

ST. LUCIE RIVER / C-23 WATER QUALITY PROJECT



ABOUT THE PROJECT

The St. Lucie River/C-23 Canal water quality restoration and storage treatment project located at McCarty Ranch Extension and Preserve will prevent more than 6 billion gallons of water from entering the North Fork of the St. Lucie River each year, reducing excess freshwater discharges from the C-23 Canal by 21%.

KEY FACTS

This project will transform about 1,871 acres of former citrus groves at McCarty Ranch Extension and a 528-acre impoundment at McCarty Ranch Preserve into a shallow water storage facility. The site will include seven reservoirs designed to receive water diverted from the C-23 Canal and capture an annual average of 53 inches of rainfall, helping reduce discharges.



FUNDING NEEDED

\$180K annual operating cost

21%

reduction in excess freshwater discharge from the C-23 Canal into the North Fork of the St. Lucie River.

RECHARGE

the local water table.

55,000 LBS. & 14,000 LBS.
NITROGEN & PHOSPHORUS
removed from the water entering the North Fork of the St. Lucie River.

4.44 BILLION

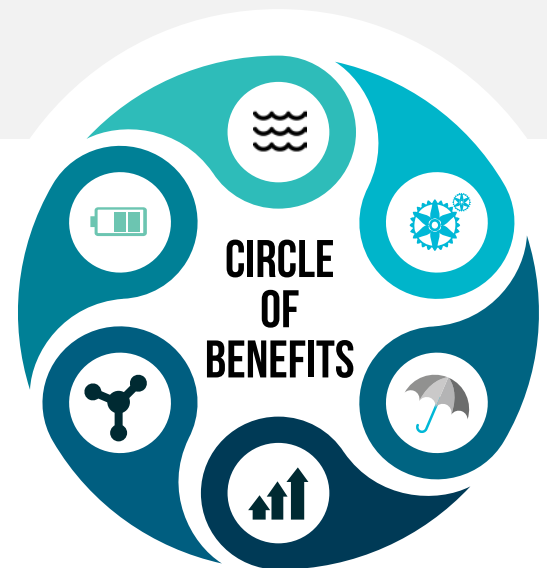
gallons of water diverted from the C-23 Canal annually.

1.81 BILLION

gallons of rainfall and excess water during annual wet season stored annually.

6.25 BILLION

gallons total will be kept from entering the North Fork of the St. Lucie River annually.



ALTERNATE WATER SOURCE

This project is the precursor to the City's future alternative water supply. A proposed future cyclic surface water treatment plant will be built to treat the water being pumped from the C-23 Canal to drinking water standards. A certain amount of this treated water will be distributed for public consumption and the rest will be stored in on-site deep aquifer storage and recovery wells (ASRs). The stored water then will be recovered and distributed for consumption ensuring Port St. Lucie is able to meet growing water needs for generations to come.

This cooperative project has been funded in part by the U.S. Environmental Protection Agency.



AREA 1

Completion Date: July 2019
Area Size: 210 acres
Actual Cost: \$1,889,448
Gallons of water pumped from C-23 Canal: 600,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,900 pounds
Total Nitrogen: 7,400 pounds
Total Suspended Solids: 37,000 pounds

Funding Received: \$952,103 Grants Awarded

- \$200,000 SFWMD Cooperative Funding Program for construction
- \$752,103 FDEP for FY17 Section 319(h) grant for construction

AREA 2

Completion Date: August 2020
Area Size: 275 acres
Actual Cost: \$2,577,525
Gallons of water pumped from C-23 Canal: 745,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 2,300 pounds
Total Nitrogen: 9,300 pounds
Total Suspended Solids: 47,000 pounds

Funding Received: \$2,024,020 Grants Awarded

- \$1.08 million Legislative grant (\$180,000 for design and \$900,000 for construction)
- \$300,000 Indian River Lagoon National Estuary Program
- \$644,020 FDEP for FY18 Section 319(h) grant for construction

AREA 3

Completion Date: March 2021
Area Size: 280 acres
Actual Cost: \$2,158,641
Gallons of water pumped from C-23 Canal: 770,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 2,400 pounds
Total Nitrogen: 9,600 pounds
Total Suspended Solids: 48,000 pounds

Funding Received: \$2,002,995.50 Grants Awarded

- \$180,000 Legislative grant for design
- \$1,162,047.32 FDEP Section 319(h) grant
- \$18,308.68 State Water Quality Restoration grant
- \$448,700 SFWMD AWS
- \$193,939.50 IRL Water Quality Improvement Projects

AREA 4

Completion Date: February 2023
Area Size: 304 acres
Actual Cost: \$3,349,502
Gallons of water pumped from C-23 Canal: 770,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 2,400 pounds
Total Nitrogen: 9,600 pounds
Total Suspended Solids: 48,000 pounds

Funding Received: \$2,424,952 Grants Awarded

- \$487,200 SFWMD AWS
- \$193,940 IRL Water Quality Improvement Projects
- \$718,950 FDEP Section 319(h) grant
- \$1,024,862 Legislative grant for construction

AREA 5

Completion Date: September 2024
Area Size: 77 acres
Actual Cost: \$3,955,641
Gallons of water pumped from C-23 Canal: 216,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 680 pounds
Total Nitrogen: 2,700 pounds
Total Suspended Solids: 13,500 pounds

Funding Received: \$1,929,144 Grants Awarded

- \$387,880 IRL Water Quality Improvement Projects
- \$682,164 FDEP Section 319(h) grant
- \$64,100 SFWMD AWS
- \$795,000 EPA Grant

AREA MAP

*ALL AREAS WILL BE COMPLETE WITHIN TWO YEARS OF RECEIVING FUNDING.



AREA 7A

Targeted Completion Date: December 2028
Area Size: 234 acres
Estimated Cost: \$14 million
Gallons of water pumped from C-23 Canal: 650,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 2,100 pounds
Total Nitrogen: 8,100 pounds
Total Suspended Solids: 41,000 pounds

Funding Received:

- \$416,875 FDEP/Legislative grant for design
- \$1 million Federal appropriation for construction

AREA 7B

Targeted Completion Date: December 2033
Area Size: 252 acres
Estimated Cost: \$10 million
Gallons of water pumped from C-23 Canal: 700,000

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 2,200 pounds
Total Nitrogen: 8,700 pounds
Total Suspended Solids: 44,000 pounds



City of Port St. Lucie
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ACRONYMS:

SFWMD - South Florida Water Management District
FDEP - Florida Department of Environmental Protection
IRL - Indian River Lagoon