

2011 Freshwater Mussel Survey of the Potomac Mainstem
Summary Report to EPA
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 The Interstate Commission on the Potomac River Basin

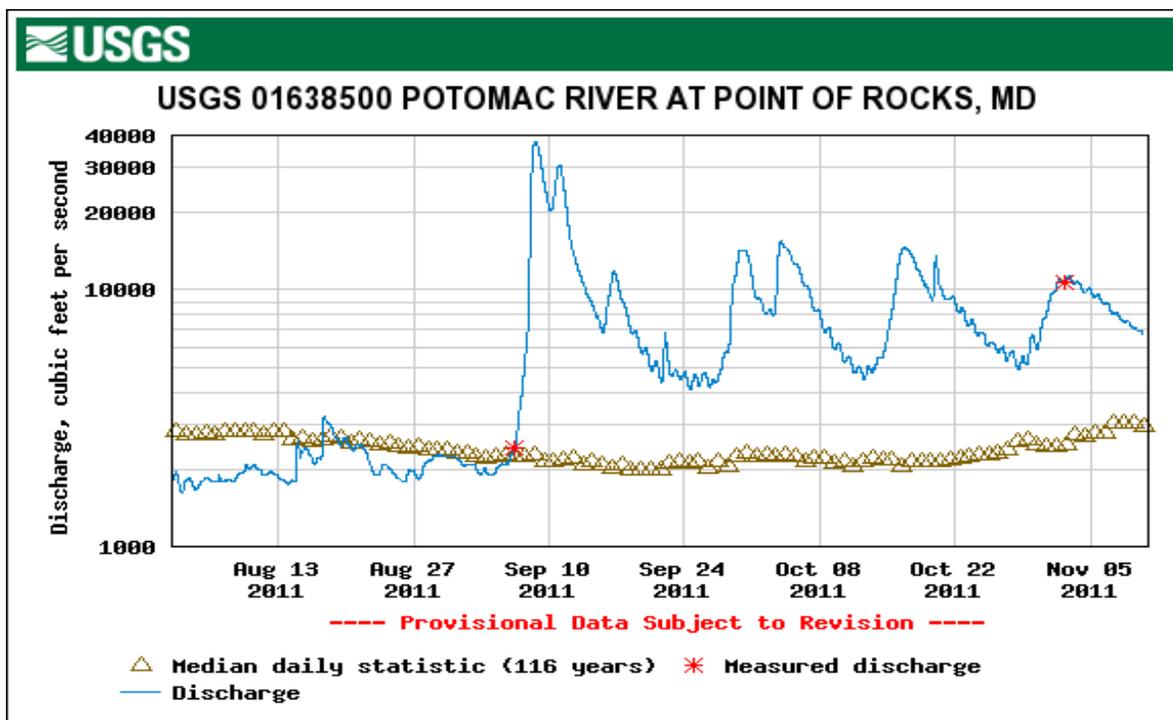


Figure 1: 2011 Flows recorded at the Point of Rock gage, Potomac River from early August to November 8, 2011. The protocols for conducting the mussel surveys require flows at or below median, represented by the line of triangles, .

Introduction

This is an annual summary report for a multi-year, two-phase freshwater mussel survey of the Potomac River mainstem initiated by the Interstate Commission on the Potomac River Basin in 2009. The primary long-term objectives of this survey are; 1) augment biological information collected at study reaches established in the Potomac River’s mainstem through a nationwide survey of large river conducted by the US EPA, 2) improve our understanding of the status of Potomac River mussel species, their temporal variation and trends, relationship to the river’s general health, and 3) help evaluate how mussel communities in typical sections of the river compare with sections potentially impacted by pollution or altered flows, especially where low-flows are exacerbated by consumptive water uses. Survey parameters include species richness, relative abundance, density, recruitment, and presence of any state or federally rare, threatened or endangered mussels. Phase 1 was conducted in 2009 and the first part of Phase 2 was conducted in 2010.

Tasks Performed in 2011

A summary report “2010 Freshwater Mussel Survey of the Potomac Mainstem” was prepared which covered the results of the first part of Phase 2, the field work of which was concluded at the end of September, 2010. The 2010 report is being submitted separately. On January 19th a briefing on the work was presented to a meeting of freshwater mussel experts hosted by Maryland DNR. On August 10th ICPRB staff provided a presentation on the project at the Annual meeting of the Maryland Streams Symposium and Mid-Atlantic Volunteer Monitoring Conference held at Carroll County Community College, Westminster, MD.

Two mainstem Potomac River reaches, each approximately four kilometers long, were designated for study in 2011. The first is along a large bend in the river immediately upstream of Fifteen Mile Creek, in Alleghany County, MD and the second bounds Mason Island near Whites Ferry, Montgomery County, MD. Maps of these reaches which show mussel habitat types are provided in Appendix A. Two scientific collecting permits, a General and an Endangered Species Permit, were requested and obtained from the Maryland Department of Natural Resources to cover our field research activities.

Field work was scheduled for early September, a time when the river is typically at its lowest levels and water clarity is greatest. Staff, equipment and gear were readied but a series of severe storms hit the region starting on September 4th which raised river levels to flood stages and the river flow did not recede sufficiently to conduct field work. The targeted river level of conducting this research is median flow. Figures 1 and 2 provide the flow records for the US Geological Survey's Potomac River mainstem gages most proximal to our transect reaches. Figure 1, at the head of this report, shows the Potomac River levels as recorded at the USGS gage at Point of Rocks, Maryland, which is approximately 5 kilometers upstream from the study's Mason Island reach. Figure 2, below, shows the flows recorded at the USGS gage near Paw Paw, West Virginia, approximately 10 kilometers upstream from the study's Paw Paw Bends reach.

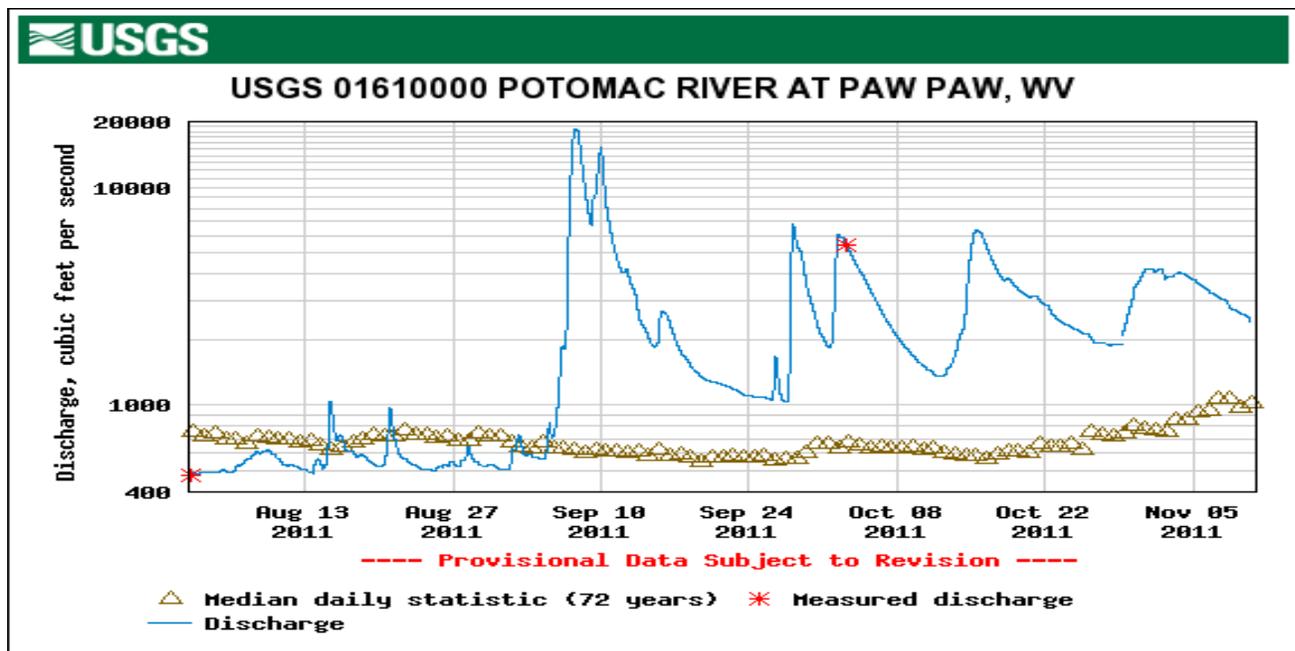
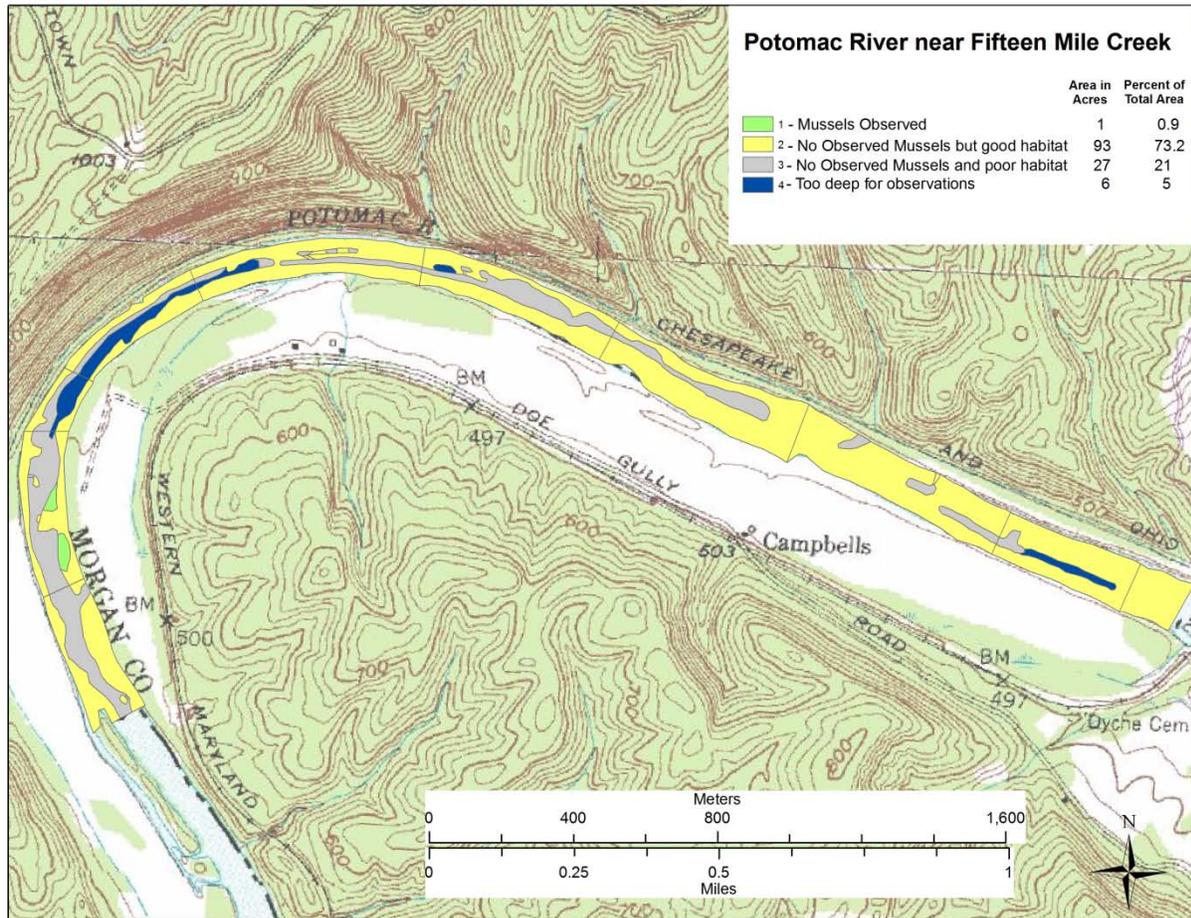


Figure 2: 2011 Flows recorded at the USGS Paw Paw gage, Potomac River from early August to November 8, 2011.

There were times during September and October when the hydrographs receded and we were hopeful that we could perform the surveys, but a train of low-pressure systems with widespread rain arrived and unfortunately the flows never became lower than approximately twice the median flow threshold. Due to the cancellation of our 2011 field activities due to high flows, we are rescheduling these surveys for the summer of 2012.

Appendix A: River Reaches designated for Freshwater Mussel Study in 2011.

Potomac River, Allegheny County, at first large bend upstream of Fifteen Mile Creek.



Potomac River, Montgomery County, at Mason Island and near Whites Ferry

