Wetlands Board

February 11, 2009

A. Roll Call

B. Minutes

December 10, 2008 – Board Meeting

C. Public Hearings

1. W-11-09/VMRC08-2028: Mershon – 500 Thompson Lane – dam alteration continued from 12/10/08

2. W-10-08: Restoration Hearing - 500 Thompson Lane - continued from 11/13/08 and 12/10/08

D. Board Consideration

1. Staff report on Powhatan Creek No Wake Zone

E. Matters of Special Privilege

F. Adjournment

DATE: February 11, 2009

TO: The Wetlands Board

FROM: Patrick T. Menichino, Wetlands Board Secretary

SUBJECT: Powhatan Creek – No Wake Zone Proposal

Staff is providing this report as requested by the Wetlands Board on the impact of a proposed No Wake Zone along portions of Powahatan Creek, a tributary of the James River. This report will provide the Board with information on the following aspects associated with Powhatan Creek:

1. Shoreline erosion rates and the impact of boat wake on the creek.
2. Property damage associated with boat wake.
3. Current and future boating use.
4. Safety considerations.

Shoreline Erosion

The Shoreline Element within the County's Comprehensive Plan reported that the average long term erosion rate for Powhatan Creek is 1 to 1.5 ft/year (Table 1.). Shoreline erosion rates of 1 to 3 ft/year are considered to be moderate and may require a form of shoreline protection to stabilize properties and prevent the continued transport of sediments into the creek. The transporting of sediment into Powhatan Creek has lead to shoaling and a reduction in navigable water depths along the creek. The creek empties into a Sandy Bay which consists of a narrow navigable channel and extensive adjacent mud flats. The shoreline report attributes the moderate erosion along the Powhatan Creek to increased boat traffic (Table 1.). The creek is relatively narrow and has a natural meander with several 90^0 bends along its length. The shoreline is comprised of uplands with the majority being protected by an extensive tidal marsh separating the shoreline from the navigable creek channel.

Staff has reviewed the shoreline along the creek and has determined that past erosion has resulted in the installation of hardened shoreline structures by property owners in an attempt to protect their property. Numerous wetlands permits have been issued by the County authorizing the installation of those hardened shoreline structures. Reports issued by the Department of Conservation and Recreation concerning erosion along the creek, have in part attributed the need for hardened shoreline structures to boat wake. In addition a review of GIS photography clearly shows that the tidal marsh adjacent to the navigable creek is receding reportedly from boat wake (see 2002 and 2007 GIS photos).

Property Damage

At this time Staff is unable to quantify the cost of property damage associated with boat wake along the creek. The Board may choose to consider both real property damage, the cost of shoreline repair, and personal property (boats, docks, piers, etc.) when accessing damage costs. Property owners along the creek have attempted to prevent property damage by hardening their shoreline and by installing "NO Wake" signs on the waterway.

Current and future boating use on Powhatan Creek.
At the present time both recreational and commercial marine vessels utilize Powhatan Creek. The majority of commercial vessels generally limit their use of the waterway to the lower creek and the Jamestown Yacht Basin. Recreational use of the creek accounts for an estimated 95% of all uses along the waterway. The entrance to the Jamestown Yacht Basin is located 460 ft North of the Colonial Parkway Bridge and occurs within an "S" turn in the lower creek meander. The width of the creek at this location is approximately 200 ft with the navigable channel being reduced to approximately 145 ft. boating traffic heading North along the creek must pass under the narrow and restrictive center sections of the Colonial Parkway Bridge abutments to approach the yacht basin entrance.

The Jamestown Yacht Basin presently offers limited services to recreational boaters. The basin has wet slips for approximately 90 boats maximum and 1 boat ramp. Staff believes that the basin is currently not being utilized to its capacity. There is significant erosion occurring at the entrance to the basin along Powhatan Creek (see photo #6 and previous VIMS report) believed to be caused by boat traffic. A shoreline stabilization project (hardening) for this area was proposed in 2004 but was not implemented.

Proposals for improvements to the yacht basin are presently under review and consideration by James City County Government. One option under the "Shaping Our Shores" initiative includes the expansion of the marina to accommodate 160 wet boat slips, 168 dry boat storage berths, 2 improved boat ramps, a separate canoe and kayak launching area, a marina store, retail shops, a restaurant, condos, and an Inn. Staff estimates that if the proposed improvements are implemented potential for additional boating traffic within the basin and along Powhatan Creek could increase by more than 250%.

Safety Considerations
As previously reported Powhatan Creek is a relatively narrow waterway presently impacted by moderate shoreline and marsh erosion resulting in shoaling and a loss of navigable waters. The creek morphology includes extreme meander which requires safer boating practices and increases the potential for boating accidents. The physical location of the yacht basin entrance, 460 ft from the parkway bridge and midpoint in an "S" turn within the creeks meander presents a navigation safety issue. Presently recreational use of the waterway includes a mix of high speed power boats, cruisers, kayakers, canoeists and fishermen. Staff has observed large power boats traveling at estimated speeds in excess of 35 mph and jet skis traveling in excess of 40 mph. The proposed expansion of recreational boating opportunities at a revitalized Jamestown Yacht Basin will only exacerbate boater safety issues on Powhatan Creek.