

River Dance:

Putting the River
in River City

A Report to the Citizens of Northeast Florida
Summer 2005



Executive Summary

The St. Johns River system is one of Jacksonville's most visible and valuable natural assets. As one of the community's defining features, the river and its tributaries touch nearly every neighborhood. Like its past, Jacksonville's destiny is inextricably linked to the St. Johns River. Today's community and its leaders will decide upon the future of the St. Johns River - its health, how the community benefits from its use, and to what extent it is further developed.

Historically, the community's interaction with the St. Johns River has focused on using the river without considering how best to protect it. The result is a fragile system in need of care and repair. The charge of the River Dance study committee was to determine how the Jacksonville community should continue interacting with the St. Johns River and its tributaries in ways that benefit both people and nature.

The St. Johns River is a rich ecological treasure, a strong economic engine, and a joy for boaters and fisherman. As a result, Jacksonville is full with public, private, and civic groups who address almost every river-related issue imaginable, from protecting endangered species to creating a larger manufacturing base. Still, it is uncommon for groups charged with oversight of the river to work in tandem to protect, restore, gain access, and use the St. Johns River.

Different groups representing differing uses all have visions of what is best for the St. Johns River. However, the community of public and private users has yet to develop a comprehensive vision and execution strategy that serves the needs of multiple users. Other communities have accomplished this goal successfully and are benefiting economically, culturally, and environmentally.

Now it is Jacksonville's turn.

Highlights of:

Findings

The St. Johns River is a priceless natural asset that benefits Duval County, culturally economically, environmentally, historically and recreationally.

Spaces for the public to access the St. Johns River for the general purposes of recreation, amusement, and education are lacking.

Though Jacksonville's river system can support a wide variety of uses (residential, industrial, commercial, and recreational), it is dominated by private residential development.

The greatest opportunities for increased public access lie in downtown Jacksonville and along the river's tributaries.

The economic and population growth of Duval County will increase dramatically over the next 15- 30 years escalating the demand for river use and access.

Laws and regulations already exist to protect, regulate and manage Jacksonville's waterways and its surrounding land masses, but there is a need for better enforcement and implementation.

Within the Jacksonville community there are a wide variety of public and private organizations focused on preserving, protecting, developing and using the waterways, however the community does not have a shared vision for how it can best benefit from better use of its waterways.

Development and use of the St. Johns River is desirable economically, socially and culturally, however, increased

Findings *continued*

use can prompt competition between users, limit public access and degrade the environment.

Jacksonville is not alone in the quest to balance the demand for the development, use, access, and protection of its water ways. Communities around the world are successfully revitalizing and refurbishing their waterfronts through sustainable economic and development practices.

Recommendations

Implement and fund the Downtown masterplan *Celebrating the River*.

Increase public access downtown through redesigning of existing parks

Institute community master planning for the length of the river via a river region overlay district.

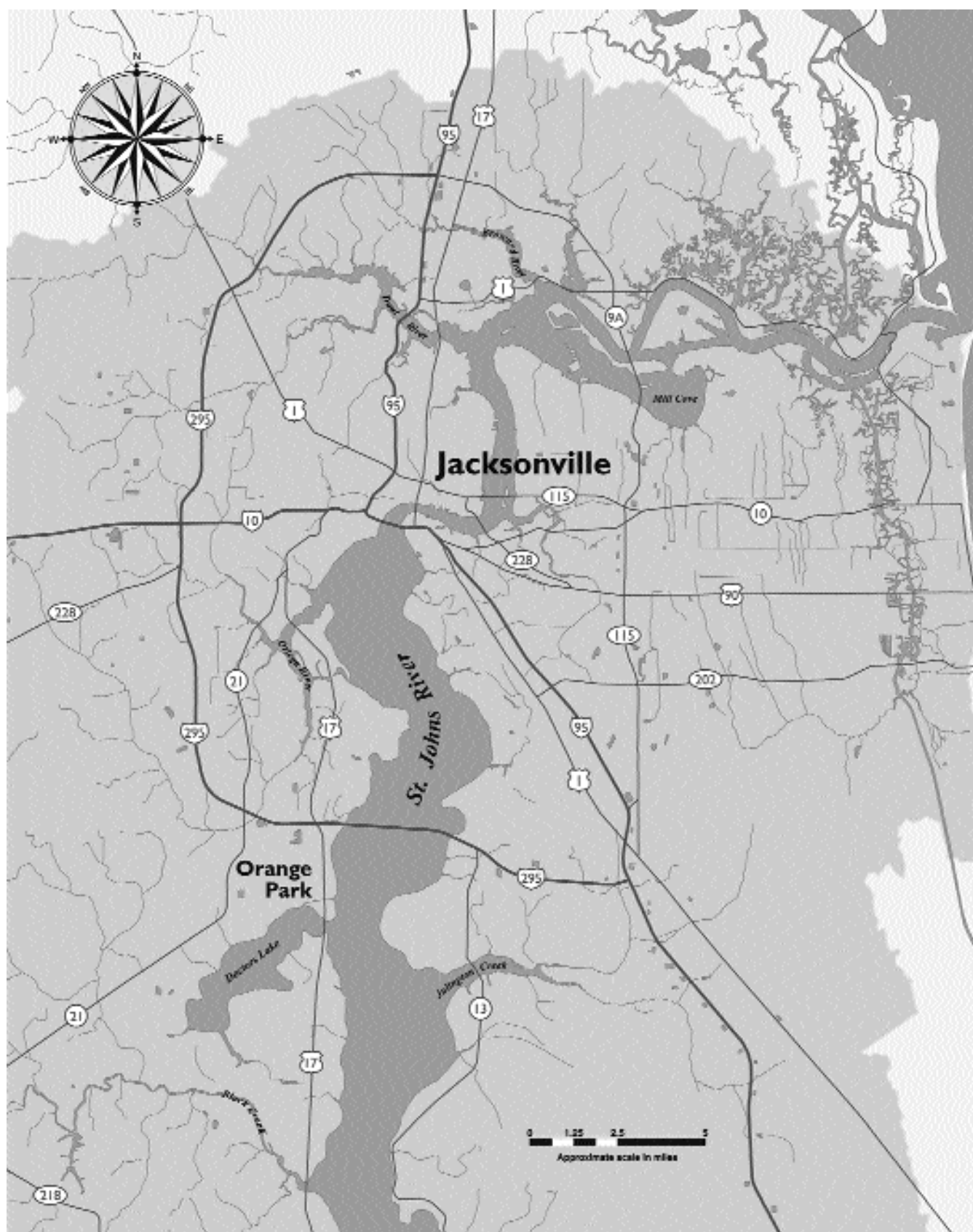
Create a stronger Waterways Commission.

Protect the environment through better coordination of agency resources.

Increase opportunities to educate the public about the river ecology, history, and culture.

Encourage those agencies already working on various aspects of river use and development to continue their work.

Encourage the general community to support responsible use of the river.



Why This Study?

The purpose of this study is to determine how the Jacksonville community can interact with the St. Johns River and its tributaries for the maximum benefit of both people and nature. As the Jacksonville community continues to grow, the competing demands for access to natural resources will increase. The St. Johns River is significant historically, environmentally, and economically. The differences among those who seek to protect, develop, and/or restore the river present the community with an opportunity to determine the future of the river by integrating these points of view.

Jacksonville, Florida owes its existence to the St. Johns River. Civilizations throughout history built cities where food, water, and fertile soil were most abundant. The people settling along the St. Johns River were similarly motivated. Since ancient times, different groups of people have put down roots along the banks of the St. Johns River to take advantage of its natural resources.

Public attitudes and perceptions toward the St. Johns River and its function in society have changed very little since the first known people, the Timucuan, settled along the river's banks. Waterways are used today in the same fashion that they were used during generations past - commerce, food, protection, transportation, recreation, and waste disposal. What has changed? A greater understanding of why it is important to protect the waterways.

Over time, the health of the St. Johns River has depended on the community's priorities. For example, early in the twentieth century Jacksonville experienced an industrial and agricultural boom. The effects of pollution and contamination were not well understood and the river was seen primarily as a resource to serve the community for the sake of growth and financial gain. As a result, the river system suffered through decades of pollution and contamination that have come under better control in the last 35 years.

Communities across the globe are successfully protecting the environment and maximizing public and private use of their waterways. Jacksonville can benefit from both the lessons of her past and the work taking place in other communities to create a uniquely Jacksonville riverfront that provides access to the public, improves the river's ecosystems, enhances economic growth, and enriches the entire community's quality of life.

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The earliest people, pre-historic Native Americans, lived along the St. Johns River for thousands of years. Later, various European groups, including those from Spain, France, and England, would settle along the river's banks.

Spanish sailors discovered the St. Johns River in

History

the early 1500s. Soon thereafter, in 1562 (50 years before the British settlement at Jamestown) the French established Fort Caroline three miles inland from the mouth of the Atlantic Ocean. The collision of European interests over who would control the river escalated rapidly. Three years later, in 1565, Spanish soldiers marched north from St. Augustine and slaughtered the French.

Two centuries later the St. Johns River bore witness to America's Civil War. During the war between the North and the South, the St. Johns River changed hands twice. The remains of the Maple Leaf, a Union steamship sunk by the Confederacy in 1864, remains buried in the St. Johns River today.

After the Civil War, the St. Johns River was the predominant means of transportation for those seeking to explore Florida. Travelers would take the voyage south via Charleston and Savannah by steamboat into the heart of Florida. Due to its proximity to the river, Jacksonville became a major tourist destination. In addition, Jacksonville, not Hollywood, was the first major location for motion picture production during the early 1900's in part because of the river.

Jacksonville was also a key location during both World Wars. The St. Johns River supported the Navy's shipbuilding efforts during each conflict. Due to its wide breadth, Jacksonville served as a major port for seaplanes during World War II.

The St. Johns River has evolved from being the birthplace of Florida to an area that accommodates 3.5 million people living in rural, urban and suburban counties along its banks.

WHAT'S IN A NAME?

The St. Johns River basin was the home to the native Timucua tribes, who called it Welaka, or "river of lakes".

In the early 1500s, Spanish explorers called the river Río de Corrientes, or "river of currents".

An expedition of French Huguenots landed at the mouth of the river on May 1, 1562, and thus called it Rivière du Mai, or "River of May". (Hence today's Mayport.)

Having captured Fort Caroline (1575) the conquering Spanish renamed the river (and the fort) San Mateo, after Saint Matthew, whose feast day fell the day after their victory over the French.

A Catholic mission, San Juan del Puerto, was founded on Fort St. George Island near the river's mouth around 1578, and in time the river came to be known as Río de San Juan. The English translation is "St. Johns River". This name has remained intact through colonization, war, and the creation of the United States.

Source: www.wikipedia.com

The St. Johns River began to develop more than 100,000 years ago as a bay running parallel to the Atlantic Ocean just behind a string of barrier islands. As water levels rose and fell, ocean water was trapped, creating a shallow salt-water filled valley. When sea levels dropped, the ocean water slowly drained out and was replaced by fresh water accumulated from rains.

Ecosystem

Today, the river is still fed by rain, wetlands, natural springs, and the

Atlantic Ocean. The waters of the St. Johns River vary in color from a deep tannin-stained brown as it receives flows from wetlands, to crystal clear when springflow dominates the river, and finally to green during algal blooms.

The 310 mile long St. Johns River is described as a "lazy river" because its elevation decreases only 30 feet from its headwaters to the ocean. The St. Johns River is so slow-moving that its flow can be reversed as far upstream as 100 miles during droughts or spring high tides when the wind is blowing from the northeast. Because the river flows so slowly, it can take months for water, sediment, pollutants and other elements to reach the ocean.

The St. Johns is a multi-faceted river that begins in the marshes west of Cape Canaveral, collects into a series of lakes (Helen Blazes, Sawgrass, Washington, Winder, Poinsett, Harney, Jesup, Monroe and George) and finally becomes a large river south of Palatka. The river's three basins: the upper (where the river begins), the middle, and the lower (including Jacksonville) each have distinct characteristics. The diversity of habitats within each basin supports a variety of species such as alligators, snook, manatees, black bear, bald eagles, wood storks, limpkin, shortnose and Atlantic sturgeon, Black Creek crayfish and the occasional Right Whale.

As it flows north to Jacksonville and east to the Atlantic Ocean, the St. Johns becomes an estuary with salt marshes that serve as a nursery for many species of fish and shellfish.



Pottsburg Creek

Recreation, entertainment, and leisure

The St. Johns River is host to numerous recreational opportunities. Along with boating, fishing, bird and wildlife viewing, and attending special events, local residents can experience the history of the community or enjoy a day exploring the natural beauty of Northeast Florida. In 2005, 15 percent of Duval County survey respondents reported participating in recreational activities on the St. Johns River in the previous 12 months.

Boating

Primary among the activities associated with the river is boating. Jacksonville is home to a community of over 32,000 registered recreational boaters. The City of Jacksonville operates one marina and 21 boat ramps, which equates to 1,524 boats per boat ramp. Some of the existing boat ramps are in need of repair and refurbishing. Many lack sufficient parking, fishing piers, service area for boats, and launch areas, which discourages use. Marinas, never large in number, are slowly disappearing from the landscape. According to the Florida Fish and Wildlife Conservation Commission, the total economic impact of boat ramps is approximately \$1.3 billion statewide. Boat ramps also create over 25,000 jobs and generate \$128 million in state and local tax revenue.

Fishing

Commercial, recreational, and sports fishing is a multimillion dollar industry from one end of the St. Johns to the other. Both fresh and saltwater fishing are possible because of the immense tidal ebb and flow from the Atlantic Ocean. Fish camps dot the river for its entire length. The river is the region's most significant source for shrimp, blue crab, catfish and other commercially important estuarine dependent species. It supports a regionally significant sports fishery with important freshwater species such as largemouth bass, crappie, and bream; and saltwater species such as redfish, trout, and flounder.

However, according to the Department of Agriculture and Consumer Services Division of Aquaculture, all waters in Duval County are prohibited from commercial or private harvesting of oysters, clams, and mussels due to water quality levels.

Parks

Residents and visitors come to the river's banks to enjoy the aesthetic value of the waterfront. It is a way to enjoy the river without being on the river. Identified as the largest urban park system in the United States, Jacksonville's parks offer a wide range of river-focused access and activities on and off the water, which are visited by well over one million people every year.

To address the need for greater river access and other preservation and recreation reasons, the City of Jacksonville partnered with the National and State Park Services. Expanded river opportunities have been created through this unique partnership known as the Timucuan Trail State and National Parks.

Jacksonville also has two urban riverfront parks, Metropolitan Park and Friendship Park. Each of these facilities lack some of the amenities needed to prompt more public use. For example, Friendship Park is a paved space dominated by a large fountain. Florida's hot humid weather begs for parks with green space, shade trees, and sitting areas. Metropolitan Park offers a wide expanse of green space, but does not function as a community gathering space even though it is open daily until sunset.

A recent feature added to the downtown portion of the river is the Northbank Riverwalk. The City, working with riverfront property owners, has extended the Northbank Riverwalk so that residents can walk, jog or bike along the St. Johns River from the Hyatt Hotel to Fidelity National in Riverside/Avondale. The extension was funded in part by the River City Renaissance. The walk was opened to the public in January 2005.

**CITY OF JACKSONVILLE: PARKS WITH ACCESS
TO THE ST. JOHNS RIVER AND/OR ITS TRIBUTARIES**

FISHING

Alimacani Boat Ramp
Alimacani Park
Beach and Peach Urban Park
Bethesda Park
Betz Tiger Point Park
Big Talbot Island State Park
Blue Cypress Park
Cedar Point
County Dock
Fort George Island State Cultural Site
Helen Cooper Floyd Park
Hood Landing Boat Ramp
Intracoastal Boat Ramp
Julington Durbin Creek Preserve
Pumpkin Hill Creek State Buffer Preserve
Reddie Point Preserve
Ribault River Preserve
Ribault Scenic Drive Park
Timucuan Preserve
Oak Harbor Boat Ramp

KAYAK/CANOE

Big Talbot Island State Park
Castaway Island Preserve
County Dock
Dutton Island Park and Preserve
Fort George Island State Cultural Site
Little Talbot Island State Park
Ringhaver Park
Wayne B. Stevens Boat Ramp

RIVER / TRIBUTARY ACCESS

Baker Point
Blue Cypress Park
Cherry Street Park
Dinsmore Boat Ramp and Playground
Elizabeth Park
Exchange Club Island
Friendship Fountain
Goodby's Creek Preserve
Half Moon Island Park
Lillian S. Davin Park
New Berlin Boat Ramp
North Shore Park
Ribault River Preserve
River Oaks Park
Riverfront Park
Riverview Park
Rolliston Park
Seminole Park
Signet Park
St. Johns Marina

BOAT RAMPS

Arlington
Oak Harbor
Pottsburg Creek
T.K. Stokes
Wayne B. Stevens
Arlington Lions Club
Bert Maxwell
County Dock
Dinsmore Boat Landing
Fulton Boat Ramp
Harborview
Hood Landing
Huguenot Memorial Park
Intracoastal Waterway
Lighthouse Marine
Lonnie Wurn
Mayport
New Berlin
Sisters Creek Joe Carlucci
Sisters Creek Marina
St. Johns Marina

Source: City of Jacksonville Park Search www.coj.net



The city skyline can be seen across this vast expanse of the St. Johns river.

Culture

Many of the community's most culturally significant sites sit upon the river or its tributaries, including Kingsley Plantation, San Juan del Puerto, and Fort Caroline National Memorial. They tell the story of some of the people who have settled the area - Timucuan, Europeans, and African Slaves.

Kingsley Plantation, located on Ft. George Island near the mouth of the river and established in the 1700s, is a national park site. The main house, grounds, and slave cabins tell the story of free and enslaved blacks and their efforts to survive in a changing land. Jacksonville Zoological Gardens, also on the banks of the river, serves as a place to discover the earth's wildlife. The Cummer Museum of Arts and Gardens in Jacksonville's Riverside, the oldest such museum in Florida, has art exhibits and three acres of gardens in a riverfront setting. Another mile north on the river, the Jacksonville Museum of Science and History, which specifically targets children, draws more than one million visitors each year. A few blocks away, the Jacksonville Maritime Museum highlights North Florida's nautical heritage. Fort Caroline stands as a National Memorial to the sixteenth-century French effort to establish a permanent colony in Florida and includes a near full-scale fort model, trails, boat dock, and visitor center. The Times-Union Center for the Performing Arts overlooks the river and rivals any such facility in the United States.

Several educational centers are located on or near the river's banks and many offer educational programs aimed at studying the river and its resources. Jacksonville University, the University of North Florida, Florida Community College at Jacksonville, St. Johns River Community College, Episcopal High School, and The Bolles School all have programs, classes, and special studies focusing on the river.

Ecotourism

Tourism is Florida's leading industry, generating on average over \$50 billion a year. Currently, the fastest growing sector of tourism in the nation, ecotourism is nature and history based. With its 84,000 acres of park land, much of it river or estuarine based, Jacksonville is poised to become a leader in this niche market.

The St. Johns River has a long history, from Native American settlements to examples of early African-American plantation life, as well as Spanish and French exploration. It is one of only 10 American Heritage Rivers and is associated with an Eco-Heritage Corridor project to identify a land-based corridor and a river based blueway through the river basin. This effort will further support local eco-tourism opportunities to discover the history, lifestyle, and wildlife surrounding the St. Johns River.

In 2004 JCCI *Forward* held a series of discussions on ecotourism in Northeast Florida; the group spoke with 20 local and regional experts about the opportunities available to the community. Forum participants found that:

- ◆ Many opportunities exist to enjoy Northeast Florida ecotourism and explore local natural resources, but both local residents and visitors lack awareness of ecotourism activities available in Northeast Florida. As a result, many undervalue local natural resources.
- ◆ Many difficulties surround balancing the urban interface and visitation of natural resources with the protection of those resources. Although partnerships are developing between the public partners from the local, state and federal park systems, Northeast Florida lacks a comprehensive, regional strategic plan to address the needs of ecotourism.

While the *Forward* forum focused broadly on ecotourism opportunities in Duval County as a whole, the findings are applicable to a river-based focus.

Events

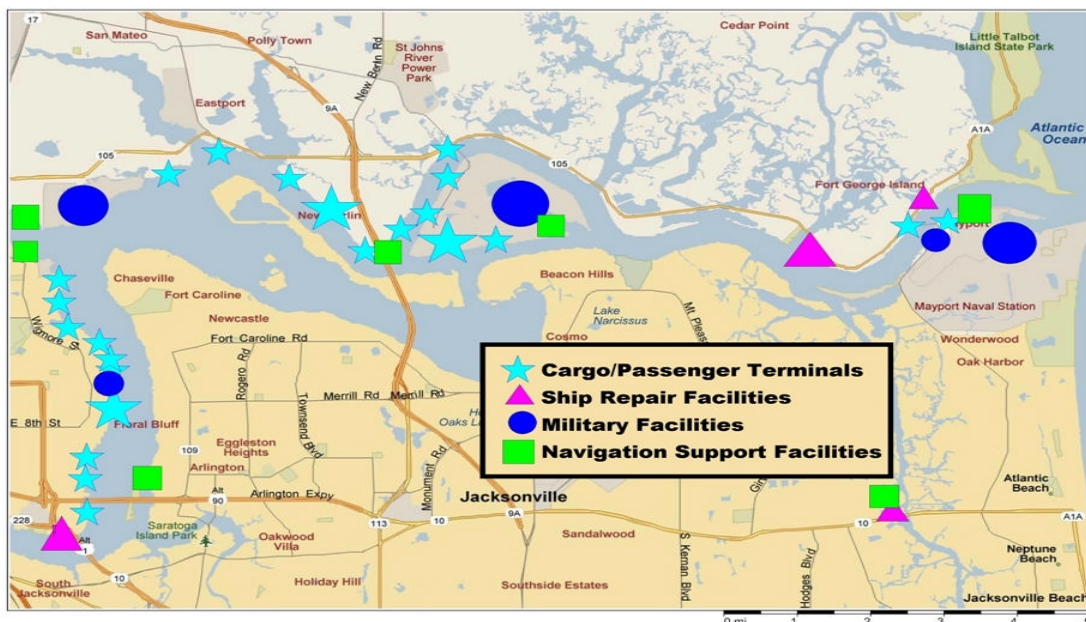
Many of the community's signature events take place along the river, including the Jacksonville Jazz Festival, World of Nations, Fourth of July Fireworks, and the Spring Music Festival. The annual Bird and Nature Festival highlights the river with canoe and kayak trips focusing on area wildlife. Sail Jacksonville is a new event that includes a parade of tall ships. The annual Gate River Run, a 15 kilometer road race, revolves around the river, crossing two downtown bridges along its route, including the 148 foot high Hart Bridge.

Industry

The St. Johns has always been a working river. In the years prior to World War II, commercial development was an economic priority, especially coastal, Caribbean and Atlantic trade. Shipbuilding before and during the war expanded, which contributed greatly to Jacksonville's economic development.

Today the St. Johns River is home to 30 commercial passenger and cargo terminals, five military/government terminals or facilities, four commercial ship repair/construction facilities, three power generating stations, and six facilities for navigational and vessel support.

The growth of the Jacksonville Port Authority is tied directly to the growth of both the local and regional economies. That growth includes moving more cargo and more cruise ship passengers. During 2003-2004 nearly 7.7 million tons of cargo flowed through the Port Authority's three marine terminals. The authority also handled 85,000 cruise ship passengers last year, expects to handle 165,000 passengers in 2005, and could possibly handle 250,000 passengers within three years. The Port is directly responsible for 45,000 jobs and \$2.6 billion in economic impact.



Source: Jacksonville Marine Transportation Exchange May 2005

Though the competition from ports in Georgia and South Carolina is intense, Jacksonville has several advantages, including easy access to two interstate highways and three railroads that converge in Jacksonville. According to the Port's Master Plan "the Jacksonville Port Authority is currently in a growth mode which must be sustained for the Port to remain competitive. As long as the Port

can remain competitive in world markets, it can continue to contribute significantly to the local economy."

Housing

As the demand for housing increases, property values will rise and spur the push for more riverfront developments. While riverfront land is scarce, the movement of industry away from downtown Jacksonville has created more residential and recreational spaces on the downtown riverfront. With a scarcity of affordable waterfront property on the Southside of Jacksonville, buyers are looking north, where waterfront property is still relatively affordable. However, these parcels of land are in areas that are primarily industrial. Continued residential development along the river in traditionally industrial areas is a concern because the interests of homeowners and commercial entities are not necessarily the same. One resource speaker compared the dilemma to homebuyers who purchase homes near the airport, only later realizing the noise level is unacceptable.

Military

Two major U.S. Navy installations, Mayport Naval Station and NAS Jacksonville, are located on the river and represent the second largest Naval concentration in the Atlantic fleet. In addition, Blount Island serves as a major military hardware pre-positioning site for the U.S. Marine Corps. The local military presence also includes the U.S. Coast Guard whose priority is the safety and security of U.S. citizens, property, and water infrastructure. The Jacksonville National Guard includes a Maritime Safety and Security Team, commissioned in response to the September 11, 2001 terrorist attacks.

The Navy in Jacksonville is an integral part of the nation's strategic defense plan and the St. Johns River provides the Navy with the means to do its part in that plan. Nearly 90 percent of the equipment used by the Marine Corps for the war on terror is shipped out of Blount Island via the St. Johns River. Remote navy bases like Guantanamo Bay, Cuba have their food, vehicles, fuel, and supplies shipped by barges from Blount Island as well. Navy ships, small boat operations, and helicopter search and rescue units use the river as a medium for pre-deployment preparations and/or general training curricula. The Navy's Fleet Industrial Fuel Farm, strategically located on the river off Heckscher Drive, provides fuel for Mayport, Kings Bay and other Department of Defense entities, which helps the military maintain a high readiness level. The St. Johns River also provides immediate access to open waters for military vessels.

Depending upon the international climate and/or Department of Defense (DOD) budget constraints, Jacksonville's naval bases could be closed or scaled back. The Naval Air Station Jacksonville and Mayport are the largest DOD controlled properties in Duval County. Each base is located directly on the St. Johns River. No plan exists today to utilize these valuable properties should either installation be lost due to BRAC (Base Realignment and Closure).

Commerce/Retail

Jacksonville offers few opportunities to shop, dine, or conduct business on the river. The areas that offer the best opportunities include population-dense traditional neighborhoods like Riverside/Avondale and San Marco. With their grand riverfront homes and small-but-bustling commercial districts, these communities offer an example of the amenities needed to draw people to commercial waterfront destinations, including an established residential population, mixed-use development (residential, retail, office, and entertainment), pedestrian traffic, and the perception of an exceptional or exclusive experience.

Mass Transportation

Historically, the St. Johns River was a gateway to Florida. During the 19th century ships crossed the sand bar at Mayport and sailed up river to Jacksonville with passengers and goods. Prior to the competition from bridges, ferryboats carried a heavy load, lugging people and cargo across the river. The last ferryboat in downtown Jacksonville, the Duncan U. Fletcher, ended its service in 1938.

Transportation for large numbers of people using the St. Johns River has disappeared. Expansion of the railroad, the advent of the interstate system, and the reliance on automobiles made waterway transportation a forgotten means of moving people from one destination to another in Northeast Florida.

Over 70,000 people commute to downtown Jacksonville daily. To ease the roadway congestion caused by these and other commuters, the St. Johns River has been discussed as a means of mass transportation. Two studies by the Jacksonville Transportation Authority, focusing on Duval County, concluded that waterborne transportation was unfeasible due to high costs and the small service area.

At present there are no additional plans for ferries or other craft to be used for river based transportation. However, the Metropolitan Planning Organization will be conducting an independent study to determine the feasibility of waterborne transportation in Clay, Nassau, Duval, and St. Johns Counties during 2005.

EXISTING RIVER BASED TRANSPORTATION

St. Johns River Ferry (Mayport Ferry): The St. Johns River Ferry began operating in 1948, when the Fernandina Port Authority completed construction of a road down Ft. George Island. The Ferry runs for less than a mile across the mouth of the St. Johns River from Mayport to St. George Island. The current operating vessel, the Jean Ribault, holds 40 vehicles and 206 passengers. The Ferry operates everyday, including holidays.

St. Johns River water taxis in downtown: S.S. Marine is the only water taxi vendor in the Jacksonville Metropolitan Area.

Agriculture

The banks of the St. Johns River provide fertile land for farming. Riverfront lands in Putnam, Flagler and St. Johns counties, known as the Tri-County Agricultural Area, are among the most intensive agricultural areas in the Lower St. Johns River Basin. The largest agriculture industry in Florida, however, is silvaculture, or forestry. More than three million acres of forests grow in the St. Johns River Basin. Other major agricultural forces include dairy and beef farms, with more than a million acres of pastureland to support this agricultural interest.

Less than five percent of land in Duval County is slated for agricultural use. Lawn and landscape maintenance is the most significant local agricultural activity. Because the river flows north, the agricultural byproduct (such as pesticides and fertilizers) that washes into the river south of Duval County eventually impacts the river in Jacksonville.



Downtown Vision, Incorporated, a public/private business improvement and advocacy organization, describes downtown Jacksonville as the business, cultural and entertainment center of Northeast Florida, and at its core, the "magnificent St. Johns River."

Special Use: Central City

The story of how the community protects, uses, accesses, and benefits from this "magnificent" resource will play out over the next ten years. Three large parcels of undeveloped land remain available along the St. Johns River in downtown - the Shipyards, JEA Park, and the Ford Motor Plant. The future of the JEA and Shipyard properties is being decided. Future redevelopment opportunities may present themselves with the current county courthouse site and the old city hall properties, which are both scheduled for eventual demolition.

Today, government buildings, hotels, and skyscrapers representing the city's banking and insurance heritage line the river. Also lining the river edge downtown is the community's entertainment and retail hub, the Jacksonville Landing. In February 2005, Jacksonville was host to the 39th annual National Football League Super Bowl; one of the world's largest sporting events. The theme for the event was the *Super Bowl on the River*, highlighting the downtown riverfront on the north bank (Fuller Warren Bridge to the Sports and Entertainment Complex) and on the south bank (JEA Park to Friendship Park).

Communities across the country have met with mixed success in developing and maintaining riverfront commercial districts. Jacksonville's Landing has not fulfilled its potential as a draw for shopping, eating, and entertainment. However, new ownership may have an opportunity to create a marketplace that draws both locals and visitors alike. Baltimore's Inner Harbor, which shares the same builder as the Landing, has been much more successful. It is home to the National Aquarium, several hotels, Harborplace shopping and dining pavilion, numerous restaurants and live music clubs, as well as water taxi docking stations that carry visitors to other historic neighborhoods along the harbor.

Jacksonville's year 2000 downtown master plan (aptly named Celebrating the River) states that "Jacksonville is the celebration of a great, international river and extensive public green space, where city parks and attractive water features are essential components of busy, sustainable urban neighborhoods." The downtown plan incorporates four themes: the St. Johns River, open civic space, sports and recreation, and arts and culture.

Bay Street has also been discussed as a candidate for Jacksonville's "miracle mile", a shopping and entertainment district running parallel to the river, but one block removed, with high-end retail, residential, and lodging.

Riverfront housing is a key component in reviving Jacksonville's downtown neighborhoods. Opening its doors in 2002, the 22-story Berkman Plaza is Jacksonville's first downtown luxury riverfront apartment tower. Other riverfront residential towers currently slated for the downtown waterfront include the 32-story Peninsula and the 28-story Strand, both on the river's south bank.

In addition, a Miami developer - Riverwalk Hotels - is planning a \$500 million, six building south bank project including three 35-story towers. This development will require the demolition of the Radisson Riverwalk Hotel and the Chart House restaurant. The project includes 1,500 residential units, a public riverfront park, retail shops, and a grocery store.

RECOMMENDATIONS AND PUBLIC POLICY ACTIONS FOR DEVELOPING THE DOWNTOWN RIVERFRONT by Chan, Krieger and Associates for Jacksonville's Downtown Vision, Incorporated (2004)

Design/Planning Opportunities

Identify a particular area of the downtown riverfront as the centerpiece for development.

Transform Bay Street into Jacksonville's Riverside Drive.

Focus reinvestment on the nine streets that run perpendicular to the river.

Make a better river walk (including multiple activities & shade).

Add to the scale and variety of open spaces along the river.

Create a Hemming Plaza to Friendship Fountain Cultural Trail.

Make pending Southbank development efforts - Main Street to the JEA parcel - work in concert for an enhanced public domain.

Consider another river crossing as part of long-range river planning.

"Narrow the River" with floating infrastructure, fishing piers, a small island, etc. The old Fuller Warren Bridge was listed as the example.

Pursue the 'Emerald Necklace' Concept advocated for in the downtown master plan by creating a barrier free connection between McCoy's Creek, Hogan's Streams, and the St. Johns River.

Policies and Public Actions

Create a River Redevelopment Corporation, Business Improvement District or Public/Private Task Force to focus on planning and development.

Commit river stakeholders to enhance their properties and lobby for responsible development.

Expand recreational, festival, and visitor oriented events along the river.

Create a Strategic Action Plan not another Vision or Master Plan.

Produce, design and develop guidelines for the river by district, not citywide.

Impacts

Environmental Impacts

Over the years, the St. Johns River has suffered a number of environmental setbacks. Neither regulation aimed at developers, nor the responsibility expected of individual property owners, has been enough to prevent environmental abuses, accidental or intentional.

Increased pollution and contaminants

Pollutants can enter the river through point source discharges (generally from a specific facility) or non-point discharges (such as stormwater runoff or septic tanks). These discharges can harm both the surface waters of the St. Johns River and the underground aquifer. Pollutant discharge affects the viability of aquatic animal and plant species as well as the supply of potable water.

Nutrients

While nutrients are required for all living things, too many nutrients can cause pollution- tolerant species to dominate over more delicate species, causing an imbalance in the river's ecosystem. These excessive nutrients, primarily nitrogen and phosphorous runoff from fertilizers, enable bacteria and algae to thrive, which deplete the oxygen vital to fish and other aquatic life. Nutrients also cause algal blooms to proliferate in the waterways, which can lead to fish kills and cause navigation hazards. Nutrient sources are varied, and include storm water runoff containing fertilizer components from yards, agricultural runoff, and treated sewage from wastewater plants and untreated sewage from faulty septic tanks.

Federal law requires the Environmental Protection Agency and state governments to set pollution quotas (Total Maximum Daily Loads) on ailing rivers such as the St.

Nutrients cont'd

Johns River. The plan developed by Florida's Department of Environmental Protection requires a 22 percent decrease in nitrogen discharges between Green Cove Springs and Mayport.

Sedimentation

Sediment is any particulate matter deposited as a layer of solid particles on the bed or bottom of a body of water. This mud, silt, and sand, primarily from construction projects, is harmful to the river. The siltation resulting from construction sites can cause physical, chemical and biological harm to rivers. Although sediment slowly washes downstream, subsequent ecological damage occurs when grass beds are smothered, destroying plant and food sources for aquatic life. The culprit is often improperly installed or maintained siltation barriers.

Sediment is of particular concern in many of the community's tributaries. These small rivers, creeks, and streams, evident in almost every Jacksonville neighborhood, have a history of being some of the City's most polluted waterways. In some tributaries the particulate matter is often overwhelming and contaminated by naturally occurring and man-made pollutants. Sediment has also rendered some creeks impassable for boaters and docks on waterfront homes useless. When dredging is necessary to remove sediment it can stir-up contaminants, increasing pollution in the tributaries and the river's main stem.



Bacteria

Fecal-coliform bacteria inhabit the intestinal tract of humans and warm-blooded animals. Human sources of fecal-coliform bacteria enter the St. Johns River through breaks or malfunctions in the sewer system and failing septic tanks. Though these bacteria in themselves are not harmful, they do indicate the presence of human pathogens that present a human health threat. If fecal-coliform bacteria concentrations are high in recreational waters and are ingested while swimming or enter the skin through a cut or sore, the associated pathogens may cause disease, infections, or rashes.

Heavy metals

The term heavy metal refers to any metallic chemical element that has a relatively high density and is toxic or poisonous at low concentrations. Examples of heavy metals include mercury, arsenic, and lead. Heavy metals can enter a water supply from industrial and consumer waste, or even from acidic rain breaking down soils and releasing heavy metals into streams, lakes, rivers, and groundwater. Heavy metal pollution threatens human health, animals, and plants.

Unregulated organic compounds

According to a Florida Department of Environmental Protection report released in 2002, Unregulated Organic Compounds are a threat to the state's surface waters, including the St. Johns River. These compounds, such as non-prescription drugs or steroids, are generally used to protect human health, enhance consumer goods, or optimize agricultural production. The small amounts released into the environment have the potential to affect both humans and other organisms within the ecosystem. Small organisms at the bottom of the food chain may prove to be particularly vulnerable.

Loss of habitat

Riverfront structures, nutrients from agricultural runoff, discharge from wastewater treatment, and industrial discharges have displaced land and introduced toxic contaminants into the St. Johns River, causing a loss in both the quantity and quality of habitats critical to both fish and wildlife in the river's lower basin. Each layer of development along the St. Johns River decreases territory available to flora and fauna. Some of the consequences include depletion of wildlife and fish populations, restrictions on consumption of fish and wildlife, and degradation of submerged aquatic life.

Restoration

Restoration indicates projects designed to reclaim or enhance natural systems. Some communities are developing their riverfronts with built-in protection components that improve water quality, maintain or build animal habitats, and create low impact use and public access.

Restoration of waterways, like McCoy's and Hogan's Creeks, are being discussed as a part of the effort to create public river access in downtown Jacksonville. Such efforts include reintroducing wildlife habitat and vegetative buffers as well as low impact public spaces, such as observation areas and passive parks.

Availability of clean water

Without some pollution and contaminant controls ensuring a clean river, riverfront retail and residential development may struggle. People visiting waterfront settings are seeking attractive, inviting spaces that emphasize the natural environment. Riverfront development, especially in downtown Jacksonville, was not emphasized until clean-up efforts were pronounced successful.

Economic Impacts

The promise of economic prosperity is one of the reasons communities choose to redevelop their waterfronts. The investment in housing, recreation, commerce, and industry is often expected to revive downtown communities, draw tourists, and bring jobs to an area. The return on the investment is not always immediate and may have both negative and positive consequences.

Development

Waterfront developments/redevelopments are self-contained economic engines that can bring jobs and a renewed sense of community to a community. These efforts have the potential to attract businesses and revitalize downtown areas, as was the case in Baltimore and Chattanooga. Riverfront revitalization is not a new trend. Cities have been redeveloping neglected industrial waterfronts into parks, residences, retail, and commercial spaces for more than 30 years. These efforts typically involve cooperative partnerships between local governments and developers, and a mix of tax incentives and direct investment. The American Planning Association estimates that developers will have invested half a billion dollars to revitalize urban riverfronts throughout the United States by 2010.

Restoration activity

In 2003 an American Heritage River panel estimated that it would cost \$4.6 billion to restore all 310 miles of the St. Johns River. If available, those funds would be used to control erosion at waterfront archaeological sites, fight invasive plants, eliminate conventional sewage-treatment discharges into the river, improve public recreation on the waterway, and build better drainage and rainwater-control systems. These projects have the potential to enhance the natural environment, but they can also affect the number of dollars that flow into Northeast Florida's economy. Revitalization and restoration efforts along waterfronts can facilitate economic growth.

Population growth

Population estimates indicate significant growth in Jacksonville over the next 15 to 30 years. In 2005, Duval County added almost 39 people a day to its population, and projects adding 36 people daily next year. The county estimates adding 18 jobs daily in 2005 and 17 daily in 2006. Approximately 15 single-family homes will start construction each day in 2005 and in 2006. In 2004 Florida accounted for over 11 percent of all new homes built in the United States. Such growth will increase the demand for industrial, commercial, and residential development as well as recreational spaces. These demands will present the community with competing challenges to protect and restore Jacksonville's natural environments. Increased population will also increase the demand for potable water and other resources.

By 2025, the population within the 18 counties of the St. Johns River Water Management District is projected to be almost 6 million. Within that time frame total water use is projected to increase to 1,880 million gallons per day. To meet future water needs for Florida's growing population, the St. Johns River has been identified as one potential source of drinkable water, particularly in East-Central Florida.

Water dependent vs. non-water dependent use

Water-dependent river uses require direct access to the water, including shipping facilities, marinas, mooring areas, yacht clubs, boat yards, commercial and recreational fishing operations, support facilities for waterborne commerce, public fishing piers, and parks.

A non-water dependent use does not require water for a structure or use to exist. For instance, restaurants, residences, parking lots, hotels, and commercial/retail outlets do not need to be located on the water. These water-oriented uses may be enhanced by a waterfront location, but are not dependent on the waterway for their existence.

According to the Florida Senate's 2005 Working Waterfronts report, non-water dependent uses are replacing water-dependent (traditional) activities and uses. This change decreases the availability of waterfront property necessary to sustain water-dependent activities and increases the value of nearby working waterfront property. Property value increases may result in higher property taxes causing working waterfronts to be less profitable, which can exert pressure to convert to the "highest and best" use of the property, which is often a non-water dependent use.

Sustainability

Riverfront redevelopment aimed at boosting a city's economic vibrancy need not eliminate natural features, compound riverfront damage, or limit public access. Riverfront communities benefit from integrating and balancing ecological, social, and economic concerns, which is the essence of sustainable economic development: recognizing the use of a natural resource does not require destruction of that resource.

Sustainable development ties economic growth with the protection of environmental quality, each reinforcing the other. Such development encourages the relationship between human activities and the natural world without diminishing the prospects for future generations to enjoy a quality of life at least as good as the current generation.



Aerial view of the St Johns River as it loops through the Pottsborg Creek area of Jacksonville

Public Access

Public and private development that bring people to the waterfront to live, eat, shop, relax, recreate, and participate in cultural events build a sense of connection and stewardship for the river. Resource speakers repeatedly stated that Jacksonville does not have enough riverfront access for the general public because most riverfront property is privately owned.

A goal of the City's Preservation Project was to purchase as much riverfront property as possible to shore up the amount of public riverfront access in Jacksonville. The effort was hampered by the high cost and scarcity of riverfront parcels.

Riverfronts support a wide range of recreational uses, including fishing, boating, canoeing, hiking, camping, and bird watching. Productive riverfront communities provide space and facilities for as many of these uses as possible.

The Florida Senate's Working Waterfronts report states that the "loss of commercial and recreational waterfront to residential development and the relative diminishing access to boat launch facilities may have a long term adverse economic impact on our state and local economies. Access to public waterfront is an amenity that adds to our quality of life and makes Florida a desirable destination for residents as well as tourists."

Use vs. Use

Traveling along the St. Johns River from Julington Creek to Mayport reveals that the river in Duval County is used for multiple purposes. Some of these uses are complementary and can dwell side-by-side with no conflict. For example, recreation and residential uses can be designed to impact the environment as little as possible.

However, other types of use along the river are more difficult to balance. In January 2005 a proposal to convert 376 waterfront acres near Heckscher Drive from industrial to residential was vetoed. Declining to convert industrial property to residential may indicate recognition that growth along the riverfront cannot be limited to one type of use. Less than 1 percent (.76) of the land in Duval County is described as (main stem) riverfront. The combination of limited waterfront real estate and the need for multiple uses of that land guarantees some level of competition for use.

TOP FIFTEEN USES OF ST. JOHNS RIVERFRONT PROPERTY IN DUVAL COUNTY*

Description	Count	Total Acreage	Total Value	Average Acreage	Average Value Per Acre
Single family residential	1,515	1,653	\$1,346,141,249	1.1	\$814,417
Vacant	195	234	\$70,266,713	1.2	\$300,877
County	83	1,867	\$646,265,508	22.5	\$346,081
Vacant industrial trial	52	609	\$84,481,014	11.7	\$138,782
Federal	47	649	\$83,642,307	13.8	\$128,821
Leasehold interest	47	771	\$287,827,325	16.4	\$373,206
Residential/Commercial Zoning	40	11	\$18,694,144	0.3	\$1,651,426
Utility	37	404	\$3,129,595,484	10.9	\$7,743,265
Manufacturing heavy	32	1,114	\$519,653,283	34.8	\$466,571
Military	31	4,826	\$10,712,023,317	155.7	\$2,219,828
Waste land	31	165	\$253,529	5.3	\$1,533
Vacant commercial	28	58	\$58,618,212	2.1	\$1,009,441
Open storage	21	271	\$55,749,812	12.9	\$205,924
Parks/Recreation	19	83	\$29,759,079	4.3	\$360,498
Warehouse storage	16	47	\$25,406,536	2.9	\$542,295

Source: Duval County Property Appraisers Office 2005

*Does not include tributaries.

Balancing competing uses

Balancing the needs of multiple users (people, plants, and animals) of the St. Johns River requires attention to the following:

- ◆ *Promoting* development without compromising environmental quality.
- ◆ *Determining* the appropriate mix of waterfront uses for the community.
- ◆ *Balancing* property owners' rights with the community interests.
- ◆ *Meeting* the needs of tourists and year round residents.
- ◆ *Prioritizing* water-dependent and non-water dependent uses vs. land use regulation.

Oversight

Many agencies are responsible for protecting water resources in Jacksonville and Northeast Florida. This list, though not exhaustive, is a guide to the resources being expended on the St. Johns River.

Federal agencies

- ◆ The **U.S. Environmental Protection Agency (EPA)** oversees the Clean Water Act, Safe Drinking Water Act, hazardous waste cleanup laws, brown-field program, and the National Estuary Program. After adopting rules at the national level, EPA normally turns enforcement over to the states - in Florida's case, the **Florida Department of Environmental Protection**.
- ◆ In 1999, under the auspices of the EPA, the St. Johns River was designated as an **American Heritage River** by the federal government to aid in leveraging existing resources for environmental protection, economic revitalization, and historic and cultural preservation.
- ◆ The **U.S. Army Corps of Engineers** retains permitting authority over "waters of the U.S.," including navigable waterways and associated wetlands. The organization conducts wetlands reviews, oversees aquatic plant management, and conducts sovereign lands permitting.
- ◆ The **U.S. Fish and Wildlife Service** coordinates land management efforts and is responsible for wildlife protection. The Federal Emergency Management Agency (FEMA) oversees programs related to flood protection and emergency management. The agency also maps floodplains.
- ◆ The **U.S. Geological Survey (USGS)** and the **National Oceanic and Atmospheric Administration (NOAA)** maintain extensive research and monitoring data that are used by other agencies.

State agencies

- ◆ The **Florida Department of Environmental Protection (FDEP)** handles programs related to groundwater remediation, wastewater treatment, stormwater treatment, and landfill permitting. The agency also concentrates its efforts on water supply issues such as regulating public water suppliers, licensing wastewater treatment operators, acquiring land for water supply protection, and administering water quality regulations. FDEP regulates discharges, dam construction, storage tanks, and hazardous and solid waste management as well. The agency conducts water quality monitoring and oversees the water management districts.
- ◆ The **Florida Department of Health** tests drinking water, certifies water-testing labs, and regulates private or non-community water supplies.



State agencies cont'd

- ◆ The **Florida Department of Community Affairs (DCA)** reviews comprehensive plans and Developments of Regional Impact (DRI's) for issues related to water supply and for consistency with the state's comprehensive plan. The agency oversees growth management and identifies and monitors areas of critical water quality concern. FDCA conducts coastal zone management and oversees hazardous materials management through local emergency planning agencies, via regional planning councils. The agency also funds land acquisition through the Florida Communities Trust for natural systems management.

Regional agencies

- ◆ The **St. Johns River Water Management District** issues permits for water use (consumptive use permitting), well construction, wetland impacts, storm water, dredge and fill, and surface water (environmental resource permitting). The District conducts water quality monitoring and restoration projects, as well as water resources planning. Acquiring and managing land and maintaining flood control structures are other District responsibilities. The District monitors and protects surface water and groundwater, conducts water supply planning, and administers cost-share funds for alternative water supplies.
- ◆ The **Northeast Florida Regional Council** reviews Comprehensive Plans, plan amendments, and prepares Developments of Regional Impact (DRIs) for issues related to water supply. The Council is neither a regulatory agency, nor does it have enforcement authority. Its mission is to provide leadership and coordination between counties and governmental agencies to preserve and enhance the quality of Northeast Florida's natural, man-made, economic, and social environment.

Local agencies

- ◆ The **Jacksonville Waterways Commission** is charged with:
 - ◆ studying and making recommendations to the City Council with respect to the improvement, development and protection of the St. Johns River;
 - ◆ formulating an overall plan for dealing with any problems that exist concerning the St. Johns River; and
 - ◆ devising methods of developing future uses of the St. Johns River.
- ◆ The **Environmental Protection Board (EPB)** develops regulations necessary for administration and enforcement of the city's environmental laws. It conducts investigations of complaints, takes testimony in matters under its jurisdiction and provides a hearing platform for environmental matters within the city. The EPB also conducts public outreach programs for schools, teachers, civic and private organizations.
- ◆ The **Environmental Resource Management Department** was created in 2003 to streamline government and improve service. The Department has four divisions: Environmental Quality (formerly Air and Water Quality), Mosquito Control, Solid Waste (formerly the Solid Waste and Resource Management Department), and Clean It Up, Green It Up.
- ◆ The **Parks Task Force** is a group of community leaders appointed by Mayor John Peyton. The group was charged with studying Jacksonville's park system, including the Preservation Project, to recommend ways to transform the "biggest park system into becoming the best park system in the country." The group completed its work in March 2005.
- ◆ The city's **Better Jacksonville Plan**, a \$2.25 billion comprehensive growth



Local agencies cont'd

management strategy, funded by a half-penny sales tax allocates funding to improve the environment through land preservation, enhancing neighborhood parks, and sewer infrastructure.

- ◆ In Florida, local governments have jurisdiction over waterfront areas and are responsible for preparing comprehensive plans. **The City of Jacksonville Comprehensive Plan** guides the use of land and water resources in Duval County.

Non-governmental agencies

- ◆ The **St. Johns River Alliance** is a non-profit corporation formed to carry out the federal American Heritage Rivers Initiative. Among the priorities identified by the Alliance for the St. Johns River are the acquisition and preservation of environmentally sensitive lands; the improvement of water quality (storm water retrofits and septic tank connections); recreational development (hiking trails, park improvements, and boating access); environmental restoration and protection; and the development of cultural and environmental sites and learning centers.
- ◆ The mission of the **St. Johns Riverkeeper** is to protect, preserve, and restore the ecological integrity of the St. Johns River watershed for current users and future generations through advocacy and citizen action. The Riverkeeper is working on implementing a 20-year vision for the River, which includes preventing habitat loss, reducing sedimentation, reducing bacteria pollution in the tributaries, and strengthening nutrient reduction targets for the lower St. Johns River.
- ◆ The **Stewards of the St. Johns River** is a not-for-profit corporation whose primary purpose is to restore, preserve, and protect the waters of the St. Johns River and its tributaries for current and future generations. The Steward's goals include:
 - ◆ Protecting the remaining resources of the St. Johns River.
 - ◆ Promoting and assisting in the restoration of the St. Johns River.
 - ◆ Elevating public awareness of water quality and the responsible use of natural resources.
 - ◆ Recruiting volunteers to establish a network for reporting violations and assist in promoting sound management practices through education and by using data.
- ◆ The **Jacksonville Marine Transportation Exchange** is the primary body representing the port of Jacksonville. Members include government agencies, terminal operators, towing companies, shipping companies, ship agents, and private contractors in the marine industry. The Exchange:
 - ◆ Provides a forum for pursuing initiatives affecting the commercial viability of the port;
 - ◆ Provides a forum for exchanging information among members of the port community on matters impacting the port; and
 - ◆ Serves to support the port's commercial, safety, and environmental operations.

Efforts to protect the St. Johns River

Within the community there are several ongoing projects designed to offset the effects of people using the river. These efforts include improving water quality, giving voice to public concerns, and land preservation near the river.

Waterways class designation

The Florida Department of Environmental Protection has designated the St. Johns River and its major tributaries in Duval County as Class III waterways. The uses of Class III waterways include recreation and the propagation and maintenance of healthy fish and wildlife.

To maintain its Class III standing, the St. Johns River and its tributaries are monitored for both dissolved oxygen (DO) and fecal-coliform bacteria. Measurements for both are made at 125 points in the St. Johns River and at the mouths of tributaries throughout Duval County.

EACH WATERBODY IN THE STATE HAS A DESIGNATED USE, OR FUNCTIONAL CLASSIFICATION.

The five classes of surface waters in Florida and their designated uses are as follows:

- Class I:** Potable water supplies
- Class II:** Shellfish propagation or harvesting
- Class III:** Recreation, propagation, and maintenance of a healthy, well - balanced population of fish and wildlife
- Class IV:** Agricultural water supplies
- Class V:** Navigation, utility, and industrial use

COMPLIANCE WITH DISSOLVED-OXYGEN STANDARDS FOR SELECTED TRIBUTARY STREAMS		
Stream	Frequency of compliance	
	2002	2003
Arlington	96%	83%
Arlington River	75%	80%
Broward/Dunn	55%	100%
Cedar River	56%	65%
Downtown	51%	61%
Julington/Durbin	50%	43%
Ortega River	79%	86%
Pablo/Greenfield	63%	95%
Rural Tributaries	45%	53%
Southside	53%	60%
Trout River	61%	79%
St. Johns River	100%	99%

Source: JCCI 2004 Quality of Life Indicator Report

Julington and Durbin Creek levels are low due to the naturally low levels of dissolved oxygen in surrounding wetlands. The indicator does not describe the severity of non-compliance in the level of dissolved oxygen in the river and streams.

COMPLIANCE WITH FECAL-COLIFORM BACTERIA STANDARDS FOR SELECTED TRIBUTARY STREAMS		
Stream	Frequency of compliance	
	2002	2003
Arlington	63%	54%
Arlington River	86%	74%
Broward/Dunn	63%	57%
Cedar River	78%	68%
Downtown	60%	51%
Julington/Durbin	100%	100%
Ortega River	71%	93%
Pablo/Greenfield	96%	90%
Rural Tributaries	75%	89%
Southside	63%	66%
Trout River	92%	87%
St. Johns River	99%	n/a

Source: JCCI 2004 Quality of Life Indicator Report

Community river summits

In December 1997, nearly 400 participants participated in the first River Summit held to address water quality issues in the Lower Basin of the St. Johns River. Goals and strategies were developed to reduce both point and nonpoint source pollution, reduce bacteria in the tributaries, restore degraded aquatic habitat, increase water quality compliance and enforcement, and increase public awareness of river issues.

A more far-reaching effort to restore, enhance and protect the entire 310-mile-long St. Johns River began in January 2003 with the second St. Johns River Summit. More than 1,000 people representing the 13 St. Johns riverfront counties participated in this two-day event hosted by the City of Jacksonville, the St. Johns River Water Management District, and the Florida Department of Environmental Protection (FDEP).

As a result of those summits a "River Agenda" was created to enhance and protect the St. Johns River. The Agenda captured the community's priorities for an improved St. Johns River focusing primarily on water quality. Every year after the agenda was adopted, through 2004, a report card was issued to recognize the tasks undertaken to address the six areas of concern listed previously. While the report card does not quantify the success of the projects carried out, it does provide specific examples of the work done.

Preservation project

The Preservation Project was in part an outgrowth of the first River Summit as well as an expansion of an earlier purchase program called the Jacksonville Lands Trust.

Begun in 1999, Preservation Project Jacksonville was designed to manage growth, protect environmentally sensitive lands, improve water quality, and provide public access to the City of Jacksonville's vast natural areas. By 2004, more than 50,000 acres of preservation parkland and open space had been acquired, precluding development in and adjacent to pristine natural areas.

The acquisition of property was a joint effort between City of Jacksonville, Nature Conservancy, Trust for Public Land, St. Johns River Water Management District,

National Park Service, and Florida Department of Environmental Protection.

As a result of the Preservation Project and other programs, the City of Jacksonville now owns or has management of some 83,000 acres of natural areas. The opportunity thus exists for a myriad of water access points to be developed, most of which would connect to the St. Johns River.

Waterfront Acquisitions Over the Past 10 Years

Preservation Project Acquisitions	<ul style="list-style-type: none"> • Alimicani Fish Camp (<i>ICW</i>) • Betz Tiger Point Preserve (<i>Nassau River</i>) • Camp Milton Historic Preserve (<i>McGirts Creek</i>) • Castaway Island Preserve (<i>ICW</i>) • Dutton Island Expansion (<i>ICW</i>) • Goodby's Creek Preserve (<i>SJR</i>) • Julington Durbin Creeks Preserve (<i>Julington Creek</i>) 	<ul style="list-style-type: none"> • Pablo Creek Preserve (<i>ICW</i>) • Palms Fish Camp (<i>SJR</i>) • Reddie Point Preserve (<i>SJR</i>) • Ribault River Preserve (<i>Ribault River</i>) • Sal Taylor Creek Preserve (<i>Black Creek</i>) • Sohn Purchase (<i>Ft. George River</i>) • Thomas Creek Fish Camp (<i>SJR</i>)
Jacksonville Lands Trust Acquisitions	<ul style="list-style-type: none"> • Cedar Point (<i>Nassau River</i>) • Dutton Island (<i>ICW</i>) • Half Moon Island (<i>Nassau River</i>) • Northshore/Bacardi Purchase (<i>Nassau River</i>) • Ortega Stream Valley Park (<i>McGirts Creek</i>) 	
Other Acquisitions	<ul style="list-style-type: none"> • Cradle Creek Preserve (<i>ICW</i>) • Ft. George Island – National Park Service (<i>Ft. George River</i>) • Sisters Creek Marina (<i>SJR</i>) • Westside Regional Park (<i>McGirts Creek</i>) • Ortega Stream Valley Park (<i>McGirts Creek</i>) 	

Source: City of Jacksonville (*ICW* - Intercoastal Waterway and *SJR* - St. Johns River)

Wetlands mitigation

The state of Florida has a vast system of wetlands reflecting its geological history as a submerged island system. Florida boasts more wetlands than any state but Alaska, with 10.5-million acres, down from 11.2-million in the mid -1970s. It also has a greater diversity: mangrove forests where shrimp and fish spawn, freshwater marshes that feed migrating ducks, and cypress domes offering refuge for wading birds.

Wetlands buffer coastal and riverside areas from storms and floods, control erosion, facilitate groundwater recharge, help maintain water quality, and retain nutrients and sediments. Wetlands are also valued for their recreation and tourism opportunities. As a result of tremendous growth and the desire for development, especially residential housing, much of Jacksonville's wetlands could be destroyed.

Mitigating the environmental impacts of development actions on the Nation's wetlands is a central premise of Federal wetlands programs. The Clean Water Act relies on the use of mitigation to offset damage to wetlands. Mitigation may include creation, enhancement or restoration of wetlands and their functions or, in some cases, may include preservation of wetlands and associated upland buffers.

Constructed wetlands, built to compensate for the loss of natural wetlands to offset negative affects on water quality, water availability, and water spaces, account for varying degrees of success. Depending on the source, mitigation by recreating wetlands is an inexact science, an outright failure, or the only possible solution.

Creating a wetland involves more than digging a hole and filling it with water.

Wetlands mitigation cont'd

Successful mimicry requires connections to groundwater and having the appropriate vegetation and soil, not to mention time for the wetland to mature.

However, by themselves, manmade wetlands and mitigation are not the complete answer to eliminating surface water pollution or improving water quality in the St. Johns River system because they can not serve all of the purposes of a natural wetland.

Water treatment

In most communities it is no longer acceptable, nor is it legal to discharge untreated wastewater into surface waters.

Reuse

Instead of discharging treated wastewater into surface waters, many communities are turning to reclaimed water as an alternative method of managing wastewater. In Duval County reclaimed wastewater is treated (filtered and disinfected) by JEA to irrigate its tree farm and selected golf courses and cool the Northside Generating Station. In 2005, JEA began providing reclaimed water for residential lawn irrigation to Duval County residents. Approximately 40 percent of Florida's reclaimed water is used to irrigate lawns, golf courses, highway medians, common areas, and parks.

Replacing septic tanks

According to the Water and Sewer Expansion Authority, approximately 175,000 Duval County homes use septic tanks. In 2004, 571 new septic tank permits were issued by the City of Jacksonville. The Better Jacksonville Plan allocated \$75 million to rid the city of the septic tanks that have been labeled a nuisance. Since 1995 approximately 1,450 septic tanks have been replaced by the public sewer service. The Better Jacksonville Plan calls for the replacement of more than 5,000 additional septic tanks between 2000 and 2010.

Stormwater treatment

Development has stifled some natural stormwater flows due to the destruction, filling in, and paving over of natural wetlands, increasing the dangers of flooding. Development has also led to increased pollutants in stormwater runoff, such as fertilizers, pesticides, motor oil and heavy metals that wash off lawns, sidewalks, roads and parking lots.

Beginning in the early 1980s, laws were passed in Florida requiring treatment of stormwater using tools such as retention and detention ponds. These neighborhood stormwater systems were established to mimic the natural role of wetlands. Stormwater systems, much like natural ponds or wetlands, help control flooding by slowing down surges and absorbing rainwater before it reaches water bodies. They also help filter out the nutrients and sediments collected by stormwater running over the earth's surface before pollutants can reach fragile waterways.

Educating the community

Environmental education opportunities are available throughout Jacksonville for children and adults. Below is a representative list of those programs.

The Earth Day Ecology Fair: More than 50 organizations come together annually to provide the community with environmental information. Sponsors include the City of Jacksonville, Florida Department of Environmental Protection, Duval County School Board, JEA, and a host of private citizens and corporations.

Tree Hill Nature Center: A nonprofit 50-acre urban wildlife preserve offering unspoiled forest, swamps, freshwater streams, gardens, nature trails and

exhibits. Tree Hill is used by the Duval County Public Schools for environmental education.

JEA: Offers a variety of educational resources to public and private schools in its service area, such as age appropriate educational activity books on a broad range of topics including wastewater treatment and water conservation.

City of Jacksonville Park and Recreation Department: The City's park naturalists provide programs such as educational nature walks that highlight the unique features of various parks.

St. Johns River Day Celebration: Every March, volunteers devote a Saturday morning to removing trash from the St. Johns River. This awareness and clean-up effort is supported by a diverse group of community volunteers. Sponsored by the City of Jacksonville, supporters include the Florida Department of Environmental Protection, Stewards of the St. Johns River, St. Johns Riverkeeper, JEA, Sierra Club, and Duval County Public Schools.

The Duval Environmental Educators Network: Works with private, public, and not-for-profit sectors of the community to establish and promote environmental education by encouraging networking among members and by coordinating programs, activities, and special events.

Surface Water Improvement and Management (SWIM): Lower St. Johns River Basin Program

In 1987 the Florida Legislature, through the Surface Water Improvement and Management (SWIM) Act, recognized the Lower St. Johns River Basin as a priority area in need of surface water restoration and protection. The St. Johns Water Management District administers the SWIM plan, which covers sediment management, water quality assessment, agricultural nonpoint sources, biological assessment, hydrology and hydrodynamic modeling, environmental education, and inter-agency coordination and public awareness. The projects identified as priorities for 2004-2005 are listed below:

Total Daily Maximum Loads and Pollutant Development: Refine pollutant load reduction goals (PLRGs) and total maximum daily loads (TMDLs) to protect the environmental health of all receiving waters. Develop criteria to protect ecosystem health and build tools for determining the benefits of any proposed restoration work. Project activities include:

- ✦ determining the pollution tolerances and water quality needs of submerged aquatic vegetation;
- ✦ monitoring water quality, tide, and flow within the river;
- ✦ assessing pollution loading from land disposal sites; and
- ✦ evaluating the efficacy of urban stormwater treatment facilities.

PLRGs are estimated numeric reductions in pollutant loadings needed to preserve or restore designated water uses and maintain water quality standards.

A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Tri-County Agricultural Area BMP Development and Implementation: Design, develop, implement, and monitor the effectiveness of agricultural best management practices in Flagler, Putnam, and St. Johns Counties to reduce nutri-

ent loading from agricultural sources. Cost sharing funds are available for agricultural practices that sustain profitable crop yields while also having the potential for water conservation, runoff, and water quality benefits.

Resource Monitoring and Assessment: Assess and monitor the quality of the lower basin water and its natural systems, including water quality monitoring in the main stem of the river as well as in its tributaries. Also monitor special events, such as significant rainfall, in order to determine the impact of runoff on the health of the river. Monitor biological components such as submerged aquatic vegetation, plankton, benthic communities (worms, clams, crabs, lobsters, sponges, etc.) as well as water quality to determine the river's health.

Other projects include three separate stormwater treatment projects in the Tri-County Agricultural Area designed to decrease nutrients entering the St. Johns River and meet regulatory pollution limits (PLRGs and TMDLs).

Riverfront design

To eliminate the unsightly wharves and warehouses along the waterfront and the contaminants leaking into the river from those structures, Jacksonville built parking lots and government buildings at the river's edge, particularly in downtown. At that time, neither best design practices nor building a visual legacy for future generations was a consideration.

Well-designed riverfronts can improve the river's health, focusing on scenic elements while also addressing both ecological and development needs.

Incorporating natural and manmade spaces

Developments setback from the river can increase both public access to the river and available habitat for wildlife by preventing buildings from being constructed directly on the river's edge. Buffering development with green space, though initially costly, can increase property values, protect the environment, and provide aesthetically pleasing experiences for property owners, commercial users, and the general public.

WATERFRONT DESIGN REGULATIONS (SEC. 656.361.21.)

Purpose and Intent. The purpose of the Waterfront Design Regulations is to: 1) protect and promote the City's downtown waterfront as a community resource, 2) provide for an orderly development or redevelopment of the waterfront, 3) foster high quality design of the riverfront development, 4) ensure increased public access to and along the water's edge, and 5) create a pedestrian-oriented environment along the waterfront. The following requirements shall apply to all property located along the waterfront, as shown on Figure 12, located at the end of this Subpart.

(a) Waterfront building setback. Property owners/developers constructing a new building on a riverfront lot shall provide a 50-foot building setback from the water's edge as measured from the waterside face of the bulkhead or the rip-rap revetment at the Mean High Water Line (MHWL) extending landward of the river, as established at the time of request for a building permit and DRC review.

(b) Riverwalk. Within the waterfront building setback area, a perpetual easement shall be negotiated with the City to be dedicated prior to issuance of a building permit, for the purpose of construction of a riverwalk along the riverfront by the City to be part of a continuous riverwalk system. Construction of the riverwalk shall comply with the provisions of this subsection and the design standards set forth in the Riverfront Park Design Criteria dated July 2000, which standards are hereby adopted and on file in the Legislative Services Division, the City Engineer's Office, and the DDA.

(c) McCoy's and Hogan's Creek Linear Parks. Developers of properties along McCoy's and Hogan's Creeks shall negotiate with the City to dedicate an easement to the City for a pedestrian walkway, bike path and associated landscaping. (Ord. 2003-627-E, § 1)

Source: www.municode.com
City of Jacksonville, Florida Codified through Ordinance Number 2005-102-E, enacted Feb. 8, 2005

Blueways/Greenways

A greenway is a linear space established along a natural or man-made corridor that is converted to recreational use. The course may be natural or landscaped for many uses like pedestrian or bicycle passage. Greenways can also be open-spaces linking parks, nature reserves, cultural sites, or historic areas within populated areas.

Similar to greenways, blueways are designated, marked trails that follow the course of streams and rivers facilitating transportation and recreation. The purpose of a blueway network is to promote recreational use, natural resource stewardship, and ecotourism by officially designating specific waterways as blueways. Blueway networks consist of a variety of river access sites.

In March 2005, the state of Florida approved the purchase of 731 acres in St. Johns County for the St. Johns River Blueway conservation project. When complete, the project will conserve undeveloped shoreline, enhance water quality, and protect archaeological and historical resources along the entire St. Johns River System.

Jacksonville's downtown master plan also details an "Emerald Necklace" connecting neighborhoods to the river through a series of pocket parks, boardwalks, creek-side trails, and streetscapes inviting pedestrians and bicyclists to explore downtown through a series of green spaces.

Zoning and land use

Best practices indicate that riverfront communities benefit economically, socially, and culturally from mixed-use development. The river is a public amenity; mixed-use planning and development encourages the general population to view the river as a many faceted community resource.

Through overlay and other special zoning districts many areas of the community bordering the river system currently have guidelines for use and development.

Central Business District (downtown): Allows medium to high-density residential (including loft apartments), commercial, industrial, institutional, recreational, and entertainment uses, as well as transportation and communication facilities. Loft apartments consisting of residential units within large, formerly nonresidential buildings converted or partially converted to residential purposes are also permitted throughout the Central Business District.

Downtown Overlay Zone: Creates multiple districts (some riverfront) throughout the downtown area. The Downtown Overlay was created to implement the Downtown Master Plan and is based on the following principles promoting mixed land uses:

- ◆ A diverse mix of land will always be permitted in the downtown area;
- ◆ Downtown shall be promoted as a viable and vital residential area and residential uses are an acceptable land use anywhere in the downtown area;
- ◆ The market place, not regulations, should be the primary force driving the mix of land uses;
- ◆ Quality public spaces such as streets, sidewalks, parks, and squares where citizens come to know each other and watch over their collective security shall be provided;
- ◆ Development regulations shall promote the continued use and/or redevelopment of historical and older structures; and
- ◆ Parking garages shall incorporate active uses on the ground floor in order to engage pedestrians and surface parking lots shall be discouraged unless landscaping and architectural treatments are incorporated to soften their appearance.

Mayport Village Overlay District: Recognizes Mayport as a unique residential and commercial community within Duval County. Six districts (commercial, light commercial, public buildings and facilities, public parks and open spaces, residential, and government facilities) were developed within the overlay to encourage development that promotes and sustains a stable and economically viable community. The overlay sets guidelines for use, structures, and setbacks. Three of the districts are summarized below.

◆ **Mayport Village Commercial:**

Preserves and encourages development that enhances Mayport as a unique working waterfront as well as protecting the Mayport fishing fleet. Permitted uses include a variety of retail, residential, lodging, and commercial uses along with facilities for ecotourism, public access, and boat maintenance.

◆ **Mayport Public Parks and Open Space:**

Applies to existing open spaces and parks in the Village and the Helen Cooper Floyd Park. The properties within this district are owned by either the City of Jacksonville or the United States Navy. Permitted uses include outdoor recreational facilities, monuments, and temporary spaces for outdoor events (festivals, concerts, carnivals).

◆ **Mayport Village Residential District:** Applies to most of the residential properties in the village approximately half of the Village's land area. Permitted uses include single-family dwellings, churches, neighborhood parks and other recreational structures.



The Landing provides riverfront shopping and dining.

Water Dependent--Water Related Category: This mixed use category is intended for land uses that require deep water access to the St. Johns River. The purpose of the category is to protect and support orderly expansion of the Port of Jacksonville. Major uses allowed in this land use category, therefore, include ports, harbors, industrial docks, related transportation, storage and similar other uses. Other water dependent uses, which may not be related to the port such as utility plants, water related recreation facilities and fishing villages along with supporting commercial and public facilities, are also permissible activities in appropriate locations.

Planned use developments (PUDs): Defined as a planned combination of diverse land uses, such as housing, recreation, and shopping in one contained development. According to Duval County's zoning code PUDs also provide or encourage:

- ◆ **flexibility** in planning, design and development;
- ◆ **innovative** approaches to the design of community environments;
- ◆ **fulfillment** of housing needs appropriate to various lifestyles and income levels;
- ◆ **efficient use** of land;
- ◆ **preservation** of natural site features; and
- ◆ **community** environments that are an integral part of the total ecosystem.

Each of the zoning districts or types mentioned above allow PUDs as secondary zoning districts within the context of future planned land use in Duval County.

Barriers to balancing multiple objectives

Riverfronts are valuable land areas that people enjoy using. At the same time river systems are ecologically priceless to the natural world, of which people are a part. The allocation and use of resources to maintain the balance between people and nature requires a fiscal commitment and an understanding of the costs vs. benefits of either developing along a waterway or forgoing that opportunity.

The decisions that eventually lead to mutually beneficial riverfront policies are affected by:

Community priorities and input: The organization of effort, funding, and design of the St. Johns Riverfront depends on the voice of the community and the due diligence of local leaders in government and business to determine how the river benefits the widest spectrum of users.

Regulations and permitting: The obstacles that projects, on and along the St. Johns River, must clear are necessary to protect the river and those who benefit from its use.

Cooperation and coordination: The agencies that participate in riverfront development and protection processes often operate in separate and distinct silos.

BEST PRACTICES

Jacksonville is not the only community faced with a growing population and limited natural resources. In addition, Jacksonville is not the only riverfront community seeking to find the balance between what is simply said, but not simply done - keeping the water clean, protecting the river habitat, and letting people enjoy the river. Best practices for management, development, and use are readily available.

Resource speakers cautioned the study committee to consider the best practices from other communities, but to be wary of recommending an exact duplication of programs and processes from other areas. To do so discounts the story of the St. Johns River in Duval County.

The study committee reviewed the work being done by 20 communities around the country and around the world that are successfully developing/redeveloping their waterfronts and discovered that these efforts incorporate many similar characteristics.



BEST PRACTICES: THEMES AND OBSERVATIONS

Financing riverfront development	<ul style="list-style-type: none"> Public and private investment is vital to waterfront development and revitalization. Successful communities throughout the country are using similar financing methods and mechanisms for waterfront development. Waterfront redevelopment and enhancements are expensive and require major investment.
Partnerships	<ul style="list-style-type: none"> Public/Private partnerships are critical to the success of a community's riverfront development efforts. Planning and implementation bodies must be inclusive, public/private, and visionary.
Advocacy/Leadership	<ul style="list-style-type: none"> A long-term commitment to development and revitalization must survive over time—beyond changes in leadership. Champions with vision and the ability to follow-thru are critical. Many communities established private organizations to coordinate riverfront advocacy, funding, planning, development, and/or oversight.
Comprehensive vision and planning	<ul style="list-style-type: none"> A long-term vision and the resources and capacities to carry out that vision. Government agencies and the community gathered together to make long-term plans for the riverfront and then followed through with a plan. Many communities began work on their waterfronts decades ago and others started relatively recently, but all such projects take patience, planning, and time.
Community involvement	<ul style="list-style-type: none"> It takes public buy-in to make revitalization a reality. A combination of strong civic/private support, activism, and funding signals community commitment. The community must not be afraid to be passionate about the river, its protection, and use. All successful projects involved and attracted diverse groups and advocates within the community
Parcel transition	<ul style="list-style-type: none"> Heavy industrial areas have been and continue to be developed into public places and amenities for citizens to enjoy.
Amenities and use	<ul style="list-style-type: none"> The arts seem to go hand in hand with riverfront development and drawing people to the river. Combinations of retail, commercial, office, hotel, and residential development draw the community to the waterfront. Park systems and trails provide public space and river access. The public must be continuously engaged through festivals, arts, culture, and recreation.

Each of the diverse communities the committee reviewed throughout the course of the study—Baltimore, Boston, Bilbao, Charleston, Chattanooga, Chicago, Cleveland, Des Moines, Ft. Lauderdale, Hartford, Indianapolis, Little Rock, Louisville, Memphis, Miami, Pittsburgh, Portland, San Antonio, Sydney, and Vancouver—offer examples that could be incorporated into Jacksonville's future plans for the St. Johns River system. The three illustrations below provide some additional insight into how cities work together to build and implement a shared community vision.

City:	Chattanooga, Tennessee (Tennessee River) www.waterfrontchattanooga.com
Background:	Two successful community visioning and planning exercises In 1985 and 2000 yielded plans to return Chattanooga to the riverfront and rebuild a declining downtown. The 20-year Tennessee Riverpark Master Plan (1985) called for \$750 million worth of mixed-use development, enhancement and conservation along 22 miles of the Tennessee River in Chattanooga. In 2002, citizens voiced the need for new green space, a public pier, a hard-edge shoreline suitable for leisure boat mooring, streetscape improvements, public art, and public access.
Funding:	Chattanooga's Mayor Coker lobbied successfully to have the state legislature institute a hotel/motel tax, with proceeds going to the riverfront's bonded debt service – for a total of \$56 million. Mr. Coker then personally participated in more than 70 fundraising meetings with key individuals and groups from the civic, corporate and philanthropic communities, collecting pledges for \$36 million.
Waterfront description:	The banks of the Tennessee River flourish with an aquarium, a children's museum, a carousel, theaters, walking paths, a pedestrian bridge and a score of other projects that helped revitalize a dying downtown. The \$120-million, 129-acre vision was completed in May 2005.
Managing Body:	21st Century Waterfront Trust. A consolidated effort among the City of Chattanooga, the Tennessee Aquarium, the Hunter Museum of American Art , and the Creative Discovery Museum.
Efforts began:	Vision established in 1985. The Waterfront Trust was established in 2001. The community celebrated the completion of the riverfront's major projects in May 2005.
Riverfront uses:	arts & culture, downtown development, education, entertainment, recreation, shopping, and tourism

City:	Louisville, Kentucky (Ohio River) www.louisvillewaterfront.com
Background:	The Waterfront Development Corporation was created to oversee waterfront development efforts along the Ohio River in Louisville, Kentucky. The corporation's three-part mission includes oversight of the design and construction of Waterfront Park, operation of the park, event coordination, and park maintenance. Louisville's Waterfront Park was not a redevelopment effort, but rather a whole new vision. At no point in the city's history was the downtown riverfront ever treated as an amenity.
Funding:	After the creation of the Waterfront Development Corporation, the city, state, and county governments each agreed to contribute 1/3 of the operating revenue.
Waterfront description:	Seventy-two of the eighty-five acres site have been converted to parkland, and is open to the public. That 72 acres includes a park with a Festival Plaza, two children's play areas, the Great Lawn, a harbor, an amphitheater, a river-edge promenade, a very significant water feature, picnic areas, walking paths, parking, and quiet passive areas. The final 13 acres of park are still under construction. An exciting consequence has been a strong surge of residential development immediately adjacent to the park. Over 1300 units are completed, under construction, or in the permitting process.
Managing Body:	After carefully developing the Waterfront Strategy, an agreement was reached among state, county and city governments to create the Waterfront Development Corporation.
Efforts began:	Initial planning started in 1985. The Waterfront Development Corporation was created in late 1986, with real efforts beginning in 1987. A master plan was approved in October of 1991.
Riverfront uses:	entertainment, downtown development , and recreation,

City:	Fort Lauderdale (New River) www.ddafl.com www.goriverwalk.com
Background:	The vision for Fort Lauderdale's riverfront is commingled with the vision of the city's downtown. A mixed-use environment with an emphasis on regional corporate headquarters; entertainment, cultural and historic amenities of regional and statewide significance; and the office and government center of Broward County.
Funding:	<ul style="list-style-type: none"> • Public funds <ul style="list-style-type: none"> ○ 1986: Issued \$8 million general obligation bond to expand the Museum of Discovery and Science and build the Riverwalk. ○ 1996: Parks & Recreation bond referendum to expand Riverwalk (connecting historic and economic centers) ○ 1999: Downtown Property owners voted to issue \$12 million in general obligation bonds, for land acquisition, parking enhancement, streetscape enhancement, local redevelopment, and continued work on the Riverwalk • Private dollars - Riverwalk Trust <ul style="list-style-type: none"> ○ Sold 23,000 signature bricks & replica bricks (\$50 each) ○ Sell banners (\$175), memorial plaques on benches/light posts (\$750), and novelty items such as T-shirts, hats and posters. ○ Funds spent on benches, mosaic mural, Celebrity Walk of Fame, brochures, native plant exhibit and matching grants for lighting and electricity enhancement and kiosk refurbishment
Waterfront description:	<p>The banks of the New River are a central focus of commerce in downtown Fort Lauderdale. Walkways are lined with lush tropical landscapes linking downtown businesses and retail activities with history, entertainment, arts and higher education. The Riverwalk alone has more than 100 shops & galleries, five museums, two marinas, four parks, nine historical venues, 80 restaurants and food outlets, an international film festival, a 3D IMAX theatre and a world-class performing arts center.</p> <p>A Water Taxi services 60 Fort Lauderdale stops and arrives every hour from 10:15a to 11:30p daily. Boats travel to and from marinas, condos, restaurants, the Las Olas Shopping District and the Arts and Science District in the Downtown.</p>
Managing Bodies:	Downtown Development Authority (DDA), Riverwalk Fort Lauderdale Trust, and the City of Fort Lauderdale
Efforts began:	The DDA was established as an independent taxing district by a Special Act of the Florida State Legislature in 1965. The Act was amended in 1967 and again in 1969 and 1992, expanding the DDA's powers and boundaries. Municipal funding for riverfront projects began in 1986.
Riverfront uses:	arts & culture, business development, downtown development, education, entertainment, housing, lodging, shopping, and tourism

BEST PRACTICES FOR WATERFRONT DEVELOPMENT

These ten principles were approved during the 2000 world conference under the aegis of the United Nations Urban 21 and were drawn up at international seminars promoted by Wasserstadt GmbH (Berlin) with the co-operation of the International Centre Cities on Water (Venice).

Principle 1 - Secure the quality of water and the environment

The quality of water in the system of streams, rivers, canals, lakes, bays, and the sea is a prerequisite for all waterfront developments. Municipalities are responsible for the sustainable recovery of derelict banks and contaminated water.

Principles 2 - Waterfronts are part of the existing urban fabric

New waterfronts should be conceived as an integral part of the existing city and contribute to its vitality. Water is a part of the urban landscape and should be utilized for specific functions such as waterborne transport, entertainment, and culture.

Principle 3 - Historic identity gives character

Collective heritage of the water, the city, events, landmarks, and nature should be utilized to give waterfront redevelopment character and meaning. The preservation of the industrial past is an integral element of sustainable redevelopment.

Principle 4 - Mixed use is a priority

Waterfronts should celebrate the water by offering diverse cultural, commercial and housing uses. Those that require access to water should have priority. Housing neighborhoods should be mixed both functionally and socially.

Principle 5 - Public access is a prerequisite

Waterfronts should be both physically and visually accessible for locals and tourists of all ages and income. Public spaces should be constructed of high quality material to allow intensive use.

Principle 6 - Planning in public/private partnerships speeds the process

New waterfront developments should be planned in public/private partnerships. Public authorities must guarantee the quality of the design, supply infrastructure, and generate a social equilibrium. Private developers should be involved from the start to insure knowledge of the markets and to speed the development. The coordinators of complex waterfront developments must guarantee their long-term economic, social and ecological success.

Principle 7 - Public participation is an element of sustainability

Cities should benefit from sustainable waterfront development ecologically, economically, and socially. The community should be informed and involved in discussions continuously from the start.

Principle 8 - Waterfronts are long-term projects

Waterfronts must be redeveloped step-by-step so the entire city can benefit from their potential. They are a challenge for more than one generation and need a variety of characters both in architecture, public space and art. Public administration must give impulses on a political level to ensure that the objectives are realized independently of economic cycles or short-term interests.

Principle 9 - Revitalization is an ongoing process

All master-planning must be based on the detailed analysis of the principle functions and meanings of the waterfront concerned. Plans should be flexible, adaptable to change, and incorporate all relevant disciplines. To encourage a system of sustainable growth, the management and operation of waterfronts during the day and at night must have equal relevance and authority.

Principle 10 - Waterfronts profit from international networking

The re-development of waterfronts is a highly complex task that involves professionals of many disciplines. The exchange of knowledge in an international network between contacts involved in waterfronts on different levels offers both individual support and information about the most important projects completed or underway.

Source: Waterfront Expo Online

<http://www.waterfrontexpo.com/portal/philosophy.shtml>

CONCLUSIONS

Conclusions express the value judgments of the study committee based on the findings.

Engaging the community:

Vision

Active and involved citizens and community leaders care and understand the history and ecology of the river and how it affects Jacksonville's quality of life and the community's sense of place.

Opportunities

- ◆ Even the most divergent community interests (industrial, environmental, residential, etc.) recognize that the St. Johns River is critical to the future of Jacksonville. This "common ground" can be an impetus to riverfront planning that meets the comprehensive needs of the community.
- ◆ Beyond a general awareness of the river's environmental significance, local citizens do not generally associate the St. Johns River with Jacksonville's overall quality of life. They are neither aware of the St. Johns River's rich maritime history nor do they have a deep appreciation for the contribution the River makes to the City economically, recreationally, or socially.
- ◆ Increasing the community's level of education and awareness (children and adults) about the river's critical role in shaping the quality of life in Jacksonville and Northeast Florida will help to build greater respect and appreciation for the river.

Concerns

- ✦ Damage to the St. Johns River is not perceived to be a community wide concern even though the river and its tributaries touch almost every neighborhood in the county.
- ✦ Jacksonville's residents are alarmingly uninformed and apathetic about the past, present, and future of the St. Johns River. The community has not developed an appreciation for the river's cultural value.
- ✦ Jacksonville's citizens have too few opportunities to appreciate, celebrate, tour, view, and interact with the St. Johns River. Increased opportunities to experience the river can build greater commitment to support and protect the river.
- ✦ Groups with disparate interests seeking to use, protect, and develop the St. Johns River do not have an effective outlet to discuss their views or to reach consensus.

Sustaining multiple uses along the St. Johns River:

Vision

The community of people who use the St. Johns River work together to maximize the benefits of a limited resource by seeking opportunities for shared, complementary uses that ultimately benefit the greater community and protect the environment.

Opportunities

- ✦ Over time, Jacksonville's riverfront has successfully supported a wide variety of uses, including residential, industrial, and recreational.
- ✦ The Super Bowl has renewed Jacksonville's interest in leveraging the river by making it the focal point of the City.
- ✦ Recreation along the river is improving. Downtown examples include the extended Northbank Riverwalk, Gate River Run, Tall Ships Festival, and more.

Concerns

- ✦ Jacksonville lacks coordination of protection, use, and development activities that take place on the St. Johns River. A clear strategy to guide the collective actions of elected government, private developers, and regulatory agencies in their efforts to preserve, protect, and use the St. Johns River does not exist.
- ✦ Balancing the competing uses for waterfront property (example: port vs. residential vs. parks vs. commercial) is a significant community issue because it is vital to maintain traditional water dependent uses (shipping facilities, marinas, etc.), protect/restore the environment, and meet the increasing demand for non-water dependent uses (residences, retail, etc.).
- ✦ Meeting the need for more and better boating facilities, including boat ramps, marinas, and repair facilities are hampered by cumbersome permitting processes and the displacement of water dependent uses in favor of non-water dependent uses.
- ✦ River advocates who champion legislation and funding at the state and federal levels are few and far between.
- ✦ Insufficient advocacy and coordination between the counties adjacent to and bordering the St. Johns River creates barriers to multiple riverfront uses.
- ✦ The river's economic value, especially for residential and recreational uses, can be negatively impacted by poor water quality.
- ✦ The demand for public and/or private river-based mass transportation in Northeast Florida has not been thoroughly assessed by regional economic development or transportation advocates.

Protecting the St. Johns River ecosystem:

Vision

The St. Johns River's natural habitats and native species are protected and restored to minimize negative impacts on the St. Johns River and its tributaries.

Opportunities

- ✦ The health of the St. Johns River system is a vital regional issue. Numerous federal, state, local, and non-governmental agencies are charged with protecting the river and its surrounding habitats.
- ✦ Efforts to eliminate pollution in the St. Johns River are ongoing and have met with some success. However, the tributaries continue to suffer from sedimentation and high levels of bacteria.

Concerns

- ✦ The Jacksonville community is doing an inadequate job of preventing and eliminating water pollution (toxic, sediment, nutrient, and bacterial) in the St. Johns River. This is an effort that everyone must embrace in order to successfully protect and preserve the health of the waterways.
- ✦ Inadequate enforcement, coordination of enforcement activity, and communication between the numerous agencies responsible for the health of the St. Johns River results in insufficient overall protection.
- ✦ Poorly managed development can result in injury to wetlands, loss of riparian zones (natural barrier systems adjacent to waterways), and increases in sediment and runoff pollution in the St. Johns River and its tributaries.
- ✦ Growth demands in Duval and the surrounding counties have not prompted the increased levels of planning and research needed to prevent destruction of natural habitats and degradation of water quality.
- ✦ Wetland mitigation is not successfully compensating for the loss of natural wetlands during the development process.

Strengthening economic development:

Vision

The St. Johns River serves as an economic development engine, balanced with protecting both the St. Johns River and the public's interests.

Opportunities

- ✦ Public-private partnerships to acquire land along the St. Johns River for public use and preservation have been highly successful. Such partnerships are essential for future sustainable economic development throughout the river's system.
- ✦ Abandoned or underutilized areas along the river where past activities may have caused environmental contamination (brownfields) present an opportunity for restoration, redevelopment, and reuse, including Hogan's Creek, McCoy's Creek, and the Ford Assembly Plant.

Concerns

- ✦ The most profitable use of a single riverfront property does not always represent what is most valuable to the Jacksonville community. Riverfront projects cannot ignore long-term value in favor of short-term gains.
- ✦ Policies to protect the public's interests along the riverfront are inadequate to meet future growth and development needs along the St. Johns River.
- ✦ Land set aside for long term port growth and development, which helps to drive Jacksonville's economy, is being threatened by a growing trend to re-designate properties from water dependent to non water-dependent uses.

Increasing public access to the St. Johns River:

Vision

Public access to the St. Johns River and its tributaries both downtown and along the length of the river is sufficient to meet the needs of the community. In downtown, access includes large, active, civic, gathering spaces. Outside the downtown area, riverfront parks are convenient, well-developed, and provide a variety of activities for the public.

Opportunities

- ◆ Publicly owned riverfront sites in downtown Jacksonville, including JEA Park, the Courthouse site, City Hall, School Board building, and the River City Brewing Parcel present a substantial opportunity to increase the amount, quality, and diversity of meaningful public access to the St. Johns River.
- ◆ Expanding buffer zones, green space, and development setbacks along the river protects the environment, allows for increased public access (biking, walking, birding, etc.), and prevents development that reduces general access to the river's edge.
- ◆ Three city parks, Metropolitan, Friendship, and the Northbank Riverwalk currently provide only limited riverfront recreational space in downtown Jacksonville.
- ◆ Suburban riverfront parks, such as North Shore, Stockton, Memorial, Joe Carlucci, Mandarin, and Mayport, provide the community with a limited amount of river access, but more open space outside downtown is needed to accommodate the community's growth.

Concerns

- ◆ Riverfront parks, especially in the downtown area, are neither inviting nor do they offer enough activities to engage the general public.
- ◆ Development along the river can be desirable; however, it is short-sighted and irresponsible to build directly on the river's edge. Doing so restricts activity on and along the river and its tributaries.
- ◆ Easy access to the St. Johns River and its tributaries are hampered by a lack of public transportation and appropriate parking.
- ◆ The St. Johns River system does not have enough well designed access points for kayaks and canoes.



A view of Metropolitan Park and behind it Alltel Stadium, home of the Jacksonville Jaguars, as seen from the river.

The River Dance study committee believes that every facet of the Jacksonville community must do more to protect, properly use, and thoughtfully develop the St. Johns River and its tributaries. Like any community issue this does not fall squarely on the shoulders of any one individual. This river belongs to all us and its responsible use is our collective responsibility.

The St. Johns River system is the spine of the Jacksonville community. It engages wide areas of the community's geography. Neither Jacksonville's North, South, East, or West sides are absent the river or one of its tributaries. Even though it touches us and we influence its vibrancy, our county's population of nearly one million people has severely restricted connections to the river system. Without these connections our community's quality of life and the quality of the river's ecosystem are threatened.

Because the St. Johns River is the community's most significant physical asset it must become central to Jacksonville's thinking and planning.

RECOMMENDATIONS

Recommendations are the Committee's specific suggestions for change, based on the findings and conclusions.

To that end, the study committee recommends the following actions:

- 1. The Mayor of Jacksonville and the Jacksonville City Council should fully fund and implement the Downtown Master Plan, "Celebrating the River", which describes Jacksonville as "the celebration of a great, international river and extensive public green space, where city parks and attractive water features are essential components of busy, sustainable urban neighborhoods." When fully executed this master plan will revitalize McCoy's and Hogan's Creeks, provide critical links to downtown's "Emerald Necklace", and expand the amount and type of public access and recreational opportunities available along the river system.**
- 2. The City of Jacksonville Parks and Recreation Department should increase public access to the downtown riverfront by creating more citizen-friendly natural environments through:**
 - ✦ *redesigning Metropolitan Park, Kids Kampus, and Friendship Park as active, open, green, civic park spaces; and*
 - ✦ *increasing the number and quality of publicly owned water access parks by building and refurbishing boat ramps with multiple components (boating, fishing, picnicking).*
- 3. The City Council should create an "all county" riverfront zoning overlay to provide guidelines for waterfront development which incorporates both criteria for public access and riverfront design. The zoning overlay should be administered by the City's Planning Department with the Jacksonville Waterways Commission acting as its and the City Council's sub-regulatory and advisory board, much as the Planning Commission currently operates for other zonings. This zoning overlay should:**
 - ✦ *extend at least 500' from the river's edge and be made a part of the City's Comprehensive Land Use Plan;*
 - ✦ *increase the amount of permanently set-aside general public access spaces;*
 - ✦ *identify the transportation needs (pedestrian and vehicular) for those public access areas;*
 - ✦ *determine setbacks for distance from the river greater than currently required;*
 - ✦ *provide provisions to protect, preserve and encourage port and other water dependent activities; and*
 - ✦ *outline design elements that respect the natural environment in harmony with their riverfront surroundings (via landscape architecture and amenities).*

4. **The City Council should review the makeup and funding of the Waterways Commission to ensure it has the means and authority to function as a sub-regulatory and advisory board able to make as-needed changes to the City's Ordinance Code. The Commission should include seats for both the City's Planning Director and the Executive Director of the Northeast Florida Regional Council or their designees**
5. **The City of Jacksonville Environmental Quality Division, Environmental Protection Board, St. Johns Water Management District, Army Corps of Engineers, and the Florida Department of Environmental Protection should coordinate resources (funds, people, and processes) for better enforcement of existing regulations to protect the waterways from all types of pollutants and contaminants.**

The St. Johns Riverkeeper should seek more funding and support from the public to expand its efforts to protect the river's health and enhance its programs as follows:

- ✦ *connect people to the river through public outreach programs;*
 - ✦ *engage the community in ensuring that the St. Johns River is both ecologically healthy and a catalyst for community revitalization;*
 - ✦ *bring together diverse coalitions to work on river issues;*
 - ✦ *mobilize volunteers;*
 - ✦ *work to secure funding for the St. John River's continued clean-up and protection;*
 - ✦ *support education programs;*
 - ✦ *educate the public about river issues; and*
 - ✦ *develop and distribute annually a state-of-the-river's-health report card.*
7. **The Northeast Florida Regional Council should be actively involved in securing more public access to the river and determining its economic impact on local communities by:**
 - ✦ *coordinating local public access needs with adjacent counties through a seat on the Waterways Commission.*
 - ✦ *conducting an economic analysis of the St. Johns River to determine the monetary value of riverfront recreation as well as a clean and healthy river;*
 - ✦ *expanding its regional coalitions and initiatives to encourage the further development of ecotourism and completion of the Eco-Heritage Corridor promoting environmental protection, historical/cultural preservation, and economic development.*



8. To improve opportunities to appreciate the history, ecology, economics and recreational opportunities of the St. Johns River and its tributaries, the City of Jacksonville in partnership with the Jacksonville Port Authority should develop a broad-based, attractive, educational center on the river to teach children and adults about the river system. The center could include (but not be limited to):

- ✦ exhibits explaining the river's history, natural habitat, role of the port, role of the military, recreational opportunities and opportunities for future creative uses;
- ✦ a marina and space to dock historic ships (such as a submarine or commercial vessel);
- ✦ space for riverfront festivals, and markets attractively landscaped with shaded areas and facilities for seniors and people with disabilities.

9. Jacksonville University, the National Park Service, and the City of Jacksonville should continue to develop and seek funding for the establishment of a riverfront research institute to study the ecology, flora, fauna, hydraulics, avian life, and microbiology of the river.

The good work must continue

The study committee recognizes the variety of ongoing work being done to respectfully use, protect, develop, and access the St. Johns River and its tributaries. In particular the committee recognizes and encourages the:

- ✦ Jacksonville Transportation Authority (JTA) and Metropolitan Planning Organization (MPO) to study and implement the use of regional waterborne transportation to riverfront amenities, move commuters, and tour the river and its tributaries;
- ✦ City of Jacksonville's Office of Special Events to develop, schedule, and promote a full calendar of riverfront activities, events, and festivals along the downtown riverfront;
- ✦ St. Johns River Alliance to comprehensively market the St. Johns River to local and regional residents by highlighting ways to interact with and enjoy the river system.

- ✦ Duval County Public School district to work with its local partners to provide students with environmental education programs; and

- ✦ City of Jacksonville to identify and fund the elimination of septic tanks in Duval County.

The work of these organizations along with other groups and individuals must persist and receive broad public support. If the St. Johns River is this community's most precious natural asset, then every effort should be made to continuously improve its health, educate the community about the river's importance to Jacksonville's sense of place, and provide the public with opportunities to experience the water's edge and beyond.



Jacksonville Port

What can you do?

The study committee also encourages every citizen of Duval County to become an advocate for the positive future of the St. Johns River and its tributaries. It is as true today as it was in 1822 - - Jacksonville owes its existence to the St. Johns River.

- ✦ Read the River Dance study online and pass the email link to a friend, neighbor, coworker, elected official, or anyone else who would benefit from this information.
- ✦ Support a river advocacy group with your time and your money.
- ✦ Work with others to fulfill unmet community needs regarding use, access, and protection of the river.
- ✦ Write, call, or email your elected representatives in local, state, and federal government.
- ✦ Attend a city council meeting.
- ✦ Spend time on the St. Johns River and its tributaries.
- ✦ Sponsor or host an event that touts the responsible use, protection, and access of the river.
- ✦ Live responsibly by minimizing and eliminating use of substances and practices harmful to the river and its tributaries.
- ✦ Report environmental abuses to regulatory agencies.
- ✦ Understand and share the historical and ecological significance of the St. Johns River.
- ✦ Locate, use, and clean-up your neighborhood's waterfront parks.
- ✦ Attend community events along the St. Johns River.
- ✦ Support river dependent businesses.
- ✦ Encourage responsible use and sustainable economic development.
- ✦ Speak-up, speak-out, and speak-often about the community's right to free and open access to the river system.

Celebrate in our finest natural asset -you, as a concerned citizen, can make a difference!



REFERENCES

The following resources offer useful information related to the study issue

City of Jacksonville

Downtown Master Plan "Celebrating the River"
Environmental Protection Board
Environmental Quality Division
Mayport Waterfront Partnership
Preservation Project
Jacksonville Waterways Commission

www.coj.net

Downtown Vision Inc.

www.downtownjacksonville.org

Ecological Riverfront Design: Restoring Rivers, Connecting Communities

Betsy Otto, Kathleen McCormick, and Michael Leccese

Ecotourism and Sustainable Development: Who Owns Paradise?

Martha Honey

First Coast Metropolitan Planning Organization

www.firstcoastmpo.com

Florida Department of Community Affairs (Community Planning)

www.dca.state.fl.us/fdcp/dcp

Florida Department of Environmental Protection

www.dep.state.fl.us/northeast

Florida Times-Union

www.jacksonville.com

Friends of the Chicago River

www.chicagoriver.org

Jacksonville Maritime Museum

www.jaxmarmus.com

Jacksonville Port Authority

www.jaxport.com

JEA

www.jea.com

National Municipal Code Database

www.municode.com

Northeast Florida Regional Council

www.nefrc.org

Recreation and Tourism as a Catalyst for Urban Waterfront Development

Stephen J. Craig-Smith and Michael Fagence

River Network

<http://www.rivernetwork.org>

River of Lakes: A Journey on Florida's St. Johns River

Bill Belleville

St. Johns River Alliance

www.floridariver.org

St. Johns River Eco-Heritage Corridor

www.floridariver.org/river_corridor.htm

St. Johns River Guidebook

Kevin M. McCarthy

St. Johns River Summits and River Agenda

http://sjrwmd.com/programs/outreach/pubs/riv_agen/riv_agen.html

St. Johns River Water Management District

www.sjrwmd.com

St. Johns Riverkeeper Inc.

www.stjohnsriverkeeper.org

Stream Corridor Restoration Handbook

http://www.nrcs.usda.gov/technical/stream_restoration

The Clean Water Network

<http://www.cwn.org/>

The Museum of Science & History

www.themosh.org

The National Park Service (Fort Caroline/Timucuan Ecological and Historic Preserve)

www.nps.gov/timu

The Nature Conservancy

<http://nature.org>

The Waterfront Center

www.waterfrontcenter.org

Timucua

Jerald T. Milanich

Tree Hill Nature Center

www.treehill.org

Trust for Public Land

www.tpl.org

Twelve on the River St. Johns

Charles E. Bennett

U.S. Corps of Army Engineers (Jacksonville District)

www.saj.usace.army.mil

Waterfront International Network

www.waterfront-net.org

Waterfronts in Post-Industrial Cities

Richard Marshall

Waterwise Florida Landscapes

www.floridaswater.com/waterwise.htm

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The JCCI study process relies on information supplied by knowledgeable resource people, in addition to published reference materials. We wish to thank the following for their contributions to this study.

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Committee members met together 26 times from November through June. In addition, the management team met many times to provide guidance and direction for the study. The committee received information from 38 knowledgeable resource people and additional written materials researched by JCCI staff.



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Participants who attended the last meeting of the study...

Previous JCCI Studies

JCCI studies may be downloaded from our website at www.jcci.org

STUDY

1977 Local Government Finance
 1977 Housing
 1977 Public Education (K-12)
 1978 Public Authorities
 1978 Strengthening the Family
 1979 Citizen Participation in the Schools
 1979 Youth Unemployment
 1979 Theatre Jacksonville
 1979 Civil Service
 1979 Planning in Local Government
 1980 Capital Improvements for Recreation
 1980 But Not In My Neighborhood
 1980 The Energy Efficient City
 1981 Coordination of Human Services
 1981 Higher Education
 1982 Disaster Preparedness
 1982 Teenage Pregnancy
 1982 Downtown Derelicts
 1983 Mass Transit
 1983 Indigent Health Care
 1984 Jacksonville's Jail
 1984 Growth Management
 1985 Visual Pollution
 1985 Minority Business
 1986 Private Delivery of Public Services
 1986 Mental Health and Drug Abuse
 Services for Children and Youth
 1987 Child Day-Care Services
 1987 Infrastructure
 1988 Local Election Process
 1988 School Dropout Prevention
 1989 Reducing the Garbage Burden

 1989 Independent Living for the Elderly
 1990 Future Workforce Needs
 1990 Philanthropy in Jacksonville
 1991 Adequate Water Supply
 1991 Positive Development of
 Jacksonville's Children
 1992 Long-Term Financial
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STUDY

1992 Young Black Males

 1993 Planning for Northeast Florida's
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 1993 Public Education: The Cost of Quality
 1994 Reducing Violence in
 Jacksonville Schools
 1994 Jacksonville Public Services:
 Meeting Neighborhood Needs
 1995 Teenage Single Parents
 and their Families
 1995 JAXPORT: Improvement and Expansion
 1996 Creating a Community Agenda:
 Indicators for Health & Human Services
 1996 Leadership: Meeting Community Needs
 1997 Improving Public Dialogue
 1997 Transportation for the Disadvantaged
 1997 Children with Special Needs
 1998 The Role of Nonprofit Organizations
 1998 Incentives for Economic Development
 1999 Improving Adult Literacy
 1999 Arts, Recreation and Culture
 in Jacksonville
 2000 Affordable Housing
 2000 Improving Regional Cooperation
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 2001 Growth Management Revisited
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 2002 Beyond the Talk:
 Improving Race Relations
 2003 Neighborhoods at the Tipping Point
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 2004 Town & Gown: Building Successful
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 2004 Public Education Reform:
 Phase Two:
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Mission Statement

JCCI is a nonpartisan civic organization that engages diverse citizens in open dialogue, research, consensus building, and leadership development to improve the quality of life and build a better community in Northeast Florida and beyond.



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