The Metompkin Islands: A Case Study in Ownership and Management of a Dynamic Barrier System

David Harold Niebuhr

College of William and Mary - Virginia Institute of Marine Science

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THE METOMPKIN ISLANDS: A CASE STUDY IN
OWNERSHIP AND MANAGEMENT OF A DYNAMIC BARRIER SYSTEM

A Thesis
Presented to
The Faculty of the School of Marine Science
The College of William and Mary in Virginia

In Partial Fulfillment
of the Requirements for the Degree of
Master of Arts

by
David Harold Niebuhr
1993
APPROVAL SHEET

This thesis is submitted in partial fulfillment of the requirements for the degree of

Master of Arts

David Harold Niebuhr

Approved, August 1993

N. Bartlett Theberge, Jr., LL.M.
(Chairman)

Gary F. Anderson, M.A.

Herbert M. Austin, Ph.D.

Robert S. Bloxom

John D. Milliman, Ph.D.
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Special thanks also to Doug Hall and to Hank Badger who provided me with flight time, and a bird’s eye view of "my own special island".
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ABSTRACT

Historical maps were used to identify trends in the migration of the Metompkin Islands. These island movements were analyzed to determine possible boundary conflicts between private landowners, state bottom lands and marshes, and potential federal claims to land in this region. State and federal statutory and case laws were examined to determine if present statutes adequately addressed the potential ownership conflicts resulting from the migration of this island system.

Current state and federal statutory and case law does not adequately address issues of ownership in this dynamic region. Laws are often in direct conflict with one another. The relevant body of case law is minimal with regard to these issues.

The Commonwealth of Virginia must address the issues of ownership, and boundary determination, in this dynamic region given the state’s current trend towards asserting its claim to its property. Specific strategies are recommended that will serve to clarify the issues of ownership in this region.
"...the time is not far distant when the State of Virginia must assert her rights to and sovereignty over her 'Waters of the State', and, when this time comes, and come it must in the never ceasing conflict between the forces of Public Ownership and Individual Initiative, between the dreams of Utopia and Realism, the old Mother of Commonwealths will need evidences of these ancient volumes, her 'most precious surviving muniments of her past'.

Will time, neglect and the forces of decay, have then dispoiled her, or will she, through the possession and preservation of these muniments of her past, be in security, and 'in great prosperity & peace contrary to manye mens exspectatyon'?

Alvin T. Embrey, in Waters of the State, 1931.
OWNERSHIP AND MANAGEMENT OF A DYNAMIC BARRIER SYSTEM
**Introduction**

Since the 1960's there has been increasing awareness and concern for preserving and protecting the coastal resources of the United States. These concerns were made manifest in the Coastal Zone Management Act (CZMA) of 1972. At the time of its inception and passage, the CZMA served as a broad based clarification of national policy directives concerning the coastal zone. These policies included supporting efforts to "preserve, protect, enhance and restore" the resources of the coastal zone, within the confines of combined federal and state directed legislation and regulation. The CZMA also encouraged the development of state, and regional, coastal


3 *Id.*


7 Godschalk, 1992.
zone legislation and management plans. Through time the focus of the CZMA has moved from an emphasis on federally directed management towards increased state regulated management of coastal resources. This change in focus has taken the form of federally approved state coastal zone management plans\textsuperscript{8,9,10,11}. It has been argued that this approach is not effective because of the variable strength of the state plans, and the decreasing federal financial incentives for implementation\textsuperscript{12,13,14}.

Coastal zone management strategies initially were driven by public concern for the "rapidly intensif[ied] use of coastal areas"\textsuperscript{15} increased pressures on coastal zone resources, and the possible effects of oil exploration on the

\textsuperscript{8} Noonan, 1977.
\textsuperscript{9} Zile, 1977.
\textsuperscript{10} Szablewicz, 1987.
\textsuperscript{11} Godschalk, 1992.
\textsuperscript{13} Parks, Dawn L., 1991, Citizen participation in regional planning efforts, Coastal Zone '91, 41-55.
\textsuperscript{15} House Document No. 91-42, 1969.
coastal zone\textsuperscript{16,17,18,19}. The current focus of coastal zone management tends to be pressure generated competition for coastal resources. Economic development has brought millions of people to live at, or near, the sea shore. A variety of commercial, recreational and aesthetic interests attract residents and vacationers to these coastal regions. As a greater number of people (an estimated increase of 20\% over the current population by the year 2020\textsuperscript{20}) compete for the ownership rights to these lands and resources, there are increased conflicts for the use of these lands and resources\textsuperscript{21}. Attempts to resolve these conflicts have resulted in a proliferation of federal, state and local legislation and regulation.

Until recently, the laws, regulations and strategies of

\begin{itemize}
  
  \item\textsuperscript{17} Ketchum, Bostwick H., 1972, The Water's Edge: Critical Problems of the Coastal Zone, MIT Press, Cambridge, MA., 10-32.
  
  \item\textsuperscript{18} Noonan, 1977.
  
  \item\textsuperscript{19} Godschalk, 1992.
  
  \item\textsuperscript{20} Report of the Year 2020 Panel to the Chesapeake Executive Council, 1988.
  
  \item\textsuperscript{21} 2020 Panel, 1988.
\end{itemize}
the federal, state and local governments have attempted to resolve the conflicts and use issues from the resource management perspective. Presently there appears to be a shift towards not only managing these resources but also claiming public ownership of these lands. The states of North Carolina, South Carolina, New Jersey and Virginia have recently began to assert their claims to land in the coastal zone.\(^\text{22,23,24,25}\)

The passage of the Natural Area Preserves Act (1989)\(^\text{26}\) marks a change in the Commonwealth of Virginia's legislative posture regarding areas of its coastal zone. Through the Natural Area Preserves Act\(^\text{27}\), together with Title 28.2

\(^{22}\) S.C. Code Ann., sec. 48-39-200. While South Carolina has not taken a strong legislative stand on claims to land in this region, the courts have placed the burden of proof on the potential claimants. See. Lane v. McEachern, 162, S.E. 2d. 174 (1968) and State v. Yelsen Land Co., 216 S.E. 2d. 867, 878 (1976).


\(^{25}\) The Virginia Natural Area Preserves Act of 1989, Code of Virginia, Title 10.1 sec.209 in conjunction with Title 28.2 sec.1202, claim risen islands.

\(^{26}\) Code of Virginia, Title 10.1 sec.209.

\(^{27}\) Code of Virginia, Title 10.1 sec.209.
sec.1201 (1991) of the Code of Virginia, the Commonwealth is claiming lands that arise from subaqueous beds, whether or not those new lands merge with, or accrete to, private property. The presence of these codes intimates an increased emphasis on not only management, but on ownership of lands in the coastal zone.

The focus of this study is to examine one region of Virginia's coastal zone, The Metompkin Islands, as a case study in ownership, and the subsequent management of a highly dynamic barrier island system.

The Metompkin island group was chosen because it is a highly migratory, privately owned, barrier island system. The Metompkins are surrounded by privately held lands, federally claimed navigable waterways, state-owned marshes, and

28 Unappropriated lands which rise from commons and join other private property are to be declared Natural Area Preserves under Title 10.1 sec.209.

29 The Metompkin Islands, or Island, has been recorded over time as either singular or plural, depending upon the condition of the island group. The spelling has also been recorded as Metomkin. For the purpose of this study, the islands will be referred to in the plural.

30 The United States Code provides some claim for navigable waterway in 3 U.S.C.A. sec.1, under the control of navigation in the national defense. The United States also retains the claims to land granted to the states, i.e. under the marginal sea, by the Submerged Lands Act (1953) on the basis of federal navigational servitude. 43 U.S.C.A. sec. 1300-1312. Navigational servitude incorporates the federal governments rights to control commerce, navigation, mining and other interstate activities.
specially designated state owned public oyster grounds. The dynamic nature of this island system, combined with the unique variety of neighboring property owners, provides an interesting case study in ownership conflicts and management issues.

In this study, island configurations and movements were charted over time, using historical maps and current photographs, to determine trends in island movements. These island migrations, fractures and consolidations provided the focus for the research.

Scientific and legal literature was surveyed to identify:

- Basic island dynamics currently at work upon the Metompkin group.
- Summaries of Virginia tidal, coastal and water law.
- Current Virginia statutes regarding ownership and management of lands in this region.
- Current federal statutes regarding federal claims to land in this region.
- Current federal statutes regarding federal resource management strategies in this region.
- Relevant state and federal case law regarding disputes of ownership of land use in this region.
The goal of this investigation is to determine whether statutory and case laws are adequate to provide guidelines for determining ownership of lands in this region.
Study Area

Geology and Geography:

The Mid-Atlantic coastal region has been described as one of the "world’s most dynamic sedimentary environments" \(^{31}\), characterized by "exceptionally high" erosion rates \(^{32}\). Virginia’s Eastern Shore is protected by low profile barrier islands that tend to be undeveloped when compared to the larger barrier islands of North Carolina’s Outer Banks or the barrier islands of Maryland and Delaware. The United States Department of the Interior Final Environmental Statement - Undeveloped Coastal Barriers (1983) lists 12 of Virginia’s 14 coastal barriers as federally recognized "protected coastal barriers".

These protected coastal barriers include four federally recognized undeveloped, unprotected barrier islands, with a total estimated area of 10,129 acres, of which 1,499 acres are fast lands; they incorporate 13.8 miles of beach \(^{33}\), and contain 8,630 acres of associated aquatic habitat. The Virginia barrier islands have not been subject to substantial stabilization efforts and they have been left to continue

---


\(^{33}\) 12% of Virginia’s total coastal barrier beach length.
their natural migration\textsuperscript{34,35}.

The landward migration of these barrier islands results from numerous factors\textsuperscript{36}, but relies primarily upon the effects of storm events and the long-term sea level rise \textsuperscript{37,38,39,40,41,42,43} 44,45,46,47,48,49,50,51,52. The erosion and

\begin{itemize}
\item \textsuperscript{34} Badger, C.J. and R. Kellam, 1989, \textit{The Barrier Islands}, Stackpole Books, Harrisburg, PA., 97-120.
\item \textsuperscript{36} Basco, David R., 1992, Closure-Coastal Forum, \textit{Shore and Beach}, v. 90(4):31-34.
\item \textsuperscript{37} Subsidence rates for this region have been reported to be as high as 2.0mm/yr for the period 1944-1974. In Rice, Thomas E. and Stephen P. Leatherman, 1983, Barrier island dynamics: The Eastern Shore of Virginia, \textit{Southeastern Geology}, v.24:125-137.
\item \textsuperscript{38} Nichols, R.L. and A.F. Marston, 1939, Shoreline changes in Rhode Island produced by hurricane of September 21, 1938, \textit{Bull. Geol Soc. Am.}, v. 50:241-246.
\item \textsuperscript{40} Wolman, G.M., 1971, The nation's rivers, \textit{Science}, v. 174:905-918.
\item \textsuperscript{41} Dolan, R., Hayden, B.P. and C. Jones, 1979(a), Barrier island configuration, \textit{Science}, v. 204:401-402.
\end{itemize}
retrogradation of the Metompkin islands appear to be dominated


50 Byrnes and Gingerich, 1987.


by the effects of short-term storm activity\textsuperscript{53} rather than long
term averaged effects\textsuperscript{54}. It also has been suggested that low-
profile barriers migrate as coherent units, with overwash
being the most significant factor in the landward migration of
the barrier\textsuperscript{55,56,57}.

The Metompin Islands, located on the ocean side of the
Delmarva peninsula in Accomack County, Virginia (Figure 1),
constitutes one of the fourteen largest barrier islands on
the Eastern Shore of Virginia. The Metompkins are described as

\textsuperscript{53} Kochel, R.C. and R. Dolan, 1986, The role of overwash

\textsuperscript{54} Byrnes and Gingerich, 1987.

\textsuperscript{55} Dillon, W.P., 1970, Submergence effects on a Rhode
Island barrier and lagoon and influence on the migration of

\textsuperscript{56} Dolan, R. and P.J. Godfrey, 1973, Effects of Hurricane
Ginger on the barrier islands of North Carolina, \textit{Bull Geo.
Soc. Am.}, v. 84:1329-1334.

\textsuperscript{57} Byrnes and Gingerich, 1987.
typical, low-profile barrier islands\textsuperscript{58,59,60,61}. The islands trend to the north-northeast from the Metompkin Inlet to the Gagarthy Inlet in the north. The northern portion of the island system is backed by an extensive marsh, but the southern portion is backed by the shallow, open-water Metompkin Bay. The southern most island in the system is a shoal in the middle of the Metompkin Inlet between Metompkin and Cedar Islands and is exposed to the openocean\textsuperscript{62,63}. The Metompkins are surrounded by federal, private and state owned lands in the form of marshes and Baylor Survey public oyster grounds\textsuperscript{64}. The tidal elevations for the Metompkin Inlet range from 0.85m (neap) to 1.3m (spring) with an average tidal range


\textsuperscript{60} Schwartz, M.L. and B.D. Anderson, 1986, Coastal geomorphology of Padre Island, Mexico, \textit{Shore and Beach}, v. 54:22-29.

\textsuperscript{61} Byrnes and Gingerich, 1987.

\textsuperscript{62} Byrnes and Gingerich, 1987.

\textsuperscript{63} Theberge, N.B., 1992, An inventory of state owned lands along the Atlantic Coast of Accomack and Northampton Counties in the Commonwealth of Virginia, A public record prepared for state and local use, Prepared by the Department of Ocean and Coastal Law, Virginia Institute of Marine Science, Gloucester Point, VA.

\textsuperscript{64} See discussion of Baylor Grounds later in this text.
Figure 1. The study area, including Metompkin.
of 1.1m\textsuperscript{65}. This is consistent with data from the 1852 Hydrographic chart by A.D. Bache which lists the mean tidal range for Metompkin inlet as 0.9m.

Metompkin Island was described by Byrnes and Gingerich in 1987 (see figure 7) as being 10.8km in length with an average width of 200m. They also report a maximum relief of 4m above mean low water, with no significant dune development\textsuperscript{66}. This re-enforces Dolan, Hayden and Jones (1979) who described Mid-Atlantic islands to be "shorter in length and lower in elevation than most Atlantic Barrier Islands, with a thin veneer of fine sand and silt beach overlying silty clay substrate"\textsuperscript{67}. Recent (1990) topographical information from NASA high altitude imagery\textsuperscript{68} (see figure 8) suggests a total island system length of approximately 13.4km, with a mean width in the northern portion of the island of approximately 800m, and a mean width in the southern portions of the island of approximately 200m.

The Metompkins islands are influenced by trade winds from the south-southeast with on-shore winds from the northwest,

\textsuperscript{65} Byrnes and Gingerich, 1987.

\textsuperscript{66} Id.

\textsuperscript{67} Dolan, Hayden and Jones, 1979.

\textsuperscript{68} Theberge, 1992.
storm winds are usually from the northeast\textsuperscript{69,70}. Dominant littoral transport is to the south\textsuperscript{71,72}, and analysis of wave climate over the twenty year period (1956 to 1975) shows generation of an average significant wave height of 0.57m\textsuperscript{73}.

Historically, Metompkin has existed as a single land mass as recently as 1986\textsuperscript{74}, yet the system currently is characterized as a system of two large island masses with numerous smaller islands present at the southern end of the lower Metompkin island\textsuperscript{75}. This multiple island system has previously been noted\textsuperscript{76,77}. For the period from 1955 to 1981\textsuperscript{78}, the Metompkin island system was described as being


\textsuperscript{70} Byrnes and Gingerich, 1987.

\textsuperscript{71} Id.

\textsuperscript{72} Inman and Dolan, 1989.

\textsuperscript{73} Jensen, R. E., 1983, Atlantic Coast Hindcast, Shallow Water Significant Wave Information, WIS Rept., (U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS, D1-D4. In Byrnes and Gingerich, 1987.

\textsuperscript{74} Byrnes and Gingerich, 1987.

\textsuperscript{75} Theberge, 1992.

\textsuperscript{76} Byrnes and Gingerich, 1987.

\textsuperscript{77} See also figures 2-10.

\textsuperscript{78} Byrnes and Gingerich, 1987.
characterized by frequent breaching due to storm activity. This storm activity resulted in a rate of retreat for the southern portion of Metompkin, which was 2.5 to 2.8 times more rapid than that of the marsh-backed northern portion of the island\(^79\). The rate of landward migration for the southern portion of Metompkin was estimated to be 39\(m/\text{year}\) for the period between 1967 and 1981\(^80\). By 1986 this trend had reversed and the rate of landward migration of the northern portion of the island, 19\(m/\text{year}\), exceeded the landward migration of the southern portion of the island, 4\(m/\text{year}\), resulting in an average landward migration of the entire island of 12\(m/\text{year}\)\(^81\). When the island once again regained its integrity, it showed an offset of 400\(m\) from the northern portion to the southern portion of the island\(^82,83\).

There has been a gradual long-term landward migration of the Metompkin Island. Trends evident from the comparison of maps in this study suggest that storm events continually rework the island system. Fluctuations in island movement show that both erosion and accretion occur over short time periods,

\(^79\) Id.
\(^80\) Id.
\(^81\) Id.
\(^82\) Id.
\(^83\) see figure 7.
yet there continues to be a landward migration due to sea level rise (see figures 11-12).
Ownership Record of "Metompkin"

The barrier islands of Virginia’s Eastern Shore have been mapped and granted to individual owners since the seventeenth century. Specific island ownership sometimes can be traced back, without interruption for periods greater than three hundred years\(^8^4\). Property claims based upon these early land grants can be complicated by numerous factors including: the loss of public and private records to war; private libraries or just age; the poor description of the lands in question; and the numerous changes of legal perspective regarding legitimacy of granting of state owned lands\(^8^5,8^6\). The ancient claims to these barrier islands also can be complicated by the transient and dynamic nature of these islands, which, in some instances, can migrate distances of tens of meters in a single year\(^8^7,8^8,8^9,9^0\).


\(^{8^5}\) For an in depth examination of the numerous changes made in the law, from 1607 to present, regarding granting of lands to private owners see: Embrey, Alvin T., 1931, Waters of the State, Old Dominion Press, Richmond, VA, 415p.

\(^{8^6}\) See also: Butler, Lynda L. and Margit Livingston, 1988, Virginia Tidal and Coastal Law, Michie Co., Charlottesville, VA, 888p.

\(^{8^7}\) Dolan, Hayden and Jones, 1979.

\(^{8^8}\) Dolan, Hayden, Rea and Heywood, 1979.

\(^{8^9}\) Byrnes and Gingerich, 1987.
The first reference to Metompkin Islands is given as a royal land patent, to John Barnes and George Parker, in 1682\textsuperscript{91,92}. References to a specific island, or island system, become obscure throughout the rest of the colonial period. During the 1700's the island is referred to by many different names, including "Ship Rack Island", "Rack Island", "The Beeches", "The Lower Beach" and "Justis Beach"\textsuperscript{93}. While the island changed ownership several times throughout the 1700's, the island location, configuration and size are not reported\textsuperscript{94}. In 1833, the land mass once again was identified with a specific location as the "land opposite Col. Tho. M. Bayly's house in Accomack County between the Gargatha and Metompkin inlets"\textsuperscript{95,96}. During the period between 1833 and 1930 a Coast Guard station was built and maintained on the island. In 1970, the islands, bounded by the Property of the Commonwealth of Virginia, and in the north by the Assawoman

\textsuperscript{90} Thieler, E.R., Young, R.S. and O.H. Pilkey, 1992, Discussion of: "Boundary conditions and long-term shoreline change rates for the southern Virginia ocean coastline: Discussion.", \textit{Shore and Beach}, v. 60:29-30.

\textsuperscript{91} Whitelaw, 1951.

\textsuperscript{92} Theberge, N. B., 1988, unpublished notes from Accomack County tax maps.

\textsuperscript{93} Whitelaw, 1951.

\textsuperscript{94} Id. 1139.

\textsuperscript{95} Id., 1139.

\textsuperscript{96} Theberge, 1988.
Island property of H.E. Kelly heirs, was conveyed to Offshore Islands, Inc.\textsuperscript{97,98}, a wholly owned subsidiary of The Nature Conservancy, Inc.\textsuperscript{99}. Offshore Islands, secretly posed as a development company because Metompkin’s owners did not want to sell the island to The Nature Conservancy\textsuperscript{100}. Offshore Islands, Inc. conveyed its only asset, Metompkin, to The Nature Conservancy, Inc. in 1975\textsuperscript{101,102,103}. The 1975 transfer of the property lists Metompkin as being bounded by the property of H.E.Kelly heirs to the north, the Metompkin inlet to the south, the Atlantic Ocean to the east and the Metompkin Bay and property of the Commonwealth of Virginia to the west.\textsuperscript{104} Since The Nature Conservancy, Inc. is a non-profit\textsuperscript{105}, organization it is untaxed, so Metompkin is no longer listed on the tax maps of Accomack County. In 1990 the

\textsuperscript{97} Whitelaw, 1951.

\textsuperscript{98} Theberge, 1988.


\textsuperscript{100} \textit{Id}.

\textsuperscript{101} \textit{Id}.

\textsuperscript{102} Whitelaw, 1951.

\textsuperscript{103} Theberge, 1988.

\textsuperscript{104} Theberge, 1988, refers to platt book (Accomack Co.)370, 16.

\textsuperscript{105} under Sec. 170(h)(3) of the Internal Revenue Code of 1954.
federal government purchased 174 acres located at the northern portion of Metompkin Island as a nature preserve. This land is not listed in the tax maps as part of Metompkin Island because it is land which was initially part of Assawoman Island\textsuperscript{106}.

\textsuperscript{106} personal communication with John Schroer, U.S. Fish and Wildlife Service.
Legislative Background of Issues of Migrating Lands

The Commonwealth of Virginia explicitly claims all lands on the Atlantic coast from "the point 38°01'36.93"N and 75°14'47.105"W, with a line drawn 1100.00' N85°05'43.5E (true), thence east to the jurisdictional limit" between Maryland and Virginia\textsuperscript{107} as the ocean border between Virginia and Maryland. The southward border between Virginia and North Carolina is given as "Walker's Line" named for the eighteenth century surveyor who plotted the mark\textsuperscript{108,109}. The Code of Virginia further claims all submerged lands within the boundaries of the Commonwealth\textsuperscript{110}, which have not "been conveyed by special grant or compact of the General Assembly", as well as all submerged lands extending outward from the Atlantic Coast to the jurisdictional limit\textsuperscript{111,112}. These submerged lands may be used as a common\textsuperscript{113}, unless specially conveyed to private

\textsuperscript{107} Code of Virginia, Title 7.1, sec. 1.
\textsuperscript{108} Code of Virginia, Title 7.1, sec. 4.
\textsuperscript{109} on the oceanfront the actual border is given as a point approximately at 36°35'15"N latitude, thence due east.
\textsuperscript{110} Code of Virginia, Title 28.2, sec.1200.
\textsuperscript{111} Code of Virginia, Title 7.1, sec.2.
\textsuperscript{112} For a detailed examination into the boundary between the internal and external waters of the Commonwealth see Lynch, Hargis and Byrne, 1971.
\textsuperscript{113} Code of Virginia, Title 28.2, sec.1200.
ownership. The state ownership of these submerged lands has been supported by state courts\textsuperscript{114,115,116,117}. The boundary line between the property of the riparian owner and the state owned subaqueous lands is defined to be the mark of mean low water\textsuperscript{118,119}.

In addition to these general claims to ownership and jurisdiction, the Code of Virginia makes references to other specific regions within the boundaries of the Commonwealth.

**Marshes and Meadowlands:**

The present Code of Virginia makes several specific references to "marshes" and "meadowlands"\textsuperscript{120}. These laws

\textsuperscript{114} The Commonwealth is absolute owner of all rivers, and lands under them. \textit{N.N. Shipbuilding v. Jones}, 105, Va. 503, 513, 54, S.E. 314, 317.

\textsuperscript{115} \textit{Meredith v. Triple Island Hunt Club}

\textsuperscript{116} \textit{U.S. v. Smoot Sand and Gravel Corp.}, 248 F.2d. 822 (4 Cir. 1957).

\textsuperscript{117} \textit{McCready v. Commonwealth}.

\textsuperscript{118} Code of Virginia, Title 28.2, sec.1203.

\textsuperscript{119} The fee simple title extends to the low water mark. \textit{Taylor v. Commonwealth}, 102 Va. 759,47 S.E. 875 (1904).

\textsuperscript{120} These three terms are considered by the courts to be synonymous in this region. \textit{Bradford v. Nat. Conservancy}, 224 Va. 181, 294 S.E. 2d.866 (1982).
concern the use and granting of marshes to private owners. Title 41.1, sec.4 of the state Code clearly states that "all unappropriated marshes or meadowlands lying on the Eastern Shore of Virginia, which have remained ungranted, and which have been used as a common by the people of the Commonwealth, shall continue as such a common, and remain ungranted".

The Code also describes specific methods for the granting of Wastelands, or marshes or meadowlands, yet also states that no grant of any wastelands described as "a common" shall be made\textsuperscript{121}. The Governor is empowered to cede to the United States any waste, unappropriated or marsh lands that are surrounded by lands owned by the United States\textsuperscript{122}. The governor also may cede any marsh lands, in Accomack or Northampton Counties, for the purpose of construction, operation and maintenance of a canal or channel for boats through the marsh lands\textsuperscript{123}. The gubernatorial power of granting of marshes to the federal government seems to be in conflict with other sections of the Code of Virginia which designate the General Assemble as having the sole power to grant public lands\textsuperscript{124}. While it is not specifically mentioned

\begin{itemize}
\item \textsuperscript{121} Code of Virginia, Title 41.1, sec.5.
\item \textsuperscript{122} Code of Virginia, Title 7.1, sec.20(a).
\item \textsuperscript{123} Code of Virginia, Title 7.1, sec.20(b)
\item \textsuperscript{124} Code of Virginia, Title 28.2, sec.1200 under Va. Const. Art. XI, sec. 1 and sec. 2.
\end{itemize}
in the Code, it can be assumed that the management of these marshes and meadowlands would fall under state wetlands regulation\(^\text{125}\).

**Islands:**

The Virginia Charter of April 10, 1606 claimed, along with all other lands, "...All the islands within 100 miles directly over against the sea coast"\(^\text{126}\). The second charter, May 23, 1609, claims all islands north and south of Cape (or Point) Comfort\(^\text{127,128}\) for a distance of 200 miles. Throughout the next 200 years the "islands over against the sea coast" were granted to individual property owners\(^\text{129}\). The code now includes a specific reference to islands that arise from state bottoms. The Code states that "all islands which rise by natural or artificial causes from lands which are a common under Title 28.2, sec.1200 shall remain in public ownership and continue as a common. This section shall not apply to

\(^{125}\) Code of Virginia, Title 28.2, sec.1300-1320.

\(^{126}\) Code of Virginia, Title 7.1, sec.1.

\(^{127}\) Id.

\(^{128}\) Lynch, Hargis and Byrne, 1971.

\(^{129}\) Whitelaw, 1951.
accretions to privately owned lands or islands, whether or not they are used as a common. This section also goes on to state that any unappropriated island or land, whether currently in existence or subsequently created, which hereafter abuts a barrier island of the Eastern Shore, is hereby dedicated as a Natural Area Preserve within the meaning of Title 10, sec. 1-213.

Beaches and Dunes:

The Virginia Marine Resources Commission is authorized and charged under the Coastal Primary Sand Dunes Act to "preserve and protect" coastal primary sand dunes and beaches, and to prevent their "despoliation and destruction." This act is basically a management act which compliments other state and federal management legislation for coastal barrier beaches.

131 The Natural Area Preserves Act of 1989.
133 Code of Virginia, Title 28.2, sec.1401.
135 Coastal Zone Management Act, 16 U.S.C.A. sec. 1451-1464.
Baylor Survey Public Oyster Grounds:

Baylor Grounds are uniquely defined public oyster grounds protected as a public right in the Virginia Constitution of 1902\textsuperscript{137,138,139}. Initially surveyed by Lt. James E. Baylor upon an Act of the General Assembly\textsuperscript{140}, the delineation of the oyster ground was completed in 1896. While the General Assembly has maintained the right to redefine the public grounds, it has not chosen to update the original survey\textsuperscript{141}. The boundaries have been determined by the courts to be "unimpeachable and conclusive"\textsuperscript{142,143}, yet they remain unamended. The General Assembly not only has left the original surveys stagnant, but also has allowed for encroachment by riparian landowners by stating that the Baylor Grounds are "not to extend inshore of the mean low water mark of such a

\textsuperscript{137} Va. Const. Art. XII, sec. 175 (1902).
\textsuperscript{139} Butler and Livingston, 620.
\textsuperscript{140} Act of Feb. 29, 1892, ch. 511, 1891-1892 Va. Act 816.
\textsuperscript{141} Id. 623.
body of water"\textsuperscript{144}. This results in an apparent conflict of priorities in which the General Assembly has the right to maintain the integrity of the Baylor Grounds but has acted only to reduce the extent of these grounds.

The Virginia Marine Resources Commission (VMRC) is assigned the authority to resurvey Baylor Grounds, and to reestablish any such boundaries as may be necessary\textsuperscript{145}. These surveys typically have been completed to define Baylor Grounds after encroachment by moving land masses\textsuperscript{146}.

A number of relevant state codes consider the ownership and jurisdiction of all lands in the study area. Title 33 U.S.C.A sec. 1 discusses lands in this region. Title 33 U.S.C.A. sec. 1 references submerged lands under navigable waters. This section of the United States Codes maintains that all subaqueous lands will be ceded to the individual states upon admittance the Union. The federal government, however, maintains authority and possession of all projects to assure navigation, through the Department of the Army, in

\begin{itemize}
\item \textsuperscript{144} Code of Virginia, Title 28.2, sec.551.
\item \textsuperscript{145} Code of Virginia, Title 28.2, sec.552,53.
\item \textsuperscript{146} Butler and Livingston, 624.
\end{itemize}
consideration of the national defense\textsuperscript{147,148,149}. The federal retention of rights to these lands also are supported by the Submerged Lands Act (1950), which maintains federal claim to submerged lands granted to the states\textsuperscript{150}. These claims are based upon the federal navigational servitude for the purpose of "commerce, navigation, national defense and international affairs"\textsuperscript{151}.

\begin{quote}
\textsuperscript{147} There is some case law precedent for federal claim to islands which rise in the marginal sea. \textit{Morgan v. Udall}, 306 F.2d. 799 (D.C. Cir. 1962).

\textsuperscript{148} 33 U.S.C.A. sec. 1.


\textsuperscript{150} Id.

\end{quote}
Trends in Case Law

Embrey notes that as early as 1680 there were numerous petitions to the governor regarding "several individuals claiming ownership conflicts of sea-side lands of the Eastern Shore," and that these conflicts began to develop as early as 1641. Despite these early references to ownership conflicts, there seems to be little case law regarding island boundary conflicts in more recent years.

The courts have dealt with the issues of shifting boundaries in the simplest of terms. At the water mark, the boundary between two riparian land owners is drawn from an extension of the landward boundary line, down to low water. In consideration of the boundary at the water line the courts have concluded that while the common law right usually extends only to the high water mark, in Virginia land can be granted down to the low water mark. The low water mark is then further defined by the courts as "ordinary low water, not spring or neap tide, but normal, natural,

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152 Embrey, 62.
153 Groner v. Foster, 94 Va.650,27 S.E. 493 (1897).
156 Code of Virginia, Title 28.2, sec.1203.
usual, customary or ordinary low water, uninfluenced by special reasons, winds or other circumstances"\textsuperscript{158}.

The title of lands at the low water mark can shift with "accretion or recession" either to the advantage or disadvantage of the riparian owner\textsuperscript{159}. This implies that the Commonwealth's title to all lands beyond (seaward) of low water also shift with the sands\textsuperscript{160,161}.

The above definitions represent the framework of property boundary and ownership rights as addressed by the Virginia judicial system. The questions of erosion, migration, avulsion and accretion of tidal lands are noticeably lacking in Virginia case law, yet they are, in at least some respects, by other states\textsuperscript{162,163,164,165}. Virginia appears to have dealt more

\begin{itemize}
\item \textsuperscript{158} Scott v. Doughty, 124 Va. 358, 97 S.E. 802 (1919).
\item \textsuperscript{159} Steelman v. Field, 142 Va. 383, 128 S.E. 558 (1925).
\item \textsuperscript{160} U.S. v. Smoot Sand and Gravel Corp., 248 F.2d.822 (4 Cir. 1957).
\item \textsuperscript{161} Steelman v. Field, 142 Va. 383,128.
\item \textsuperscript{162} Den v. Jersey Co., 15 Howard U.S. 426. The state of New Jersey reclaimed land, which is now fast, but had been subaqueous bottom, and had been granted to the claimant by royal charter. State claimed land because under state law only the state can hold title to subaqueous bottom.
\item \textsuperscript{163} Georgia, Cherry v. Hopkins, 328 S.E. 2d.702,250, Ga. 260 (1985). Accretions to beachfront lands given to owner if lands are plotted.
\end{itemize}
with the issue of land use than with land ownership. The state may even have relinquished some of its right to hold title to certain lands\textsuperscript{166} (specifically Baylor grounds) and has tended to make decisions that favor private owners\textsuperscript{167}.

The fundamental questions of land use go back to the ancient legal concept of "the Commons". Commons is an amorphous concept that relates back to royal time, when the sovereign set aside lands for public hunting and fishing. The definition of commons is still the subject of many legal debates\textsuperscript{168,169,170}. Two Virginia cases highlight the issue of commons: Miller v. Commonwealth,\textsuperscript{171} and Bradford v. Nature Conservancy,\textsuperscript{172,173}. Miller v. Commonwealth, which provides a

\begin{enumerate}
  \item Butler and Livingston.
  \item Id.\textsuperscript{167}
  \item Embrey, 1931.
  \item Butler and Livingston, 1983.
  \item Id.\textsuperscript{169}
  \item 159 Va. 924, 951 (1932).
  \item 224 Va. 181, 294 S.E. 2d. 866 (1982).
\end{enumerate}
historical look at the legal definition of common, it was concluded that because the land in question was held in private ownership dating back to royal patent, even if presently only above water at low tide, because there was no recorded historical evidence of this land ever being used as a common, it can not be considered a common at present. Bradford reaffirms this traditional use concept. The court goes on to decide that since the state never granted the land between the high and low water mark to private owners in some areas, that land is public and common\textsuperscript{174}. The court further decided that even the privately held land between the high and low water mark should be considered a common because that land historically had been used as a common\textsuperscript{175}.

These cases, while attempting to clarify the issues of public use vs. public ownership, only specified the regions between the high water mark and the low water mark. The courts made no reference or provision for the common use of marsh lands\textsuperscript{176}. There has been little legislative response to clarify the identification and location of specific commons.


\textsuperscript{174} Bradford v. Nature Conservancy.

\textsuperscript{175} Id.

\textsuperscript{176} Id.
While the discussion of land use is significant in any resource management strategy for these lands, fundamental issues of ownership have yet to be addressed by the courts or the General Assembly. Specifically, the Commonwealth must clarify its goals for the ownership and management of these lands considering potential legal challenges that may arise out of Title 28, sec. 2-1201\textsuperscript{177}.

\textsuperscript{177} unappropriated lands which rise from commons.
Trends in Movement of the Metompkin Islands

The Metompkin island group has been highly dynamic throughout history\(^{178}\). Morphological changes which occurred in the seventeenth, eighteenth and early nineteenth centuries are difficult to quantify\(^{179}\), and are muted in significance when compared to recent, identifiable island movements and dynamics. The 1895 shoreline of the Baylor Map, (figure 2) has been used as a baseline for this study because it is the official record of the constitutionally defined, state-owned land in the region\(^{180}\). According to this map, Metompkin was a single island approximately 9600m in length, 685m (mean) in width and with a beachfront an average of 3400m from the mainland.

Pre-1895

Records are varied and inadequate to determine island position. A map from 1652 shows only four barrier islands on Virginia’s Eastern Shore, the remaining islands, including Metompkin, are represented as shoals. The shoal which is closest to Metompkin’s position relative to known islands, was charted as a distance of nine English miles from the mainland,

\(^{178}\) Byrnes and Gingerich, 1987.

\(^{179}\) Due to the variability and large error associated with antiquated survey techniques.

\(^{180}\) See Va. Const. Art. XII Sec. 175 (1902); XI Sec. 3 (1971).
appearing oceanward of present day Cedar Island. A map from 1824, lists two different islands as "Matompkin," these islands surround either side of Cedar Island.

1895-1931

During the period from 1895 to 1931 the southern portion of the island remains stable, with a loss of 300 meters from the southern tip of the island (see Figure 3). The southern beach is stationary. Behind the southern beach an island has been formed in Metompkin Bay. No shoals are present in Metompkin Inlet for either period. The northern portion of the island shows a change in length. Gargathy Inlet has reformed south of its 1895 position resulting in the erosion of 800 meters off of the northern tip of Metompkin. Assawoman Island has accreted southward for a distance of 700 meters from its 1895 position. The 1931 map of the island shows an island having formed off of the northern tip of Metompkin.

1931-1968

Metompkin appears to have been inundated with storm activity over this period (Figure 4). The portions of Metompkin which were backed by Metompkin Bay have suffered numerous breaches. Two new inlets have been formed. The southern portion of the island has eroded 400 meters, with a loss of 500 meters at the southern tip of the island. An ebb tide shoal has formed in Metompkin Inlet. The northern portion
of the island has also been subject to erosion, with a loss of 400 meters of beach, yet Gargathy Inlet has again migrated northward resulting in the addition of 800 meters of land to the northern tip of the island.

1968-1981

The island has remained fractured throughout this period. The shoal in the Metompkin Inlet is no longer apparent (Figure 5). There appears to be some accretion to the southern portion of the island, as it shows a gain of 300 meters of land oceanward of its 1968 position, as well as an increase of 300 meters of land to the southern tip of the island. The island mass has appeared to broaden, although there are four inlets passing through the island group. The marsh backed northern portion of the island has suffered a breach, resulting in an additional inlet and the formation of three new islands between Metompkin and Assawoman Islands.

1981-1986

The island has again begun to erode through this period (Figure 6). The southern portion of the island has shown an erosion of 300 meters from its 1981 position, but the island itself has begun to consolidate into a single unit. The southern tip of the island shows a loss of 800 meters. A shoal has formed in Metompkin inlet. The northern tip of the island has incorporated the three islands that had been present in
the Gargathy Inlet, resulting in the northward accretion of 700 meters to the northern tip of the island. The second inlet has closed and tidal flats are beginning to fill the breaches in the middle of the island mass.

1986-1987

In 1987 the island again is consolidated into a single unit (Figure 7). The northern and southern tips of the island have remained relatively stable and the island has shown little landward migration. Extensive marsh has begun to fill the landward side of the island. The shoal in Metompkin inlet is now only present as a few small islands.

1987-1990

Through this period the northern portion of the island has remained stable (Figure 8). The portion of the island backed by the Metompkin Bay has undergone the loss of land mass and has been fractured, yet has shown an oceanward movement of 100-200 meters for the most southern portions of the island. An ebb tide shoal has formed across the Metompkin Inlet.

1990-February 1993

The northern portion of the island again remained relatively stable (Figure 9). Gargathy inlet has moved south, resulting in the loss of 900 meters from the northern tip of
Metompkin, but the beach has shown no large scale erosion. An additional inlet was formed in the lower portion of the island and some (100 meters) of erosion has occurred. The shoal remains in the Metompkin Inlet, but has been reshaped by wave energies.

**February 1993–June 1993**

The island appears to be benefitting from accretion, showing an increase in land mass for the southern portion of the island (Figure 10). The breach in the center of the island is closing. There has been some erosion from the northern tip of the island. Two new islands have formed in the Gargathy Inlet to the north, resulting in two additional inlets being formed between Metompkin and Assawoman Islands.

**Migrations:**

The Metompkin barrier system has maintained a rapid, parallel\(^{181}\) landward migration in recent years (figures 2–12)\(^{182,183}\), resulting in possible ownership conflicts. The

\(^{181}\) Rice and Leatherman, 1983.

\(^{182}\) Byrnes and Gingerich, 1987.

\(^{183}\) Inman and Dolan, 1989.
first ownership conflict results from the island migration over the state owned Baylor Grounds (Figure 3-10 vs. Figure 2). The islands also have migrated over state-owned marshes and over the federally controlled Intercoastal Waterway. Currently these encroachments do not appear to result in conflict due to the continued dredging of the Intercoastal Waterway, as dredging maintains these boundaries and keeps the islands from encroaching on state or federally owned lands.

The islands also have encroached upon and incorporated sand bars (tumps) and sand spits (figure 5) which are clearly defined by the Code of Virginia as state owned184,185. These sand bars and sand spits could be defined as "islands" under the federal definition presented in the Omnibus Budget Reconciliation Act of 1981186, yet the Code of Virginia does not present a clear definition of what is meant by the term "island".


185 While the Commonwealth of Virginia makes claims to all submerged lands within the boundaries of the Commonwealth, Title 28.2, sec.1200, and these claims have been supported by state and federal courts, see McCready v. Commonwealth, 94 U.S. 391, 24 L.Ed. 248, recent federal court decisions have maintained that state ownership of bottom lands and the fish over them are 19th century legal fiction. Tangier Waterman’s Assoc. v. Virginia Marine Resources Comm. and Maryland Dept. of Natural Resources, 541 F. Supp. 1287 (1982) quoting from Toomer v. Witsell, 334 U.S.[385].

186 Sec. 1321(b) of the Omnibus Budget Reconciliation Act of 1981.
Breaches, fragmentations and consolidations:

As noted previously, the migration of barrier islands results from numerous factors. The primary influences appear to be the results of short term storm activity and sea-level rise. The effects of short term storm activity appear to be most influential in the migration of Metomkin\textsuperscript{187,188}. These short term storm effects are dramatically evident in the rapid reworking of the Metomkin island group (Figures 2-10). Examination of photographs, maps and visual sightings of the islands indicate rapid fragmentation of the island mass (Figures 2-10). Also evident has been the rapid consolidation of the island mass. These short-term island movements, resulting from storm activity, produce wide variations in island morphology. Long-term changes have included a more gradual, landward migration, indicative of the changes associated with sea level rise (Figures 11-12). The geological processes involved with the dynamics of these fragmentations and consolidations may be instrumental in the developing the necessary legislation mechanisms to address the ownership of these lands.

\textsuperscript{187} Kochel and Dolan, 1986.
\textsuperscript{188} Byrnes and Gingerich, 1987.
Figure 2. Atlantic Coast Chart #26, Public Oyster Grounds, 1895, J.B. Baylor, USC & GS.
Figure 3. Metomkin island, 1931, U.S.G.S., N3730-W 7530/15.
Figure 4. Metompkin Inlet, USGS, 1968, N3737.5-W7530/7.5, 7.5 minute series.
Figure 5. The Seaside of the Eastern Shore of Virginia, Haven, Whitcomb and Kendall, 1981, Joseph K. Gilley, cartographer.
Figure 6. Metompkin Inlet, USGS, 1968, Photo Revised 1986, 37075-FS-TF-024, DMA 5859 NE-SER V834.
Figure 7. Metompkin Island, 1987, Byrnes and Gingerich.
Figure 9. Metompkin Island, February 1993, from aerial photographs.
Figure 10. Metompkin Island, 27 June 1993, from aerial photographs.
Figure 11. Comparison between 1993 and 1895.
Figure 12. Relative Island Movements over Time.
Figure 13. Recent island movements.
Discussion

Ownership Issues:

Static entities in this region will be discussed prior to any discussion of migrating island systems.

Claims to lands under the marginal sea of the Commonwealth. Virginia claims a marginal sea of three statute miles from the coastal boundary of the Commonwealth\(^{189,190}\), and that all lands under the marginal sea are property of the Commonwealth\(^{191}\). Therefore, oceanward of the Virginia barrier islands are public lands, extending east for 3 miles. According to the Code\(^{192}\), if any island should arise from these lands, it should be considered property of the Commonwealth. This appears to be a clear case of state ownership, yet the federal government also claims that islands arisen in the marginal sea are federal property\(^{193}\).

\(^{189}\) Code of Virginia, Title 7.2, sec. 1.

\(^{190}\) See Lynch, Hargis and Byrne, 1971.

\(^{191}\) Code of Virginia, Title 7, sec. 2-1.

\(^{192}\) Code of Virginia, Title 28.2, sec.1201.

\(^{193}\) In Morgan v. Udall the federal government is supported in its right to claim islands that form in the marginal sea. This is important because it was decided in 1962, after the passage of the Submerged Lands Act.
It is unlikely, given the current geological conditions of the region, that permanent islands would form in the Atlantic Ocean east of Virginia's barriers. The formation of shoals, in the marginal sea, may fall under the auspices of both Title 28.2, sec. 1201 and 43 U.S.C.A. sec. 1314, resulting in a dispute between the Commonwealth of Virginia and the United States.

Claims to lands under the internal waters of the Commonwealth. Unless specifically granted to private owners by royal charter or special conveyance of the General Assembly, all lands under the internal194 navigable waters of the Commonwealth are considered publicly owned195. The Code clearly denotes the boundary line between subaqueous state owned lands and riparian ownership as the level of "mean low water"196. Federal claims can be made to lands within this region in consideration of maintenance and ownership of the Intercoastal Waterway.

194 Internal waters of the state are those waters completely bounded by the state. Internal waters also may include large bays and bodies of waters that have been shown to be historical embayments, with past claim by the state. In the coastal region the boundary between the internal waters and the marginal sea becomes a bit more vague (see Lynch, Hargis and Byrne).


196 Code of Virginia, Title 28.2, sec.1202.
The Code of Virginia presents conflicting views on federal ownership of these lands. In Title 7, sec. 1 the state claims all bottoms including navigable waterways. This conflicts with Title 41, sec. 1 which allows the governor to grant title to marshes in Accomack and Northampton Counties to the federal government for the purposes of maintaining routes of navigation. The federal statute that deals with the ownership of the bottoms beneath navigable waterways is vague, yet it uses the strong language of "authority and possession" of all projects of navigation in the national defense.

The nature of ownership of these regions of subaqueous beds has not been resolved.

Consideration for Baylor Grounds as a special constitutional establishment. Baylor Grounds are a protected, special property under the Articles of the Virginia Constitution. Despite the recognition that Baylor Grounds receive in the Constitution, the Code of Virginia and the

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197 This was supported by Norfolk Dredging Co. v. Radcliff Materials, Inc., 264 F. Supp. 399 (E.D. Va. 1967).

198 It should be noted that the term 'project' has not been defined. This may raise some question of claims to ownership. Is a federal navigation project the canal that is maintained? Does the project include lands beneath that canal? Does the federal claim include the channel and the bottom?


courts have had little respect for the unique nature of these public lands\textsuperscript{201}.

The General Assembly has not exercised its right to reestablish the Baylor Grounds\textsuperscript{202}, and it has enacted legislation that may undermine the public’s right to ownership of these lands\textsuperscript{203}. The courts decided that Baylor Grounds may not be protected from the claims to accretions of private land owners\textsuperscript{204} despite earlier court rulings which held the boundaries of Baylor Grounds to be "unimpeachable and conclusive"\textsuperscript{205}. The Baylor, public oyster grounds would appear to be crucial entities for potential state claims to submerged lands, and lands that rise from those submerged lands. It would appear that there is a basic framework of legislation that could be used to support and defend the public ownership of the bottom lands in this region, which have been specially designated in the Constitution.

Ownership of property in dynamic island systems:

\textsuperscript{201} Butler and Livingston.
\textsuperscript{202} Id.
\textsuperscript{203} Id.
\textsuperscript{204} Steelman v. Field
\textsuperscript{205} Commission of Fisheries.
Initial delineation of property lines. Many of the claims to the Metompkin islands are vague. The descriptions of the property includes references to "the land bounded on the east by the Atlantic Ocean, south by the Metompkin inlet, west by Metompkin Bay and the land of the Commonwealth and in the north by the property of the H.E. Kelly heirs". Vague property descriptions hinder accurate determination of ownership, given the dynamic nature of the lands in this region. It is impossible to answer the questions of ownership of migrating, fragmenting and consolidating island properties without an accurate description of the island. Past surveys were hindered by a lack of technology which prohibited accurate surveys in a dynamic area devoid of fixed landmarks, thereby resulting in inadequate delineations of the islands. The above description of the island provides little help since the property description itself raises new questions. Is Metompkin one island or many small islands? What other islands does it include? Does it include associated marshes? Does the property include just the beach? What are the dimensions of the property? If Gargathy or Metompkin inlets close and other inlets are formed, what will the property look like then?

The code of Virginia must address errors in surveying


207 Id.
when considering these complex issues\textsuperscript{208}. Title 28.2, sec. 1202 of the Code of Virginia states that any survey performed which follows currently accepted survey methods, and duly recorded, should be considered valid. In this dynamic region, however, different surveys may yield completely different results, yet both would be considered valid in consideration of this statute\textsuperscript{209}. Beyond considering errors in surveying, the Code of Virginia should provide for survey methods to include Global positioning Satellite (GPS) assisted surveys, with current general accuracies of plus or minus 1 meter.

**Determination of ownership of dynamic parcels.** Ownership of these parcels often has been accepted based upon whoever claimed the land whether through chain of title or quitclaim deed. In situations where privately held islands have merged, confusion of boundaries has resulted. Some have been successfully resolved while others have resulted in ownership conflicts\textsuperscript{210}. The new property line extended down to the mean low water mark where the state then owned the property\textsuperscript{211}. It is evident from the movements shown by the Metompkin islands (figures 2-10) that more complex issues may arise from the

\textsuperscript{208} Butler and Livingston 1983, 809.

\textsuperscript{209} Code of Virginia, Title 28.2, sec.1202.

\textsuperscript{210} Theberge, N.B., 1976, An investigation into the history and ownership of Adams Island, Virginia Institute of Marine Science, Gloucester Point, VA.

\textsuperscript{211} Code of Virginia, Title 28.2, sec.1202.
fracturing, consolidation and migration of these land masses.

Virginia statutory and case law is noticeably lacking in providing answers to these questions. The classical legal definitions of erosion, avulsion and accretion have not dealt with these issues in the context of the barrier island region. These legal terms must be more clearly defined in the future. It should be noted that the accretion to private lands over state-owned Baylor Grounds has been upheld by the courts\textsuperscript{212}, yet there is little precedence in answering the more subtle questions of island dynamics.

While the riparian right to accretions to property has been upheld, no accommodation has been made for fracturing, overwash and consolidation. Given this void, the question of ownership of a migrating parcel could be framed in the following manner: As Metompkin retreats washover fans fill in publicly owned bottoms. Eventually these bottoms become visible as sandbars, or tumps, at low water, yet they are not attached to the riparian property. At this point these tumps are considered state-owned lands risen by natural causes from state owned bottom lands\textsuperscript{213}. If this process continues these tumps may merge with the barrier. Then the land would be declared a state-owned, Natural Area Preserve under Title

\textsuperscript{212} Steelman v. Field.

\textsuperscript{213} Code of Virginia, Title 28.2, sec.1200, 1201.
10.1, sec. 209. At the same time the riparian owner could make a claim to this land as an accretion to his/her property\textsuperscript{214,215}.

The legal determination of who owns these risen lands may be different if washover fans are not the geological process at work to reshape the island. The tump of land becoming visible may result from increased sediment load in the Metompkin Bay, while the beach front is eroding due to the lack of available sediment on the ocean side of the island, or net offshore transport of sediments due to wave length or frequency. This would seem to provide greater support for the states claim to the land. The courts have not yet had to deal with these issues, which may arise from the enactment of Title 28.2, sec. 1201.


\textsuperscript{215} Steelman v. Field, (1925).
Public Commons: neither Ownership or Management

The Code of Virginia makes references to public commons or land to be held in common\textsuperscript{216,217}. The code makes the specific demands that all ungranted marshes\textsuperscript{218}, risen islands\textsuperscript{219}, and submerged lands\textsuperscript{220} are to remain in common for all the people of the Commonwealth to use for lawful hunting, fishing and shellfishing. While it would appear that the Commonwealth guards the people’s interests in the use of these publicly held lands, the code has never clearly defined what it intends as a definition of a commons.

The courts have favored the riparian land owners right to private use of land in disputes. This leaves the burden of proof to establish prior, long-term use as a common, as the responsibility of the public\textsuperscript{221}.

Current case law definition provides two ways a parcel of land can be designated as a common. The first method is by

\textsuperscript{216} Title 41.1, sec. 3, 4.
\textsuperscript{217} Title 28.2, sec. 1200.
\textsuperscript{218} Title 41.1, sec. 4.
\textsuperscript{219} Title 28.2, sec. 1201.
\textsuperscript{220} Title 28.2, sec. 1200.
\textsuperscript{221} Butler and Livingston on Bradford, 729.
official designation of the government222. Commons also can be defined by prior, documented, long-term use as a common, supported by historical evidence223,224. This second method of commons designation will become increasingly difficult with time because the number of individuals able to provide evidence of common use is growing smaller. The complex nature of commons is not clarified by the state Code despite the fact that commons have been legislatively protected since 1780225,226.

222 Bradford v. Nature Conservancy,

223 Bradford.

224 Butler and Livingston, 690.

225 Embrey, 1931.

226 Butler and Livingston.
Resource Management in the Region

The determination of ownership of land in this dynamic region is important in the establishment of possible resource management strategies. The resolution of ownership conflicts is just one part of the possible management concerns for this region and should not hinder the development of a resource management plan. The establishment of a cooperative effort towards land and resource management can alleviate some of potential legal problems and bypass the issue of ownership in order to commence with a management plan. Incorporation of state agencies, local government officials, private environmental concerns and private citizen groups into the management planning process will allow concerns and priorities to be confronted, and help to alleviate the possibilities of potential legal battles\(^{27}\).

The state, while avoiding the ownership issues previously discussed, has addressed some issues of resource management in this region. State wetlands laws\(^{28}\) and the Coastal Primary Sand Dune Act\(^{29}\) provide scientifically based guidelines for the delineation of these management areas.

\(^{27}\) Parks, 1991.

\(^{28}\) Title 28.2, sec. 1300.

\(^{29}\) Code of Virginia, Title 28.2, sec. 1400.
The federal government has provided the leading legislative framework for management in the coastal region. While having been described as "ad hoc and sporadic"\footnote{Platt, Beatley and Miller, 1991.} the federal coastal resource management program provides a legislative framework to identify and protect undeveloped coastal barrier islands\footnote{sec. 341(d) of the Omnibus Budget Reconciliation Act of 1981.}, discourage development of coastal barriers, and "preserve, protect, enhance and restore" all the resources of the coastal zone\footnote{Coastal Zone Management Act of 1972.}.

Though these state and federal laws appear to be general, they provide latitude for interpretation by those agencies responsible for the development of resource management plans. The Nature Conservancy, Inc., as owner of Metompkin, is assumed to be a responsible manager of its lands from an environmental standpoint.

Management issues may become more focused as the Commonwealth begins to assert claims to land under the Natural Area Preserve Act\footnote{Code of Virginia, Title 10, sec. 1-209.}. The Commonwealth will need to address issues of public use and the definition of commons (i.e. can commons be applied to recreational activities such as swimming...
and picnicking?). The Commonwealth also will need to clarify the role of each state agency responsible for management in the region. The Virginia Marine Resources Commission currently is charged with the management of submerged lands and marshes on the Eastern Shore, yet the Code specifies that the Department of Conservation and Recreation is to manage Natural Area Preserves. The Commonwealth will need to clarify the roles of each of these agencies to successfully manage these lands in the future.
Summary

Ownership conflicts in this dynamic barrier island region of Virginia's Eastern Shore do not appear to be adequately addressed by the Code of Virginia or by court precedent. The General Assembly provides little legislative direction regarding the complex issues of ownership in this region. Additionally, there is often conflict between statutory and case law and other state and federal statutes. The passage of Title 28.2, sec. 1201, and its subsequent applications in the Natural Area Preserves Act of 1989\textsuperscript{234}, will require the Commonwealth to clarify issues of ownership and management in this region. Additionally it is evident that the General Assembly should attempt to more clearly define the concept of "commons".

The Commonwealth needs to define its goals for the use, ownership and management of lands in this region. Decisions should be made to determine the value of these lands from a comprehensive viewpoint. These decisions should direct legislative efforts that would help to clarify the Commonwealth's objectives for this region.

A central focus of this process would be the determination of whether or not the state should claim

\textsuperscript{234} Code of Virginia, Title 10.1, sec. 209.
ownership of these lands or if they should be available for grant to private owners so that the local governments could increase tax revenues. This increase in available revenue may be advantageous to the counties and the Commonwealth. The loss of the use of these public lands to private owners may be alleviated by a clarification of commons rights. State resource management strategies, coupled with federal legislation to protect the coastal zone should be adequate to ensure that these regions would be environmentally protected.

One drawback of letting these lands return to private ownership could loss to non-profit organizations or the federal government. Such acquisition of these lands would result in a loss of any potential tax revenues, and may lead to a loss of public access and use.

If the Commonwealth decides to assert its claim to these lands, it must decide how the lands will be held in public ownership. The use of Natural Area Preserves will have to be managed. Also the level of public use as well as maintenance and protection must be determined.

The first step in this process should be definition of the Commonwealth’s priorities regarding the lands in this dynamic region. Supplemental to these decisions, the following suggestions are offered to provide the Commonwealth with a
method of helping to clarify ownership and management conflicts that may arise out of current legislation.

-A Clarification of "lawful surveys" to establish property boundaries. This should include a reference to using a high resolution technique, such as GPS to accurately pinpoint the location and configuration of properties in this region.
- Survey all properties in this region to establish accurate boundaries.
- Concensus based upon current research should be reached and embodied in the state code to provide geologically based definitions for the legal terms of: accretion, avulsion, erosion and batture, so that they can more accurately reflect geological processes and therefore be more useful in resolving ownership conflicts.

-Definition of the roles of state agencies in surveying, maintaining, patrolling, protecting and managing the public lands in this region. Identify the role of federal agencies in the maintenance and management of these lands. Examine the structure of management regimes in other states to provide insights into better resource management strategies for this region.
-Reemphasize the "right of common" by defining commons in useful, modern, applicable terms.

-Reemphasize and clarify the states claim to ownership of submerged lands within its jurisdictional boundaries in order to support its claim against any possible federal claims to these properties.

The Commonwealth has begun to assert its rights to public property on the sea side of Virginia’s Eastern Shore. This transition may lead to increased conflict and costly litigation unless the issues of ownership and boundary delineation are clarified for this highly dynamic region. To avoid potential litigation, the General Assembly should consider amending state laws to reflect more accurately its goals for the ownership and use of land in this region, and to protect its claims to these dynamic lands.
Appendix I

A glossary of legal terms' applicable to the ownership and management of Metompkin Island

**Accretion:** the increase in real estate by the additions of portions of soil, by gradual deposition through the operation of natural causes, to that already in possession of the owner.

**Avulsion:** the removal of a considerable quantity of soil from the land of one man and its deposit upon or annexation to the land of another, suddenly and by the perceptible action of water.

**Barrier Island:** Sec. 1321(b) of the 1981 Omnibus Budget Reconciliation Act defines coastal barrier islands as...a depositional geological figure (such as a bay barrier, tombolo, barrier spit or barrier island) which--i) consists of unconsolidated sedimentary materials--ii) is subject to wave, tidal and wind energies and--iii) protects landward aquatic habitats

from direct wave attack. Also included are all associated marshes and nearshore waters.

**Batture:** An elevation of the bed of a river under the surface of the water; but is sometimes used to signify the same elevation when it has risen above the surface.

**Clean Hands:** It is said that a party seeking the aid of a court of equity must come to the court with clean hands. It refers only to wrongful conduct in the particular acts or transactions which raised the equity which he seeks to enforce.

**Common:** An incorporeal hereditament which consists in a profit which one man has in connection with one or more others in the land of another.

**Erosion:** The gradual eating away of the soil by the operation of currents or tides.

**Fast Lands:** Real property.

**Fee Simple:** It is the largest possible estate which a man can have, being an absolute estate. It is where lands are given to a man and to his heirs
absolutely, without any end or limitation put to the estate.

**Lawful Survey:** The Commonwealth of Virginia has defined "lawful survey" to mean the boundary to any lands, which has been determined by generally accepted survey methods and procedures and evidenced by a plat or map. (Title 28.2, sec. 1202)

**Quitclaim:** A form of deed of the nature of a release containing words of grant as well as release, only conveying the interest of the grantor at the time, without assurances that the property is free from incumbrances.

**Riparian Rights:** The rights of those who the lands bounding upon a watercourse. Included is the right to access the navigable watercourse.

**Title:** The means whereby the owner of lands hath the just possession of his property. Entitles an owner by right to a property or estate, and to have lawful possession of the same.
Appendix II

State Codes Applicable to Migration of Barrier Islands

From the Code of Virginia

**Title 7, sec. 1:** as of April 10, 1606, claims that..."all islands within 100 miles directly over against the seacoast and all the territory from the same 50 miles every way on the seacoast, directly into the mainland..." are the property of the Commonwealth.

**Title 7, sec. 2(a):** The Commonwealth also claims the marginal sea and the high sea to the extent of the territorial limit, and all lands under this sea.

**Title 7, sec. 2(c):** The Commonwealth claims all submerged lands.

**Title 7, sec. 4:** "nothing in this section shall alter the geographic area to which any statute of this Commonwealth applies if such a statute
specifies such area precisely in miles or
by some other numerical designation of
distance or position."

Title 7, sec. 20: Marshlands, on the Eastern Shore, can be
ceded to the Federal Government by the
Governor.

Title 10.1, sec. 1200: Establishes and outlines the Council on
the Environment.

Title 10.1, sec. 209: The Virginia Natural Area Preserves Act.

Title 10.1, sec. 210: Allows Department to select, register
and purchase natural area preserves.

Title 10.1, sec. 213: Procedures for the dedication of Natural
Area Preserves.

Title 28.2, sec. 101: Empowers the Marine Resources
Commission, and establishes jurisdiction.

Title 28.2, sec. 553: allows for the reestablishment of Baylor
grounds.
Title 28.2, sec. 556: Allows for the construction of erosion control devices on Baylor grounds.


Title 28.2, sec. 1200: All ungranted lands are to be considered "common".

Title 28.2, sec. 1201: All islands which rise by natural or artificial causes from lands which are Common shall remain in public common.

On the Eastern Shore any risen island which abuts a barrier island is dedicated as a natural area preserve within the meaning of Title 10.1, sec. 213.

Title 28.2, sec. 1202: Individual ownership of property extends to the low watermark.

Title 28.2, sec. 1300: Definitions of Wetlands

Title 28.2, sec. 1301: Charges the Marine Resources Commission to:
A) manage any wetland it receives.

B) preserve and prevent despoliation of wetlands while promoting economic development.

C) manage all unappropriated marsh or meadowland on the Eastern Shore. (Refer to Title 41.1, sec. 4)

**Title 28.2, sec. 1400:** Defines sand dunes and beaches.

**Title 28.2, sec. 1408:** Sets standards for use of coastal primary sand dunes.

**Title 41.1, sec. 3:** Annuls claims to property of islands which arise in navigable waters. "No grant shall be valid or effectual... or interest in any islands created in navigable waters."

**Title 41.1, sec. 4:** All common marshes and meadowlands are to remain common.
Appendix III

Federal Legislation Applicable to Migration of Barrier Islands


This legislation prohibits the use of federal expenditures or financial assistance to support development on "specifically identified" undeveloped coastal barrier islands. It also prohibits the granting of Federal Flood insurance to individuals who develop these barrier islands.

Coastal Zone Management Act (16 U.S.C.A. sec. 1451-1464)

Mandates that states, and localities, work to establish a management plan for coastal zones.


Provides for the protection and preservation of ecosystems
which support endangered species.


Provides for wetlands preservation and the deposition of dredge materials.

National Environmental Protection Act (42 U.S.C.A. sec. 4321-4370(c)

Mandates the use of environmental impacts statements for federally funded projects.

National Flood Insurance Plan (42 U.S.C.A. sec. 4121)

Establishes a mechanism for property owners in flood zone to be eligible for federally funded flood insurance.
In 1976 the regulations called for the identification of "erosion zones" (44 C.F.R. sec. 60.5(b)) which would be exclusionary, yet they have not yet been used (Platt, Beatley and Miller, 1991).

Upton-Jones Amendment (44 U.S.C.A. sec. 4013(c)) in 1987 to reimburse property owners for relocating or destroying structures in imminent danger of flooding.

In May of 1991, the Flood Insurance, Mitigation, and Erosion Management Act (H.R. 1236) which would mandate that 10, 30 and 60 year erosion setback lines, and would limit the availability of federal flood insurance based upon the property location (in Platt, Beatley and Miller, 1991).

Rivers and Harbors Act (33 U.S.C.A. sec. 403)

Provides for federal regulation over navigable waters.

Submerged Lands Act (43 U.S.C.A. sec. 1301(b)-1312)
Federally owned bottom extends 3 geographical miles from the coastline to the international boundary.
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VITA

DAVID HAROLD NIEBUHR

Born in Nassau County, New York on 2 June 1961. Earned a Bachelor of Science Degree in Biology and Psychology from the College of William and Mary, Williamsburg, Virginia, in May of 1982. Spent four years in hospital administration and public relations prior to gaining teacher certification in secondary education. Certified to teach secondary Biology, Chemistry and General Science. Teacher for Williamsburg/James City County Public Schools. Completed Master of Arts Degree in Marine Science, College of William and Mary, School of Marine Science, Gloucester Point, Virginia in August of 1993. Currently enrolled in the Doctor of Philosophy Program in Marine Science, College of William and Mary.