**VIMS Shoreline Permit Application Report # 03-1291**

**APPLICANT:**

**RUTHIE A. CRAWFORD**  
NORTHUMBERLAND COUNTY

**Locality:** Potomac River  
**Immediate Waterway:** Potomac River  
**Watershed:** LOWER POTOMAC RIVER  
**Purpose:** Shoreline Stabilization  
**Application Type:** Subaqueous  
**Site Inspection:** 6/24/03  
**Report Date:** 7/1/03

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**Type of Activity**

| Groins (ft) | 48 |
| Groins Unit(s) | 2 |
| Impact Subaqueous Bottom (ft²) | 144 |

**Proposed Extent**

| Total Impacts (ft²) | 144 |
| Total Impacts (Wetlands) | 0 |
| Total Impacts (Subaqueous) | 144 |
| Total Impacts (Beach/Dune) | 0 |
| Total Fill (ft²) | 0 |

**Project Location**

Northumberland County

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Thomas A. Barnard, Director

Center for Coastal Resources Management  
P.O. Box 1346  
Gloucester Point, VA 23062-1346  
(804)684-7380, fax: (804)684-7179, e-mail: http://ccrm.vims.edu/
NOTE
The Virginia Institute of Marine Science (VIMS) recognizes that the regulatory process considers all aspects of a particular project, including socioeconomic factors. This report, however, only addresses marine environmental concerns.

Findings & Recommendations:

Two gabion groins are proposed as part of a joint project with two other adjacent property owners. The environmental impacts of these small groin structures will be minor. Gabion structures typically have a short life expectancy in the marine environment. The following measures are recommended for structural integrity at this high energy location. Filter cloth should be placed under each structure. The baskets should not be filled haphazardly. The stone should be carefully placed to minimize voids and maximize the weight of each unit. The gabion units should be laced together along the perimeter of all contact surfaces.

These groins are proposed at the base of an existing rock revetment that has collapsed in places. However, these short structures are not expected to capture enough sand to protect the revetment from continued collapse and failure. The local sand supply has been reduced by the extent of bank stabilization in the vicinity and the revetment toe is subject to constant wave action, which is not conducive to sand accretion at the groins.

The applicant should also consider having the existing slope and revetment stone re-worked and installed properly, because this is the primary stabilization structure for the upland property.

Karen A. Duhring
Marine Scientist
Hydrologic units represent smaller, isolated watersheds defined by topography and flow direction. These units can be thought of as insulated ecosystems or landscapes within which resources can be managed at a larger scale. The cumulative impact of a project to resources within a hydrologic unit may be significantly greater than the impact to the larger watershed above.
To Wetlands Board / VMRC: Please indicate Wetlands Board / VMRC action on this sheet and return to VIMS

Application Number: 03-1291
Name: Ruthie A. Crawford
Locality: Northumberland County
Waterway: Potomac River

Please check here if this application was approved as proposed ______

Complete the form below if the application was modified.

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>PROPOSED</th>
<th>PERMITTED</th>
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<tbody>
<tr>
<td>Groins (ft)</td>
<td>48</td>
<td>______</td>
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Please specify required modifications: _______________________________________________________
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Thomas A. Barnard, Director