapter governs the management of submerged state lands and resources within state lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The proposed project would comply with state regulations pertaining to the above resources. The proposed aquatic ecosystem restoration would create

increased freshwater and brackish water marsh, restored existing mixed hardwood bottomland, and vegetated tidal flat habitats. Essential fish habitat will be enhanced as a result of the proposed restoration. Cultural resources have been identified and will not be impacted or disturbed by this action. No seagrass beds are currently present within the proposed restoration areas. The proposed project would comply with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition. This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, these chapters do not apply to this project.

6. Chapter 258, State Parks and Aquatic Preserves. This chapter authorizes the state to manage state parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed project area does not contain any state parks or aquatic preserves; nor are there any within the immediate vicinity of the project that would be affected. The project is consistent with this chapter.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: This project has been coordinated with the State Historic Preservation Officer (SHPO). Historic Property investigations were conducted in the project area. An archival and literature search, in addition to a magnetometer survey of the proposed borrow area were conducted. The SHPO concurred with the Corps determination that the proposed project will not adversely affect any significant cultural or historic resources. The project will be consistent with the goals of this chapter.

8. Chapter 288, Economic Development and Tourism. This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The proposed restoration of Big Fishweir Creek would provide more space for recreation and the protection of recreational facilities along the banks of this waterway. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

9. Chapters 334 and 339, Transportation. This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: No public transportation systems would be impacted by this project.

10. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: The proposed work will have minor, temporary impact to freshwater/brackish water marsh, and these impacts shall recover through the proposed restoration activities. Benthic organisms may also be adversely affected by the work, but should recover upon completion of the project activities. The project footprint is relatively small and lies adjacent to similar habitat which should accelerate benthic recolonization. Therefore, substantial impacts to the aquatic ecosystem are not anticipated. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

11. Chapter 372, Living Land and Freshwater Resources. This chapter establishes the Fish and Wildlife Conservation Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project would not have a substantial adverse impact on living land and freshwater resources. Loss of upland habitat would be minimal.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project does not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This project does not involve the exploration; drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 379, Fish and Wildlife Conservation. This chapter establishes the Florida Fish and Wildlife Conservation Commission, and it regulates the conservation of marine and freshwater aquatic and wild animal life and their habitats to perpetuate a diversity of species with densities and distributions sufficient to provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The proposed aquatic restoration plan may represent a temporary short-term impact to infaunal invertebrates by removal these organisms. However, these organisms are highly adapted to the periodic burial by sand in the intertidal zone. These organisms are highly fecund and are expected to return to pre-construction levels within six months to one year after construction. As no sea turtles are currently present in the project area, it is not expected that sea turtles will be impacted by this project. In addition, the project will have no effect on freshwater aquatic life or wild animal life. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

16. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development. This chapter also deals with the Area of Critical State Concern program and the Coastal Infrastructure Policy.

Response: The proposed aquatic restoration project will not have any regional impact on resources in the area. Therefore, the project is consistent with the goals of this chapter.

17. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito Control). Chapter 388 provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The project as proposed shall not further the propagation of mosquitoes or other pest arthropods.

18. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the state by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: An Environmental Assessment addressing project impacts has been prepared and will be reviewed by the appropriate resource agencies including the Florida Department of Environmental Protection. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. Water Quality Certification will be sought from the State prior to construction. The project complies with the intent of this chapter.

19. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

2.1.1 Cumulative Impacts

Cumulative impact is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Table 1 summarizes the impact of such cumulative actions by identifying the past, present, and reasonably foreseeable future condition of the various resources which are directly or indirectly impacted by the proposed action and its alternatives. The table also illustrates the with-project and without-project condition (the difference being the incremental impact of the project).

Big Fishweir Creek is a small tributary on the west side of the St. Johns River approximately 4 miles south of downtown Jacksonville, FL. Big Fishweir Creek enters the St. Johns River just north of the Ortega River. Little Fishweir Creek discharges to the north side of Big Fishweir Creek approximately 1,500 feet from the mouth of Big Fishweir Creek.

The timeline for this cumulative impacts analysis is from the 1940's, which corresponds to the timeframe of which the City of Jacksonville Westside community underwent development, to the present. The analysis is spatially restricted to the Big Fishweir Creek system that encompasses Big Fishweir Creek, Little Fishweir Creek, the confluence of Big Fishweir Creek with the Lower St Johns River, and the adjacent shoreline and riparian, with emphasis on the study area.

TABLE 1: SUMMARY OF CUMULATIVE IMPACTS

	Past	Present	Future without project	Future with project
General Environment	Numerous physical changes including shoreline development and channel modifications. Extensive loss or degradation of aquatic and upland habitats.	High percentage of shoreline built-out, armoring, and landscaping. Channel modifications include sediment loading to non-navigable blockage. Significant adjacent habitat still exists, but still threatened.	Continued degradation from compromised hydrology, sediment deposition, water quality, and encroaching undesirable vegetation. Creation of brackish marsh island would not occur. Declined usage by fish and wildlife would continue.	Cumulative adverse impacts to the general environment caused by the proposed work in combination with other actions may occur, but protective regulations should reduce impacts. Creation of brackish marsh island would have a positive impact.
Threatened and Endangered Species	Former resource for manatee foraging and resting area, safe haven in upper stream for resting, mating, nurturing young. Fresh drinking water source. Fringing marsh more extensive provided suitable habitat for wood stork forage and loafing.	Extensive loss or degradation of manatee habitat by inaccessibility to waterway. Loss of forage food resources, degraded fresh drinking water resource. Loss of fringing marsh degraded habitat for wood stork as unsuitable.	No usage by manatees due to inaccessibility. No usage by wood stork at this time; continued degradation to ecosystem further erodes potential usage for foraging or nesting.	Sediment removal will provide access to aquatic resources: forage, safe haven, improved water quality for fresh drinking water. Restoration of existing marsh and creation of marsh island would re-establish suitable habitat for wood stork.
Essential Fish Habitat (EFH)	Extensive loss of brackish marsh and other wetlands due to shoreline development. Water column adversely affected by changes in water quality.	Loss of wetland functions have declined due to urban development. Significant brackish marsh and other wetlands still present but still threatened by impaired water quality, encroaching invasive species.	Cumulative adverse impacts caused by water quality impairment occurring throughout the watershed. Physical changes may occur, possible declining fish populations and usage from loss of habitat. Creation of brackish marsh island would not occur.	The proposed work will positively impact EFH by significantly improving quality of habitat. Increased foraging of benthic invertebrates and spawning areas. Increased dissolved oxygen and water clarity.

TABLE 1 continued

	Past	Present	Future without project	Future with project
Wildlife Resources	Extensive loss or degradation of habitat.	Significant adjacent habitat still present, but threatened by degraded habitat quality and encroaching development.	Cumulative adverse impacts caused by continued water quality impairment and other types of habitat degradation may occur. However, protective regulations should reduce impacts. Creation of brackish marsh island would not occur.	Significantly increased use due to improved quality of habitat. Increased nesting, forage potential, spawning areas, additional cover by vegetation. Creation of brackish marsh island would provide substantial benefits to wading and shore birds, and waterfowl.
Cultural Resources	A prehistoric site has been identified, but past and present effects have not been evaluated	A prehistoric site has been identified, but past and present effects have not been evaluated	No adverse effect.	No adverse effect.
Water Quality	Historically, point and non-point sources of water pollution have adversely impacted water quality.	Off-site stormwater retention and municipal sewage treatment projects have moderately improved water quality.	Cumulative adverse impacts caused by runoff and other discharges may occur associated with severe storm events.	The proposed work would improve overall water quality by decreasing BOD, turbidity, and sediment and nutrient loading.
Air Quality	Location, weather patterns, and a lack of heavy industry have contributed to generally good air quality.	Florida is in attainment with all air quality standards.	Local cumulative emissions are not expected to significantly change.	The proposed work in combination with other actions is not expected to significantly change local emissions.
Hazardous, Toxic, and Radioactive Waste (HTRW)	HTRW is introduced through non-point sources.	HTRW is relatively uniformly present throughout the project area. Re-distribution of sediment from one spot to another of equal or greater contamination is being discussed with FDEP.	Low level traces of HTRW are known to be present will remain suspended in sediment on-site.	Low level traces of HTRW are present in the sediment on-site. Disturbed sediment will be contained within Geo-tubes and will remain on-site. Two clean areas will provide clean fill for the top of the island, for clean vegetation.

TABLE 1 continued

	Past	Present	Future without project	Future with project
Recreation	Recreational use and associated impacts have decreased over time. Boating access docks were constructed at residential water-front lots.	Current low recreational use of the area is due to sediment blockage of waterway at mouth. Residential boat docks are in disrepair.	Low recreational use is expected to continue.	Moderate recreational use of adjacent public lands including boating, fishing, and wildlife viewing is expected with navigational channel access restored.
Aesthetics	Development of shoreline affected local aesthetics.	Shoreline is mostly built out, armored shoreline, boat docks and remnant fresh and brackish water marsh tidal flat, and forested riparian, persist.	Significant cumulative impacts to local aesthetics are anticipated with continued decline of the landscape quality in the community.	The proposed work in combination with other actions should significantly enhance local aesthetics.
Noise	Development has minimally increased ambient noise levels.	Current noise levels generally appear to be minimal, typical for that associated with urbanization.	Significant increases to noise levels are not anticipated.	The proposed work in combination with other actions should not significantly increase noise levels.
Socio Economics	Development of the residential and commercial community adjacent to the project site has been a positive economic stimulus.	Degraded water quality from sediment, nutrient and coliform bacteria loading, diminished shoreline by development.	Slow decline of positive economic stimulus to the area due to degraded water quality condition.	The proposed work in combination with other actions should significantly enhance local economy of the immediate area. Anticipate increase in real estate property value.
Navigation	Historically, Big Fishweir Creek had navigable access into the Lower St Johns River.	Sediment loading has silted all navigable channels within the Creek system with exception of canoe/kayak at high tide.	Non-access for navigation by watercraft will continue unabated.	The proposed work in combination with other planned actions should provide significant navigation benefits.

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3 GENERAL ENVIRONMENT

The watershed sub-basin containing the Big Fishweir Creek system, a component of the St Johns River Basin Watershed, has experienced extensive urbanization by residential and commercial land use. Most of this development occurred prior to the promulgation of municipal stormwater regulations. This scenario has resulted in significant contribution of sediment and contaminant deposition in both Big Fishweir and Little Fishweir Creek by untreated runoff. Collectively, these sediments and contaminants are the direct cause of degradation to the natural habitat that occurs along the riparian of this waterway.

Primarily a freshwater tidal stream, significant portions of the stream's littoral shelf is dominated by invasive or nuisance plant species such as Cattail (*Typha domingensis*), wild taro (*Colocasia esculenta*), and Alligatorweed (*Alternanthera philoxeroides*). A few pockets of Pickerelweed (*Pontederia cordata*) and lance-leaf arrowhead, (*Sagittaria lancifolia*) are interspersed in the emergent vegetation. Based upon comparison of historical photographs, the size of the *Spartina* marsh near the mouth has also decreased by more than 50% from 1943 levels. No floating vegetation that would be expected to occur – such as Spatterdock (*Nuphar luteum*) and Water Lilly (*Nymphaea odorata*) – is present in the slower-flowing areas of the creek.

Big Fishweir Creek is also the northernmost limit of the submergent freshwater tape grass *Vallisneria americana*. However, the *Vallisneria* beds currently exist in a stressed condition near the mouth of the Creek in the lower St Johns River. Although this species is somewhat tolerant of a low saline aquatic environment, poor water quality concerns, such as low light penetration from suspended sediment, stresses its growth potential as evidenced by small, sparse *Vallisneria Americana* colonies that have been monitored at a location near the mouth of the Big Fishweir Creek by the St Johns River Water Management District (Sagan, 2009). Furthermore, the decomposition of fast-growing invasive vegetation, the decrease in native vegetation area, along with periodic Cyanobacteria blooms washing in from the St. Johns River, all contribute to a degraded water quality concern of depressed dissolved oxygen levels.

3.1 THREATENED AND ENDANGERED SPECIES

Loss and degradation of habitat along the LSJR and other regions of the state is generally considered to be one of the most important factors affecting threatened and endangered species (O'Shea and Ludlow 1992, Gilbert 1992, UNF and JU 2008). Two federally listed endangered (E) animal species under the Endangered Species Act (ESA) are potentially present in the project area. The

presence of these species or their usage of the project area has been previously impacted by habitat degradation due to wetland loss, excess nutrient run-off, and a concurrent alteration of the hydroperiod. The Big Fishweir Creek Aquatic Restoration Project has the potential to greatly benefit these two species, especially the endangered West Indian Manatee (*Trichechus manatus*), or “manatee”. The wood stork (*Mycteria Americana*) is another federally listed (endangered) species that potentially could have foraging use of the Big Fishweir Creek system. It is unlikely that this species would nest within the project limits as suitable habitat for this activity does not exist on-site. Without the actions of the proposed project, habitat for both of these species will continue to depreciate and with it any hope of potential usage by either of these listed species.

Recreational boat traffic and other factors, including further degradation of habitat and channel deepening, may have a cumulative adverse affect on threatened and endangered species. However, re-opening of the Big Fishweir Creek channel is not expected to retain a high volume of traffic from recreational watercraft. Protective federal laws, such as the Endangered Species Act and Marine Mammal Protection Act, state legislation, and partnerships to better refine existing protective measures should help conserve these species. Restoration efforts, such as the proposed creation of the brackish marsh island and preservation of remaining habitat would also benefit protected species.

3.2 ESSENTIAL FISH HABITAT (EFH)

The primary objective of this aquatic restoration project is to provide a more stable ecosystem in the Big Fishweir Creek system. Currently, the system is able to maintain a moderate fish production although a degraded condition persists for fish habitat. Continued degradation to water quality in the waterway from sediment and nutrient loading will ensure a downward decline in its ability to provide habitat necessary for fish production. Restoration measures that include sediment removal, enhancement of existing wetland systems, and creation of a brackish marsh island will significantly improve benthic and water quality conditions. This will ultimately improve the essential fish habitat and reverse the cumulative impact that this system has endured through decades of neglect and misuse.

3.3 WILDLIFE RESOURCES

The loss of wetlands and upland habitats as well as negative alterations in water quality has cumulatively impacted wildlife resources throughout the Big Fishweir Creek System. Without reversal of this trend, the wildlife within the community will continue to experience a declining usage of habitat for foraging,

nesting, and nurturing young, as well as decreased species diversity and declining populations. However, the efforts to restore and preserve the waterway and its fringing wetlands along with water quality initiatives should substantially benefit these resources that are contained with on-site habitat.

3.4 WATER QUALITY

Like many major water bodies flowing through agricultural and urbanized areas, the water quality of the Big Fishweir Creek has been adversely affected by a combination of runoff and industrial discharges. The enactment of the U.S. Clean Water Act as well as state statutes has established criteria which have resulted in improved water quality. Many local entities continue to address unresolved water related issues within the LSJR basin, of which Big Fishweir and Little Fishweir Creeks are a component.

The Big Fishweir Creek drainage basin has experienced prominent sediment loading events from a number of construction projects dating back four decades which have left sediment depositions up to five feet in various locations along the stream course. Although most of material consists of sand, substantial volumes of silt and organic sediment have contributed to the overburdening of native substrate in the stream. In addition to creating turbidity plumes in the creek during severe storm events, these silt and organic-rich material zones provide opportunistic conditions for sewage bacteria growth within the creek system, and thus, contribute to degraded water quality by bacteria impairment. Bacterial respiration, or Biological Oxygen Demand (BOD), occurring in the sediment can also contribute to decreased dissolved oxygen (DO) levels in the water column.

At the forefront of this effort, Jacksonville University and the University of North Florida annually produce the State of the River Report which provides a comprehensive summary of water quality issues affecting the LSJR. In 2010, the Universities identified dissolved oxygen, nutrients, turbidity, algal blooms, and bacteria as critical water quality indicators that continue to be tracked. They report that dissolved oxygen levels in shallow water areas and tributaries, such as the Big Fishweir Creek system, of the LSJR are low in summer, and are likely to continue to be low until nutrients, sediments, and industrial inputs are substantially reduced. Continued commitment to wastewater treatment improvement, and implementation of best management practices (BMPS) to control stormwater runoff will continue to reduce nutrient loading, bacteria levels and algal blooms. Cumulatively, restoration projects to address sediment removal by dredging will produce some turbidity, but the work shall be performed in compliance with state water quality criteria and is expected to reverse the current trend of on-going degradation.

3.5 AIR QUALITY

Emissions from past dredging and other sources along the LSJR have not had a significant cumulative effect on air quality, and this trend is expected to continue. Industries like paper mills and power plants do occur within the LSJR basin, but emissions from these facilities are regularly monitored and regulated in order to meet requisite standards. The state of Florida remains in attainment with air quality criteria.

3.6 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)

Existing legislation requires strict handling and disposal of HTRW. That being said, most HTRW sites within the LSJR basin are the result of past activities. The proposed project and future construction activities are not expected to have a cumulative impact on existing HTRW sites.

4 CULTURAL RESOURCES

Summary Report for the Historic Assessment and Remote Sensing Survey of the Proposed Big Fishweir Creek Section 206 Aquatic Ecosystem Restoration Project

INTRODUCTION

At the request of the United States Army Corps of Engineers (USACE), Jacksonville District, Southeastern Archaeological Research, Inc. conducted a historic assessment and remote sensing survey of the proposed Big Fishweir Creek, Section 206 Aquatic Ecosystem Restoration Project Area in Jacksonville, Duval County, Florida. The purpose of this investigation was to locate and identify any archaeological resources within the project area and to develop a historic context for the interpretation of those resources. The USACE plans to dredge silt and sand deposits and replant and restock indigenous flora and fauna to restore the aquatic ecosystem of Big Fishweir Creek.

The project is located on Big Fishweir Creek in Jacksonville, Duval County, Florida, in Section 33, Township 2 South, Range 26 East (Figure 1). The study area begins at the mouth of the creek and extends upstream approximately 2,000 feet to the Herschel Street Bridge (State Road 211). The overall Section 206 study area extends another 1,500 feet west past the bridge but is not included in the archaeological survey due to the alteration of the original stream channel in the 1950s. The project covers approximately 27 acres of submerged bottom land that may be impacted by proposed dredging and vegetation removal.

Big Fishweir Creek is a small tributary located on the west side of the St. Johns River approximately four miles from downtown Jacksonville. Big Fishweir Creek joins the Ortega River at its confluence with the St. Johns. The creek is formed by the convergence of the North and South Branches of Big Fishweir Creek approximately 4,000 feet west of its mouth. The basin includes Little Fishweir Creek or Azalea Creek which discharges on the north side of Big Fishweir Creek approximately 1,500 feet from the mouth and Fairfax Creek which discharges on the south side approximately 900 feet from the mouth.

CONCLUSIONS

The fieldwork consisted of a marine remote sensing survey and low water reconnaissance of the project area. The survey identified 66 magnetic anomalies, 17 side scan sonar anomalies and 4 sub bottom profiler anomalies. Four magnetic anomalies (M-54, -57, -58 and -59) and three side scan sonar anomalies (S13a, b, and c) are associated with the remains of an abandoned

barge. The Fishweir Creek Barge was recorded as an archaeological site and assigned the Florida Master Site File Number 8DU19048 by the Florida Bureau of Historic Preservation. No other magnetic or side scan sonar anomalies are considered significant and no further work is recommended on these anomalies.

Sub bottom profiler anomalies A27, 28 and 29 appear to be insignificant, but may represent a buried log/canoe and will need to be identified or avoided by the current work. A 100-foot circular buffer zone or zone of avoidance around the anomalies should be adequate to protect the resource.

The Fishweir Creek Barge is considered potentially significant. It is recommended that the remains be avoided by proposed dredging and vegetation removal activities. Based on the size of the magnetic anomaly, the side scan sonar image and the exposed remains establishment of a 100-foot circular buffer zone or a zone of avoidance around the barge should be adequate to protect the resource. If the Fishweir Creek Barge cannot be avoided by project activities further archaeological research is recommended to determine if the vessel retains integrity to answer research questions to determine its significance and eligibility for listing on the National Register of Historic Places (NRHP).

Unanticipated Finds

In the event that human remains are found during construction or maintenance activities, the provisions of Chapter 872.05 of the *Florida Statutes* will apply. Chapter 872.05 states that, when human remains are encountered, all activity that might disturb the remains shall cease and may not resume until authorized by the District Medical Examiner or the State Archaeologist. The District Medical Examiner has jurisdiction if the remains are less than 75 years old or if the remains are involved in a criminal investigation. The State Archaeologist has jurisdiction if the remains are more than 75 years of age.

As requested, this report summarizes the results of the cultural resources assessment. All text and figures have been adapted from the “FINAL Historic Assessment and Remote Sensing Survey of the Proposed Big Fishweir Creek Section 206 Aquatic Ecosystem Restoration” If you or any tribal representative would like a copy of the full report, please contact Wendy Weaver at 904-232-2137 or by email at wendy.weaver@usace.army.mil.



FIGURE 1. Cultural resources located within the project area of Big Fishweir Creek

4.1 RECREATION

Development has had a substantial cumulative impact on outdoor recreational opportunities in the Big Fishweir Creek system. The increased inaccessibility of the main channel for boating and fishing will continue along with the decline of quality habitat for fishing and wildlife viewing. Increased depth of the channel will improve recreational activities such as boating, kayaking and canoeing. Improvements in water quality also results in more desirable fishing and other water related recreation. Dredging and other types of construction projects can temporarily impact recreation. Measures shall be taken to insure that projects, like the creation of the brackish marsh island in combination with other actions, will not result in significant cumulative impacts to recreational boaters or other outdoor activities.

4.2 AESTHETICS

Population growth and associated development associated with Big Fishweir Creek have had a substantial cumulative impact on the aesthetics of this region. Shoreline development projects, continue add to this impact. Nevertheless, small natural plant communities and habitat have been preserved and provide some regional balance to the innumerable development projects. The proposed creation of the brackish island marsh along with restored existing fringing wetlands should also have a positive impact on local aesthetics.

4.3 NOISE

With the exception of certain construction activities, which are temporary, ambient noise levels throughout the Big Fishweir Creek system appear to be minimal. This situation is not expected to significantly change with anticipated future activities.

4.4 SOCIO ECONOMICS

The proposed restoration of aquatic resources of Big Fishweir Creek should rectify navigation restrictions and at the same time reduce degradation to this waterway and adjacent shoreline. This work, in combination with other planned projects designed to improve the Big Fishweir Creek system, should provide significant socio economic benefits to the immediate and surrounding community within the City of Jacksonville.

4.5 NAVIGATION

The management measure of sediment removal and creation of a brackish water marsh island at the confluence of Big Fishweir Creek and St Johns River will alleviate current navigation restrictions and greatly reduce the hazards associated with access from the River to the Creek system.

BENEFITS ANALYSIS DATA – HABITAT UNITS COMPILATION

Table 2. Big Fishweir Creek Habitat Type Spatial Area

Habitat Type/ Benefit	FLUCFCS Code	Mapping Code name	Area (A, B, C, D)	Acres	Sq Feet
Stream Bed (Waterway)	510	SB A	A	1.9	82000
Manatee, Fish, Macroinvertebrates,		SB B	B	3.6	155000
Migratory Birds, Raptors, Small Mammals		SB C	C	1.5	65000
		SB D	D*	18.1	790032
Total Area				25.1	1092032
Freshwater/Brackish Water Marsh	641/642	FWBW B1	B	0.1	6000
Manatee, Fish, Macroinvertebrates,		FWBW B2	B	0.1	2300
Migratory Birds, Raptors, Small Mammals		FWBW B3	B	0.04	1700
Native Vegetation		FWBW C	C	0.1	2200
		FWBW D	D*	12.3	533968
Total Area				12.5	546168
Mixed Hardwood Bottomland (Forested Wetland), Manatee, Migratory Birds, Raptors, Fish, Macroinvertebrates, Moderate sized Mammals	617	MBHA N	A	3.0	129981
		MBHA S	A	2.0	88000
		MBHB S	B	1.4	62000
Total Area				19.0	279981
Freshwater Marsh (Shoreline)	641	FWM A	A	0.5	21967
Manatee, Fish, Migratory Birds, Macroinvertebrates, Native Vegetation		FWM B	B	3.4	150242
Total Area				22.9	172209
Tidal Flats (Intertidal Flats)	651	TF B	B	0.8	36000
Migratory Birds, Native Vegetation, Macroinvertebrates,					
D*- Acreage for creation of Island subtracted from Stream bed and added to Freshwater/brackish water marsh					

Table 3. Big Fishweir Creek Habitat Units per Habitat Type for Each Area

Activity:	Existing Condition	No action	Remove sediment	Plant SAV	Plant EV	Remove exotic Vegetation	Cut-thru Berm	Create Island	Sum of Hab Unit
Area A (7.4 acres)									
Stream Bed (1.9 acres)									
Habitat Quality Rating	0.40	0.30	0.70	0.00	0.00	0.40	0.75	0.00	
Habitat Units	0.76	0.57	1.33	0.00	0.00	0.76	1.43	0.00	
Mixed Hardwood Bottomland (5.0 acres)									
Habitat Quality Rating	0.50	0.40	0.60	0.00	0.00	0.75	0.80	0.00	
Habitat Units	2.50	2.00	3.00	0.00	0.00	3.75	4.00	0.00	
Freshwater Marsh (0.5 acres)									
Habitat Quality Rating	0.40	0.30	0.50	0.00	0.00	0.55	0.65	0.00	
Habitat Units	0.20	0.15	0.25	0.00	0.00	0.28	0.33	0.00	
Total Habitat Units for Area A	3.46	2.72	4.58	0.00	0.00	4.79	5.75	0.00	
Weighted for Area A (%)			0.30	0.00	0.00	0.30	0.40	0.00	
Adjusted Total for Area A			1.37	0.00	0.00	1.44	2.30	0.00	5.11
Weighted Existing			1.04	0.00	0.00	1.04	1.38	0.00	3.46
Weighted FWO			0.82	0.00	0.00	0.82	1.09	0.00	2.72
Area B (9.44 acres)									
Stream Bed (3.6 acres)									
Habitat Quality Rating	0.40	0.30	0.70	0.00	0.70	0.40	0.00	0.00	
Habitat Units	1.44	1.08	2.52	0.00	2.52	1.44	0.00	0.00	
Mixed Hardwood Bottomland (1.4 acres)									
Habitat Quality Rating	0.50	0.40	0.40	0.00	0.00	0.75	0.00	0.00	
Habitat Units	0.70	0.56	0.56	0.00	0.00	1.05	0.00	0.00	

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Freshwater/Brackish Water Marsh (0.24 acre)									
Habitat Quality Rating	0.50	0.40	0.70	0.00	0.70	0.60	0.00	0.00	
Habitat Units	0.12	0.10	0.17	0.00	0.17	0.14	0.00	0.00	
Freshwater Marsh (3.4 acres)									
Habitat Quality Rating	0.40	0.30	0.70	0.00	0.80	0.60	0.00	0.00	
Habitat Units	1.36	1.02	2.38	0.00	2.72	2.04	0.00	0.00	
Tidal Flat (0.8 acres)									
Habitat Quality Rating	0.70	0.60	0.60	0.00	0.75	0.60	0.00	0.00	
Habitat Units	0.56	0.48	0.48	0.00	0.60	0.48	0.00	0.00	
Total Habitat Units for Area B	4.06	3.14	5.94	0.00	5.84	5.01	0.00	0.00	
Weighted for Area			0.40	0.00	0.40	0.20	0.00	0.00	
Adjusted Total for Area B			2.38	0.00	2.34	1.00	0.00	0.00	5.71
Weighted Existing			1.62	0.00	1.62	0.81	0.00	0.00	4.06
Weighted FWO			1.26	0.00	1.26	0.63	0.00	0.00	3.14
Area C (1.6 acres)									
Stream Bed (1.5 acres)									
Habitat Quality Rating	0.40	0.30	0.70	0.00	0.70	0.50	0.00	0.00	
Habitat Units	0.60	0.45	1.05	0.00	1.05	0.75	0.00	0.00	
Freshwater/Brackish Water Marsh (0.1 acre)									
Habitat Quality Rating	0.50	0.40	0.70	0.00	0.80	0.60	0.00	0.00	
Habitat Units	0.05	0.04	0.07	0.00	0.08	0.06	0.00	0.00	
Total Habitat Units for Area C	0.65	0.49	1.12	0.00	1.13	0.81	0.00	0.00	
Weighted for Area			0.50	0.00	0.30	0.20	0.00	0.00	
Adjusted Total for Area C			0.56	0.00	0.34	0.16	0.00	0.00	1.06
Weighted Existing			0.33	0.00	0.20	0.13	0.00	0.00	0.65

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Weighted FWO			0.25	0.00	0.15	0.10	0.00	0.00	0.49
Area D (30.5 acres)									
Stream Bed (18.1 acres)									
Habitat Quality Rating	0.40	0.30	0.70	0.70	0.70	0.00	0.00	0.80	
Habitat Units	7.24	5.43	12.67	12.67	12.67	0.00	0.00	14.48	
Freshwater/Brackish Water									
Marsh (12.3 acre)									
Habitat Quality Rating	0.50	0.40	0.80	0.70	0.80	0.00	0.00	0.80	
Habitat Units	6.15	4.92	9.84	8.61	9.84	0.00	0.00	9.84	
Total Habitat Units for Area D	13.39	10.35	22.51	21.28	22.51	0.00	0.00	24.32	
Weighted for Area			0.20	0.15	0.25	0.00	0.00	0.40	
Adjusted Total for Area D			4.50	3.19	5.63	0.00	0.00	9.73	23.05
Weighted Existing			2.68	2.01	3.35	0.00	0.00	5.36	13.39
Weighted FWO			2.07	1.55	2.59	0.00	0.00	4.14	10.35

2009 Fish Data

Florida Fish and Wildlife Conservation Commission Jacksonville University FWRI Field Lab Marine Science Research Institute Independent Monitoring Program (Dr. R. Brodie)

Table 4 Summary of Fish data collected at confluence of Big Fishweir Creek with St Johns River

Notes: Number of each species collected outside Big Fishweir Creek from 2001-2009

Trophic levels of each species are also included and are assumed to be that of the adult.

Trophic levels may or may not change for a given species depending on their life history stage. Yellow highlight indicates invertebrate species.

Light shading highlight indicates invertebrates species that were sampled.

Scientific Name	Common Name	Total Collected	Trophic Level
Anchoa mitchilli	Bay anchovy	22867	secondary consumer
Micropogonias undulatus	Atlantic croaker	8003	secondary consumer
Anchoa hepsetus	Striped anchovy	4545	secondary consumer
Leiostomus xanthurus	Spot	3328	secondary consumer
Brevoortia spp.	Menhadens	2975	omnivore
Mugil cephalus	Striped mullet	1667	detritivore/primary consumer
Menidia spp.	Menidia silversides	1116	secondary consumer
Litopenaeus setiferus	White shrimp	712	omnivore
Callinectes sapidus	Blue crab	620	omnivore
Trinectes maculatus	Hogchoker	593	secondary consumer
Cynoscion regalis	Atlantic weakfish	530	tertiary consumer
Mugil curema	White mullet	425	detritivore/primary consumer
Bairdiella chrysoura	Silver perch	376	secondary consumer
Dasyatis sabina	Atlantic stingray	371	secondary consumer
Lagodon rhomboides	Pinfish	273	omnivore
Farfantepenaeus spp.	Penaeid shrimps	262	omnivore
Eucinostomus spp.	Eucinostomus mojarras	257	secondary consumer
Ameiurus catus	White catfish	238	omnivore
Eucinostomus harengulus	Tidewater mojarra	236	secondary consumer
Diapterus auratus	Irish pompano	185	omnivore
Orthopristis chrysoptera	Pigfish	138	secondary consumer
Citharichthys spilopterus	Bay whiff	128	secondary consumer
Opisthonema oglinum	Atlantic thread herring	123	secondary consumer
Stellifer lanceolatus	Star drum	121	secondary consumer

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<i>Sciaenops ocellatus</i>	Red drum	118	tertiary consumer
<i>Farfantepenaeus duorarum</i>	Pink shrimp	100	omnivore
<i>Elops saurus</i>	Ladyfish	97	tertiary consumer
<i>Paralichthys lethostigma</i>	Southern flounder	94	tertiary consumer
<i>Menidia menidia</i>	Atlantic silverside	84	secondary consumer
<i>Ictalurus punctatus</i>	Channel catfish	83	secondary consumer
<i>Ctenogobius shufeldti</i>	Freshwater goby	81	secondary consumer
<i>Symphurus plagiusa</i>	Blackcheek tonguefish	63	secondary consumer
<i>Dorosoma petenense</i>	Threadfin shad	62	secondary consumer
<i>Menticirrhus americanus</i>	Southern kingfish	57	secondary consumer
<i>Microgobius thalassinus</i>	Green goby	54	secondary consumer
<i>Dorosoma cepedianum</i>	Gizzard shad	51	secondary consumer
<i>Microgobius gulosus</i>	Clown goby	43	secondary consumer
<i>Peprilus paru</i>	Harvestfish	39	secondary consumer
<i>Archosargus probatocephalus</i>	Sheepshead	35	tertiary consumer
<i>Etropus crossotus</i>	Fringed flounder	30	secondary consumer
<i>Cynoscion nebulosus</i>	Spotted seatrout	28	tertiary consumer
<i>Macrobrachium</i> spp.	Prawns	27	omnivore
<i>Membras martinica</i>	Rough silverside	27	secondary consumer
<i>Gambusia holbrooki</i>	Eastern mosquitofish	26	secondary consumer
<i>Sphoeroides nephelus</i>	Southern puffer	26	secondary consumer
<i>Gobiosoma</i> spp.	<i>Gobiosoma</i> gobies	25	secondary consumer
<i>Achirus lineatus</i>	Lined sole	23	secondary consumer
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	22	omnivore
<i>Farfantepenaeus aztecus</i>	Brown shrimp	22	omnivore
<i>Lepisosteus osseus</i>	Longnose gar	22	tertiary consumer
<i>Oligoplites saurus</i>	Leatherjack	22	secondary consumer
<i>Ariopsis felis</i>	Hardhead catfish	20	omnivore
<i>Strongylura</i> spp.	Needlefishes	20	tertiary consumer
<i>Synodus foetens</i>	Inshore lizardfish	19	secondary consumer
<i>Gobiosoma bosc</i>	Naked goby	17	secondary consumer
<i>Lutjanus griseus</i>	Gray snapper	16	tertiary consumer
<i>Caranx hippos</i>	Crevalle jack	14	tertiary consumer
<i>Ctenogobius boleosoma</i>	Darter goby	14	secondary consumer
<i>Chilomycterus schoepfii</i>	Striped burrfish	13	secondary consumer
<i>Gobioides broussonetii</i>	Violet goby	13	secondary consumer
<i>Lepomis macrochirus</i>	Bluegill	13	omnivore
<i>Prionotus tribulus</i>	Bighead searobin	13	secondary consumer
<i>Eucinostomus gula</i>	Silver jenny	12	secondary consumer
<i>Opsanus tau</i>	Oyster toadfish	11	tertiary consumer
<i>Paralichthys albigutta</i>	Gulf flounder	11	tertiary consumer
<i>Pogonias cromis</i>	Black drum	11	tertiary consumer

<i>Strongylura marina</i>	Atlantic needlefish	11	tertiary consumer
Species which are considered "rare" for the collection period.			
<i>Syngnathus louisianae</i>	Chain pipefish	9	
<i>Syngnathus scovelli</i>	Gulf pipefish	9	
<i>Alosa sapidissima</i>	American shad	8	
<i>Micropterus salmoides</i>	Largemouth bass	7	
<i>Scomberomorus maculatus</i>	Spanish mackerel	7	
<i>Alosa mediocris</i>	Hickory shad	5	
<i>Callinectes similis</i>	Lesser blue crab	5	
<i>Centropomus undecimalis</i>	Common snook	5	
<i>Lepomis microlophus</i>	Redear sunfish	5	
<i>Myrophis punctatus</i>	Speckled worm eel	5	
<i>Selene vomer</i>	Lookdown	5	
<i>Astroscopus y-graecum</i>	Southern stargazer	4	
<i>Gobiosoma robustum</i>	Code goby	4	
<i>Pomatomus saltatrix</i>	Bluefish	4	
<i>Chaetodipterus faber</i>	Atlantic spadefish	3	
<i>Gobionellus oceanicus</i>	Highfin goby	3	
<i>Menticirrhus saxatilis</i>	Northern kingfish	3	
<i>Notemigonus crysoleucas</i>	Golden shiner	3	
<i>Ameiurus nebulosus</i>	Brown bullhead	2	
<i>Anguilla rostrata</i>	American eel	2	
<i>Bagre marinus</i>	Gafftopsail catfish	2	
<i>Bathygobius soporator</i>	Frillfin goby	2	
<i>Harengula jaguana</i>	Scaled sardine	2	
<i>Lepisosteus platyrhincus</i>	Florida gar	2	
<i>Lepomis auritus</i>	Redbreast sunfish	2	
<i>Lucania parva</i>	Rainwater killifish	2	
<i>Trachinotus falcatus</i>	Permit	2	
<i>Albula vulpes</i>	Bonefish	1	
<i>Alosa aestivalis</i>	Blueback herring	1	
<i>Dormitator maculatus</i>	Fat sleeper	1	
<i>Fundulus heteroclitus</i>	Mummichog	1	
<i>Labidesthes sicculus</i>	Brook silverside	1	
<i>Megalops atlanticus</i>	Tarpon	1	
<i>Morone saxatilis</i>	Striped bass	1	
<i>Paralichthys dentatus</i>	Summer flounder	1	
<i>Poecilia latipinna</i>	Sailfin molly	1	
<i>Pomoxis nigromaculatus</i>	Black crappie	1	
<i>Rimapenaeus constrictus</i>	Roughneck shrimp	1	

Environmental Appendix

Stephanolepis hispidus	Planehead filefish	1
Strongylura timucu	Timucu	1
Symphurus civitatum	Offshore tonguefish	1

Total number of hauls by gear outside Big Fishweir Creek from 2001-2009.

Gear:	Total Hauls
21.2-m seine	152
183-m seine	109
6.1-motter trawl	207

Environmental Appendix

Table 5. Manatee sightings in Big Fishweir Creek 2003 – 2010 (1.5 mile radius-Large circle on map below)

FLTDATE	OBS	TIDE	ADULTS	CALVES	TOTAL	ACTIVITY	DIR_TRVL	ZONE	SIGHTED	COUNTY	AIR_VIS	PATH	WEATHER	A_TEMP	START	END	WATER_VIS	WIND_SP_DI
4/28/2003	SB	H	1	0	1	T	W	13	12:07	DUVAL	10	SJR	2800 CEL SCAT	26	12:05	14:01	5	150@8
4/28/2003	SB	H	1	0	1	R		13	12:07	DUVAL	10	SJR	2800 CEL SCAT	26	12:05	14:01	5	150@8
6/12/2003	GFP	H	2	1	3	R		14	11:40	DUVAL	10	SJR	8000 SCAT HZ	26	09:30	12:05	3	200@3
6/25/2003	GFP	M	1	0	1	T	N	14		DUVAL	10	SJR	8500 SCAT CLR SU	25	09:30	13:00	4	CLM
7/9/2003	GFP	L	1	0	1	T	N	14	11:00	DUVAL	10	SJR	7000 SCAT HZY	28	09:30	11:40	3	270@3
4/7/2004	GFP/SB	M	1	2	3	R		13	15:06	DUVAL	10	SJR	CLR HIGH CLD	27	13:55	16:55	6	190@7
4/19/2004	GFP	L	3	0	3	R		13	15:25	DUVAL	10	SJR	CLR	26	15:10	17:05	4	070@4
4/19/2004	GFP	L	1	0	1	T	E	13	15:25	DUVAL	10	SJR	CLR	26	15:10	17:05	4	070@4
4/19/2004	GFP	L	1	1	2	T	S	11	15:45	DUVAL	10	SJR	CLR	26	15:10	17:05	4	070@4
5/20/2004	SB	L	1	0	1	R		13		DUVAL	10	SJR	CLR 8000	31	14:31	17:00	7	120@9
5/20/2004	SB	L	3	0	3	T	S	11		DUVAL	10	SJR	CLR 8000	31	14:31	17:00	7	120@9
6/3/2004	SB	H	1	0	1	R		13		DUVAL	10	SJR	CLR 7500	27	10:25	13:18	5	CLM
6/3/2004	SB	H	5	0	5	R		11		DUVAL	10	SJR	CLR 7500	27	10:25	13:18	5	CLM
6/3/2004	SB	H	6	1	7	F		14		DUVAL	10	SJR	CLR 7500	27	10:25	13:18	5	CLM
6/3/2004	SB	H	1	0	1	T	S	14		DUVAL	10	SJR	CLR 7500	27	10:25	13:18	5	CLM
6/21/2004	GFP	H	1	0	1	T	W	13	10:45	DUVAL	10	SJR	8500 SCAT OV HZY	26	09:05	12:15	3	CLM
6/21/2004	GFP	H	1	0	1	T	N	14	11:07	DUVAL	10	SJR	8500 SCAT OV HZY	26	09:05	12:15	3	CLM
7/20/2005	GFP	H	1	0	1	R		11		DUVAL	10	SJR	FEW 1100 DEN1500	29	09:15	12:00	4	180@5
7/20/2005	GFP	H	1	0	1	T	N	11		DUVAL	10	SJR	FEW 1100 DEN1500	29	09:15	12:00	4	180@5
5/5/2006	GFP	L	1	0	1	T	N	11		DUVAL	7	SJR	CLR SUN	23	09:20	12:15	4	260@7
5/5/2006	GFP	L	1	0	1	T	N	14		DUVAL	7	SJR	CLR SUN	23	09:20	12:15	4	260@7
5/19/2006	GFP	L	1	0	1	T	N	13		DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
5/19/2006	GFP	L	1	0	1	T	W	13		DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
5/19/2006	GFP	L	2	0	2	R		11	10:45	DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
5/19/2006	GFP	L	1	0	1	T	W	13		DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
6/2/2006	GFP	L	1	0	1	T	N	14		DUVAL	10	SJR	CLR SUN SOME CLD	27	09:05	12:30	5	200@8
7/18/2007	GFP	H	1	0	1	R		14	15:00	DUVAL	10	SJR	CLR BET 5k CLD	34	14:15	16:00	3	VAR4
7/18/2007	GFP	H	1	0	1	T	N	14		DUVAL	10	SJR	CLR BET 5k CLD	34	14:15	16:00	3	VAR4
4/14/2008	GFP	L	1	0	1	R		11		DUVAL	10	SJR	CLR SUN FEW CLD	13	09:15	11:35	3	330@7
5/5/2008	GFP	H	1	0	1	T	N	14	11:00	DUVAL	10	SJR	CLR SUN NO CLD	22	09:40	12:15	3	330@4
5/19/2008	GFP	H	1	0	1	T	T	11		DUVAL	10	SJR	CLR SUN NO CLD	22	09:40	12:15	4	125@7
5/19/2008	GFP	H	1	0	1	T	W	11	10:50	DUVAL	10	SJR	CLR SUN NO CLD	22	09:40	12:15	4	125@7
6/4/2008	GFP	H	1	0	1	T	W	13		DUVAL	10	SJR	CLR SUN NO CLD	26	09:30	12:00	4	260@5
6/4/2008	GFP	H	1	0	1	T	W	11		DUVAL	10	SJR	CLR SUN NO CLD	26	09:30	12:00	4	260@5
6/4/2008	GFP	H	1	0	1	T	E	11		DUVAL	10	SJR	CLR SUN NO CLD	26	09:30	12:00	4	260@5
6/4/2008	GFP	H	1	0	1	T	N	14		DUVAL	10	SJR	CLR SUN NO CLD	26	09:30	12:00	4	260@5
6/15/2009	GFP	L	1	0	1	T	N	11		DUVAL	9	SJR	CLR HZY SUN	28	09:30	12:30	3	310@7

Environmental Appendix

7/27/2009	GFP	L	1	0	1	T	N	13	11:10	DUVAL	10	SJR	>5k SUN HI CLD	25	09:30	12:30	0	200@4
5/10/2010	GFP	H	1	0	1	T	S	13		DUVAL	10	SJR	CLR SUN	23	09:30	12:30	4	110@10-17
5/10/2010	GFP	H	2	0	2	T	E	13		DUVAL	10	SJR	CLR SUN	23	09:30	12:30	4	110@10-17
6/2/2010	GFP	L	4	0	4	R		13	12:55	DUVAL	10	SJR	3500 SCAT SUN	30	09:30	13:45	3	340@7
8/30/2010	GFP	H	1	0	1	T	W	13		DUVAL	10	SJR	3500 FEW CLD SUN	28	09:30	12:15	3	090@7
9/13/2010	GFP	H	1	0	1	T	N	11		DUVAL	10	SJR	CLR LOW CLD HZY	26	09:30	12:00	3	350@3

FLTDATE	ADULTS	CALVES	TOTAL
2003	6	1	7
2004	25	4	29
2005	2	0	2
2006	8	0	8
2007	2	0	2
2008	8	0	8
2009	2	0	2
2010	9	0	9
Total	62	5	67

Summary 1.5 mile radius.

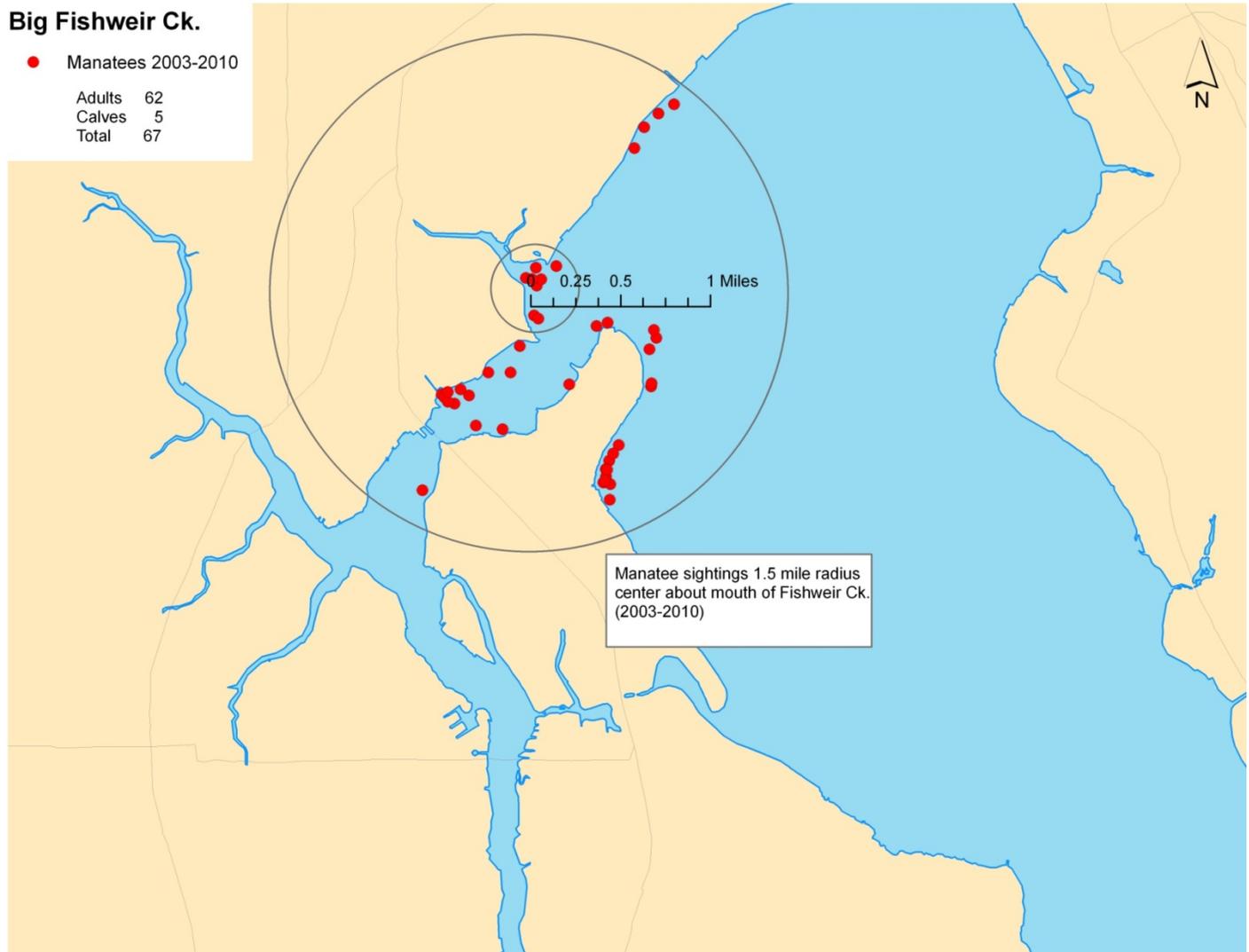
Table 6. Manatee sightings within 0.25 mile radius from the mouth of Big Fishweir Ck. (Small circle within Large circle on Map below)

FLTDATE	OBS	TIDE	ADULTS	CALVES	TOTAL	ACTIVITY	DIR_TRVL	ZONE	SIGHTED	COUNTY	AIR_VIS	PATH	WEATHER	A_TEMP	START	END	WATER_VIS	WIND_SP_DI
4/7/2004	GFP/SB	M	1	2	3	R		13	15:06	DUVAL	10	SJR	CLR HIGH CLD	27	13:55	16:55	6	190@7
7/20/2005	GFP	H	1	0	1	T	N	11		DUVAL	10	SJR	FEW 1100 DEN1500	29	09:15	12:00	4	180@5
5/19/2006	GFP	L	1	0	1	T	N	13		DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
5/19/2006	GFP	L	1	0	1	T	W	13		DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
5/19/2006	GFP	L	2	0	2	R		11	10:45	DUVAL	10	SJR	CLD 1100	24	09:25	12:30	5	290@9
6/4/2008	GFP	H	1	0	1	T	W	11		DUVAL	10	SJR	CLR SUN NO CLD	26	09:30	12:00	4	260@5
6/15/2009	GFP	L	1	0	1	T	N	11		DUVAL	9	SJR	CLR HZY SUN	28	09:30	12:30	3	310@7

Environmental Appendix

9/13/2010	GFP	H	1	0	1	T	N	11	DUVAL	10	SJR	CLR LOW CLD HZY	26	09:30	12:00	3	350@3
Total			9	2	11												

Figure 2. Manatee sightings distribution within Lower St Johns River and Big Fishweir Creek



Source: Dr. Gerry Pinto, Ph. D., Jacksonville University, Jacksonville, FL

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5 SCOPING LETTER AND COMMENTS

5.1 INITIAL SCOPING COMMENTS



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEC 12 2006

TO THE ADDRESSES ON THE ENCLOSED LIST:

The U.S. Army Corps of Engineers, Jacksonville District, is gathering information to define issues and concerns that will be addressed in an aquatic ecosystem restoration study of Big Fishweir Creek, City of Jacksonville, Duval County, Florida (please see enclosed map). Authority and funds for the project are provided by Section 206 of the Water Resources Development Act of 1996, as amended. A Preliminary Restoration Report has been completed and resulted in a recommendation to continue the study into the feasibility phase.

Over the years, the water quality and ecological conditions within Big Fishweir Creek have been adversely impacted by urban development and associated pollution. The objective of this study is to perform a comprehensive review of restoration alternatives for the creek. Specific project actions may include removal of sediments as well as reestablishment of submerged aquatic vegetation and wetland habitat. Removal of sediments and contaminants, in combination with restoration of submerged and emergent aquatic vegetation, would be expected to significantly improve water quality, Essential Fish Habitat, wetland functions, and provide additional forage for the federally threatened manatee.

A no-action alternative would also be considered. During the feasibility phase, issues and concerns would be addressed in a draft Environmental Assessment.

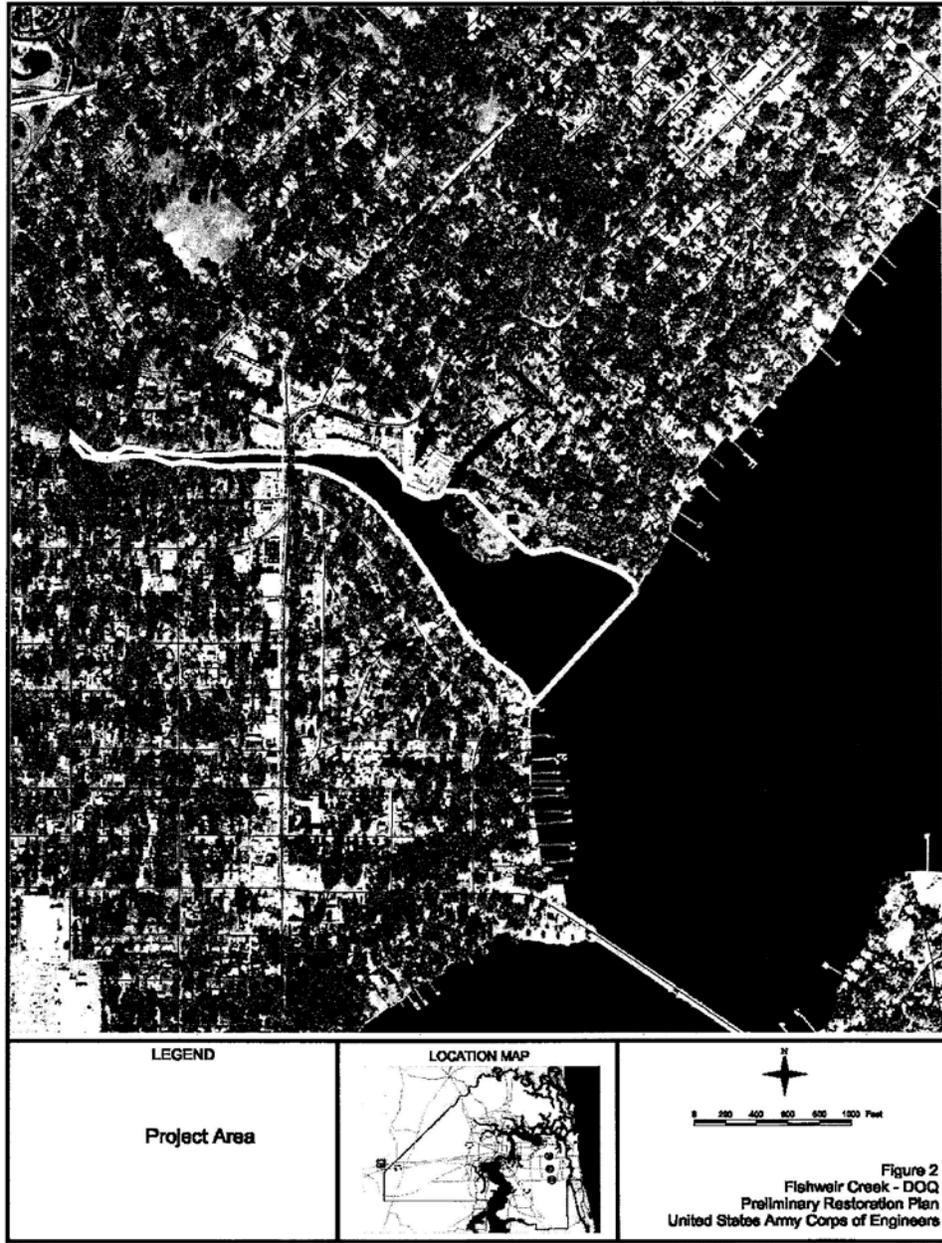
We welcome your views and comments about environmental and cultural resources, study objectives and important features within the described study area, as well as any suggested improvements. Letters of comment or inquiry should be addressed to the letterhead address to the attention of Mr. Paul Stodola at the Planning Division, Environmental Branch and received by this office within 30 days of the date of this letter.

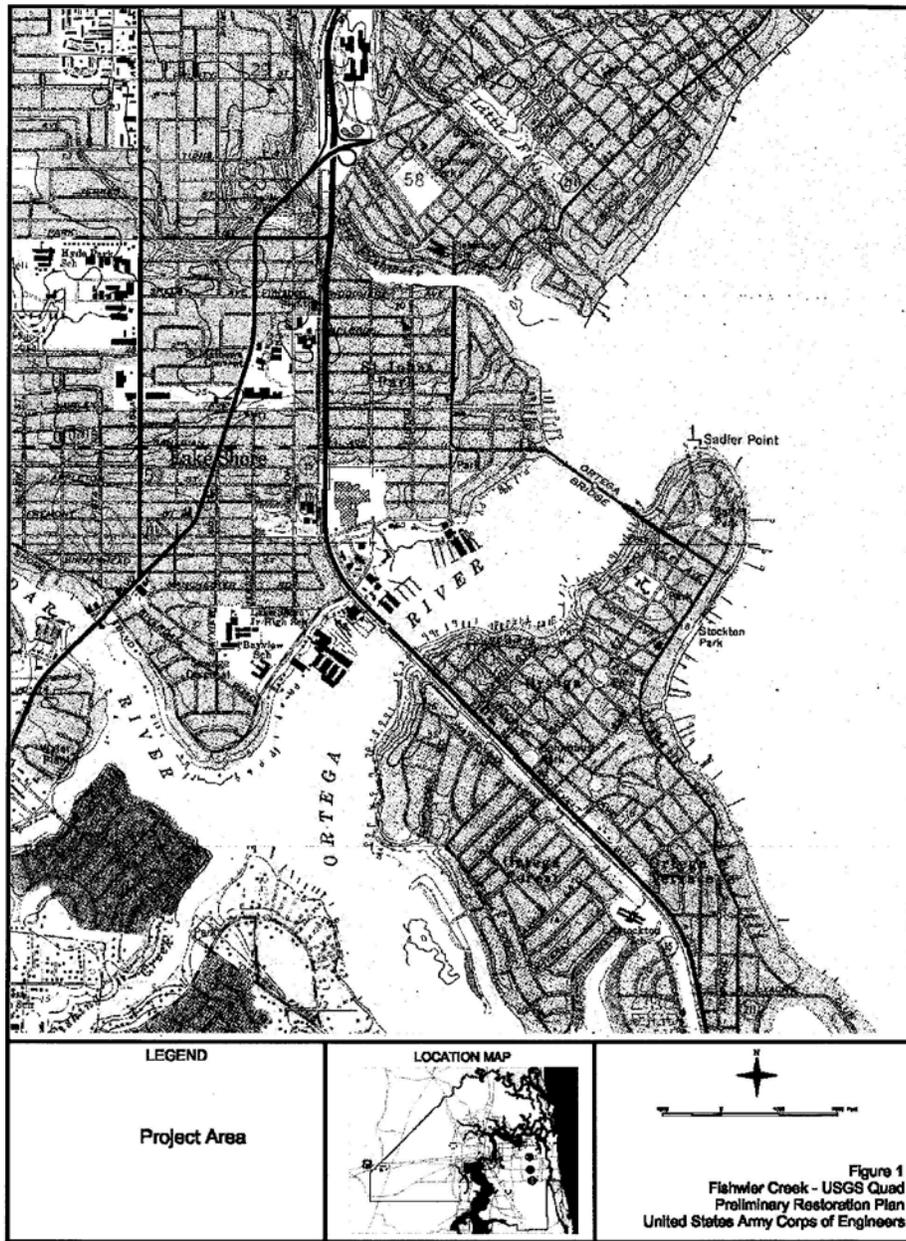
Sincerely,

A handwritten signature in cursive script that reads "Marie G. Burns".

Marie G. Burns
Chief, Environmental Branch

Enclosure







Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary - Designee

January 29, 2007

Mr. Paul Stodola
Planning Division, Environmental Branch
U.S. Army Corps of Engineers
P. O. Box 4970
Jacksonville, FL 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers – Scoping
Notice – Aquatic Ecosystem Restoration Study of Big Fishweir Creek –
Jacksonville, Duval County, Florida.
SAI # FL200612142964C

Dear Mr. Stodola:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the referenced scoping notice.

The Florida Department of Environmental Protection (DEP) remarks that restoration of urbanized creeks has many ecological benefits. It notes, however, that many of these types of projects focus only on the removal of sediments and restoration of vegetative habitat without addressing the cause for the sedimentation. Since sedimentation and water quality issues result from inadequate stormwater treatment, restoration proposals should also consider regional impacts to the creek and potential stormwater treatment options. For additional information and assistance, please contact Mr. Mike Eaton in the DEP Northeast District Office in Jacksonville at (904) 807-3328.

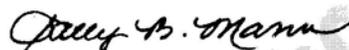
Based on the information contained in the public notice and the enclosed state agency comments, the state has determined that, at this stage, the proposed federal action is consistent with the Florida Coastal Management Program (FCMP). The federal agency must, however, address the concerns identified by our reviewing agencies prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

"More Protection. Less Process"
www.dep.state.fl.us

Mr. Paul Stodola
January 29, 2007
Page 2 of 2

Thank you for the opportunity to review this proposal. Should you have any questions regarding this letter, please contact Ms. Suzanne E. Ray at (850) 245-2172.

Sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/ser
Enclosures

cc: Jennifer Auger, DEP Northeast District



Florida
 Department of Environmental Protection
 "More Protection, Less Process"



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Project Information	
Project:	FL200612142964C
Comments Due:	01/16/2007
Letter Due:	01/29/2007
Description:	DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT CORPS OF ENGINEERS - SCOPING NOTICE - AQUATIC ECOSYSTEM RESTORATION STUDY OF BIG FISHWEIR CREEK - JACKSONVILLE, DUVAL COUNTY, FLORIDA.
Keywords:	ACOE - AQUATIC ECOSYSTEM RESTORATION STUDY OF BIG FISHWEIR CREEK - DUVAL CO.
CFDA #:	99.997
Agency Comments:	
NE FLORIDA RPC - NORTHEAST FLORIDA REGIONAL PLANNING COUNCIL	
No Comment	
DUVAL - DUVAL COUNTY	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
No Comments	
STATE - FLORIDA DEPARTMENT OF STATE	
No Comments Received	
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION	
Released Without Comment	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
The Florida Department of Environmental Protection (DEP) remarks that restoration of urbanized creeks has many ecological benefits. It notes, however, that many of these types of projects focus only on the removal of sediments and restoration of vegetative habitat without addressing the cause for the sedimentation. Since sedimentation and water quality issues result from inadequate stormwater treatment, restoration proposals should also consider regional impacts to the creek and potential stormwater treatment options. For additional information the applicant may contact Mr. Mike Eaton in the DEP Northeast District Office at (904)807-3328.	
ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	
Released Without Comment	

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47
 TALLAHASSEE, FLORIDA 32399-3000
 TELEPHONE: (850) 245-2161
 FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

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[Privacy Statement](#)

Garrett, Natalie S SAJ

From: Steve Terry [SteveT@miccosukeetribe.com]
Sent: Friday, October 12, 2007 3:45 PM
To: Garrett, Natalie S SAJ
Subject: Big Fishweir Creek Section 206 Aquatic Ecosystem Restoration

The Miccosukee Tribe of Indians of Florida received the summary of the Cultural Resources Survey conducted by Southeastern Archaeological Research for the Big Fishweir Creek Project. The Tribe has no cultural, religious, or sacred sites at this area but does request that the recommendations of the archaeologist concerning the submerged canoe be followed by declaring a 100' buffer zone around this object. Further, we would request that an archaeologist be present when any work is scheduled to be done near this site to ensure that it is not disturbed.

Thank you for consulting with the Miccosukee Tribe.

Steve Terry
NAGPRA & Section 106 Representative
Miccosukee Tribe
P.O. Box 440021
Miami, FL 33144-0021
(305) 223-8380, Ext. 2243
(305) 223-8380, Ext. 2243
Stevet@miccosukeetribe.com



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

OCT 03 2007

Mr. Wesley L. Andrews
Reviewing Archaeologist
Seminole Tribe of Florida
HC 61, Box 21-A
Clewiston, Florida 33440

Dear Mr. Andrews:

We have enclosed a single bound copy of the final report, *Historic Assessment And Remote sensing survey of the Big Fishweir Creek Section 206 Aquatic Ecosystem Restoration, Jacksonville, Duval County, Florida* by Southeastern Archaeological Research Inc. This report is provided in accordance with the procedures contained in 36 CFR, Part 800 ("Protection of Historic Properties").

If you have any questions regarding this report, please contact Ms. Natalie S. Garrett at 904-232-1250 or natalie.s.garrett@usace.army.mil. A response within 30 days after receipt of this letter would be appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth R. Dugger".

Kenneth R. Dugger
Acting Chief, Environmental Branch

Enclosures

Copy Furnished:

Mr. Willard S. Steele, THPO, Ah-Tah-Thi-Ki Museum, HC-61, Box 21-A, Clewiston, Florida
33440



Miccosukee Tribe of Indians of Florida

Business Council Members

Billy Cypress, Chairman

Jasper Nelson, Ass't. Chairman
Max Billie, Treasurer

Andrew Bert Sr., Secretary
William M. Osceola, Lawmaker

December 21, 2006

Mr. Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District - COE
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Big Fishweir Creek

Dear Mr. Stodola:

The Tribe has no direct knowledge of any cultural resources located within the proposed Project Area. However, we require that as you proceed with this project that a cultural resources survey be conducted to ascertain if there are any cultural resources sites. We further request that you continue to consult with us as this project develops and to send us a summary of the cultural resources survey.

Thank you for consulting with the Miccosukee Tribe. Please contact me at (305) 223-8380, Ext. 2244, or via e-mail at SteveT@miccosukeetribe.com if you require additional information.

Sincerely,

Steve Terry
NAGPRA & Section 106 Representative

P.O. Box 440021, Tamiami Station, Miami, Florida 33144, (305) 223-8380, fax (305) 559-6653
Constitution Approved by the Secretary of the Interior, January 11, 1962



OFFICE OF THE COUNCIL PRESIDENT

MICHAEL L. CORRIGAN, JR.
PRESIDENT
COUNCILMAN, DISTRICT 14
OFFICE (904) 630-1390
FAX (904) 630-2906

January 3, 2007

117 WEST DUVAL STREET
CITY HALL, SUITE 425
JACKSONVILLE, FLORIDA 32202
E-MAIL: corrigan@ccj.net

Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Attention: Mr. Paul Stodola

RE: Aquatic Eco-Restoration Study of Big Fishweir Creek

Dear Mr. Stodola,

I am writing you in response to a letter I received from Marie G. Burns, Chief, Environmental Branch, dated December 12, 2006, concerning the above-referenced project, a copy of which is attached. As noted in the United States Army Corps of Engineers Preliminary Restoration Plan for Big Fishweir Creek, dated February 2003, the accumulation of contaminated sediment within Big Fishweir Creek has diminished the quality of this ecosystem.

As both President of the City of Jacksonville City Council and District Council Member for Council District 14, in which Big Fishweir Creek is located, I support the United States Army Corps of Engineers efforts to restore the Big Fishweir Creek ecosystem, a sentiment shared by many of my constituents. Specifically, I endorse the proposed sediment removal and the reestablishment of benthic communities and wetland habitat as set forth within the Preliminary Restoration Plan, and believe that these efforts will improve the quality of the environment, consistent with Section 206 of the Water Resource Development Act of 1996.

Please let me know how I may be of assistance as this project moves through the feasibility phase.

Sincerely,

Michael L. Corrigan, Jr.
Council President

MLC:dws
Enclosure

cc: Congress Member Corrine Brown
Congress Member Ander Crenshaw
Senator Bill Nelson
Senator Mel Martinez
Mayor John Peyton



RECEIVED

12 Jan 07

Bringing Communities Together

Baker • Clay • Duval • Flagler • Nassau • Putnam • St. Johns

January 5, 2007

Lauren Milligan
Florida State Clearinghouse
Department of Environmental Protection
3900 Commonwealth Blvd.
Douglas Building - Mail Station 47
Tallahassee, Florida 32399-3000

SAI#: FL200612142964C
NEFRC# DV-06-0045

Program title: City of Jacksonville – Department of the Army, Jacksonville District Corps of Engineers – Scoping Notice – Aquatic Ecosystem Restoration Study of Big Fishweir Creek – Duval County.

Dear Ms. Milligan:

The Northeast Florida Regional Council has reviewed the above activity. Response sheets were sent out to notify potentially affected agencies concerning project intentions. There were no comments received regarding this application.

This project is generally consistent with the Northeast Florida Regional Council's policies, plans and programs. This letter signifies that the Northeast Florida Regional Council has no objection to the above-cited activity.

Sincerely,

Ed Lehman
Director of Planning and Development

cc: Ms. Marie G. Burns, Chief, Environmental Branch, Department of the Army,
Jacksonville District Corps of Engineers, P.O. Box 4970, Jacksonville, FL 32232

Fairfax Property Owners Association

DEPARTMENT OF THE ARMY
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

January 4, 2007

Attn: Mr. Paul Stodola

Subject: Big Fishweir Creek ecosystem restoration study

Dear Mr. Stodola,

Thank you for the opportunity to provide input to your planned study. There are many issues and concerns that residents living on Woodmere Drive have regarding restoration of this once vibrant waterway. The thought of a revitalized habitat rich with submerged aquatic vegetation and the marsh with renewed forage and nesting areas for mammals and birds of all kinds is exciting. Manatees frequently visit in large numbers and at times find it difficult to get out when tides are low. Sediment removal and new vegetation will go a long way to providing them a safe and healthy harbor to frequent for food, fun and reproduction.

One of the issues that we would like to mention concerns the defining of the sediment to be removed. There is silt, muck, sand (other than hard pan) and even shell banks in the target area. There is one sunken wooden barge and several pilings in various stages of decay that may require a mechanical dredge for removal. There is also Little Fishweir Creek on the north side that needs inclusion in sediment removal.

Storm water management is another concern. The retention pond installed about two years ago at Hamilton Street is a good start but to be effective must have an active clean up plan. Recent heavy rain pushed trash of all kinds down stream and on to the St. Johns River. A large portion of the debris comes from Roosevelt Blvd run off. This could be contained with netting at key locations to trap the material and periodic clean up would do the rest.

The marsh and wetlands on the north bank is another remarkable area and is the last wetland on the St. Johns all the way through town. In your preliminary restoration plan it is stated that vegetation will also be planted to expand the tidal marsh that exists along the north bank of Big Fishweir Creek adjacent to the mouth of Little Fishweir Creek. With that in mind, preserving the marsh will be a prime concern to the success of the overall project.

Another concern voiced by creek front property owners is how close to their bulkheads and docks sediment removal will be allowed. Some fear collapse of one or both of these structures causing expensive remedies. If they are damaged is there financial assistance from the Corps or the contractor?

A final thought is our concern for making sure the depth of water after sediment removal, including the height of the plant material, is sufficient for slow speed boating. Also needed will be good markers to insure that boaters know where they are safe to avoid damaging the newly planted foliage.

As you progress through the process of planning this feasibility phase we hope to be included in meetings and presentations. Fishweir School on Herschel St at St Johns Ave is sometimes used to hold gatherings of this size. The Fairfax Property Owners Association will notify its members at any time of your choosing. Let me know and I will see that invitations are made.

Sincerely,



John L. McCranie,
Chairman: Fishweir Creek Eco-restoration Committee
1697 Woodmere Dr. 32210, Ph. 389-9221



**PLANNING AND DEVELOPMENT DEPARTMENT
Office of the Director**

January 5, 2007

Mr. Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Stodola:

The City of Jacksonville Planning and Development Department has reviewed the proposed aquatic ecosystem restoration study for Big Fishweir Creek and finds that it supports the following Goals and Objectives of the Conservation/Coastal Management Element of the City's 2010 Comprehensive Plan:

- Goal 2 Preserve, conserve, appropriately use, protect and improve the quality and quantity of current and projected water resources, including waters that flow into estuarine waters or oceanic waters, estuarine waters, groundwater and other waters in the City.

- Objective 3.5 Protect and manage endangered and threatened species and species of special concern so there is no reduction in numbers of species that are found in the City and no significant loss of population size. Conserve and protect the functional values of areas of native wildlife habitats which require special protection efforts.

- Objective 3.3 The City shall conserve, appropriately use, protect and manage environmentally sensitive land (native plant communities and wildlife habitat) to maintain the natural ecological community types and sustainable populations of wildlife native to the City.

- Objective 3.8 The City shall institute programs to support the protection, management, and improvement of local fisheries and fish habitat in order to increase ecological, recreational, scientific, educational, aesthetic, and economic values and therefore make Jacksonville a more desirable place to live and work.

Mr. Paul Stodola
Page 2
January 5, 2007

- Goal 4 To achieve no further net loss of the natural functions of the City's remaining wetlands, improve the quality of the City's wetlands resources over the long term and improve the water quality and fish and wildlife values of wetlands.
- Objective 4.1 The City shall protect and conserve the natural functions of its existing wetlands, including estuarine marshes. In order to achieve this objective and its associated policies, the City shall continue to work with the applicable regional, state and federal agencies charged with these regulatory agencies.

Thank you for allowing us the opportunity to review and comment on this important project.

Sincerely,



Bradford G. Thoburn
Director, Planning and Development Department
City of Jacksonville

January 9,2007

Mr.Paul Stodola
Planning Division, Environmental Branch
Jacksonville District CORPS of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Re: Big Fishweir Creek, City of Jacksonville, Duval County, Florida
Aquatic Ecosystem Restoration Study

Mr. Stodola,

Views and comments that follow are the result of insight as a multi year Big Fishweir Creek front homeowner who uses, enjoys and is in fact employed by Duval County area waters, and long history with a broad interest and involvement in a host of area and regional community, resource & planning issues.

Graphic observations on the Big Fishweir Creek system and community interest validate the Preliminary Restoration Report recommendation to continue the study into the feasibility phase.

Sedimentation-

The waterway has experienced pervasive sediment infill for many years from a variety of sources and input location. A most graphic example is the series of sediment sand bars upstream from the Herschel street bridge, the result of a 100 year storm event coinciding during development activity within the basin. At a point downstream from Roosevelt Blvd./US 17 the first sediment 'sand bar' formed on an inside turn where the Creek naturally widens at 1658 Geraldine Drive (and as a coincidence, my residence). The height of this sand bar structure coincides with water levels attained at a 100 year event. The sand bars typically protrude above normal high water. Of the series of sand bars, the two upper most are most prominent and adjoin the original natural shoreline.

Further down stream the sand bars typically stand alone from the natural shore line.

The upper most bars, which have vegetated, have dissolved some as the creek re-establishes the natural shoreline. It appears a hard pack sand bottom is accumulating at the Herschel bridge. As a result, the reduced creek depth has created a dam effect at low water.

Sediment removal upstream of Herschel Bridge is imperative. Without this section of the waterway addressed, an "avalanche" of sediment will eventually impact downstream areas, and recreate a negative impact.

The proposed project boundary within the waterway portion above Herschel bridge extending to a point whereby the creek naturally narrows to the westerly lot line of 1658 Geraldine Drive is appropriate.

Consideration should be given to EXTENDING the project boundary UPSTREAM at Little Fishweir Creek .

Man Made Features/Effects-

There is a submerged rock/gravel bar at the mouth of Big Fishweir Creek extending southerly from the confluence of the north shore of Big Fishweir Creek and the St. Johns River shoreline. Consideration should be given to removing this feature if in fact 'man made', the bar contributes to blockage of stream flow and creates sediment pooling effect- (and perhaps in conjunction with the Commander complex which appears to have been located in part waterward)

Marsh Area Southeasterly of Little Fishweir Creek-

Refer to historical photos. Note recent emergence of dry land vegetation. Consideration to be given to reduce the size of the 'marsh' area, which may have grown in area in fact due to harmful environmental conditions. Present area coverage, if remaining in place could compromise meeting effective long term waterway area and depth requirements. ("marsh" area conservation easements, if any, should be neglected in assessing the ramifications of the current condition and the need to design "slope" in dredge plans.)

Future dock/structure construction-

Protections befitting a restored aquatic ecosystem should include prohibitions against construction of any NEW residential dock/structure waterward of mean high water throughout the project area.

(page 2 of 3 COE NEPA Scope- Fishweir/Webster)

(Future dock/structure cont'd)

Reasonable exception to be proposed development on the waterway at Herschel bridge

Debris loading-

A horrendous impact not typically addressed in restoration discussion. Possibly of at least equal importance to submerged vegetation and wetland habitat considering not only the impacts to Fishweir creek (s) but the entire river.

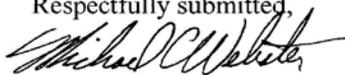
There is a tremendous amount of garbage, trash and plastics that flush to the Creek from US 17/Roosevelt Blvd. and points upstream. Further, city property along the Creek at Hamilton street suffers from open vehicular access and chronic dumping.

Trash accumulates and then flushes downstream at high water at the recently constructed creek 'pool' at Hamilton street.

Consideration should be given to eliminating the debris inputs- a significant need for this urban waterway which will require a commitment involving the City of Jacksonville in the design, construction and routine operation of a debris entrapment structure capable of handling high flow volume.

Thank you.

Respectfully submitted,



Michael C. Webster
1658 Geraldine Drive
Jacksonville, Florida 32205
904 923 0033

(Page 3 of 3 COE NEPA Scope-Fishweir/Webster)

Mr. Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

This letter is to voice my support for the proposed environmental restoration of Big Fishweir Creek. The Florida Department of Environmental Protection has listed Fishweir Creek as "impaired" with high levels of bacteria and low levels of dissolved oxygen. Sediment runoff has also significantly impacted the creek's depth and ecological quality. My family has lived twenty years along Fishweir Creek, which has suffered from the dramatic sedimentation and decline in water quality. I would like to express the urgent need to reclaim this habitat that provide for water fowl, aquatic life and manatee.

The quantities of sediment in Big Fishweir Creek are creating hazards for the residents who live along its borders. The creek serves as catch basins for much of West Jacksonville, and because its channel is heavily silted, rainwater and runoff frequently overflow its banks. This erodes the shoreline and creates real hardship for area homeowners. As a result, a number of homes along the Fishweir Creek suffered flood damage.

Please give consideration to dredging both Big and Little Fishweir Creeks so this tidal area with abundant water fowls and marsh grasses will be available to future residents of Jacksonville.

Sincerely,



John & Gail Brent
1928 Morningside Street
Jacksonville, FL 32205

Dear Mr. Stodola,

Recently I read in the Resident newspaper about the situation concerning Little Fishweir Creek. I had no idea that was it's name. I live in the 1500 block of Ingleside Avenue and I believe the "headwaters" of one of its branches passes in front of my house. The creek is covered (culverted?) over as it runs from there under Ingleside, under the 3600 block of Valencia and is uncovered when it passes under Dancy to the western side. near the intersection of Dancy and Valencia.

My reason for contacting you is as follows. The people across Ingleside from me bought a house with a large undeveloped back yard. Thinking to make a lot of money, they have been trying to sell a large piece of the yard to be developed. THE problem is that the creek bed runs right through it. Every time we have a strong downpour, the creek comes back to life and floods this piece of land and the streets downstream. I found out from old timers around here that this has always happened. The neighbors upstream of the land for sale had said sometimes water would rise knee deep in his garage when the area flooded. In fact one of the previous owners of the land in question had a swimming pool there but buried it when it kept getting submerged. Cars parked on Ingleside in front of it have been in water high enough to cover their headlights. The property owner either doesn't know or doesn't care about this. They sold the land once to a homebuilder but it fell through and they put it up for sale again with no takers. Now There is a "for sale - build to suit" sign put up by Miller Joiner, a developer. I seriously question his ethics if he intends to build a big house on that land with these problems. Not to mention how it will make the drainage worse all around here. I contacted RAP and the City's water & sewer department but have had very little response. I know this is much farther upstream than the situation covered in the news article, but I thought it was worth bringing it to your attention since it is connected to the problem area .

Thank you for any attention you could give to this matter,

Leigh Murphy
1536 Ingleside Ave.
Jacksonville, FL 32205
387-0619

Environmental Appendix

January 3, 2007

Attn: Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

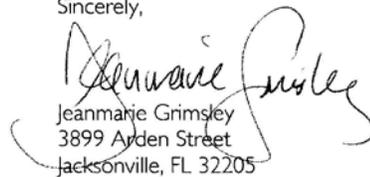
I am writing you to voice my strong support for the proposed environmental restoration of Big Fishweir Creek.

There is no question that the creek has water quality problems; the Florida Department of Environmental Protection has listed it as "impaired" for high levels of bacteria and low levels of dissolved oxygen. Unfortunately, sediment runoff has also significantly impacted the creek's depth and ecological health. As a resident who has lived for ten years along the adjacent Little Fishweir Creek, which has suffered the same dramatic sedimentation and decline in water quality as Big Fishweir, I can attest to the urgent need to reclaim the precious but imperiled habitat that these creeks provide for shore birds, aquatic life, and wetlands vegetation.

The enormous quantities of sediment in both Little Fishweir and Big Fishweir creeks are also creating hazards for the residents who live along their borders. The creeks serve as catch basins for much of this area of West Jacksonville, and because their channels are so heavily silted, rainwater and runoff frequently overflow their banks. This further erodes the shoreline and creates real hardship for area homeowners. During Hurricane Jeanne (September 2004), the storm water that fell on our area was unable to find adequate, efficient passage to the river, as would have been the case had the creeks been adequately dredged. As a result, a number of homes along the Fishweir creeks suffered significant flood damage; five were so heavily damaged that their owners were required to vacate the homes for up to a year, and in two instances—including my own home—the structures ultimately had to be demolished.

Please give careful and positive consideration to dredging BOTH Big and Little Fishweir Creeks so that this lovely tidal area with abundant bird life, a diverse habitat, and beautiful marsh grasses will be available to future residents of Jacksonville—both human and aquatic.

Sincerely,



Jeanmarie Grimsley
3899 Arden Street
Jacksonville, FL 32205

Attn: Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

I am writing you to voice my strong support for the proposed environmental restoration of Big Fishweir Creek.

There is no question that the creek has water quality problems; the Florida Department of Environmental Protection has listed it as "impaired" for high levels of bacteria and low levels of dissolved oxygen. Unfortunately, sediment runoff has also significantly impacted the creek's depth and ecological health. As a resident who has lived for ten years along the adjacent Little Fishweir Creek, which has suffered the same dramatic sedimentation and decline in water quality as Big Fishweir, I can attest to the urgent need to reclaim the precious but imperiled habitat that these creeks provide for shore birds, aquatic life, and wetlands vegetation.

The enormous quantities of sediment in both Little Fishweir and Big Fishweir creeks are also creating hazards for the residents who live along their borders. The creeks serve as catch basins for much of this area of West Jacksonville, and because their channels are so heavily silted, rainwater and runoff frequently overflow their banks. This further erodes the shoreline and creates real hardship for area homeowners. During Hurricane Jeanne (September 2004), the storm water that fell on our area was unable to find adequate, efficient passage to the river, as would have been the case had the creeks been adequately dredged. As a result, a number of homes along the Fishweir creeks suffered significant flood damage; five were so heavily damaged that their owners were required to vacate the homes for up to a year, and in two instances—including my own home—the structures ultimately had to be demolished.

Please give careful and positive consideration to dredging BOTH Big and Little Fishweir Creeks so that this lovely tidal area with abundant bird life, a diverse habitat, and beautiful marsh grasses will be available to future residents of Jacksonville—both human and aquatic.

Sincerely,



Alfred D. Harding, Jr.
3867 Arden Street
Jacksonville FL 32205

1467 Pinegrove Ave
Jacksonville 32205
Jan. 8, 2007

Department of the Army
Jacksonville District, Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32232-0019

Attn: Paul Stodola, Planning Div., Environmental Branch

This is offered in response to the community Resident which was received in the mail yesterday.

In 1942 I came to Jacksonville to join the Navy and it's been home to me and one of my sons much of these 65 years. My son's home is on the west shore of Big Fishweir 200 yards from the mouth. We have enjoyed fishing together from his dock most mornings since 1990. We cast mostly top water artificials for the half-hour that includes sunrise. The water is only about 18 inches deep at low tide, over a very soft bottom that now has no vegetation, clams, snails or bivalves alive.

The fishing is good but the catching is poor. Until about 3 years ago we had good marauding schools of jack cravalle feeding on mullet or shad. We still see an abundance of mullet but zero jacks in 2006. There were a few times we caught reds, about 8 all year. And 5 or 6 trout, 2 black bass, 2 flounder. We enjoy seeing wild geese, nutria but don't enjoy seeing the manatees because they tear up the sea grass upstream and we see it floating by.

I hope you can soon dredge out that muck and get some clean water in this beautiful resource and get some plant life started. If there's any way we can help, please call.

Facetiously, a nice hole about 20 feet across, 40 feet out from the dock would be a nice touch.

388-9821



F. L. CALLENDER



This tiny 7-inch trout attempted to eat my
Microlore on 12/20/06. I released him unharmed
after counseling him to head for the Talbot
islands and eat nothing but live fish and
shrimp until he returns here in 2008.
Then I'll offer him another nice plastic meal
with hooks.
And the water in Zishwevi will be clean!



Department of the Army,
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

January 9, 2007

Attn: Paul Stodola, Planning Division, Environmental Branch

I am writing this letter after reading an article in the Resident Community News dated January 2007. I currently live on Little Fishweir Creek and my family owns another home there. Over the past ten years we have gone to community meetings, petitioned the city, and met with our local city councilmen about the poor condition of our creek. Neighbors tell us that year's ago, the health of the creek was excellent with boating, fishing and even swimming prevalent. All homeowners along Little Fishweir and Big Fishweir would like to see beneficial restoration to our creek. Upon reading the newspaper article, you were requesting that the public send comments to let the Corps of Engineers and City Officials know how import it is to the residents to have the creek restored. I guarantee you that every property owner along that creek is in favor of the restoration of Little Fishweir and Big Fishweir Creek. Please understand that all of the residents along the creek have been to neighborhood meetings, etc., etc., but nothing ever happens. So if you don't get a lot of response about the issue now, it is because we have become very discouraged and have little hope that the creek will be restored. If it is important to those in charge of restoring our creek, then I will personally have every homeowner along the creek sign a petition. If you have a lack of response from the community, please don't think that it is because we don't care, but frankly we have been down this road before. I have kept a folder on the restoration of the creek over the last five years and have included some copies of issues we have discussed in regard to the creek. If there is anything I can do to help the situation and restore our creek, please let me know.

David S. Killian
3898 Dupont Circle

6973 Highway Ave. Ste.108 * Jacksonville, FL 32254 * Phone (904) 695-2422
Fax (904) 695-2102 * E-mail: DSKGC@BELLSOUTH.NET

J A C K S O N V I L L E C O M
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Thursday, July 31, 2003

Peyton needs to follow up on clog ups from siltation

More on the siltation problems that are affecting the quality of our waterways.

In previous columns, I've written about one man's battle to save Fishing Creek on the city's Westside. Dirt that has washed into the creek from a shoddy Florida Department of Transportation construction project on Timuquana Road has built up into sandbars that are choking the creek.

Unfortunately, Fishing Creek is but one of many of our waterways that are being covered in muck from stormwater runoff that is destroying habitat and eventually hurting the health of the St. Johns River.

Another prime example is Big Fishweir Creek near Avondale.

Residents of the area remember when the creek was deep enough for water-skiing. Today at low tide, where the creek empties into the St. Johns, it's basically a mud flat.

And farther upstream, where the creek at one time was wide, it has been narrowed by a huge sandbar that has built up to the extent that it severs what once were boat slips from the creek itself.

The silt and muck have built up over the years from runoff from development and construction projects. Instead of being clear, the creek's water is often cloudy with gunk, as it was earlier this week.

But there is a glimmer of hope for Fishweir Creek.

Earlier this year, the U.S. Army Corps of Engineers completed a preliminary plan to dredge and restore the creek.

In a bit of a change for the corps, the main purpose of the project wouldn't be to make the creek navigable. The thrust would be to return the habitat to what it was, once again making it a hospitable home for fish, oysters, birds, manatees and all kinds of critters.

Funding for the project still needs to be secured from the federal government and the city.

Mayor John Peyton should have no problem getting behind the project. After all he said in his inaugural address that he intended "to lead a city that will never retreat from its commitment to preserve our special quality of life and protect our natural environment."

Of course, it won't do any good to restore Fishweir Creek if silt is allowed to continue washing into it.

The city already has taken a step to prevent that by building a stormwater containment pond along the

<http://cgi.jacksonville.com/cgi-bin/printit.cgi?story=ZZNOSTORYZZ>

8/1/2003

DUVAL'S COUNTY'S LIST OF SHAME

Florida's Department of Environmental Protection verified these water bodies in Duval County are harmful to fish and other aquatic life and a possible threat to public health.

Impairment Key
 DO= Low dissolved oxygen
 Fecal=High Fecal Coliform Bacteria
 Nutr.=High Nutrient (Nitrogen/Phosphorous) levels

Plan to resolve water quality problems will begin in year indicated
 (TMDL development)

1. Sherman Creek	DO, Fecal	(2008)
2. Hopkins Creek	DO, Fecal	(2008)
3. Hogpen Creek	DO, Fecal	(2008)
4. Puncheon Gum Swamp	DO	(2008)
5. Open Creek	DO, Fecal	(2008)
6. Ryals Swamp	DO	(2008)
7. Julington Creek	DO, Fecal	(2008)
8. Big Davis Creek	DO, Fecal, Nutr.	(2008)
9. Durbin Creek	DO, Fecal, Nutr.	(2008)
10. Oldfield Creek	DO, Fecal	(2008)
11. Cormorant Creek	DO, Fecal	(2008)
12. Sampson Creek	DO	(2008)
13. Dunn Creek	Fecal	(2008)
14. Broward River	DO, Fecal	(2008)
15. St. Johns River	Nutr, Lead, Copper, Iron	(2008)
16. Terrapin Creek	DO, Fecal	(2008)
17. Long Branch	DO, Fecal	(2008)
18. New Castle Creek	Fecal	(2002*)
19. Strawberry Creek	DO, Fecal	(2008)
20. Cow Head Creek	Fecal	(2008)
21. Jones Creek	Fecal	(2008)
22. Gin House Creek	DO, Fecal	(2008)
23. Hogan Creek	DO, Fecal	(2004)
24. Red Bay Branch	Fecal	(2008)
25. Deer Creek	DO, Fecal	(2008)
26. McCoy Creek	DO, Fecal	(2008)
27. Arlington River	Nutr.	(2008)
28. Pottsburg Creek	DO, Fecal	(2008)
29. Silversmith Creek	Fecal	(2008)

Environmental Appendix

30. Little Pottsburg Creek	DO, Fecal	(2008)
31. Miller Creek	DO	(2008)
32. Craig Creek	DO	(2008)
33. Leeds Pond	DO	(2008)
34. Christopher Branch	DO	(2008)
35. Goodbys Creek	DO, Fecal	(2004)
36. Ortega River	DO, Fecal, Lead	(2008)
37. McGirts Creek	Fecal	(2008)
38. Cedar River	DO	(2004)
39. Big Fishweir	DO, Fecal	(2008)
40. Wills Branch	Fecal	(2004)
41. Williamson Creek	DO	(2004)
42. Butcher Pen Creek	DO, Fecal, Nutr	(2004)
43. Fishing Creek	DO, Fecal	(2008)
44. Sixmile Creek	DO	(2008)
45. Mill Creek	Nutr.	(2008)
46. Deep Bottom Creek	DO, Fecal	(2008)
47. Mandarin Drain	DO, Fecal	(2008)
48. Cedar Creek	Nutr.	(2008)
49. Dog Branch	DO	(2008)
50. Cow Branch	DO	(2008)
51. Mill Branch	Nutr.	(2002*)
52. Trout River	DO, Fecal	(2008)
53. Block House Creek	DO, Fecal	(2008)
54. West Branch	DO, Fecal	(2008)
55. Ninemile Creek	Do, Fecal	(2008)
56. Ribault River	Fecal	(2004)
57. Moncrief Creek	Nutr., Iron, Copper, Lead, Fecal	(2004)
58. Sixmile Reach	DO	(2008)
59. Little Sixmile Creek	Fecal	(2008)

* = indicates plan development is overdue

Attn: Paul Stodola
Planning Division, Environmental Branch
Dept. of the Army
P O Box 4970
Jacksonville, Fl. 32232-0019

1/9/07

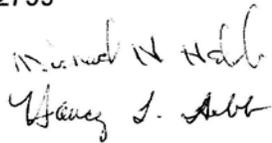
Dear Mr. Stodola,

We are writing to voice our strong support of the proposed environmental restoration of Big Fishweir Creek. We live on Little Fishweir Creek and we see the sediment run off on a daily basis. The improvement to the waste treatment plant on Herschel St is a step in the correct direction .

Please, keep the improvements coming ... we need to improve the water quality for plant, animal, and tax paying residents .

Sincerely ,

Michael H & Nancy L HEBB
3883 Arden St.
Jacksonville, Fl 32205
904-389-2799



Michael H. Hebb
Nancy L. Hebb

Attn: Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

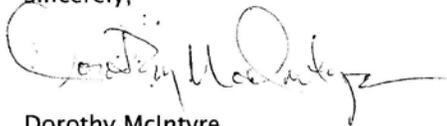
Dear Mr. Stodola,

My neighbors and I are excited at the prospect of the environmental restoration of Fishweir Creek.

I have owned my home at the mouth of Little Fishweir Creek for 21 years. When I first saw the beautiful creek it was clean, lively with bird and aquatic life, and even navigable. Over the 21 years I have watched the silt and sediment flow steadily downstream bringing with it debris, bacteria, and foul smells which often overflow into the bordering backyards. This unhealthy muck displaces the water in the creek so that at times especially during summer months the creek does not flow at all. It has negatively impacted the health of the ecosystem affecting not only the quality of aquatic life but also bird and human life.

Please restore our Big and Little Fishweir Creeks to their natural and former beauty by moving forward with the dredging project. Correct the unhealthy and shameful condition our little creek habitat has become. We will be most grateful.

Sincerely,



Dorothy McIntyre
3924 DuPont Circle
Jacksonville, FL 32205

Attn: Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

I am writing you to voice my strong support for the proposed environmental restoration of Big Fishweir Creek.

There is no question that the creek has water quality problems; the Florida Department of Environmental Protection has listed it as "impaired" for high levels of bacteria and low levels of dissolved oxygen. Unfortunately, sediment runoff has also significantly impacted the creek's depth and ecological health. As a resident who has lived for ten years along the adjacent Little Fishweir Creek, which has suffered the same dramatic sedimentation and decline in water quality as Big Fishweir, I can attest to the urgent need to reclaim the precious but imperiled habitat that these creeks provide for shore birds, aquatic life, and wetlands vegetation.

The enormous quantities of sediment in both Little Fishweir and Big Fishweir creeks are also creating hazards for the residents who live along their borders. The creeks serve as catch basins for much of this area of West Jacksonville, and because their channels are so heavily silted, rainwater and runoff frequently overflow their banks. This further erodes the shoreline and creates real hardship for area homeowners. During Hurricane Jeanne (September 2004), the storm water that fell on our area was unable to find adequate, efficient passage to the river, as would have been the case had the creeks been adequately dredged. As a result, a number of homes along the Fishweir creeks suffered significant flood damage; five were so heavily damaged that their owners were required to vacate the homes for up to a year, and in two instances—including my own home—the structures ultimately had to be demolished.

Please give careful and positive consideration to dredging BOTH Big and Little Fishweir Creeks so that this lovely tidal area with abundant bird life, a diverse habitat, and beautiful marsh grasses will be available to future residents of Jacksonville—both human and aquatic.

Sincerely,



Alfred D. Harding, Jr.
3867 Arden Street
Jacksonville FL 32205

Robert Morgan
1630 Geraldine Drive
Jacksonville Florida 32210

To Whom It May Concern:

I would like to express my sincere gratitude at finally seeing Big Fishweir Creek on the "fix it" list. It is a beautiful creek even now. I can only imagine how much more of an asset the creek will be AFTER it is repaired.

I sincerely hope that you plan on dredging the creek up to Hwy 17. Even now people canoe and kayak and even Jet ski up to 17 and dredging the creek up to Hwy 17 would really clean it out.

A lot of people have been waiting for this day to come. Historically the creek makes the list but gets taken off every time. My hope is that this time, FINALLY, it stays on the list and gets the attention it deserves.

Sincerely,



Rob Morgan

Attn: Paul Stodola
Planning Division, Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

As residents of Avondale, Arden subdivision which is surrounded by Fishweir Creek and Little Fishweir Creek we want to commend you and offer our strong support of the environmental restoration of Big Fishweir Creek.

It is obvious, since our property backs to Little Fishweir Creek and has views of Big Fishweir Creek, that there is a very large environmental issue with this creek. We have been residents since 1991 and I am a native of the Riverside/Avondale area. Over the years I have witnessed many changes, not positive in the environment along the creeks. You are very much familiar with the decrease in plant life, increased sediment, and the various pollutants that often turn the water a milky consistency.

The creeks do not flow properly and have become so filled with sediment that it is obvious that dredging is in great need. The creeks serve as catch basins for much of this area of West Jacksonville, and because their channels are so heavily silted, rainwater and runoff frequently overflow their banks. This further erodes the shoreline and yard chemicals flow down the river with the rain dumping into the rivers.

While restoring Big Fishweir Creek please consider the small creek that feeds into it when it rains and works as an overflow with the tides. Little Fishweir Creek is a nice inlet and when it is working properly has been a beautiful haven for wild life. One of the reasons we bought the property in 1991 was the Blue Herons and the plant life. There are still many birds left but not as many as have been in the past. Please be encouraged that this will be a good thing for all of the community, not just those who live on the creeks.

Thank you for your thoughtful consideration and may the restoration be swift and successful.

Sincerely,



Sheron and Jack Willson
3893 Arden Street
Jacksonville, Fla 32205
Email: Sheronw@bellsouth.net
Phone: 904-388-8254

Jennifer J. Sagan
Sagan Biological, LLC
1493 Challen Avenue
Jacksonville, FL 32205

January 10, 2006

Mr. Paul Stodola
Planning Division
Environmental Branch
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Stodola:

This letter was written in response to the call for comments regarding the potential aquatic ecosystem restoration of Big Fishweir Creek. I have been contracted for the last eight years by the St. Johns River Water Management District to act as the project coordinator for the Submerged Aquatic Vegetation (SAV) Monitoring Project for the Lower St. Johns River Basin (LSJRB). In this capacity, I have had the opportunity to analyze a variety of physiochemical, biological, and hydrological variables which affect SAV within the LSJR mainstem and specifically, adjacent to Big Fishweir Creek. I hope that the attached comments will prove helpful to you as you assess the feasibility of the restoration project.

Sincerely,

Jennifer J. Sagan, M.S.
Sagan Biological, LLC
904-387-1505
904-502-9794 (cell)

Response to Big Fishweir Creek NEPA Scoping Letter 121206:
SAV and Emergent Restoration Comments

Prepared by
Jennifer J. Sagan
Sagan Biological, LLC
1493 Challen Avenue
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(904) 387-1505

I. Introduction

SAV habitat is crucial to the maintenance of a balanced ecosystem, providing refuge, food, habitat, and nursery sites for an assemblage of aquatic organisms including the endangered West Indian manatee (*Trichechus manatus*) (White et al. 2002). Many of these organisms, such as largemouth bass, catfish and blue crab are of substantial recreational and commercial value within the LSJR (Watkins 1995). In addition, SAV adds oxygen to the water column in the littoral zones, takes up nutrients that might otherwise be used by bloom-forming algae or epiphytic algae, reduces sediment suspension, and reduces shoreline erosion.

Many abiotic and biotic stressors to SAV exist in the LSJR ecosystem. Light attenuation remains an important factor limiting SAV distribution and abundance throughout the LSJR. High color, epiphytic and planktonic algae blooms, and suspended solids, increase the level of light attenuation within the water column and often characterize the LSJR (Gallegos 2005). The blackwater system contains naturally occurring tannins that absorb those wavelengths of light utilized by SAV, thus limiting maximum depth distribution and species diversity throughout potential SAV habitat. Planktonic and epiphytic algae blooms, resulting from urban and agricultural eutrophication and high water residence time, along with other suspended sediments, exacerbate the high level of light attenuation within the water column (McGrail et al. 1998). An additional stressor to SAV was seen during 1999 – 2001 (Sagan 2003), and most recently in 2006, when drought-induced increases in salinity had deleterious effects on the SAV in the lower reach of the river.

SAV routinely seen within the LSJR since surveys began in 1998 includes eleven species of freshwater and brackish angiosperms and macroalgae (Sagan 2006). These include baby tears (*Micranthemum sp.*), coontail (*Ceratophyllum demersum*), dwarf arrowhead (*Sagittaria subulata*), eelgrass (*Vallisneria americana*), horned pondweed (*Zannichellia palustris*), hydrilla (*Hydrilla verticillata*), muskgrass (charophytes), slender pondweed (*Potamogeton pusillus*), southern naiad (*Najas guadalupensis*), spikerush (*Eleocharis sp.*), and widgeon grass (*Ruppia maritima*). *Vallisneria americana* is the dominant species throughout the basin and generally accounts for 67% of the SAV coverage within a meadow. *Najas guadalupensis* and *Ruppia maritima* are the next most

abundant species but account for less than 17% and 9%, respectively, of the SAV meadow. These three species have significantly different maximum water depth distributions. Mean basin- and season-wide maximum water depth for *V. americana* was $0.77 \text{ m} \pm 0.20$. Mean maximum water depth distribution for *N. guadalupensis* and *R. maritima* was $0.68 \text{ m} \pm 0.24$ and $0.53 \text{ m} \pm 0.21$, respectively (Sagan 2004a).

II. SAV and Water Quality in the Oligohaline Portion of the LSJR and Adjacent to Big Fishweir Creek

SAV annual surveys have been conducted within the LSJR since 1998. Two of these sites are near Big Fishweir Creek (Figure 1). SAV survey sites at these locations have not supported a biologically significant abundance of SAV (i.e. the sites have consisted of sparse, monospecific beds composed of tiny plants, usually *Zannichellia palustris*) since surveys began in 1998. During the majority of survey years these sites have been barren. This has been true within the mainstem of the river from approximately river-mile 26 to river-mile 28 within the oligohaline-polyhaline portion of the annual study area (Figure 2).

a. Stressors to SAV

The cause of the absence of SAV has been attributed to two variables. One is that insufficient light reaches the SAV due to high light attenuation in the water column. This section of the river has turbidity and TSS levels significantly higher than sites farther upstream (Sagan 2000). High turbidity and TSS are associated with the older sections of Jacksonville (corresponding to Riverside/Avondale and the Ortega/Cedar River watershed) which discharges untreated stormwater effluent with high levels of suspended solids and is the source of leaking sewage infrastructure (sewage lines and septic tanks). Phytoplankton resulting from the excessive nutrients also contribute to the high TSS and turbidity levels. In addition, excessive nutrients give rise to epiphytes which may greatly reduce light reaching SAV photosynthetic surfaces and reduce nutrient exchange between SAV foliage and the water column. Thus, while TSS, turbidity, and nutrient issues have

been dealt with upstream of Big Fishweir Creek in the form of the Hamilton Street detention pond, flood tides will bring degraded water from the Cedar/Ortega Rivers and the St. Johns River.

The other reason SAV has been absent in recent years has been due to high salinities during the 1999 – 2001 drought (Sagan 2003) and this year's drought. However, even during the drought when light available in the water column was relatively high, the halophyte, *Ruppia maritima*, did not appear in the survey area near Big Fishweir Creek. The rapid expansion of this species in other parts of the river during the same time indicates that light attenuation most likely was still a factor in limiting SAV colonization in this area. French and Moore (2003) demonstrated that there is a reduced ability for SAV to tolerate salinity stress under low light conditions; thus a co-inhibitory effect may occur in this section of the river.

b. Propagule and Seedling Viability

There is anecdotal evidence suggesting that there were extensive SAV meadows along Saddler Point in recent decades and indeed as recently as June 1998, a mixed, though sparse, meadow of *Vallisneria* and *Ruppia* was documented at a site along Saddler Point. Thus, the lack of recolonization of the littoral zones adjacent to Big Fishweir Creek as compared to other areas within the oligohaline section of the river may be partially due to reasons other than the absence of water quality that will support SAV. An alternative theory would be that a viable seed bank may not be present in those barren areas and therefore in-situ germination may not be able to occur. Viability of *Ruppia maritima* seeds in sediments was found to be three years (Kantraud 1991) and a seed bank study in the LSJRB found viable *Vallisneria* seeds in a barren littoral zone two years after reproductive structures were seen at the site (Sagan 2004b). However, the last viable reproductive structures of biologically significant SAV seen near Big Fishweir Creek exceed eight years. Thus, recolonization via seeds would have to occur from seeds exported from distant locations. Although viable seeds may be present, other factors may inhibit germination of the seeds, including depth within the sediment (Titus and Hoover 1991, Westcott et al. 1997, Spencer and Ksander 2002), type of sediment, (Titus and

Hoover 1991) or high salinity (Kantraud 1991, Koch and Dawes 1991). Insufficient light is not a factor that inhibits germination of *Vallisneria* seeds; Kimber and coworkers (1995) found that *Vallisneria* seeds germinated in the dark.

However, insufficient light may inhibit seedling viability. Kimber and coworkers (1995) found *Vallisneria* seedling survival was significantly higher in mesocosm treatments receiving 9% and 25% of surface light as compared to 2% and 5% light treatments. It has been estimated that established beds of *Vallisneria* in the LSJR requires between only 2% to 8% of surface irradiance (Dobberfuhl 2004). It may be crucial therefore to distinguish between water quality standards that result in light levels sufficient for sustaining growth of SAV beds in established meadows versus light levels necessary for seed germination or propagule budding during recolonizing attempts. A standard mean water column PAR may be less important than the percentage of leaf biomass located above the light compensation point. Blanch et al. (2001) found that plant growth ceased if the percentage of plant biomass within the light compensation zone was less than 22%. Established meadows often have plant foliage near or at the surface of the water providing increased surface area for photosynthesis. In fact, SAV, including *Vallisneria*, will counteract light attenuation due to increased turbidity by preferentially shunting resources towards leaf elongation (Doyle and Smart, 2001; Blanch et al. 1998) and thereby concentrating plant foliage near the water surface where light irradiance levels are higher. Newly emerging plantlets such as those in the LSJR near Big Fishweir Creek however are at a disadvantage in that highly turbid section as they may not obtain leaf lengths that place the foliage above this crucial cut off point.

III. Considerations/Suggestions for SAV and Emergent Restoration

In terms of selecting submerged and emergent aquatic vegetation two factors are of greatest concern: water quality and littoral-zone exposure due to tides. In terms of water quality, the successful establishment of SAV will depend on the continued sedimentation control upstream to ensure that water column light attenuation (K_d) is kept to a level that will support SAV and to ensure a minimum of siltation which could smother seedlings and interfere with gas exchange through the leaves. However, as mentioned above, flood tide water from the LSJR may have K_d values above that which

can be tolerated by germinating SAV. Thus, the use of adult plants, as opposed to spreading seed, when creating littoral zone habit is preferable. Adult plants will extend higher into the water column and therefore, have access to higher levels of light.

The successful establishment of SAV and emergents will also depend on the appropriate selection of SAV and emergent plants that can grow at the salinity levels encountered in this section of the river. Salinity levels can vary greatly by tide, season, and with unusual climatic events (ex. El Niño). Complementary selection of emergent and SAV plants that are tolerant to varying salinity conditions as well as a variety of emergent and SAV plants that tolerate a variety of salinities, will ensure a healthy littoral zone. I have included a list of native SAV and emergent species that are routinely found in the LSJR, provide wildlife habitat or food, and/or have habitat requirements that would be suitable for the restoration site.

Finally, the littoral zone will periodically be exposed during low tides. Therefore, a mixture of SAV, tolerant to exposure, and emergent plants should be chosen for the nearshore section of the littoral zone. Many of the SAV are not tolerant to prolonged exposure; therefore, emergent plants in the nearshore area will be essential.

SAV Suggestions:

Vallisneria americana is adapted to low light levels and tolerant to low salinities. It is a prolific seed producer throughout the LSJR and has been shown to reestablish through in-situ seed banks when water quality conditions support germination. Forms dense, 20 – 50 cm-tall meadows that act as buffer to wave action. Occupies the mid- to deep-water section of the littoral zone. Because of its long, strap-like leaves it is especially good for trapping and settling water column particulates thereby increasing water column clarity.

Najas guadalupensis is tolerant to fresh and brackish waters and inhabits near- to mid-shore section of SAV beds within LSJR often co-occurring with *Vallisneria*. Not as tolerant to high salinities or to the low light levels as *Vallisneria*, however, it readily recolonizes sites when salinity or light levels improve. Reestablishes at sites from in-situ seed germination and through export of asexual fragments.

Ruppia maritima is adapted to high salinities, however it only grows in shallow, clear water. It is the least adapted to the low light conditions of the LSJR. However, it is a copious seed producer and spontaneously recolonizes sites when light conditions improve. It inhabits near-shore, quiescent areas.

Sagittaria subulata is not tolerant to high salinities but can tolerate tidal exposure. Thus, it would do well in the shallow-water section of the littoral zone or sand bars, which may be subject to exposure during low tides. Further, the dense rhizomatous mats protect shoreline against accelerated wave action.

Emergents Suggestions:

Fresh to Brackish

Canna flaccida (golden canna)

Crinum americanum (swamp lily)

Eleocharis cellulosa and *E. interstincta* (spikerush)

Hibiscus coccineus and *H. Grandiflorus* (hibiscus)

Juncus effusus and *J. roemarianus* (soft rush)

Pluchea odorata (sweetscent)

Sagittaria lancifolia (arrowhead)

Spartina bakeri (cordgrass)

Scirpus californicus and *S. validus* (bulrushes)

Fresh

Iris virginica (blue flag iris)

Saururus cernuus (lizard's tail)

Sagittaria latifolia (duck potato)

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Figure 1. SAV Survey Sites Adjacent to Big Fishweir Creek

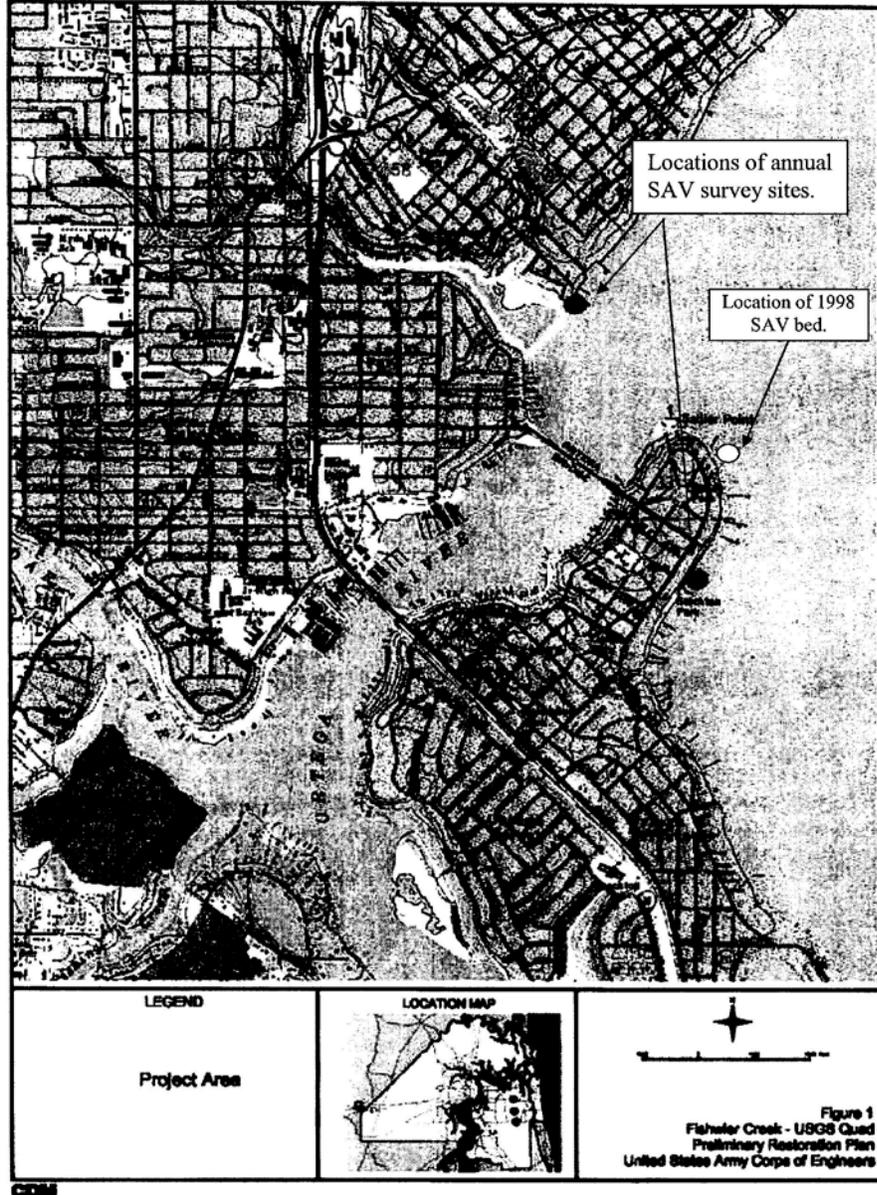
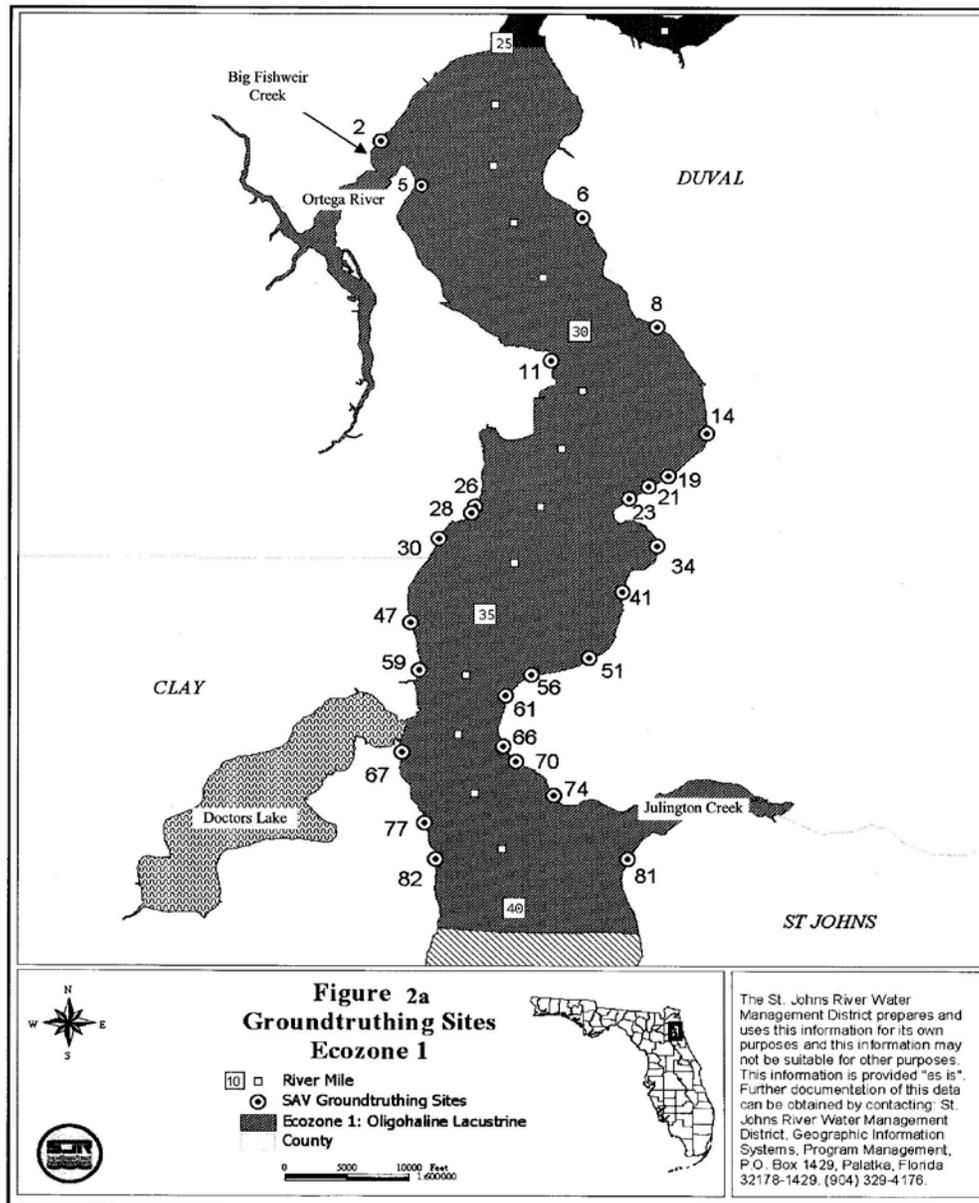


Figure 2. Location of Annual (Groundtruthing) Survey Sites Relative to Big Fishweir Creek



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11 January 2007

Mr. Paul Stodola
U.S. Army Corps of Engineers
Planning Division, Environmental Branch
Post Office Box 4970
Jacksonville, Florida 32232-0019

**RE: Aquatic Ecosystem Restoration Study
Big Fishweir Creek**

Dear Mr. Stodola:

Environmental Services, Inc., (ESI) is a Jacksonville based environmental consulting firm with 20+ years of experience dealing with environmental, natural and cultural resources in Northeast Florida. ESI's Watershed Planning and Restoration Team is a collaboration of professionals from the Ecology and Water Quality Division, the Site Assessment and Remediation Division, the Stream Restoration Division, the Archaeology Division, and the GeoGraphics Division of ESI. It is from this knowledge base that we provide our comments and recommendations to the proposed study of Big Fishweir Creek.

Environmental

A recent study performed by the US Geological Survey on Fishing Creek and the south branch of the Big Fishweir Creek basins concluded that the primary source of fecal coliform bacteria is from human sources and that 63 percent of the samples collected exceed water quality standards. Samples from the creek basins exceeded the U.S. EPA water quality standard for nitrogen 49 percent of the time and exceed the applicable standard for phosphorous 96 percent of the time. The conclusion of the study was that proper management of septic tank effluent may substantially improve water quality in the creeks. ESI recommends that failing septic systems be properly identified through use of water quality monitoring stations and Geographic Information Systems to track nutrient plumes real-time and identify the sources. These failing septic systems should be properly abandoned and backfilled to natural soil conditions.

Point source contamination issues should be addressed by improving the City's wastewater treatment plants and improving stormwater treatment prior to outfall into the creek. Where there is a staffing shortage in the public sector to monitor and prevent point source and non-point source discharges, private entities should be contracted to provide program management support. ESI and/or other private firms can assist with the tracking and enforcement of NPDES permit requirements through assisting with monitoring of new construction activities to ensure proper siltation control methods and best management practices are utilized, and with the mapping of existing stormwater collection systems and elimination of illicit connections.

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ENVIRONMENTAL SERVICES, INC.

Impacted sediments of the tributary should be assessed using non-intrusive assessment technologies and remediated by controlled dredging where leaching potential presents a threat to water quality, wildlife habitat, or human exposure.

Natural

Restoration of a natural creek channel and reestablishment of submerged and aquatic native vegetation should be investigated as a means to improve water quality and improve aquatic habitat. Restoration of native vegetation in combination with removal of accumulated sediments will improve fish nursery habitat and macroinvertebrate and benthic organism habitat.

Biological communities are good indicators of the quality of water as well as the ecological functionality values of aquatic systems. A diverse community structure in the Big Fishweir Creek channel, which includes optimal habitat availability as well as enhanced species diversity, would be beneficial to the ecosystem, especially the macroinvertebrate and fish communities. We recommend that the study include a comprehensive benthic macroinvertebrate community assessment analysis to determine the structure of the benthic communities both in Big Fishweir Creek and in neighboring, healthy water bodies to establish a baseline and a goal for invertebrate communities. In addition, an ichthyological community assessment, an aquatic vegetative survey, and water quality monitoring are all recommended to provide quantitative measurements of the success of the habitat restoration efforts. Further, a detailed shoreline vegetation survey should be conducted to establish the limits and types of existing vegetation, as well as a review of historical data to determine historical limits of vegetation.

The feasibility study should also specifically address the possibility of seagrass restoration for manatee habitat within the creek through analyzing proposed depths, amount of available substrate, and the potential effects of seagrass planting related to boat usage and other existing habitats.

This assessment should be designed to analyze pre-restoration conditions (baseline), post-restoration conditions, and off-site natural (reference) conditions similar to the Big Fishweir Creek system. The reduction and/or elimination of sedimentation and other pollutants from urban runoff by establishing Best Management Practices (BMPs) would also be appropriate to aid in the long-term effectiveness of the restoration project.

Cultural

The dredging project associated with the Big Fishweir Creek restoration project may generate concerns with regard to known and unknown cultural resources. Similar projects have triggered regulations concerning the management of cultural resources such as Section 106 of the National Historic Preservation Act and Section 404 of the Clean Water Act. Regulations from State, County, and City governments may also be triggered that would require professional archaeologists to detect for the presence of archaeological sites, shipwrecks, historic structures, historic bridges, and/or cemeteries. If cultural resources are discovered during a required investigation, they would need to be evaluated for listing in the *National Register of Historic Places* (NRHP).

ENVIRONMENTAL SERVICES, INC.

In the case of dredging projects, underwater archaeological surveys are generally the focus; given the nature of the impacts. In recent years the detection and documentation of underwater cultural resources has become increasingly more important to State and Federal review agencies. This increase of awareness has initiated a similar Phasing of investigation as terrestrial archaeology (*i.e.*, phase I, II, and III). Some of the devices ESI routinely uses on underwater archaeology projects include side-scan sonar, magnetometer, and a sub-bottom profiler. In addition to locating submerged objects, these tools are also useful for mapping river bottoms and can be employed in concert with hydrographic surveys.

In addition, a terrestrial archaeological survey of the shoreline may also be required due to impacts to the creek banks if widening is proposed. Most of the buildings located around Big Fishweir Creek are over 50 years old and have been recorded as historic structures.

ESI has extensive experience in all environmental, natural and cultural resource aspects of aquatic restoration projects. We would be happy to share our experiences and recommendations with you in development of the project's goals and objectives. As residents of Jacksonville and members of the community, we are committed to collaborating with our local public partners to improve the quality of life in Jacksonville and protect its natural resources.

Sincerely yours,

ENVIRONMENTAL SERVICES, INC.



Rhodes Robinson
Chief Executive Officer

xc: Mike Hollingsworth

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Spf011107f

February 6, 2007

Mr. Paul Stodola

Planning Division, Environmental Branch

Department of the Army, Jacksonville District Corps of Engineers

P.O. Box 4970

Jacksonville, FL 32232-0019

Dear Sir:

I am a resident of St. Johns Park located along Big Fishweir Creek and I would like to make several suggestions regarding the next phase of the restoration project of the Creek. It is my understanding that there are plans being developed which would result in the silt in the Creek being removed and Manatee friendly vegetation being planted. I believe that this is a good idea, but I think that the restoration project should take into account the stormwater runoff from both my Subdivision N and Roosevelt Blvd. Without the addition of stormwater ponds or routing the stormwater into the sanitary sewer system, the Corps work will be shortlived at best. In the 25 years I have lived and played around the creek (our house has been in my family since 1961) it has gone from a salty-brackish type estuary with fiddler crabs and lots of fish to a freshwater drainage ditch with almost no flow. I would love to see it turn back into the healthy tributary it once was. If you need a citizen volunteer to assist with the Corps work, I would be willing to

help if called upon. I have enclosed my business card and if you need any help, please do not hesitate to call.

I look forward to watching this project take shape over the next several years and if I may be of any assistance, just let me know.

Sincerely,



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5.2 PUBLIC AND AGENCY COMMENTS ON DRAFT DPR AND EA

5.2.1 Summary of Public and Agency Comments on Draft Report

Responder Name	Date	Medium	Comment	Corps Response to Comment
Public Comments				
M. Webster	12/20/2011	E mail	Supports Alternative 3 - Marsh island may cause negative social effect by hindering view shed. Stressed the importance of trash containers throughout the area. Confirmed wood stork sighting (ESA listed species).	Corps responded with acknowledgement receipt of comment. It should be noted that engineering specifications and plans are not complete at this time; the marsh island in in conceptual design phase. However, the island as proposed in the Draft DPR/EA, is anticipated to be approximately 1.5-ft above MLLW, and will be planted with herbaceous vegetation; no shrubs or trees will be planted on the island that could obstruct the view. No structures will be placed on the island. Monitoring of the vegetation post-construction will assure maintainance of an herbaceous plant community.
J. McCrainie	12/8/2011	E mail	Positive support of porject; details regarding marsh island not clear	Corps responded with acknowledgement receipt of comment
K. Kuder	11/29/2011	Letter - USPS and e mail with attachment	Concerned about dredging undermining their commercial property bulkhead. Looking for assurance that dredging will not cause damage to parking lot and building. (Ray's Hardware Store).	Corps responded with acknowledgement receipt of comment

Responder Name	Date	Medium	Comment	Corps Response to Comment
Public Comments				
W. R. Newton	12/30/2011	E mail	Opposed to creation of the marsh island- sees this as an eyesore and obstruction to view of St Johns River and downtown; suggest management plan by COJ to contain and improve discharge into the creek to keep sediment from filling again.	Corps responded with acknowledgement receipt of comment. It should be noted that engineering specifications and plans are not complete at this time; the marsh island in in conceptual design phase. However, the island as proposed in the Draft DPR/EA, is anticipated to be approximately 1.5-ft above MLLW, and will be planted with herbaceous vegetation; no shrubs or trees will be planted on the island that could obstruct the view. No structures will be placed on the island. Monitoring of the vegetation post-construction will assure maintainance of an herbaceous plant community.
Riverside Avondale Preservation Represented by Carmen Godwin	12/5/2011	E mail	Requests Public Workshop	Corps responded with acknowledgement receipt of comment. A public workshop is forthcoming, although no date or venue are finalized at this time.
K. L. C. Watson	12/28/2011	E mail	Requests Public Workshop	Corps responded with acknowledgement receipt of comment. A public workshop is forthcoming, although no date or venue are finalized at this time.
M. Field	11/18/2011	E mail	Issue accessing the DPR/EA document on the SAJ website	Corps responded with acknowledgement receipt of comment. The commentor was directly contacted to resolve access issue to the DPR/EA on the SAJ website.
T. Turner	1/2/2012		Documented wood stork sighting on BFWC; is in support of the project.	Corps responded with acknowledgement receipt of comment.
J. Brent	11/20/2011	E mail	In support of the project including the marsh island	Corps responded with acknowledgement receipt of comment
L. Quaritius	12/16/2011	E mail	In support of the project including the marsh island and also request public workshop	Corps responded with acknowledgement receipt of comment. A public workshop is forthcoming, although no date or venue are finalized at this time.

Environmental Appendix

Responder Name	Date	Medium	Comment	Corps Response to Comment
Public Comments				
J. Jolly	11/29/2011	E mail	Negative comment regarding the marsh island: concerned it will obstruct view of St Johns River and downtown; requests public workshop to discuss concern.	Corps responded with acknowledgement receipt of comment. It should be noted that engineering specifications and plans are not complete at this time; the marsh island in in conceptual design phase. However, the island as proposed in the Draft DPR/EA, is anticipated to be approximately 1.5-ft above MLLW, and will be planted with herbaceous vegetation; no shrubs or trees will be planted on the island that could obstruct the view. No structures will be placed on the island. Monitoring of the vegetation post-construction will assure maintainance of an herbaceous plant community.
J. Sagan	12/16/2011	E mail and document attachment	Suggested revisions to text of DPR/EA; see full list in Appendix C	Corps responded with acknowledgement receipt of comment. Revisions were reviewed and edited within the report accordingly.

Environmental Appendix

Responder Name	Date	Medium	Comment	Corps Response to Comment
Agency Comments				
EPA - Reg 4, Atlanta, GA NEPA Program Office - Beth Walls	12/11/2012	E mail and document attachment	Concerns regarding eradication of invasive and nuisance plant species: NPDES pesticide permit acquisition by operator prior to usage;	Specifications will include requirement that invasive/nuisance species removal is conducted by specialists that are State certified contractors for the handling and applications of herbicide/pesticide in compliance with the NPDES general permit for pesticide application in U.S. waters.
			Usage of chemicals into waterbodies; possible spread of species by chemical eradication methods	Specifications will include include an integrated pest management requirement by contracted specialists that are trained and knowledgeable regarding proper procedure and handling of invasive and nuisance species eradication methods so as optimize efficiency and to not encourage the spread of the species into new areas outside of the project area.
			Use of a wetlands mitigation bank	The objective of the project is to restore wildlife habitat within the project area through on-site restoration of the aquatic ecosystems. The use of an off-site wetlands mitigation bank is contrary to the this objective.
			Manatee corridor and recreational boating concern	The Draft DPR/EA includes language to address limited recreational boating use within the stream upon completion of sediment removal such as signage for minimal wake zone and channel markers (see DPR/EA Sections 5.2.7 and 7.1.1; Biological Assessment in Appendix C). The upper stream of Area A west of the Herschel Street Bridge is narrow and will require small watercraft at minimal speed in any event.

Environmental Appendix

Responder Name	Date	Comment	Corps Response to Comment
Florida Department of Environmental Protection (FDEP) State Clearinghouse	1/17/2012	Coordinated the following comments through E.O. 12372; § 403.061(42); 16 U.S.C. §1451- §1464, as amended by NEPA	These comments were received after the close of the public commentary that opened on 20 Nov 2011 and closed on 20 Dec 2011.
Florida Department of Environmental Protection (FDEP) State Clearinghouse	1/17/2012	Northeast Florida Regional Council (SAI # FL201111186047C; NEFRC # FSC-11-0006) Correspondence received by FDEP Clearinghouse. The NEFRC has no comments to make at this time.	
St Johns River Water Management District (SJRWMD) -- John Hendreickson 386/329-4370	1/17/2012	Sedimentation: Concerns about the project's ability to reduce sediment export from the watershed. No data is provided on the project's predicted sediment load and how it will change. Data on the project should be included in the FWOP and recommended alternative sections.	This comment was not addressed in the Final DPR/EA due to the time constraint from when it was received to the release of the Final document to SAD.
St Johns River Water Management District (SJRWMD) -- John Hendreickson 386/329-4370	1/17/2012	Salinity: Increase in tidal flushing may increase salinity in upper BFWC, resulting in mortality of freshwater wetland systems. Also, concern for climate change and potential port deepening may exacerbate this tendency. Concerned that <i>Vallisneria</i> may be extirpated with possible impact to manatee forage resource. Suggests further study of salinity regime and of expected discharge velocities and tidal flushing.	This comment was not addressed in the Final DPR/EA due to the time constraint from when it was received to the release of the Final document to SAD.
St Johns River Water Management District (SJRWMD) -- John Hendreickson 386/329-4370	1/17/2012	Marsh Island: Care should be taken to assure contaminated sediments are well buried beneath clean sediments, so metals, pesticides and organic contaminants do not enter the food chain and bioaccumulate in fish and wildlife species.	The foundation of the marsh island will include fine grained sediment that contains low levels of contaminants. The geo-tubes containing the sediment will act as a barrier to isolate the sediment from the system. The cap material will be acquired from either on-site clean sand material, or from a clean, off-site source.

Environmental Appendix

Responder Name	Date	Comment	Corps Response to Comment
FDEP Northeast District Office-- Connie Webel 904/256-1652	1/17/2012	Concerns regarding impacts of flooding to the the forested floodplain as a result of the berm removal and recontouring.	The proposed measure entails removal of small berm sections sufficient to allow water to sheetflow during high water events. Removing the entire berm is not being proposed. Wetlands at fringe locations can attenuate floodwaters when hydrologically reintroduced back into the stream system. Some of these areas were historically wetlands that due to poor management, have been altered and encroached upon not only by upland vegetation but also by adjoining land use.
FDEP Northeast District Office-- Connie Webel 904/256-1652	1/17/2012	The project proposes sediment disposal using in-stream geo-tubes to seve as habitat substrate. The sediments to be place in the geo-tubes have been documented as contaminated. The ERP applicant should ensure that toxic levels of contaminants are not taken up into vegetation, which in turn could be consumed by wildlife species. (i.e. bioaccumulation.	Presently, sediment in the stream system contains these same contaminants and are currently available to wading birds and other wildlife through uptake in vegetation within this system. In contrast, sediment placed into geo-tubes will no longer be accessible to wildlife. Vegetation on the island cap will be placed in clean sand. This issue will further be addressed during the ERP application process.
FDEP Northeast District Office-- Connie Webel 904/256-1652	1/17/2012	Concerns regarding the construction of the marsh island in open water becoming a navigational hazard.	The intent of the sediment removal is to create access corridors for manatee migration, which incidentally will allow small shallow-draft vessels to enter BFWC. No access to docks or other mooring structures is included in this project. Signage will be posted for speed restriction along with channel markers for safe navigation.
FDEP Northeast District Office-- Connie Webel 904/256-1652	1/17/2012	Concerns regarding the maintenance burden and whether it could compromise the intergrity of the marsh island foundation.	This comment was not addressed in the Final DPR/EA due to the time constraint from when it was received to the release of the Final document to SAD. This issue will further be addressed during the ERP application process.
FDEP Northeast District Office-- Pat O'Conner 904/256-1685	1/17/2012	Concerns regarding water quality issues of impairment by Fecal Coliform (FC) bacteria and the possibility of sediment suspension during the construction activities. Monitoring events schedule also presented.	Best management practices will be employed during construction activities. This issue will further be addressed during the ERP application process.

Environmental Appendix

Responder Name	Date	Comment	Corps Response to Comment
FDEP Northeast District Office-- Jeff Martin 904/256-1614	1/17/2012	FDEP Wastewater Program recommends the applicant consult with JEA regarding location of existing water and wastewater lines for possible utility relocation. This will require a permit from the FDEP NE district and/or City of Jacksonville.	This issue will be addressed in the engineering specification and plans. JEA has been contacted regarding this project, and the City of Jacksonville is the co-sponsor of this project.
FDEP Northeast District Office Air Program	1/17/2012	Identified a typo in the report of index value "Moderate between 51 to 1000", should be 100.	This error has been fixed in the DPR/EA

5.3 PUBLIC AND AGENCY COMMENT CORRESPONDENCE ON DRAFT DPR AND EA

5.3.1 EPA Comments

SUBJECT: EPA Comments on City Of Jacksonville. Duval County, Florida, Big Fishweir Creek, Draft Integrated Detailed Project Report and Environmental Assessment (EA), December 2011

The draft EA indicates *nuisance and invasive species occur throughout the Big Fishweir Creek system in all strata of the habitat types* with some areas being more impacted than others. The EA indicates the presence of invasive or nuisance species collectively comprise about 2 acres of the approximate 60 acres, or less than 4% of the project site.

Additionally the draft EA states minor amounts of the stream-side wild taro (*Colocasia esculenta*) and alligatorweed (*Alternanthera philoxeroides*), both invasive herbaceous species found within surface waterways, will require chemical treatment with an herbicide specific that is non-toxic to aquatic habitat. The language used in the draft EA implies an herbicide will be applied directly within surface waterways to address the wild taro and alligator weed.

EPA Comment: new NPDES general permit for pesticide application in U.S. waters:

On October 31, 2011, EPA issued a final National Pollutants Discharge Elimination System (NPDES) general permit for point source discharges from the application of pesticides to U.S. waters. States, such as Florida, having been delegated Clean Water Act Section 402 NPDES responsibilities, are authorized to develop and issue a state NPDES pesticide permit. The pesticide NPDES permit covers operators applying pesticides resulting in discharges to waters to control: 1) mosquito and other flying insect pests, weeds and algae, animal pests, and forest canopy. This permit requires the applicant to minimize pesticide discharges through the use of pest management measures, monitor for and report any adverse incidents. Additional, information can be obtained at EPA's website: www.epa.gov/npdes/pesticides

EPA recommends the appropriate notice of intent or permit application be submitted to the state program responsible for implementing the federal NPDES permit for point source discharges from the application of pesticides to U.S. waters.

EPA Comment: environmental impacts associated with attempts to eradicate the invasive or nuisance species.

Since they comprise less than 4% (2 acres) of the project site, the draft EA should address whether attempts to eradicate the invasive or nuisance species may actually lead to spreading and increasing their presence by causing them to move to more hospitable environments, e.g., untreated areas where they can thrive and then return to the treated area once the herbicide has been rendered ineffective. And or facilitate the invasive and nuisance species evolution to be resistant to chemical eradication attempts. Additionally, the draft EA should discuss whether any planned improvements, e.g., stream channel, may facilitate an environment inhospitable to the identified invasive and nuisance species allowing native species to outcompete them with out the application of any chemicals.

EPA Comment: integrated pest management plan development.

Concerns exist over the indiscriminate and overuse of any herbicide, selective or non. Moreover, EPA's "approval" of any pesticides/herbicides does not constitute an endorsement of chemical eradication over other effective eradication methods.

Moreover, while the active herbicide ingredient, e.g., glyphosate, may generally be considered environmentally-friendly being only slightly toxic to birds, fish, and aquatic invertebrates, the impacts associated with those surfactants added to boost the effectiveness of the main ingredient have not been widely studied and remain an unknown concern of being toxic to wildlife.

Consequently, EPA recommends judicious and careful management of any herbicide's use both to optimize and maintain its performance, particularly for agricultural areas, and minimize exposure to water quality and the associated ecology. For example, the heavy reliance on glyphosate has led to both shifts in weed species and development of glyphosate-resistant weeds impeding agricultural efforts.

EPA also recommends the development of an integrated pest management plan to address invasive species if they are actually deemed to be a problem since they comprise less than 4% of the project site. Careful management implies using herbicides effectively and efficiently. For example, herbicide adsorption and weed control generally are greater with higher humidity levels; high nighttime and early-morning humidity may cause heavy dew, which may negatively impact weed control; rainfall soon after an application can wash herbicide off plant foliage and reduce weed control. Weed control with glyphosate is often lower early in the morning or in the evening as compared to

midday applications. Furthermore, wind is an important consideration in preventing drift.

EPA Comment: wetlands mitigation bank.

EPA encourages the COE to explore whether the proposed wetlands restoration effort can be enhanced by participation in a wetlands mitigation bank through existing interagency agreements and/or through partnerships with NGOs (e.g., The Nature Conservancy). A mitigation bank is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or (in certain circumstances) preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404 or a similar state or local wetland regulation. See: <http://www.epa.gov/owow/wetlands/facts/fact16.html> . Eric Somerville of Region 4 EPA's staff is available to assist in whether the Wetlands Mitigation Banking concept could enhance CNS wetlands restoration efforts. Mr. Somerville can be reached by phone: 706-355-8514 or email: Somerville.eric@epa.gov.

EPA Comment: manatee corridors.

The draft EA maintains sediment removal will allow manatee access including the upper stream safehaven habitat of Area A. However, channel deepening resulting from sediment removal will also provide access to recreational boaters and fishermen. The draft EA does not discuss the manatee impacts by attracting manatee back to its former habitat while encouraging increased boating traffic. Additionally, the draft EA should discuss how effective is the proposed mitigation, establishment of low wake zones including whether resources are available to enforce them. EPA recommends more discussion on manatee impacts associated with sediment removal and associated channel deepening.

5.3.2 Other Public Comments



REPLY TO
ATTENTION OF

Planning and Policy Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

NOV 16 2011

To Whom It May Concern:

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability for the Draft Integrated Detailed Project Report and Environmental Assessment of Big Fishweir Creek, City of Jacksonville, Duval County, Florida

The draft document is available on the U.S. Army Corps of Engineers, Jacksonville District website for your review and comment at:

http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/DocsNotices_OnLine_DuvalCo.htm

For comments to be considered, they must be received within 30 days from the date of this letter unless additional review time is authorized by federal law. Letters should be addressed to the letterhead address, to the attention of the Planning Division, Environmental Branch, Coastal Section. If you have any questions or comments, please contact Ms. Kathleen McConnell by telephone at 904-232-3607, or by email at kathleen.k.mcconnell@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric P. Summa".

Eric P. Summa
Chief, Environmental Branch

-2-

McConnell/CESAJ-PD-EC/2136
Spinning/CESAJ-PD-EC
Apple/CESAJ-PD-PW
Summa/CESAJ-PD-E
Suggs/CESAJ-PM-WF

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Environmental Appendix

From: jlmccranie@comcast.net
To: [McConnell, Kathleen K. SAJ](#)
Cc: [Mike Webster](#); [Art and Mike Small](#); [Kelly and James Shefelbine](#); [Ken Watson](#); [Matt Thompson](#); [Ari Jolly](#)
Subject: Big Fishweir Creek Draft Report
Date: Friday, December 02, 2011 12:10:44 PM

Dear Ms. McConnell

Thank you for the opportunity to review and comment on this wonderful document. I have been involved in this effort to restore Fishweir Creek for over 13 years. It is so rewarding to read your report and see the extent of your effort. We see at last that our time and yours were well spent. I have read all 822 pages and must admit that there are many details I can not understand. I have spoken to many of my neighbors who live on the the creek and all have expressed their excitement with your work. Interst abounds with the island in area D and it would be of great benefit if we could have a briefing to the public on this and other areas you would like. Again thanks for your effort.

Sincerely,

John L. McCranie

1697 Woodmere Dr.

Ph # 389-9221

Environmental Appendix

From: [Mike Webster](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: [Hollingsworth, Michael J. SAJ](#)
Subject: BRWC Duval County, Florida EA Comment
Date: Tuesday, December 20, 2011 5:03:20 PM

Via email
December 20, 2011

Ms. Kathleen McConnell
Planning Division, Environmental Branch, Coastal Section
Department Of The Army Jacksonville District Army Corps Of Engineers
P.O.Box 4970 Jacksonville Florida 32232-0019

Re: BFWC Draft DPR EA NEPA/EA Comment

Ms. McConnell,

Thanks to all involved with the considerable efforts in compiling the Draft DPR EA!!

This is to lodge overall support for Alternative 3

Observations, reservations:

Wood Stork Consideration (2.5.2, 5.6.4.1, 7.1.1)
Confirmed random sighting; Area A November 30, 2011.
Photos submitted to COE November 30, 2011
Wood stork presence is uncommon, therefore little direct or indirect negative impacts during project construction, operations

Management Measures

(5.2.9) There is reference to a berm on the north side of the creek-note also deposited berm on the south side of the creek, Easterly Area A/Westerly Area B.
(5.4.2) Degree of berm vegetation coverage possibly over stated
(5.2.8, 5.4.1) Trash Collectors. Agreed that installing trash collectors should be a measure conducted outside the project area. The importance of trash management should be acknowledged as central to the effective implementation of every element of BFWC Ecosystem Restoration.

Impacts

(7.1.1, 7.2.1 et al)
Creation of stand alone marsh island
Related to assumed planning objections and constraints (2.3); "Avoid impacts to docks and bulkheads"
Draft consideration in restoring original marsh precluded due to the very recent, near simultaneous construction of four walkway/dock structures.
Stand alone island proposal likely cause for negative social effect, aesthetics- hindering effectively meeting Acceptability criteria.

Consistent with BFWC Restoration intent, and per earlier Scoping comments, future private dock construction should be curtailed.

Respectfully submitted,
Michael C. Webster
1658 Geraldine Drive
Jacksonville, Florida 32204

Environmental Appendix

From: [Christy Weeks](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: [Kenneth Kuder](#)
Subject: Big Fishweir Creek Dredging
Date: Tuesday, November 29, 2011 12:49:43 PM
Attachments: [2011_11_29_12_45_01.pdf](#)
Importance: High

Ms. McConnell;

Please find attached a letter concerning the dredging and our business. The original is in the mail.

If you have any questions, please refer them to Kenneth Kuder, owner of Ray Ware Hardware. His email is kkuder@rayware.com

Thank you.

Christy Weeks
Ray Ware Hardware Inc.
904.400.6205 direct line
904.389.6659 phone
904.389.2899 fax
cweeks@rayware.com

Environmental Appendix

From: [W.R. NEWTON](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: [William Kelt](#)
Subject: Big Fishweir Creek Restoration
Date: Friday, December 30, 2011 8:57:04 AM

While I am unable to pull up the detailed project report and environmental assessment online, I want to go on record as being opposed to the creation of a marsh island in front of my house and my neighbors houses. This would be an eyesore and eventually obstruct my view of the St. Johns River and limited view of downtown.

There currently is not a defined channel in this area or enough flushing action to maintain 1 channel much less 2 given the amount of sand, trash, yard waste and other debris coming from the storm drainage inlets into the creek.

Any plan should contain a management plan whereas the City would be required to contain and improve its discharges into the creek so the sediment will not fill back in the creek.

Environmental Appendix

From: [Carmen Godwin](#)
To: [McConnell, Kathleen K. SAJ](#)
Subject: Community Meeting -- Fishweir Creek
Date: Monday, December 05, 2011 10:51:48 AM
Attachments: [image001.jpg](#)

Ms. McConnell,

We understand a study has been released on the condition of Fishweir Creek and that the COE might be considering a community meeting. RAP would be in support of holding a meeting to provide more information to the public. Please let us know if you plan to host one and we will make sure to get the word out to the community. Carmen

Carmen Godwin
Executive Director
Riverside Avondale Preservation
2623 Herschel Street
Jacksonville, FL 32204
(904) 389-2449

Description: Email RAP-logo

"These old buildings do not belong to us only; they have belonged to our forefathers, and they will belong to our descendants, unless we play them false.

They are not in any sense our property, to do as we like with.

We are only trustees for those that come after us."

From: klwatson@iuno.com
To: [McConnell, Kathleen K_SAJ](mailto:McConnell_Kathleen_K_SAJ)
Cc: kshefelbine@bellsouth.net; jessica@jessicababcock.com; sandra.bradley@rdbi.net; Ari.Jolly@bcbsfl.com; klwatson@iuno.com; ilmccranie@comcast.net; knwatson1@live.com; klwatson@iuno.com
Subject: Fishweir Creek Dredging Project
Date: Monday, November 28, 2011 12:55:29 PM

Dear Ms. McConnell,

Thank you for your attention concerning the Fishweir Creek Dredging Project. My husband and I have been reviewing the dredging plan. We have discussed it with many of our neighbors and we would like to arrange a neighborhood meeting with the Corp of Engineers to discuss the details of the plan and the concerns that we have. I suspect that you have/will hear from many of the neighbors and that they have stated the same. Please let me know how we can arrange such a meeting.

With much gratitude.
Karen and Ken Watson
904-274-0961
904-699-7686
904-655-7220
1729 Woodmere Dr.
Jacksonville, FL 32210

The natural progress of things is for government to gain ground and for liberty to yield.

-- President Thomas Jefferson. 1743-1826

Those who desire to give up freedom in order to gain security will not have, nor do they deserve, either one.

-- President Thomas Jefferson. 1743-1826

There are more instances of the abridgment of the freedom of the people by the gradual and silent encroachment of those in power, than by violent and sudden usurpation.

-- President James Madison. 1751-1836

"Courage is not simply one of the virtues, but the form of every virtue at the testing point" -C.S. Lewis

There is no just or moral system without just and moral people.

Absolute power corrupts absolutely

60-Year-Old Mom Looks 27
Mom Reveals Free Wrinkle Trick That Has Angered Doctors!
<http://thirdpartyoffers.iuno.com/TGL3131/4ed3cac4ed4b05a776cst05vuc>

Environmental Appendix

From: [Field, Mike D. \(MBS\)](#)
To: [McConnell, Kathleen K. SAJ](#)
Subject: Fishweir Creek Environmental Assessment Report
Date: Friday, November 18, 2011 9:08:14 AM

Good morning

I understand there is a public notice for the Draft Integrated Detailed Project Report and Environmental Assessment of Big Fishweir. Where can I access this document?

Thank you for your time!

Mike Field

NOTICE: This communication and any attachments may contain non-public, confidential and/or proprietary information for disclosure to and use by the intended recipient only. If you have received this communication in error, please delete or destroy it and all copies and attachments immediately, and notify the sender. If you are not the intended recipient, be advised that any review, distribution or printing of this communication is prohibited. An error in transmission is not intended to waive confidentiality or privilege. We reserve the right, to the extent permitted under applicable law, to monitor electronic communications.

Environmental Appendix

From: [Tony Turner](#)
To: [McConnell, Kathleen K. SAJ](#)
Subject: Fishweir Creek Jacksonville
Date: Monday, January 02, 2012 6:38:54 PM

Kathleen,

My name is Tony Turner and I reside at 4305 Woodmere Street in Jacksonville, Florida. Our property backs up to Fishweir Creek.

I am very interested in the progress of the project to dredge Fishweir Creek. I know the creek is small but it could be such an asset to the community if renewed. I have observed all kinds of wildlife in the creek. Most recently, I saw two woodstorks behind my house in the creek.

If there is something I can do to help move project along, please let me know.

Thank you,

Tony Turner

Sent from my Samsung smartphone on AT&T

Environmental Appendix

From: [John Brent](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: [gailbrent@yahoo.com](#); [John Brent, Jr.](#); [Bebe Alexander](#); [jamesbrent86@gmail.com](#); [harry_james](#)
Subject: Fishweir Creek
Date: Tuesday, November 22, 2011 11:57:08 AM

Kathleen,

I was very excited to get the information on cleaning up Fishweir Creek. I am in favor for what is planned and the small island established from the silt that will be taken from the creek. If you guys are able to get this done; we should see an increase of all types of wildlife and vegetation. Thanks for the USACE work and effort to get this done.

John W. Brent
1928 Morningside Street
Jacksonville, FL 32205
904 388 9283

From: [Leslie Quantius](#)
To: [McConnell, Kathleen K. SAJ](#)
Subject: Fishweir Creek
Date: Friday, December 16, 2011 11:18:02 AM

Hi Ms. McConnell,

We appreciate the notice about potential dredging plans for Fishweir Creek.

I have lived at 1775 Woodmere Drive for 27 years, and I am not excited about a man-made marsh being initiated in Fishweir Creek by the Corps of Engineers. Please let me know when a meeting will take place to address this aspect of the proposed dredging project.

Your consideration of the opinions of the adjacent homeowners living on the creek will be appreciated.

Thank you,

Leslie Quaritius
904-384-3892
lesliequa@comcast.net

Environmental Appendix

From: [John Jolly](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: ["Jolly, Ari"](#)
Subject: RE: Fishweir Creek Dredging Project (UNCLASSIFIED)
Date: Tuesday, November 29, 2011 2:17:58 PM

Subject : Fishweir Creek Dredging Project

Dear Ms. McConnell :

We read the dredging plan with much anticipation, but were not excited to see that it entailed the construction of an island which could potentially obstruct our view of the St. Johns River. The open view of the St. Johns is the reason we moved to this location in 1993. While we look forward to the ecological and pleasure boating improvements which would result from the project, we would appreciate an opportunity to discuss the above concern.

Sincerely,
John and Ari Jolly
904 384-8109
904 234-8305
1705 Woodmere Dr.
Jacksonville, FL 32210



*Environmental Engineers,
Scientists, & Planners*

December 16, 2011

US Army Corps of Engineers
Jacksonville District
South Atlantic Division

Re: Big Fishweir Creek Draft Integrated Detailed Project Report and Environmental
Assessment. Section 206 Ecosystem Report. September 2011

To Whom It May Concern:

Please see the below comments regarding the above referenced draft report.

1. Specific Comments:

Page 1 - 7, 6th Paragraph, Last Sentence:

The St. Johns River was designated an American Heritage River in July 2008,
by Executive Order 13061, by President Clinton.

Comment: Change to ".....in July 2008" to "..... in July 1998,"

REAL PEOPLE ■ REAL SOLUTIONS

6821 SW Archer Road
Gainesville, FL 32608
Voice: 352/372-1500
Toll Free: 1/800/242-4927
Fax: 352/378-1500
businessdev@waterandair.com
www.waterandair.com

USACE Jacksonville District
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Page 3 – 1, 1st Paragraph, Last Sentence:

The portion of the St. Johns River where BFWC enters is tidally influenced. This tidal portion ranges from nearly freshwater (oligohaline, 0.5 to 5.0 parts per thousand (ppt)) to brackish (mesohaline, 5.0 to 18.0 ppt) depending on seasonal conditions. BFWC may experience slightly higher levels of salinity during drought conditions (Sagan, 2007).

Comment: The Sagan, 2007 report does not refer to BFWC. Consider revising to “During severe drought conditions, salinity levels can peak to polyhaline conditions in the reach which includes the confluence of BFWC and the main stem river.”

Page 3 – 2, Last Paragraph and Page 3 – 3:

In the downstream portion of Area B, east of the bridge, the creek’s character transitions to brackish water emergent marsh due to tidal influence and lateral widening. Several small and moderately sized tidal flat shoals are exposed at low tide. Although tidally influenced, the stream appears to be primarily a freshwater to oligohaline system as evidenced by shoreline vegetation, i.e. bulltongue arrowhead (*Sagittaria lancifolia*), cattail (*Typha* sp) and pickerelweed (*Pontederia cordata*).

Comment: Depending on the season and year in which the survey was conducted the creek may have supported freshwater to brackish tolerant species. However, it is likely that as salinity increases during drought conditions, that this lower portion of the creek may support a more salt tolerant community. Acknowledging this succession of communities due to changes in salinity may be useful in selecting a proper vegetation for restoration planting.

Page 3 – 8, Last Paragraph, Last Sentence:

The resultant alterations in aquatic communities within the creek system consist of more pollutant tolerant benthic organisms and decreased in potential growth opportunities for seagrass and oyster colonies.

Comment: Seagrasses would not be expected to colonize BFWC due to low light conditions and periodic freshwater inputs that characterize BFWC. Consider replacing “seagrasses” with “submerged aquatic vegetation”

Page 3-10, First Paragraph, First Sentence:

The Fuller-Warren Bridge is the historical northernmost limit of the submergent freshwater tape grass (also known as *Vallisneria* (*Vallisneria americana*)) within the lower St Johns River basin (Sagan, 2009).

Comment: Citation is “(Sagan, 2007)”

Water & Air Research, Inc.

USACE Jacksonville District
December 16, 2011
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Page 3-10, First Paragraph, Third Sentence:

During a survey period from 1998 – 2007 conducted by the St. Johns River Water Management District, *Vallisneria* occurred near the confluence of Fishweir Creek in Duval County (at river mile 27,

Comment: Missing parentheses.

Page 3-10, First Paragraph, Fifth Sentence:

However, a drought that persisted between 2001 to 2004 concentrated salinity levels resulting in die off of *Vallisneria* colonies throughout the St. Johns River, including the study site formerly located at the confluence of Big Fishweir Creek and the St. Johns River (Sagan 2006).

Comment 1: The dieback of *Vallisneria* colonies occurred only in the downstream sections of the St. Johns River. May want to revise the sentence to say "Drought induced increases in salinity in the Lower St. Johns River resulted in the dieback of *Vallisneria* colonies in the farthest downstream reach of the river including those at the confluence of Big Fishweir Creek and the St. Johns River (Sagan 2007).

Comment 2: Citation should be "(Sagan, 2007)"

Page 3-10, Second Paragraph, First Sentence:

Although this species is somewhat tolerant of a low saline aquatic environment, poor water quality concerns, such as low light penetration from suspended sediment, stresses its growth potential.

Comment: Consider revising to "Although this species is tolerant to brackish saline conditions, poor water quality conditions, such as low light penetration from suspended sediments, stresses its growth condition and reduces its ability to tolerate higher salinity levels."

Page 3-10, Second Paragraph, Third Sentence:

Comment: The reference ... (UNF/JU, 2010) is not cited in the References or Personal Communication sections.

Page 3-11, Third Paragraph, Second Sentence:

Comment: The reference "..... (St. Johns River Report, 2010)." Is not cited in the References section.

Water & Air Research, Inc.

USACE Jacksonville District
December 16, 2011
Page 4 of 6

Page 3-11, Fourth Paragraph, Second Sentence:

Poor water quality, a historic lack of best management practices, and prior significant storm events have further degraded the water quality by increasing sediment and nutrient loading that resulting in diminished usage by aquatic species (USEPA, 2005).

Comment: Consider revising: ".....historical lack.... nutrient loading that resulted....."

Page 3-11, Fourth Paragraph, Second Sentence:

Comment: The reference ".....(USEPA, 2005)." Is not cited in the References section.

Page 5-3, Fifth Paragraph, First Sentence:

The proposed SAV revegetation process will consist of planting typical species, such as Vallisneria, from commercially available bare root plugs which are adapted to survive in water depths of 3 to 6 feet (1-2 meters) (Sagan, 2004).

Comment: Due to reduced light penetration due to high color and suspended sediments, Vallisneria in the Lower St. Johns River rarely grows in depths greater than a mean 0.77 m. Presumably water quality conditions in BFWC will be similar to the main stem river and therefore will limit water depth distribution of Vallisneria to the same extent it does in the main stem river (i.e. 0.77 m).

Page 5-3, Last Paragraph, Last Sentence:

Furthermore, should growth conditions become compromised by either temporary sediment deposition or increased salinity concentrations due to drought, recovery from die-off will occur through natural regeneration of the seed bank stored within the colony (Sagan, 2010, personal communication).

Comment: Sediment deposition may bury seeds to depths that inhibit seed germination. Consider revising to "Furthermore, should growth become compromised by temporary increased salinity concentrations due to drought, recovery from die-off could occur through natural regeneration from seed bank stores within the colony as has occurred in other negatively impacted sections of the Lower St. Johns River. (Sagan, 2010, personal communication).

Page 5-4, Fifth Paragraph, Second Sentence:

Similar to SAV, individual species will be planted by bare-root plugs or within 1- to 3-gallon containers, usually spaced in 2- or 3-foot intervals (Sagan, 2004).

Comment: Sagan, 2004 does not discuss planting specifications for either SAV or emergent species. See the following publications for guidance:

<http://www.plant-materials.nrcs.usda.gov/pubs/lapmctn9976.pdf>
<http://www.gulfalliancetraining.org/dbfiles/Amy%20Baldwin%20-%20NW%20FL%20Living%20Shorelines.pdf>

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USACE Jacksonville District
December 16, 2011
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http://www.miamidade.gov/derm/library/water/Coastal_Wetlands_Restoration.pdf

Page 5-8, Three Paragraph, Three Sentence:

Although not yet designed, dominant species such as saltmeadow cord grass (*Spartina patens*), saltwater cordgrass (*Spartina alterniflora*), and black needle rush (*Juncus roemerianus*) would be planted or seeded along with non-dominant desirable vegetation (Sagan, 2004).

Comment: Sagan, 2004 does not discuss emergent vegetation or specifically emergent vegetation plantings or seeding restoration. Sagan, 2006 (Response to Big Fishweir Creek Scoping Letter) identifies potential emergent vegetation but of the three above (*Spartina patens*, *S. alterniflora*, and *Juncus roemerianus*) only *J. roemerianus* is listed in the Sagan, 2006 document)

Page 5-21, Third Paragraph, Second Sentence:

Multiple random locations for the sampling sites would provide overall measurement of plant species distribution (Steinmetz, 2009).

Comment: Replace "wouldl" with "would"

2. General Comments:

Comment: Depending on the season and year BFWC may support freshwater to brackish tolerant species. However, it is likely that as salinity increases during drought conditions, that this lower portion of the creek may support a more salt tolerant community. Acknowledging this succession of communities due to changes in salinity may be useful in selecting proper vegetation for restoration planting that is viable in the long term and under a range of climatic conditions. Some preliminary multi-season reconnaissance of nearby shoreline within the main stem of the St. Johns River and the Ortega River may provide additional evidence for appropriate species.

Comment: In order to lessen the potential for smothering of new plantings (especially SAV) by sediment transport during construction, consideration of a lag time between sediment dredging, littoral zone contouring and marsh island creation and plantings should be made. Similarly, SAV planting should follow plantings of emergents to reduce downhill transport of material over SAV.

Comment: Many restoration efforts have documented SAV transplant loss due to herbivory especially from manatees. Enclosures should be constructed around SAV transplant areas to allow proper acclimation and vegetative expansion of SAV.

Comment: Researchers have found that plant growth ceased if the percentage of plant biomass within the light compensation zone was less than 22%. Selection of SAV for transplanting should ensure that a SAV plant height/leaf length is chosen that places this fraction of plant material within the crucial photic zone. For instance, small *Vallisneria* rosettes may not be

Water & Air Research, Inc.

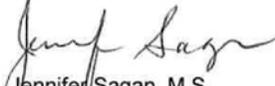
USACE Jacksonville District
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Page 6 of 6

appropriate as transplants into a new restoration area in which sediment settling and bank stabilization are still occurring.

Please let me know if you have any questions regarding these comments.

Sincerely,

Water & Air Research, Inc.



Jennifer Sagan, M.S.
Director of Biology

Water & Air Research, Inc.



November 29, 2011

Planning and Policy Division
Environmental Branch Coastal Section
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Big Fishweir Creek Draft DPR
and Draft EA
Dated Sept 2011

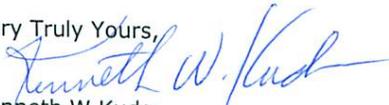
To Whom It May Concern;

Please be advised that I have received a letter from you on November 16, 2011 which referred to a website that which has an 832 page document. In section 5.2.1 it talks about sediment removal management measure-dredging of Big Fishweir Creek.

I am the owner of Ray Ware Hardware located at 4048 Herschel Street, Jacksonville, FL. My entire building and parking lot borders the creek. We are a small family owned business struggling in a bad economy. I am fearful that if you dredge the creek and I do not have a bulkhead which we cannot afford; it will cause damage to my building and parking lot.

I am concerned about the environment, but on the other hand also very concerned about how this is going to affect my parking lot and business. Please advise me as to what is being done to keep this from happening to our property.

Very Truly Yours,


Kenneth W Kuder
President

kwk/clw

MAIN OFFICE: 4048 HERSCHEL STREET • JACKSONVILLE, FL 32205-9229 • (904) 389-6659 • FAX (904) 387-0893



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

January 17, 2012

Ms. Kathleen K. McConnell
Jacksonville District, Planning Division
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers –
Draft Integrated Detailed Project Report and Environmental Assessment
(DPR/EA) for Big Fishweir Creek, Section 206 Aquatic Ecosystem
Restoration Project – Jacksonville, Duval County, Florida.
SAI # FL201111186047C

Dear Ms. McConnell:

The Florida State Clearinghouse has coordinated a review of the Draft Integrated DPR/EA under the following authorities: Presidential Executive Order 12372; § 403.061 (42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The St. Johns River Water Management District (SJRWMD) offers the following advisory comments:

- **SEDIMENTATION:** The report does not appear to address reduction of sediment export from the watershed. Continued sedimentation is listed as a likely occurrence in the Future Without Project Conditions section. In the recommended alternative section, ongoing projects by the City of Jacksonville and SJRWMD outside of the restoration project are referred to as measures that reduce future sediment loads. No data is provided on the project's predicted sediment load and how it will change. Data on the projects should be included in both sections.
- **SALINITY:** The expected increase in tidal flushing from dredging may allow saltier water to encroach farther upstream. This, along with berm breaching in upstream segment A, may lead to stress and mortality of trees in the adjacent swamp. Future sea level rise and port deepening could potentially increase salinity, exacerbating this tendency. SJRWMD data indicates that about ten percent of the time, salinity in the project area exceeds the maximum concentration tolerable for *Vallisneria americana*. High salinity episodes would likely occur during extended droughts and be of long duration. This may lead to extirpation of *Vallisneria americana*, and possibly impact an

www.dep.state.fl.us

Ms. Kathleen K. McConnell
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element of the plan meant to enhance manatee use. Additional examination of the future salinity regime under dredged condition, and expected discharge velocities and tidal flushing, may help support the suitability for some proposed vegetation communities and prevention of future sedimentation.

- MARSH ISLAND: Extensive sediment contamination has been documented in Big Fishweir Creek. The marsh island created from dredged sediments is planned to attract wading birds. Care should be taken to assure contaminated sediments are well buried beneath clean sediments, so metals, pesticides and organic contaminants do not enter the food chain and bioaccumulate in fish or wildlife species.

Please contact Mr. John Hendrickson at (386) 329-4370 for further information.

The Florida Department of Environmental Protection's (DEP) Northeast District Office in Jacksonville notes that the project will require an Environmental Resource Permit (ERP) and state lands authorization from the DEP. Staff submits the following comments and questions:

- The forested floodplain is partially obstructed from frequent hydrological flushing from the stream along the north bank. Because the project would involve removal of the berm on the north bank and re-contouring, staff has expressed concern that flood impacts could result on private property and structures. The ERP applicant is advised to evaluate the potential for flooding and erosion of adjacent private property and destabilization of shoreline structures.
- The project may include sediment disposal using in-stream geotubes to serve as habitat substrate. The sediments to be placed in the geotubes have been documented as contaminated. The ERP applicant should ensure that toxic levels of contaminants are not taken up into vegetation, which in turn could be consumed by wildlife species (*i.e.*, bioaccumulation).
- While the project is characterized as a restoration project, the proposal involves construction of a marsh island in existing open water. The ERP applicant should ensure that the island will not become a navigational hazard for individuals who have historically used the area for recreation.
- What is the expected maintenance burden for the newly created channel depths?
- Will maintenance cause the island structure to become unstable? To ensure that sedimentation and turbidity will not be an issue, further details will be needed on the proposed marsh island stabilization measures. Please contact Ms. Connie Weibel at (904) 256-1652 if you have any questions on the above comments.
- As indicated in the document, Big Fishweir Creek and Little Fishweir Creek are listed as impaired for fecal coliform bacteria (FC) levels above state water quality standards for Class III waters. Short-term, as sediment is stirred up during construction and flocculants are suspended in the water column, there may be temporary increases of

Ms. Kathleen K. McConnell
January 17, 2012
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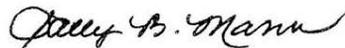
FC in the surrounding ambient waters. If drainage basin stormwater runoff is not addressed in the long-term, FC numbers may increase as additional sediment enters the system. Please note that DEP will be monitoring these water bodies at four stations on a monthly and quarterly basis as part of the Basin Management Action Plan (BMAP). Results of this monitoring will be available to the public at quarterly BMAP and Tributary Assessment Team meetings. Questions may be directed to Mr. Pat O'Connor at (904) 256-1685.

- DEP's Wastewater Program recommends that the applicant consult with JEA regarding the location of existing water and wastewater lines in the project area. Utility lines will need to be identified and possibly relocated, which will require a permit from the DEP Northeast District and/or City of Jacksonville. Please contact Mr. Jeff Martin for additional information at (904) 256-1614.
- Staff in the DEP Air Program has also identified a typographical error in Section 3.9 AIR QUALITY. The following sentence at the bottom of page 3-18 should be corrected as indicated: "Moderate is between 51 to ~~1000~~ 100 index value..."

Based on the information contained in the Draft Integrated DPR/EA and enclosed state agency comments, the state has determined that, at this stage, the proposed federal action is consistent with the Florida Coastal Management Program (FCMP). To ensure the project's continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activity's compliance with FCMP authorities, including federal and state monitoring of the activity to ensure its continued conformance, and the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process in accordance with Section 373.428, *Florida Statutes*.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Suzanne E. Ray at (850) 245-2172.

Yours sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/ser
Enclosures

cc: Sheena Chin-Greene, DEP, Northeast District
Steve Fitzgibbons, SJRWMD



Project Information	
Project:	FL201111186047C
Comments Due:	01/03/2012
Letter Due:	01/17/2012
Description:	DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT CORPS OF ENGINEERS - DRAFT INTEGRATED DETAILED PROJECT REPORT AND ENVIRONMENTAL ASSESSMENT (DPR/EA) FOR BIG FISHWEIR CREEK, SECTION 206 AQUATIC ECOSYSTEM RESTORATION PROJECT - JACKSONVILLE, DUVAL COUNTY, FLORIDA.
Keywords:	ACOE - BIG FISHWEIR CREEK, SECTION 206 AQUATIC ECOSYSTEM RESTORATION - DUVAL CO.
CFDA #:	99.997
Agency Comments:	
NE FLORIDA RPC - NORTHEAST FLORIDA REGIONAL PLANNING COUNCIL	
The NEFRC has reviewed the proposal and has no comments at this time.	
DUVAL - DUVAL COUNTY	
No Comments	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
No Comments Received	
STATE - FLORIDA DEPARTMENT OF STATE	
No Comments Received	
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION	
No Comments from FDOT District Two	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
<p>The DEP Northeast District Office advises the project will require an Environmental Resource Permit (ERP) and state lands authorization from the DEP. Staff notes that the forested floodplain is partially obstructed from frequent hydrological flushing from the stream along the north bank. Because the project would involve removal of the berm on the north bank and re-contouring, staff has expressed concern that flood impacts could result on private property and structures. The ERP applicant is advised to evaluate the potential for flooding and erosion of adjacent private property and destabilization of shoreline structures. The project may include sediment disposal using in-stream geotubes to serve as habitat substrate. The sediments to be placed in the geotubes have been documented as contaminated. The ERP applicant should ensure that toxic levels of contaminants are not taken up into vegetation, which in turn could be consumed by wildlife species (i.e., bioaccumulation). While the project is characterized as a restoration project, the proposal involves construction of a marsh island in existing open water. The ERP applicant should ensure that the island will not become a navigational hazard for individuals who have historically used the area for recreation. Please see the enclosed State Clearinghouse clearance letter for additional comments and questions regarding surface water, utility and air impacts.</p>	
ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	
<p>SJRWMD offers the following advisory comments: SEDIMENTATION: The report does not appear to address reduction of sediment export from the watershed. Continued sedimentation is listed as a likely occurrence in the Future Without Project Condition section. In the recommended alternative section, ongoing projects by the City and SJRWMD outside of the restoration project are referred to as measures that reduce future sediment loads. No data is provided on the projects, predicted sediment load, and how it will change with these projects. Data on the projects should be included in both sections. SALINITY: The expected increase in tidal flushing from dredging may allow saltier water to encroach farther upstream. This, along with berm breaching in upstream segment A, may lead to stress and mortality of trees in the adjacent swamp. Future sea level rise and port deepening could potentially increase salinity, exacerbating this tendency. District data indicates that about 10 percent of the time, salinity in the project area exceeds the maximum concentration tolerable for <i>V. americana</i>. High salinity episodes would likely occur during extended droughts and be of long duration. This may lead to extirpation of <i>V. americana</i>, and possibly impact an element of the plan meant to enhance manatee use. Additional examination of the future salinity regime under dredged condition, and expected discharge velocities and tidal flushing, may help support the suitability for some proposed vegetation communities and prevention of future sedimentation. MARSH ISLAND: Extensive sediment contamination has been documented in Big Fishweir Creek. The marsh island created from dredged sediments is planned to attract wading birds. Care should be taken to assure that contaminated sediments are well buried beneath clean sediments, so metals, pesticides and organic contaminants do not enter the food chain and become bioaccumulated in the birds. Contact John Hendrickson at (386) 329-4370 for questions.</p>	

Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

December 1, 2011

Attention : Planning and Policy Division
Environmental Branch, Coastal Section

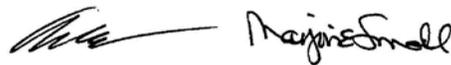
To whom it may concern;

We are in receipt of your letter dated Nov 16, 2011 regarding the Detailed Project report and Environmental Assessment of Big Fishweir Creek, City of Jacksonville, Duval County, Florida.

We have reviewed this report and thank those who conducted this research. My wife and I have lived on Big Fishweir Creek since 1977 and during this time have seen the decline of water quality, fish and birds and increasing sediment build up. We also miss the manatee activity once prevalent, now rarely seen.

We support this wonderful project to restore Big and Little Fishweir Creek. Please contact us if we may be of assistance in anyway.

Sincerely,



Arthur P. Small and Marjorie Small

1647 Woodmere Drive

Jacksonville, Florida 32210

904-389-2053

Environmental Appendix

From: [Mike Webster](#)
To: [McConnell, Kathleen K. SAJ](#)
Cc: [Hollingsworth, Michael J. SAJ](#)
Subject: BRWC Duval County, Florida EA Comment
Date: Tuesday, December 20, 2011 5:03:20 PM

Via email
December 20, 2011

Ms. Kathleen McConnell
Planning Division, Environmental Branch, Coastal Section
Department Of The Army Jacksonville District Army Corps Of Engineers
P.O.Box 4970 Jacksonville Florida 32232-0019

Re: BFWC Draft DPR EA NEPA/EA Comment

Ms. McConnell,

Thanks to all involved with the considerable efforts in compiling the Draft DPR EA!!

This is to lodge overall support for Alternative 3

Observations, reservations:

Wood Stork Consideration (2.5.2, 5.6.4.1, 7.1.1)
Confirmed random sighting; Area A November 30, 2011.
Photos submitted to COE November 30, 2011
Wood stork presence is uncommon, therefore little direct or indirect negative impacts during project construction, operations

Management Measures

(5.2.9) There is reference to a berm on the north side of the creek-note also deposited berm on the south side of the creek, Easterly Area A/Westerly Area B.
(5.4.2) Degree of berm vegetation coverage possibly over stated
(5.2.8, 5.4.1) Trash Collectors. Agreed that installing trash collectors should be a measure conducted outside the project area. The importance of trash management should be acknowledged as central to the effective implementation of every element of BFWC Ecosystem Restoration.

Impacts

(7.1.1, 7.2.1 et al)
Creation of stand alone marsh island
Related to assumed planning objections and constraints (2.3); "Avoid impacts to docks and bulkheads"
Draft consideration in restoring original marsh precluded due to the very recent, near simultaneous construction of four walkway/dock structures.
Stand alone island proposal likely cause for negative social effect, aesthetics- hindering effectively meeting Acceptability criteria.

Consistent with BFWC Restoration intent, and per earlier Scoping comments, future private dock construction should be curtailed.

Respectfully submitted,
Michael C. Webster
1658 Geraldine Drive
Jacksonville, Florida 32204