II (a) The Caloosahatchee River – Its importance to the Community, Region and Nation

Size

The River with headwaters in Glades County, connects to Lake Okeechobee, 32 miles from its mouth and about three miles from its natural state. The watershed is 4, 203 square miles.

Ecological Health

The River is naturally tannic, but due to increased agricultural activity, urban runoff, and nutrient-laden fresh water releases from Lake Okeechobee, the river's balance of salt and fresh water has been jeopardized. The result is algae bloom and red tide, which threaten the river's aquatic and marine life.

Use

The River is a drinking supply for Lee County. It is part of the Great Calusa Blueway, designated by the National Park system, and the Florida Intracoastal waterway system. The River provides irrigation to Florida's west coast citrus industry. It furnishes flood control for the eastern portion of the river.

Remarkable Features

The River is a low topography water body. Before dredging, the River supported a vast marsh and swamp system and now drains an area a little smaller than Connecticut. Its few remaining oxbows serve and support indicator species and small ecosystems.

Values – Natural, Cultural, Historic and Economic

Historically, the Caloosahatchee was a highway for commerce prior to development of the area. Monetarily, the Caloosahatchee contributes 2 billion dollars a year to tourism through recreational use of the river and riverside cultural events in the tri-county area. The River provides habitat for manatees, and a variety of aquatic and marine life found in both fresh and salt water.

The five National Wildlife refuges affected by the river are the Caloosahatchee, Island Bay, J.N. "Ding" Darling, Matlacha Pass and Pine Island. Two additional wildlife refuges indirectly affected by the river are Florida Panther and Ten Thousand Island.

II (b)The Threat – Why is the Caloosahatchee River's future uncertain?

The greatest threat to the Caloosahatchee River stems from the channelization of the river (known officially as the C-43 Canal) and its link to Lake Okeechobee. Originally dredged to drain the land, it served as a highway for saltwater intrusion during the dry season. Restoration efforts began around World War I and by the 1960's a sophisticated system of weirs and locks restored much of the River's function as a natural reservoir.

The River's greatest dangers come from two sources; development in its basin and serving as the safety valve for Lake Okeechobee, a water body of over 400,000 acres, which did not historically connect to the River.

In reference to development, Lee County is the fastest growing area in the nation with a current population of 550,000 and approximately 2000 new residents every month. Neighboring Hendry County has a population of over 38,000 and Glades County has a population of over 11,000. As Lee County reaches a saturation point, large-scale developments are planned inland in Hendry and Glades Counties.

There is also increasing concern regarding the unprecedented development along the riverfront. In downtown Fort Myers alone, the urban revitalization projects are submitted without water quality components and may potentially drain directly into the River.

In reference to serving as a safety valve, the Caloosahatchee River basin faces severe issues of water quality and extreme periods of either runoff or low flow during the normal seasons. Lake Okeechobee activities, however, create conditions of artificial drought and out of season flooding, resulting in total flow volumes that more than doubled in 2004 and 2005 due to Lake discharges.

These releases or discharges have created havoc in the lower River's estuarine ecology, destroying saline dependent vegetation and the abnormal silt in the water from hurricanes has created light conditions, causing aquatic vegetation to die out. Damage done to marine, estuarine and aquatic species is approaching total elimination the length of the river. The West Indian Manatee, the signature species for the River, has lost all of its submerged forage the length of the river. Five National Wildlife Refuges are dependent upon the River, as well as threatened and endangered species.

There have been 570 days of algae influence on the river system since 2000 as documented by the Lee County water plant, the dominant utility of the region. Recently, the blue-green algae has been tested as toxic and public health officials have issued orders prohibiting the public from swimming in the river where there is algae bloom.

The U.S. Army Corps of Engineers and the South Florida Water Management District are responsible for the schedule for Lake Okeechobee discharges. This schedule, the Water for Supply and Environment, is currently up for review. Concerned scientists, environmentalists, and residents have questioned the U.S. Army Corps of Engineers with little success. The Corps has decided that damage to the River and the estuary is preferred over a shared allocation of adversity.

II (c) How will the river's fate be determined in the coming year?

The fate of the Caloosahatchee in the forthcoming year will be determined three ways:

Design of C-43 Reservoir: It will be decided whether or not the reservoir will have a proactive water quality component with pollution load reduction targets. The C-43 Reservoir is part of the Everglades Restoration Project, which has been" in the works" for ten years. Implementation of this project, notably the C-43 Reservoir, has been slower than other Everglades projects. The construction of the reservoir has not even begun and estimate projections of the completed reservoir are 2010.

Lake Okeechobee Regulation Schedule: Lake Okeechobee regulation schedule is being reexamined for improvements. There are strong interests that want this very large body to contain as much water as can be placed in it to cushion against any threat of drought. This approach has led to the Lake littoral dying from being submerged, water quality worsening, and excessive discharges to the River, when nature gives more water than the lake can contain – approximately 2 years out of 5, and increasing since the Lake is now being managed to have a smaller range of elevations than was natural (2 feet instead of 6).

Stormwater Utility Funding: Local pollution agencies have developed a program of water quality remediation. Currently, funding is on a case by case basis, since the local governments generally do not have dedicated sources of funding. This year, the most populous of these, Lee County, will decide whether to dedicate a standing source of funding for stormwater quality improvements.

Improved Standards: Best Management Practices for urban design have failed for water quality. New standards are being proposed and going through hearings. These are being sponsored by the Development Industry. There are also some startling exceptions to these standards. Passage of the standards and the degree of loopholes are decisions that get made this year.

1. The Caloosahatchee River, with a watershed of 4,203 square miles, is part of the Great Calusa Blueway, designated by the National Park System (Is this part of the NPS? What does designated by NPS mean?)

Secretary of the Interior Gale A. Norton used National Trails Day (June 5, 2004) to launch the "America's Public Lands Get Fit with US" initiative. Norton also announced the designation of 27 new recreation trails in 15 states, as part of the National Recreation Trails System. The National Park Service and the USDA Forest Service administer the program. From the designation: "The Great Calusa Blueway - Located in one of the fastest growing areas of the country, this 30-plus-mile water trail acts as an ecological corridor that connects federal, state and local preserves, as well as historic sites, within Lee County. Home of Florida's first "aquatic preserve," the trail allow visitors the opportunity to observe dolphins, manatees, and over 300 species of birds in their natural habitat. In addition to its scenic features, the trail allows for recreational opportunities, including kayaking, fishing and swimming."

2. Two additional wildlife refuges, Florida Panther and Ten Thousand Island, are indirectly affected by the Caloosahatchee. What does it mean that they are affected?

In addition to directly affecting the Refuges that are directly on the River or the Estuary, the flows from the Caloosahatchee also affect coastal waters which are taken by the near shore currents down past these two refuges in Collier County. The water from the River is believed to eventually enter Florida Bay, which is between the Everglades and the Florida Keys.

3. The Caloosahatchee supplies drinking water for Lee County (how much, or what % of the County s river comes from the river?),

5mgd, enough for 40,000 persons, or about 6% of the County total. Due to water quantity and quality problems, the utilities have been shifting to groundwater sources.

During drought situations, there may not be enough (minimum) flow in the River for both the water supply and the environment. In fact a minimum flow level (MFL) rulemaking was undertaken a few years ago. By state law, MFLs are the flow or level of ground or surface water at which further withdrawals of water would be significantly harmful to the water resources or ecology of the area. They are often specified in agency rules and regulations as numbers representing flows or levels, but can also be the procedure used to calculate a flow or level.

Also, Lee County has also attempted to establish a "Water Reservation" for the River to protect the water source for the environment, but this effort has stalled with the South Florida Water Management District (SFWMD). For more information on water reservations for the River, please see www.swfwc.org under "Topics".

4. The river is naturally tannic (what is tannic?),

Tea-colored, brought about by leaves staining the water due to our relatively warm water conditions.

5. As Lee reaches a saturation point, large-scale developments are planned inland in Hendry and Glades. There is also unprecedented development along the riverfront. In downtown Fort Myers alone, urban revitalization projects are submitted without water quality components, and may drain directly into the river. (Is there a specific development project that might be approved in the April 2006-April 2007 time period? If so, who is the developer? What permits will they need, and from which agencies? Will the public have an opportunity to weigh-in? If so, when?

There are too many to even keep a list! The area is among the fastest growing in the US and our Watershed is under great stress from development. The City of Ft Myer has recently approved 27 high-rises and some are stalled in the permit process due to stormwater concerns. Many citrus groves in rural counties are in the process of conversion to subdivisions. (A development map of potential large parcels in Hendy and Glades Counties is attached). Others in the watershed include the Babcock Ranch (50,000 units on 17,000 acres) and Paradise Preserve, two developments that propose dredging canals through mangroves in prime manatee habitat along a two mile stretch of riverfront. These permitting process are ongoing through the South Florida Water Management District (SFWMD), the Florida Department of Environmental Protection (FDEP), US Fish and Wildlife Service (FWS) and the US Army Corps of Engineers (ACOE).

6. Lake Okeechobee activities create conditions of drought and out of season flooding in the Caloosahatchee, resulting in total flow volumes that more than doubled in 2004 and 2005 (what does this mean?) due to lake discharges

River flows are more than double natural conditions due to Lake artificially connecting to the River through a canal, and high lake levels lead to unusual discharges, totaling double the natural basin flow. We are attempting to put together a graph showing the huge inflow from the Basin and the Lake water doubles the natural discharges from our basin.

7. The abnormal silt in the water from hurricanes has created light conditions (does this mean there was not enough sunlight for the vegetation?)
Correct, the water is laden with silt. Light penetration is poor due to silt, light penetration distance more than halved over normal conditions even in the developed watershed.

8. Damage done to marine, estuarine, and aquatic species, including some that are threatened and endangered, is approaching total elimination along the length of the river (What is total elimination? Are species dying off in all parts of the river?)

This past year the River has had red tide, toxic blue-green algae blooms and hypoxic conditions, resulting in the death of everything from inshore to offshore species. There

are documented fish kill reports throughout the River and Estuary. The published reports are available. Both scientists and fishermen report decimation of most of our game and commercial species – blue crabs, oysters, redfish, snook, goliath grouper, mullet, and catfish. Approximately 40% of the state's endangered and threatened species are found within this area. The estuary also indirectly supports a variety of commercial and sport fisheries by providing nursery area, which substantially adds to the local economy. The estuary is also an important home for bird nesting colonies and a valuable stopover area for migrating birds. See a partial list below.

Rare / Endangered Species (not intended to be a complete list)

Common Name	Scientific Name	State	Federal
Fish			
common snook	*Centropomus undecimalis*	n/a	n/a
Reptiles			
American alligator	*Alligator mississipiensis*	SSC	T (s/a)
Atlantic loggerhead	*Caretta caretta caretta*	T	T
Atlantic green turtle	*Chelonia mydas mydas*	E	E
American crocodile	*Crocodylus acutus*	E	E
leatherback turtle	*Dermochelys coriacea*	E	E
Atlantic hawksbill turtle	*Eretmochelys imbricata imbricata*	E	E
Kemp's ridley	*Lepidochelys kempi*	E	E
mangrove terrapin	*Malaclemys terrapin rhizophorum*	n/a	n/a
Birds			
roseate spoonbill	*Ajaia ajaja*	SSC	n/a
great egret	*Ardea alba*	n/a	n/a
Southeastern snowy plover	*Charadrius alexandrinus tenuirostris*	T	n/a
piping plover	*Charadrius melodus*	T	T
Marian's marsh wren	*Cistothorus palustris marianae*	SSC	n/a
mangrove cuckoo	*Coccyzus minor*	n/a	n/a
little blue heron	*Egretta caerulea*	SSC	n/a
reddish egret	*Egretta rufescens*	SSC	n/a
snowy egret	*Egretta thula*	SSC	n/a
tricolored heron	*Egretta tricolor*	SSC	n/a
white ibis	*Eudocimus albus*	SSC	n/a
peregrine falcon	*Falco peregrinus*	E	E
Southeastern American kestrel	*Falco sparverius paulus*	T	n/a
magnificent frigatebird	*Fregata magnificens*	n/a	n/a
American oystercatcher	*Haematopus palliatus*	SSC	n/a
bald eagle	*Haliaeetus leucocephalus*	T	T
wood stork	*Mycteria americana*	E	E
yellow-crowned night heron	*Nyctanassa violacea*	n/a	n/a
black-crowned night heron	*Nycticorax nycticorax*	n/a	n/a
osprey	*Pandion haliaetus*	SSC	n/a
brown pelican	*Pelecanus occidentalis*	SSC	n/a
Florida clapper rail	*Rallus longirostris scotti*	n/a	n/a
black skimmer	*Rynchops niger*	SSC	n/a
least tern	*Sterna antillarum*	T	n/a
Caspian tern	*Sterna caspia*	n/a	n/a
royal tern	*Sterna maxima*	n/a	n/a
sandwich tern	*Sterna sandvicensis*	n/a	n/a
black-whiskered vireo	*Vireo altiloquus*	n/a	n/a
Mammals			

mangrove fox squirrel	*Sciurus niger avicennia*	T	n/a
insular cotton rat	*Sigmodon hispidus insularis*	n/a	n/a
Florida manatee	*Trichechus manatus*	E	E
Florida black bear	*Ursus americanus floridanus*	T	n/a

State listings are taken from the Florida Fish and Wildlife Conservation Commission or as with plants Florida Department of Agriculture. Federal listings are taken from the United States Fish and Wildlife Service. E= Endangered; T= Threatened; T (s/a)= Threatened due to similarity in appearance; SSC= Species of Special Concern; UR= Under review; n/a= information not available or no designation listed; C=Commercially exploited

9. The West Indian Manatee, the signature species in this river, has lost all of its submerged foraging habitat along the length of the river. (Does this mean the manatee does not have any source of food in the river?)

Yes, except for low lying terrestrial vegetation (leaf branches from trees and bushes) that are not normally eaten by manatees. Loss of food source for the manatee is nearly total from the mouth to the S-79 headwaters of the Caloosahatchee estuary.
Reports are that we have lost 99% of our seagrass habitat, the main source of food for the manatee. We have no idea how this year's extreme conditions will affect the species until they migrate upriver to the FPL power plant (warm water outfall) this winter.

The River is listed as "Critical Habitat" for the species, see http://www.fws.gov/endangered/i/a/saa0c.html

10. The Caloosahatchee is threatened by channelization of the river that occurred (When, exactly?) & However, the C-43 Reservoir (which reservoir is this?), part of the Everglades Restoration Project, has not yet been implemented (why is this important?). Although Everglades Restoration Projects have been occurring for 10 years, this project has been slower than others, as construction of the reservoir has not even begun, and estimates for completion are 2010. (To clarify, the river has already been channelized, and the C-43 reservoir will help to restore the river? How do the everglades relate to the river?) & The design of C-43 will be determined in the following year (when?), and they will decide whether or not the reservoir will have a proactive water quality component with pollution load reduction targets. (Can you give more details on this? What stage of the process is it currently in? Who will decide? When? What is the timeline? Will the public have a chance to weigh-in? How will this help (hurt) the Caloosahatchee?)

The channelization of the River occurred from 1880 to 1960s. However, the C-43 Reservoir, a proposed reservoir in Hendry County (resulting from the WRDA of 2000), part of the Everglades Restoration Project, has not yet been implemented. The proposed Reservoir is anticipated to take the artificial high flows off the river discharge and store them for low season flow. Caloosahatchee River is designated as part of the Western Everglades and is therefore eligible for this funding. In addition, eight projects have been fast-tracked as crucial for this restoration and are known as ACCELER8. The design of C-43 will be determined in the late 2006 or early 2007. The Federal/ State partnership known as the South Florida Restoration Task Force (aka Everglades Task Force) will decide whether or not the reservoir will have a proactive water quality component with pollution load reduction targets. The siting for a test cell for this reservoir is taking place this month (Oct 2005). Riverwatch has been proactive in insisting that this project have a water quality component, as opposed to just a storage component. In addition, an EPA official sent out a memo stating that if there is no water-quality function, this reservoir may become an incubator for more toxic algae. More backup documentation available at www.evergladesnow.org .

12. This year, Lee County, the most populous area, will decide whether to dedicate a standing source of funding for stormwater quality improvements. (When will they decide? Who will decide? Will the public have a chance to weigh-in? When?)

This issue has been ongoing for quite a few years, approved twice, but backed down due to public pressure. This issue remains unresolved. However, the Basin will fall under TMDLs for 2007 through Florida Department of Environmental Protection. Riverwatch maintains that this issue is a priority and wants to see this forward in 2006. Through the County Commission, the public has a chance to weigh in on the enabling ordinance establishing the funding source, mid 2006.

13. Best Management Practices for urban design have failed for water quality. New standards are being proposed (by whom?) and going through hearings (when? Are these public?). These are being sponsored by the Development Industry. There are also some startling exceptions to these standards. Passage of the standards and the degree of loopholes are decisions that will be made this year. (what is likely to happen? Who will make the final decisions? Does the public get to comment? If so, when?)

The rulemaking process was mandated for the Caloosahatchee Basin due to a negotiated agreement between South Florida Water Management District and the Conservancy of SW Florida over an environmental permitting issue. During the public rulemaking process, which mandated additional onsite storage and BMPs (selection from a matrix), the development interests have found numerous objections, added loopholes, and the process is currently stalled. (Documentation of the rulemaking, the objection, and the Conservancy's responses are available). Final decision is made by the SFWMD and reviewed by the State Environmental Regulatory Commission (They get to comment at workshops and the adopting public hearing). If challenged, only organizations that participate and have 25 members or more can pursue standing.

14. The Lake Okeechobee regulation schedule, Water for Supply and Environment, is being reexamined for improvements (when?). (When will revisions for the plan be finalized? Will the public have a chance to weigh-in? When? What is the likelihood of having this revised for the benefit of the Caloosahatchee?)

The current schedule was adjusted to increase harm to the Caloosahatchee at the benefit of South Lake agricultural interests. The scoping process is going on this month, as part of the NEPA process, public input is currently underway. The decisions will be finalized in Dec 2006 to go in place by Jan 2007. Information on this process is available at
http://www.saj.usace.army.mil/pao/hotTopics/hot_topics_LO_HHD.htm

Also, in response to local pressure, the Governor of Florida initiated a new plan last week, Lake Okeechobee & Estuary Recovery (LOER) to provide immediate and future measures to remediate the problems.
http://www.sfwmd.gov/site/index.php?id=727