



FAIRFAX COUNTY PARK AUTHORITY



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LAKE ACCOTINK PARK MASTER PLAN REVISION LAKE SUSTAINABILITY WORKSHOP May 16, 2016

TONIGHT'S AGENDA

- Welcome and Introductions Judy Pedersen, FCPA
- Project Background and Context Gayle Hooper, FCPA
- Lake Sustainability Alternatives Frank Graziano, WSSI
- Workshop Groups Staff Facilitators
- Report Out Group Representative
- Next Steps Gayle Hooper, FCPA

FOLLOW THE PROJECT

A project web page has been set up to help keep you informed of the project's status.
Check back from time to time to be aware of project updates.

<http://www.fairfaxcounty.gov/parks/plandev/lakeaccotink.htm>

SHARE YOUR COMMENTS

The Park Authority welcomes your suggestions for the future of Lake Accotink Park.

Feel free to contact us by any of the methods below

MAIL

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E-MAIL

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If accommodations and/or alternative formats are needed, please call (703) 324-8563, at least 10 working days in advance of the registration deadline or event. TTY (703) 803-3354.

Continued Dredging



Full-Lake Dredge

Initial Full Dredge of Lake:

- ✓ Required, ±350,000 cy

Dredging Lifecycle:

- ± every 15 years

Offsite Disposal of Sediment:

- ✓ Required
(Note - Additional cost and likely impacts from trucking activities)

Management Approach

Maintenance Dredge Interval:

- X No maintenance dredging is done with this alternative

Offsite Disposal of Sediment:

- X Not applicable as maintenance dredging is not performed

Recreation

Recreational Use of the Lake:

- ✓ Maintained

Interruption of Recreational Use During Dredging Operations:

- ✓ Interruption of lake usage for ±2 years every dredge cycle

Environmental

Sediment Capture Relative to Current Level:

- ✓ Maintained

Sediment Forebay (upstream or in-lake)

ALTERNATIVE

B



Full-Lake Dredge

Initial Full Dredge of Lake:

- ✓ Required, ±500,000 cy

Dredging Lifecycle:

± every 30-40 years

Offsite Disposal of Sediment:

- ✓ Required
(Note - Additional cost and likely impacts from trucking activities)

Management Approach

Maintenance Dredge Interval:

- ✓ Annual/Biennial dredge of forebay

Offsite Disposal of Sediment:

- ✓ Required

(Note - Additional cost and likely impacts from trucking activities)

Recreation

Recreational Use of the Lake:

- ✓ Maintained

Interruption of Recreational Use During Dredging Operations:

- ✓ Interruption of lake usage for ±2 years every major dredge cycle
- X No interruption during annual/biennial maintenance dredge of up-stream forebay
- ✓ Interruption of lake usage for several months annually/biennially with in-lake forebay maintenance

Environmental

Sediment Capture Relative to Current Level:

- ✓ Enhanced (isolated to facilitate removal)

“Beaver Dams”



Full-Lake Dredge

Initial Full Dredge of Lake:

- ✓ Required, $\pm 350,000$ cy

Dredging Lifecycle:

- \pm every 15 years with one time extension of ± 3 years

Offsite Disposal of Sediment:

- ✓ Required
(Note - Additional cost and likely impacts from trucking activities)

Management Approach

Maintenance Dredge Interval:

- X Maintenance dredging of “beaver dams” impractical - one time use.

Offsite Disposal of Sediment:

- X Not applicable as maintenance dredging is impractical

Recreation

Recreational Use of the Lake:

- ✓ Maintained

Interruption of Recreational Use During Dredging Operations:

- ✓ Interruption of lake usage for ± 2 years every major dredge cycle

Environmental

Sediment Capture Relative to Current Level:

- ✓ Enhanced (limited lifetime only)

Single Channel with Reclaimed Land



Establishment

Establishment efforts focus on proper sizing and alignment of stream channel and the succession of a healthy wetland habitat.

Initial Full Dredge of Lake:

X No initial dredge required

Offsite Disposal of Sediment:

X None required as there is no dredging

Management Approach

Management efforts focus on stream channel stability and the succession of a healthy wetland habitat.

Maintenance Dredge Interval:

✓ No maintenance dredge required

Offsite Disposal of Sediment:

✓ None required as there is no maintenance dredging

Recreation

Recreational Use of the Lake:

X Removed

Environmental

Sediment Capture Relative to Current Level:

X Effectively eliminates any sediment capture.

(Requires further evaluation of pending state regulations and downstream impacts.)

Single Channel with Smaller Lake

ALTERNATIVE

E



Establishment

Establishment efforts focus on proper sizing and alignment of stream channel and the succession of a healthy vegetative habitat.

Initial Full Dredge of Lake:

X No initial dredge required

Offsite Disposal of Sediment:

X None required as there is no dredging

Management Approach

Management efforts focus on stream channel stability and the succession of a healthy vegetative habitat.

Maintenance Dredge Interval:

✓ No maintenance dredge required

Offsite Disposal of Sediment:

✓ None required as there is no maintenance dredging

Recreation

Recreational Use of the Lake:

✓ Retained but reduced

Interruption of Recreational Use During Dredging Operations:

X Yes, if necessary (off-line areas of open water would only require very infrequent maintenance)

Environmental

Sediment Capture Relative to Current Level:

X Effectively eliminates any sediment capture.
(Requires further evaluation of pending state regulations and downstream impacts.)

Comparison of Alternatives

ALTERNATIVES		FULL LAKE DREDGE				MANAGEMENT APPROACH				RECREATION		ENVIRONMENTAL		
ALTERNATIVE	DESCRIPTION OF ALTERNATIVE	INITIAL FULL DREDGE OF LAKE REQUIRED	DREDGING LIFECYCLE	ESTIMATED SEDIMENT REMOVAL	ESTIMATED IMPACT TO ADJACENT NEIGHBORHOODS FROM TRANSPORT OF DREDGE MATERIAL	ANNUAL/BIENNIAL MAINTENANCE REQUIRED	MAINTENANCE CYCLE	ESTIMATED SEDIMENT REMOVAL	ESTIMATED IMPACT TO ADJACENT NEIGHBORHOODS FROM TRANSPORT OF DREDGE MATERIAL	RETAINS RECREATIONAL USE OF LAKE	INTERRUPTION OF LAKE USE DURING LIFECYCLE OR MAINTENANCE DREDGING	SEDIMENT CAPTURE RELATIVE TO CURRENT LEVEL	ADDRESSES NEW STATE SEDIMENT STANDARDS	IMPACTS TO WILDLIFE
DREDGING ALTERNATIVES														
A	CONTINUE WITH CURRENT DREDGING METHOD	YES	±15 YEARS BETWEEN FULL DREDGE	±350,000 CY	±35,000 TRUCK LOADS OVER SEVERAL YEARS	NO				YES	YES	CONSISTENT	?	?
B	INSTALL FOREBAY (EITHER IN-LAKE OR UP-STREAM)	YES	±30-40 YEARS BETWEEN FULL DREDGE	±500,000 CY	±50,000 TRUCK LOADS OVER SEVERAL YEARS	YES	ANNUAL/BIENNIAL MAINTENANCE	±15,000 CY	±1,500 TRUCK LOADS OVER SEVERAL MONTHS	YES	NO UP-STREAM FOREBAY YES IN-LAKE FOREBAY	ENHANCED (ISOLATES FOR REMOVAL)	?	?
C	INSTALL "BEAVER DAM" STRUCTURES	YES	±15 YEARS BETWEEN FULL DREDGE WITH 1 TIME EXTENSION OF ±3 YRS.	±350,000 CY	±35,000 TRUCK LOADS OVER SEVERAL YEARS	N/A				YES	YES	ENHANCED FOR A LIMITED PERIOD OF TIME	?	?
STREAM CHANNEL ALTERNATIVES														
D	SINGLE CHANNEL WITH RECLAIMED LAND (ELIMINATION OF EXISTING DAM)	N/A	ESTABLISHMENT EFFORTS FOCUS ON SIZING AND ALIGNMENT OF STREAM CHANNEL AND THE SUCCESSION OF A HEALTHY WETLAND HABITAT.			NO	MAINTENANCE EFFORTS WOULD FOCUS ON STREAM STABILITY AND THE SUCCESSION OF A HEALTHY WETLAND HABITAT.			NO	N/A	EFFECTIVELY ELIMINATES SEDIMENT CAPTURE	?	?
E	SINGLE CHANNEL WITH SMALLER LAKE (MODIFICATION OF EXISTING DAM)	N/A	ESTABLISHMENT EFFORTS FOCUS ON SIZING AND ALIGNMENT OF STREAM CHANNEL AND THE SUCCESSION OF A HEALTHY VEGETATIVE HABITAT.			NO	MAINTENANCE EFFORTS WOULD FOCUS ON STREAM STABILITY AND THE SUCCESSION OF A HEALTHY VEGETATIVE HABITAT.			YES	N/A	EFFECTIVELY ELIMINATES SEDIMENT CAPTURE	?	?

LAKE ACCOTINK SUSTAINABILITY WORKSHOP
MAY 16, 2016

*Select a team member to record the team's ideas and comments.
Select a team representative who will report your group's comments/ideas
at the end of the evening.*

Be sure everyone has the opportunity to add input.

*You will have 45 minutes of discussion time.
Allow approximately 30 minutes for the first question and 15 for the second question.*

QUESTIONS FOR GROUP DISCUSSION

1. Each of the lake sustainability alternatives presented tonight included a listing of considerations. From your perspective, what other considerations should be included to help the Park Authority fairly evaluate each alternative?
2. Are there additional strategies that could take place within the limits of Lake Accotink Park that your group would suggest to improve the health and sustainability of the existing lake?

LAKE ACCOTINK FAST FACTS

Below are some fast facts about Lake Accotink, the Accotink Creek Watershed, Lake Accotink Park and related terms that may help in your discussions about lake sustainability alternatives.

PARK FACTS

- Lake Accotink Park encompasses 493 acres
- The surface of Lake Accotink covers 55 of those acres
- The Springfield Reservoir and the surrounding land was leased by the Park Authority from the federal government to be used for fishing, boating, and picnicking.
- The land and lake were purchased from the Federal government in 1965 under the federal Land to Park Program
- For FY 2015 an estimated 243,452 people visited the park (Value based on car counts/event attendance. Actual value probably significantly higher due to the number of pedestrians that access to the park.)
- Current park facilities include:
 - bike rentals
 - canoe and pedal boat rentals
 - boat launch
 - tour boat rides
 - fishing
 - nine-green, double-holed miniature golf course,
 - antique carousel
 - snack bar
 - pavilion shelters and picnic areas with grills
 - restrooms
 - playground
 - sand volleyball court
 - basketball court
 - hiking/biking trails

LAKE ACCOTINK BOATING USAGE AND MARINA REVENUE

BOATING RENTALS	RENTALS IN FY 2015	COMPARISON TO FY2012
Pedal Boat Rentals	4,061 (approx. 2.1% of visitors)	219% increase
Canoe Rentals	1,038 (approx. 1.7% of visitors)	133% increase
Tourboat Rides	1,976 (approx. 1% of visitors)	122% increase
REVENUE	FY 2015 TOTAL	COMPARISON TO FY 2012
Total Revenue	\$263,117	108% increase
Marina-related revenue	\$37,572 (approx. 14% of total revenue)	200% increase

PREVIOUS LAKE ACCOTINK DREDGING PROJECTS

YEAR	VOLUME OF SEDIMENT REMOVED	DISPOSAL LOCATION	PROJECT COST
1968	Unknown		
1985	211,000 cubic yards of dredge material removed	On-site ponds	\$2,000,000 – \$4,000,000
2008	193,000 cubic yards of dredge material removed	Pumped to Virginia Concrete plant	± \$9,000,000

LAKE ACCOTINK FAST FACTS

DEFINITIONS

- Watershed – A watershed is an area of land where all the water that falls on it drains to a specific stream, river, or even ocean.
- Sedimentation is the natural process in which material (such as stones and sand) is carried to the bottom of a body of water and forms a solid layer.
- TMDL – Total Maximum Daily Load - a regulatory term in the U.S. Clean Water Act, describing a value of the maximum amount of a pollutant, or budget, that a body of water can receive while still meeting water quality standards
- Sustainability – the ability to sustain or endure, to use without using up. The most sustainable solutions are those that balance environmental, social, and economic needs/capabilities.
- Municipal Separate Storm Sewer System (MS4) Permits - Under the 1987 Clean Water Act Amendments, the U.S. EPA developed new regulations to address storm water that might impact water quality. These new "Municipal Separate Storm Sewer System" (MS4) regulations require the county to prevent the discharge of pollutants from the stormwater management system into waterways, to the maximum extent practicable. Often called "non-point source" pollutants, typical elements of concern include engine oil, fertilizer, pet waste and trash.
- Chesapeake Bay Preservation Ordinance – In 1988, the Commonwealth of Virginia enacted the Chesapeake Bay Preservation Act (Bay Act) requiring 84 Virginia communities, including Fairfax County, that drain into the Chesapeake Bay to institute water quality protection measures. To address the Bay Act requirements, the Board of Supervisors enacted a Chesapeake Bay Preservation Ordinance (Ordinance) in 1993 which regulates the kinds of development that can occur in sensitive areas along streams that drain into the Potomac River and eventually the bay. These areas are known as Resource Protection Areas or RPAs. The Chesapeake Bay Preservation Ordinance has been revised several times to comply with new state directives.

WATERSHED FACTS

- Fairfax County contains 30 separate watersheds.
- The Accotink Creek Watershed is the second largest in the county.
- The Accotink Creek Watershed contains 52 square miles of land.
 - 11 of those square miles are outside of Fairfax County jurisdiction (City of Fairfax, Fort Belvoir)
 - 31 square miles of the watershed are located upstream of Lake Accotink.
- The Accotink Creek Watershed contains 113 miles of streams, 60 ½ miles are upstream of Lake Accotink.
- Approximately 30% of the Accotink Creek Watershed is covered by impervious surfaces.
- The Accotink Creek Watershed has the second lowest overall condition rating among the county's 30 watersheds (Pimmit Run Watershed is lower).
- The Accotink Creek Watershed Management Plan, approved by the Board of Supervisors in 2011, includes recommendations to improve the quality of water that drains to Lake Accotink including:
 - 204 structural projects (storm pond retrofits, LID implementation, stream restoration, etc)
 - 12 non-structural projects (buffer restoration, community outreach, dump site removal, etc.)
 - 15 of the structural projects have been completed.



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LAKE ACCOTINK PARK

7500 ACCOTINK PARK ROAD, SPRINGFIELD VA 22150

2015 AERIAL IMAGE

FEBRUARY 2016

0 200 400 800 1,200 1,600 Feet

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