

ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



**PRESENTATION TO THE MARINA SUBCOMMITTEE
ALEXANDRIA WATERFRONT COMMISSION
JUNE 2014**



Two of the greatest threats to our future enjoyment of the “new” waterfront are:

- 1. Flooding**
- 2. River Debris**



Just as flooding poses a threat to the physical integrity of our waterfront, river debris poses a threat to the physical and, to a greater degree, aesthetic integrity of our waterfront.

River debris also poses a threat to watercraft, as well as the safety of our residents and visitors.



DEBRIS IMAGES FROM WATERFRONT WALK 2013



DEBRIS IMAGES FROM WATERFRONT WALK 2014



Flood Mitigation is addressed extensively in the Waterfront Plan.

There is no stated strategy in the Waterfront Plan for “Debris Mitigation”.



...flood mitigation involves the managing and control of flood water movement, such as redirecting flood run-off through the use of floodwalls and flood gates, rather than trying to prevent floods altogether.

WIKIPEDIA®

Similarly...



...debris mitigation involves the managing and control of river debris, such as redirecting or trapping undesirable floating objects rather than trying to prevent debris altogether.

“STEVE-O-PEDIA”



SOURCES vs. FORCES

To prevent something, you generally have to catch it at the source.

Identifying the SOURCES of debris is pointless, because....

...the prevention / mitigation of debris at the source is beyond our control.



SOURCES vs. FORCES

The prevention / mitigation of debris at the SOURCE is beyond our control because the source is:

- Naturally occurring
- Unstoppable
- Constantly changing
- Out of our jurisdiction



SOURCES vs. FORCES

The debris mitigation process starts with an examination of “debris-delivering” FORCES in order to identify which ones can be controlled and which ones must be worked around.

The objective is to have river debris factored into future refinements of the waterfront plan with a combination of design, engineering and waterfront operating policies following delivery.



Debris is delivered to Alexandria's shoreline by several forces:

- 1. Tides**
- 2. Flooding**
- 3. Currents**
- 4. Wind**
- 5. Boat Wakes**
- 6. Littering**

A few of these forces are controllable; most are beyond our control.



Debris-delivering forces:

<u>Type</u>	<u>Origin</u>	<u>Can Control</u>	<u>Can Mitigate</u>
1. Tides	Natural	No	Yes
2. Flooding	Natural	No	Yes
3. Currents	Natural	No	Maybe
4. Wind	Natural	No	Maybe
5. Boat Wakes	Human	Somewhat	Maybe
6. Littering	Human	Somewhat	Yes



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



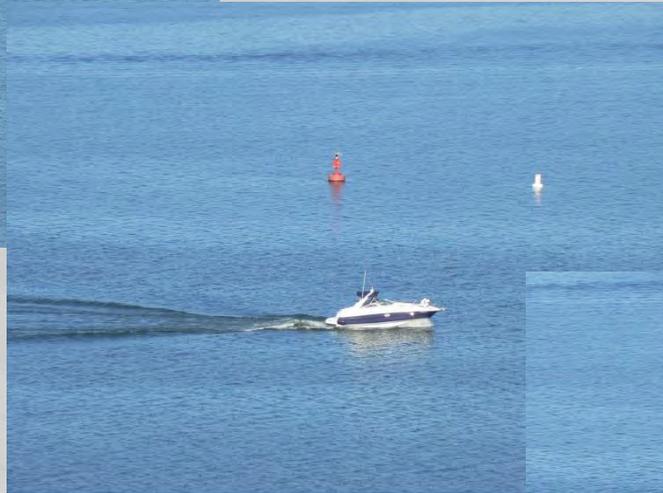
DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – December 2013



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN



DEBRIS FLOWS – Spring 2014



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN





CORE AREA - DESIGN ALTERNATIVE D

OLIN

ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN





ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN





PROPOSED ACTION STEPS

Marina Subcommittee request that the WC advise the City to include in deliverables for next phase(s) of Waterfront SAP design development:

- 1. Professional opinion as to the practicality of studying the debris problem**
- 2. Recommended engineering and design strategies for mitigating debris**
- 3. Recommended waterfront operating strategies for mitigating debris**



THE END



ADDRESSING RIVER DEBRIS IN THE WATERFRONT PLAN

