Middle Peninsula Local Government Dredging Plan

10 Year Feasibility and Implementation Study

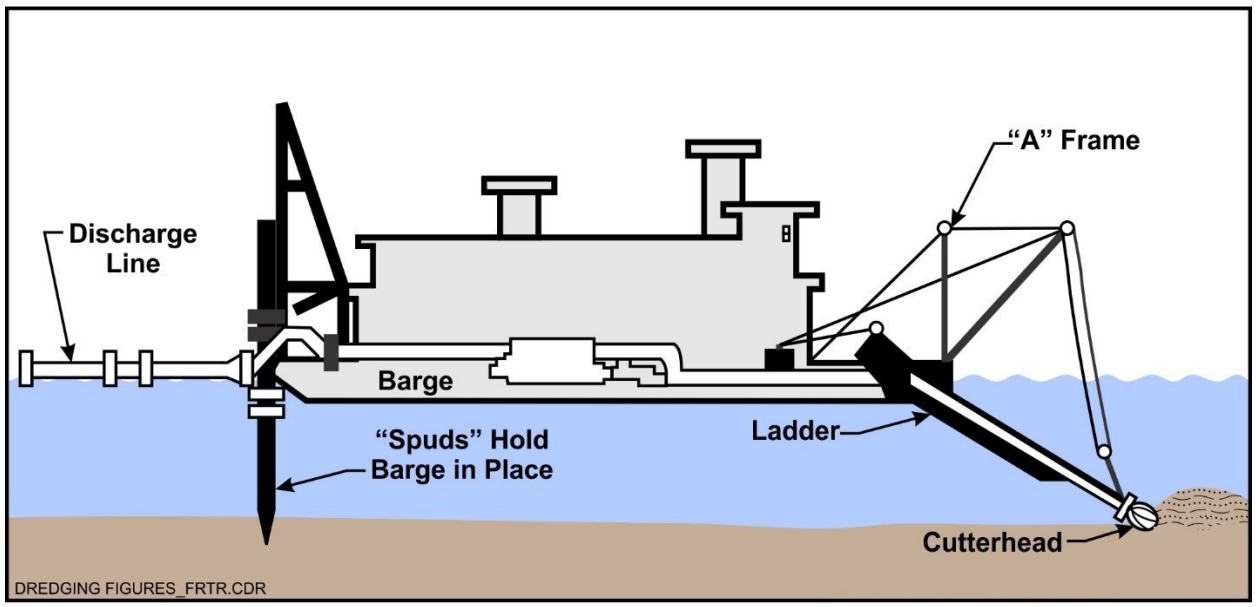
Dredging of federal projects in the Middle Peninsula of Virginia have historically been conducted by the U.S. Army Corps of Engineers (USACE) but due to the reduction in funding for shallow draft navigation projects and shifts to other higher priorities, the USACE has only completed five dredging projects within the region over the period 1990-2020 (Broad Creek, Horn Harbor, Queens Creek, Whiting Creek, and Winter Harbor). In addition, local governments and non-governmental organizations have performed very limited dredging of water bodies in the region. Recent funding provided through the Virginia Port Authority's Waterways Maintenance Fund would only allow a very select few projects to be supported annually, nowhere near addressing the dredging needs throughout the region.

Without continual maintenance of the navigable waterways, marine traffic will have to be diverted, boating safety will be jeopardized, and recreational and economic activity curtailed. The impact will result in reduced economic activity, reduced shoreline property values, and fewer real estate taxes flowing to local governments.

A plan to address this need was developed which analyzes the costs of dredging shallow draft channels and determines the feasibility of establishing a regional dredging program either through contracting with the private sector, establishing a publicly operated dredging program or a combination public/private partnership. The individual localities selected the water bodies that were a part of the analysis. The evaluation began with assessments of the physical characteristics of the 120 shallow draft waterways in the region. Generally, these water bodies can be categorized into three basic types of shallow draft channels: federally-defined, non-federal with ATONs (Aids to Navigation) and non-federal without ATONs. The evaluation consisted of 13 federal channels, 12 non-federal channels in water bodies with ATONs, and 95 in water bodies without defined channels or ATONs. Physical parameter data was collected or created for each of these water bodies. This data included creek mouth morphology, amount of shoaling in the creek mouth, tide range, number of coastal structures such as piers, marinas, boat ramps, and wharf, the water surface area, mouth width, tidal prism, and cross-sectional area of the mouth (mouth width x average depth). The data collected was used to prioritize dredging needs based on these physical parameters.

2009-2010 Dredging Activities at Winter Harbor, Mathews County, VA. Source: USACE, Norfolk District

The plan then evaluated the relative costs for dredging a number of these water bodies to include pre-construction, during construction and post construction components and to identify potential obstacles to dredging. The projects were arrayed by cost and an evaluation of potential funding sources was identified. Finally, an array of potential dredging schedules over a 10-year period was identified. Based on the evaluation, the Middle Peninsula Planning District Commission is working with the individual counties in the region to determine the interest in establishing a regional municipal dredging program.



Standard Hydraulic Cutterhead Suction Dredge. Source: Federal Remediation Technologies Roundtable.

Shore Consulting Group (SCG) is pleased to have worked with Community Futures and the Virginia Institute of Marine Science at William and Mary with help from the Berkley Group in support provided to the Middle Peninsula Chesapeake Bay Public Access Authority. In so doing, SCG developed the project economics, dredging methods/equipment/schedules, project cost comparisons, and alternatives analysis necessary for establishing a regional dredging program. This effort supports the need to design and implement waterfronts that meet the needs of Rural Maritime Industries and the communities that they serve.