REPORT OF THE
BOARD ON CONSERVATION AND
DEVELOPMENT OF PUBLIC BEACHES

STUDY BY THE COMMITTEE ON THE ECONOMIC IMPACT OF PUBLIC BEACHES ON TOURISM AND ECONOMIC DEVELOPMENT WITHIN THE COMMONWEALTH OF VIRGINIA

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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Study
by the
Committee
on the
Economic Impact
of
Public Beaches
on
Tourism and Economic Development
within the
Commonwealth of Virginia
to
the Governor
and the
General Assembly of Virginia
(Senate Joint Resolution No. 338)

BOARD on CONSERVATION
and
DEVELOPMENT of PUBLIC BEACHES
203 Governor St., Suite 206
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Preface

In early 1997, Virginia's General Assembly passed Senate Joint Resolution No. 338 (SJR 338) which charged the Board on Conservation and Development of Public Beaches (Board) in cooperation with Old Dominion University (ODU), The College of William and Mary (W&M), the Virginia Institute of Marine Science (VIMS), and the Virginia Economic Development Partnership (VEDP) to determine: *i.*) the economic impact of Virginia's public beaches on tourism in the localities in which such beaches are located, and the jobs created by tourism, and *ii.*) the amount of public investment in Virginia's public beaches needed to generate the optimal economic return.

Pursuant to SJR 338, the chairman of the Board, Mr. Donald O. Campen, Jr. appointed Board Member Mr. John Matthews, Yorktown, chair of the **Committee on the Economic Impact of Public Beaches on Tourism and Economic Development within the Commonwealth of Virginia** that would convene representatives from each locality that has a public beach. Representatives from the Town of Colonial Beach, City of Norfolk, City of Hampton, City of Virginia Beach, City of Newport News, Stafford County, York County, Gloucester County, King George County, and Town of Cape Charles met to begin the process of determining how to answer the aforementioned questions. In addition to representatives from localities, members from VIMS, ODU, VEDP, the Hampton Roads Planning District Commission (HRPDC), the Northern Neck Planning District Commission (NNPDC), Virginia Marine Resources Commission (VMRC), and the Department of Conservation and Recreation (DCR), which staffs the Board, attended the meeting.

A smaller subcommittee, or working group, was formed from this large group of interested parties; a complete list of committee and subcommittee members are located in Appendix 1. The subcommittee recognized that real costs will be associated with any endeavors to accomplish the goals of the resolution. The subcommittee also recognized that the time and effort volunteered by individuals, localities, and agencies should be directed at determining how the full study should proceed as well as collecting existing information.

Two working teams were formed from the subcommittee. These two teams were set up to look at different issues relating to the impact of Virginia's public beaches on tourism and economic development . The Tourism team under the direction of Drs. Vinod Agarwal and Gilbert Yochum from ODU was tasked to gather data from individual localities with public beaches to determine if their beaches generate tourism dollars for their community and if so, what information exists to quantify that information. The Public/Private Property and Improvements team, under the co-direction of Mr. Tom Daniel from the City of Hampton and Mr. Phil Roehrs from the City of Virginia Beach was tasked to review previous studies and their methodology to determine the relationship between tourism and economic development of Virginia's public beaches to property and infrastructure associated with the beach. This team also will determine what type of property is involved and what other information is available.

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"To the end that the people have clean air, pure water and the use and enjoyment for recreation of adequate public land, water, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop and utilize its natural resources, its public land, and its historical sites and buildings. Further, it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction for the benefit, enjoyment, and general welfare of the people of the Commonwealth."

Constitution of Virginia (Article XI, Sect. 1)

Executive Summary

Virginians from all regions of the state benefit from the stewardship of shoreline resources that are available to all its citizens. The tidal, public beaches of Virginia are a valuable natural resource that yield substantial positive economic impacts, mitigate storm damage, and provide a pleasurable, recreational experience to its users. Since 1980, the Board on Conservation and Development of Public Beaches (Board) has provided for the conservation and development of Virginia's public beaches through the allocation of nearly $7 million in grants of state funds to local governments for conserving, protecting, improving, maintaining, and developing public beaches on tidal shorelines. In this report, tidal public beaches under the Board's purview are defined as a sandy strip of shoreline owned by a locality and accessible to the general public. At present, localities have identified 24 miles of shoreline as public beaches. Other public, accessible beaches in Virginia generally are owned by the state or federal governments.

The purpose of this report is to present the Board's efforts in assessing those fundamental questions relating to the tourism and economic development impacts of Virginia's public beaches. Senate Joint Resolution No. 338 (SJR 338) was adopted during the 1997 General Assembly session and charged the Board, in cooperation with Old Dominion University, The College of William and Mary, the Virginia Institute of Marine Science, and the Virginia Economic Development Partnership, to determine: *i.*) the economic impact of Virginia's public beaches on tourism in the localities in which such beaches are located, and the jobs created by tourism, and *ii.*) the amount of public investment in Virginia's public beaches needed to generate the optimal economic return. In response, the Board created a Study Committee (Committee) that is composed of several Board members as well as representatives from beach localities and interested agencies.

Travel and tourism are among America's leading industries, employers, and producers of new jobs, and earners of foreign exchange with beaches being the leading factor. In 1994, tourism in Virginia supported more than 162,000 jobs. Travelers spent about $9.3 billion, of which $7.7 billion was from out of state. These expenditures resulted in about $650 million in state and local taxes. Estimates are that roughly 2.2 million out-of-town visitors arrived in Virginia Beach alone in 1996. These visitors spent roughly $500 million and created over 11,000 jobs within the City of Virginia Beach. In addition, this tourist destination creates an estimated additional 5,500 jobs in the Hampton Roads region and an additional $500 million in regional economic activity. Unfortunately, comparable data are not readily available for other Virginia communities.

Public revenues are equally impressive even considering that data from the City of Virginia Beach are the only current information available. In 1996, tourism

in the City generated $38.7 million in direct city revenue -- $25.1 million from sales tax, $7.7 million from property tax, and the balance from a range of municipal revenue streams. That same year, the average "rate of return" on the City's investment in tourism was reported at 69%. This same municipality sent about $88 million in sales tax revenue to Richmond as a result of 1996 sales tax receipts.

Beaches are big businesses which require large budgets and sophisticated management but which also return significant revenues to their host communities and states. **Along the East Coast, Virginia's competitors in beach-orientated tourism include New Jersey, Maryland, North Carolina, South Carolina, and Florida; these states appear to be heavily involved in developing long-term strategies for management, improvement, and marketing of their shoreline and tourist resources.**

Virginia's future in the same arena may not be as optimistic. Constant dollar travel expenditures in the fifteen cities and counties of Hampton Roads have declined from more than $1.9 billion in 1988 to less than $1.8 billion in 1995. Employment in the tourist industry in Hampton Roads has fallen from 39,000 in 1988 to 35,000 in 1995. Statistics are not available to allocate specific figures to beach-related tourism. One observation may be that the competition is simply outperforming Virginia. In the early 1980's, Florida was investing $50 million per year; New Jersey currently provides $15 million per year toward beach projects.

Storm damage mitigation also plays an important role in calculating the economic impact of beaches to the Commonwealth. Beaches serve as a physical barrier to the ravages of storm-driven waves, particularly along the Chesapeake Bay and Atlantic Ocean waterfronts. However, the Committee's research points out that the billions of dollars of public and private property and improvements that are protected by beaches have not been catalogued. For example the City of Hampton estimates that its beaches protect $81 million in assessed value of real estate. Note that public infrastructure is not included in this value. Similar data for Norfolk and Virginia Beach were not available but will be equally if not more significant.

Historically, the federal government has been the primary source of funds for hurricane and storm protection projects. In January of 1995, the federal government stopped all new studies for beach restoration projects. **Many coastal states with large investments at the beach and beach-driven tourist economies will be forced to rely on their own means to finance and manage beach resources. These states are working to ensure that the storm damage mitigation benefits of beaches as well as all the other tangible economic and aesthetic benefits of beaches continue to be enjoyed by citizens of their states. SJR 338 appears to be Virginia's first step in accepting the challenge.**

SJR 338 requires a report to the General Assembly at the 1998 session. Because of the time limitations, (the $25,000 appropriation was not available until July 1, 1997) this study responds to the questions of SJR 338 prior to the 1998 session with the readily available data and information (or lack thereof). However, this Board, **by unanimous vote**, provides the following observations:

- **Data collection from the various municipalities as well as from regional and statewide organizations is a formidable task;**

- **In order for the study results to be of substantive value to the General Assembly a more rigorous economic analysis is required;**

- **Beaches create significant tax revenue for the Commonwealth.**

- **As a tool in economic development strategic plans, beaches have in the past and will continue in the future to play an important role;**

- **Since the federal government is divesting itself from further investment in future beach-related projects, Virginia would be prudent to complete the analysis contemplated in SJR 338 in order to protect its share of the tourism market it now holds;**

- **Virginia should study the creative methods other coastal states have used to fund their investments in beaches and beach economies;**

- **The Governor's Commission on Tourism recently set a goal for Virginia -- to become fifth among the states in the U.S. in tourism. Data for Hampton Roads suggest that tourist-related expenditures, of which beaches play an important role, have declined between 1988 and 1995.**

In conclusion, the study of the impact of public beaches on tourism and economic development within the Commonwealth of Virginia appears not only to be desirable but also, in some respects, essential as an overall economic development strategic plan. Early indications are that public investments in prudent beach management plans combined with appropriate local resource plans can serve to stimulate economic development and, in turn, generate significant economic returns to both the public and private sectors of the Commonwealth.

A. Introduction

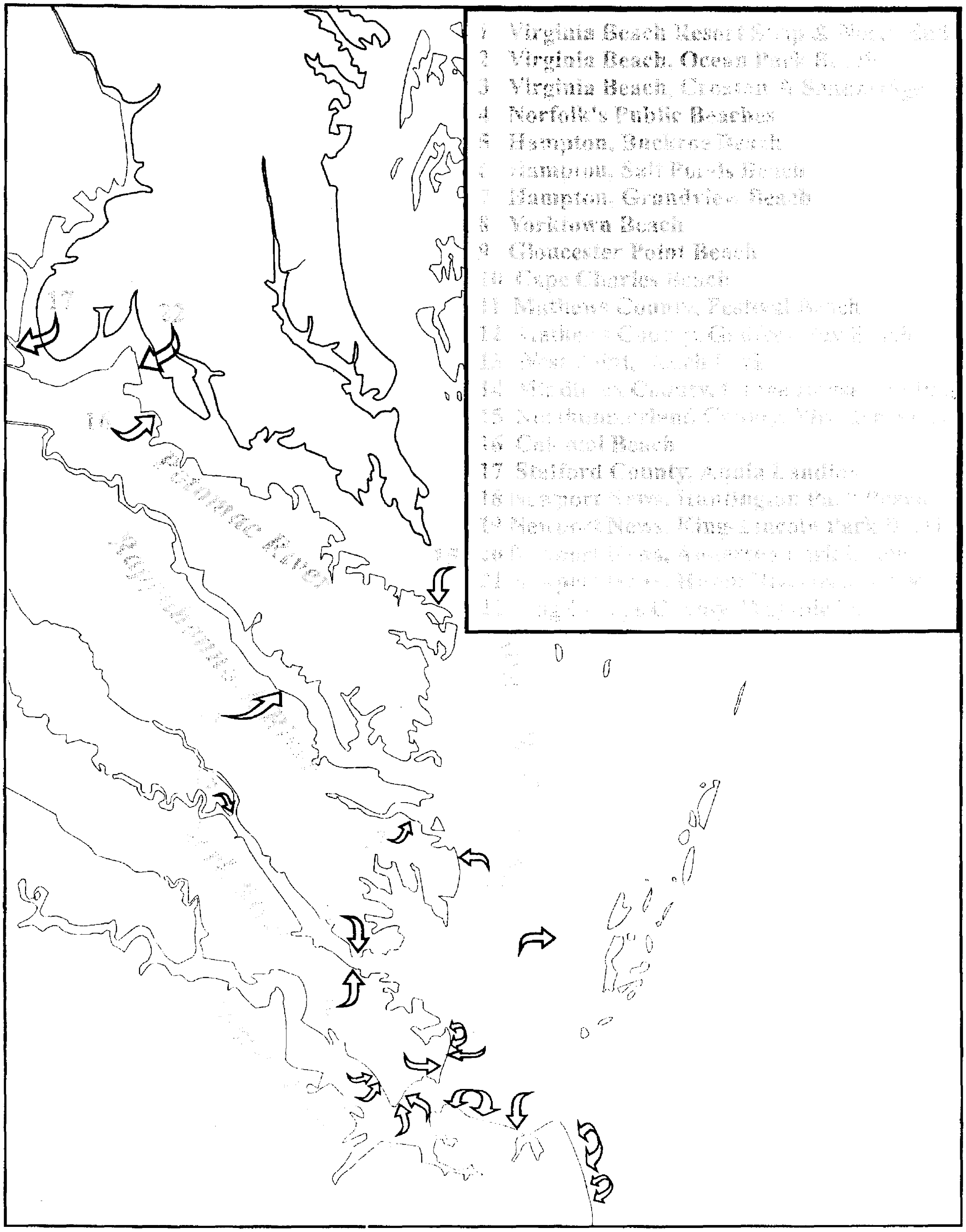
In 1978, the General Assembly passed Senate Joint Resolution 22 which created the Coastal Erosion Abatement Commission. This Commission was created to study the effects of erosion on beaches, islands and inlets within Virginia. Several findings and recommendations came from this Commission, particularly that the Commonwealth should create a matching grant fund "to assist local governments in conserving, protecting, improving, developing, and maintaining local beaches for recreational use by the general public" and that the Board be established to allocate those funds (Commonwealth of Virginia, 1979).

Since that time, the Board with technical assistance from VIMS and staff assistance from DCR, has allocated $7 million to support localities in their public beach projects. A breakdown of fund expenditure by locality is shown later in the report. Localities are eligible for these matching grants if they have a tidal, sandy strip of shoreline that is accessible to the general public. At present, localities have identified 24 miles of shoreline as public beaches (Figure 1).

This present study was brought about by a desire of the Board on Conservation and Development of Public Beaches to answer fundamental questions about funding for Virginia's public beaches. The Board wanted to document the benefits received by the Commonwealth from its investment in individual localities' public beaches. As the nation, as a whole, and states, in particular, look for ways to save money, funding for beach projects has been harder to come by. In response to this budgetary atmosphere, the Board began to look at the expenditures of the Commonwealth's funds on public beach projects. Through discussion, the Board decided to look at ways of assessing the impact of Virginia's public beaches on tourism and economic development.

The Board contracted with personnel in the Shoreline Studies Program at VIMS to look into the issue; in particular, the main thrust of the study was to look at the methods other researchers have used to answer these same questions in other states and countries. From of this came the discussion of two different methods of valuing beaches: economic impact analysis and economic valuation. These concepts are discussed in chapter IV of this report, Economics of Beaches. Another aspect of VIMS's study was to contact the localities which have public beaches and compile information that would be relevant to an economic analysis.

During the 1997 session of the General Assembly, the chairman of the Board asked the Assembly to fund a study which would resolve this issue. The result was that Senate Joint Resolution No. 338 (SJR 338) was passed by the General Assembly. The resolution charged Old Dominion University (ODU), The College of William and Mary (W&M), the Virginia Institute of Marine Science (VIMS), and the


1 Virginia Beach Resort
2 Virginia Beach, Ocean Park
3 Virginia Beach,
4 Norfolk's Public Beaches
5 Hampton, Buckroe Beach
Hampton, Salt Ponds Beach
7 Hampton, Grandview Beach
8 Yorktown Beach
9 Gloucester Point Beach
10 Cape Charles Beach
16 Colonial Beach
17 Stafford County, Aquia Landing
17
22
16
Potomac River

Virginia Economic Development Partnership (VEDP) to cooperate with the Board and endeavor to determine: i.) the economic impact of Virginia's public beaches on tourism in the localities in which such beaches are located, and the jobs created by tourism, and ii.) the amount of public investment in Virginia's public beaches needed to generate the optimal economic return.

Pursuant to SJR 338, the Board created a committee that would convene representatives from each locality which has a public beach. Representatives from the Town of Colonial Beach, City of Norfolk, City of Hampton, City of Virginia Beach, City of Newport News, Stafford County, York County, Gloucester County, King George County, and Town of Cape Charles met to discuss the process of answering the above questions. In addition to representatives from localities, members from VIMS, ODU, VEDP, the Hampton Roads Planning District Commission (HRPDC), the Northern Neck Planning District Commission (NNPDC), Virginia Marine Resources Commission (VMRC), and the Department of Conservation and Recreation (DCR), which staffs the Board, attended the meeting.

A smaller subcommittee, or working group, was formed from this large group of interested parties. The subcommittee recognized that real costs will be associated with any endeavors to accomplish the goals of the resolution. The subcommittee decided that the time and effort volunteered by individuals, localities, and agencies should be directed at determining how the full study should proceed as well as collecting any information that already exists. The subcommittee also realized that a complete study could not be done by the 1998 session of the General Assembly.

From the subcommittee, two working teams were formed to look at two different issues dealing with tourism and the economic development of public beaches in the Commonwealth of Virginia. The Tourism team is investigating individual localities with public beaches to determine if the beaches generate tourism dollars and if so, what information exists to quantify that impact. The Public/Private Property and Improvements team is looking at previous studies and their methodology to determine the value of real estate associated with the state of the beach. This team also will determine the type of property involved and other information available. The foci of the study is the economic impact of the public beaches on the Commonwealth's economy, but also it will look at the benefits provided by beaches in terms of property value enhancement and storm protection.

The following chapters explore the benefits of beaches to the Commonwealth in terms of tourism, storm damage mitigation, and recreation, in general. Specifically, Virginia's public beaches are described. Techniques for valuing beaches are presented, as are examples of values ascribed to beaches both inside and outside of Virginia.

B. Findings

Localities within the Commonwealth of Virginia recognize that the beachfront is a valuable natural resource which not only presents extraordinary opportunities to encourage economic development through tourism but also provides protection to upland improvements and reduces storm damage as well as improves the quality of life for all their citizens.

A 1992 survey of Virginian's revealed that five of the top-ranked 15 activities are water-orientated with swimming listed as the third-most popular outdoor recreational activity with 20% of respondents indicating that they swim in the ocean or bay. The fourth-most popular activity was sunbathing on a beach. However, less than 1% of the tidal shoreline, or about 24 miles, is locally-owned and available for public use (DCR, 1996). This does not include federal- or state-owned beaches. The survey also showed that 57% of the respondents felt that the most important outdoor recreation resource need was additional access to water for fishing, boating, and swimming (DCR, 1996).

1. Tourism

Travel and tourism are among America's leading industries, employers, producers of new jobs, and earners of foreign exchange with beaches being the leading factor. Few people in America realize that beaches are a key driver of America's economy and its competition in a world economy (Houston, 1995). Even in Virginia, tourism is recognized as one of the Commonwealth's largest industries. In 1994, tourism supported more than 162,000 jobs; travelers spent about $9.3 billion of which $7.7 billion was from out of state. These expenditures resulted in about $650 million paid in state and local taxes (DCR, 1996). Tourism obviously is big business.

While there are no estimates available of the amount of money spent by day-trippers to the beach, DCR (1996) reported that 91% of state park visitors are considered day-use visitors who contribute significantly to the state's economy. Previous survey results indicated that these visitors spent about $16.00 per person per day, constituting a $68 million contribution annually to Virginia's economy. Other local and regional parks also contribute to the state's economy. DCR (1996) states that these facilities are economically viable over the long-term because they:

- generate taxes from goods and services sold in the park
- generate taxes from supporting services and industries developed in the surrounding community
- generate taxes from higher-quality residential development around the park
- increase employment in the area
- have short-term and long-term expenditures for goods and services in the

development and operational phases of a park
- capture expenditures from out-of-town visitors in the host community.

Statistics reveal that while average earnings for people employed in the tourist industry are lower than manufacturing jobs, manufacturing employment in the United States has declined from 24% of total employment in 1977 to 17% in 1992 (Stronge, 1994). For coastal states, Stronge (1994) states that tourism is an industry with a demonstrated comparative advantage. Without significant change in attitudes at all levels of government toward the economic significance of not only travel and tourism but also the necessary infrastructure investment to maintain and restore beaches, the United States will relinquish a dominant worldwide lead in one of its most important industries (Houston, 1995).

The Commonwealth of Virginia is in direct competition with other U.S. beach destinations for the tourist dollar. Beaches in neighboring states such as Ocean City in Maryland, the Outer Banks of North Carolina, and Myrtle Beach in South Carolina draw not only out-of-state tourists that could have come to Virginia Beach but also Virginians who vacation outside the state. The emphasis placed on tourism by these states has increased the competition in recent years. They have allocated resources to beach maintenance, creation of tourism infrastructure, and promotion as a vacation and retirement destination.

Beaches are vitally important to the travel business in eastern Virginia and in Hampton Roads in particular. Unfortunately, the industry has failed to expand in Hampton Roads in recent years. For example, according to data released from the Virginia Tourism Corporation, constant dollar travel expenditures in the fifteen cities and counties of Hampton Roads have declined from more than 1.9 billions dollars in 1988 to less than 1.8 billion dollars in 1995. Employment in the industry in Hampton Roads has fallen from thirty-nine thousand in 1988 to thirty-five thousand in 1995. Efforts to maintain, enhance, and promote the usage of Hampton Roads's beaches can go a long way to restoring the area's travel business to good health as well as improving the state's overall performance in the travel industry.

2. Storm Damage Mitigation

Storm-related hazards have increased with the large-scale development of resorts and residences along the shoreline. Beaches provide a buffer between waves and upland improvements. By not taking care of beaches and therefore not having the proper protection in front of upland improvements, property damage can be greater during a storm.

There are two types of storms impacting Virginia's coast-- hurricanes and northeasters. Each type of storm impacts the coastal zone differently. Northeasters generally impact the shoreline with less acute force than hurricanes but are longer in duration thereby increasing the possibility of damage. Storm surges can exceed 13 or 16 feet during a hurricane, but northeasters have weaker wind fields and therefore generally have surges less than 7 feet. However, extratropical northeasters usually have longer durations and can span several tidal cycles creating significantly elevated water levels. During a hurricane, the greatest change in water level is to the right of where the storm makes landfall (Reid, 1990).

By putting previous storms in a historical perspective, we can look at the impacts that are probable when a storm impacts Virginia. Hurricane Hugo (1989) had maximum sustained winds of 135 mph with a maximum storm surge of 20 feet (Hall *et al.*, 1990). Hurricane Andrew (1992) had maximum sustained wind speeds estimated at 145 mph with gusts to at least 175 mph during landfall over Florida. Andrew made landfall along the southeast Florida coast such that the storm surge coincided with the astronomical high tide. The height of the storm tide (the sum of the storm surge and astronomical tide, referenced to MSL) ranged from 4 to 6 feet in northern Biscayne Bay increasing to a maximum of 16.9 feet in the center of the Bay and decreasing to 4 to 5 feet in southern Biscayne Bay (Rappaport, 1994). Hurricane Fran (6 September 1996) made landfall on the North Carolina Coast as a Category 3 storm with maximum sustained winds of 115 mph and an estimated storm surge that ranged from 8 to 12 feet (Mayfield, 1996). For Virginia, the storm of record this century was an unnamed hurricane in August 1933 that had a surge of 8.0 ft MSL in Norfolk and 7.3 ft MSL near the mouth of the Potomac River.

Damage from hurricanes occurs from storm surge, wind, and waves as well as form heavy rains and tornados. Preliminary reports on damage caused by Hurricane Fran as reported by the Property Claims Services Division of the American Insurances Services Group estimate $1.6 billion in insured property damage. This includes $1.275 billion in North Carolina, $20 million in South Carolina, **$175 million in Virginia**, $50 million in Maryland, $20 million in West Virginia, $40 million in Pennsylvania, and $20 million in Ohio. A conservative ratio between total damage and insured property damage, compared to past landfalling hurricanes, is two to one. Therefore, the total U.S. damage estimate is $3.2 billion (Mayfield, 1996). USACE (1996) estimates of total losses from major U.S. cities if a major hurricane should strike that were developed by Applied Insurance Research, Inc. in Boston, Massachusetts. If a category 5 hurricane were to hit Hampton, Virginia, it was estimated that there would be $34 billion (1993 dollars) in damage.

A northeaster in November 1985 caused severe erosion and damage to structures at Cape Charles. Emergency repairs were necessary for the bulkhead and boardwalk and 4,000 cubic yards of sand were place on the beach. For these repairs, Cape Charles received $136,000 from the Public Beach Board's Special Emergency

Assistance Fund in the spring of 1986. The 1986 Virginia General Assembly also appropriated an additional $25,000 (Hardaway *et al.*, 1993). This same northeast storm eroded a large amount of sand from the public beach at Yorktown and destroyed the sidewalk behind the beach. Utilizing funds from the Board's emergency fund, the sidewalk was rebuilt and a revetment installed. Beach fill also was added and a small stone breakwater was built to stabilize a storm drain as well as help set the eastern edge of the beach fill (Milligan *et al.*, 1996).

The cost of storm damage is increasing and that damage generally is spread over many counties and states as demonstrated by Hurricane Fran. Twenty four of South Carolina's forty six counties were declared major disaster areas by President Bush after Hurricane Hugo (Platt *et al.*, 1991). However, if a locality is prone to storm damage, a consideration should be the financial impact of not only the large storms that occur infrequently but also the cumulative reoccurrence of smaller extratropical storms that frequently impact the shoreline. The cost of repairing and rebuilding infrastructures like roads and bridges as well as amenities like boardwalks and piers after extratropical storms continues to increase. After several of these events, the cost of recovery can be greater than one large event (Fischer, 1989).

In 1967, the Gold Coast of Australia was a large tourist destination because of its wide sandy beaches. However, that year saw five cyclones eroding 230 feet of beach and the dune as well as collapsing boardwalks, pools, and houses. Smith (1995) estimated the number of tourists "lost" due to the beach erosion at about 650,000 or 26% between 1966 and 1971. However, since his work only included tourists arriving by air and not the day-trippers, Smith (1995) believes that the losses probably were underestimated by 20-30% or more. Surveys of beach front motel and hotel owners bears this out; their loss probably exceeded 50%. The Gold Coast was lucky. Its losses were in the onshore-offshore direction and by 1971, fair weather waves had restored the beach, but the City learned its lesson. It embarked on an ongoing beach nourishment program to maintain the beaches.

3. Recreation

The coastal region of the United States has become an area of concern as population density has increased faster than in other areas of the country. In 1990, about 45% of the U.S.'s 250 million people occupied an area that comprises just 11% of the U.S. outside of Alaska (USACE, 1996). Between 1995 and 2025, Virginia is expected to have the eighth largest net increase in population (Campbell, 1997). Estimates of population growth between 1990 and 1994 showed that many of the coastal cities and counties of Virginia would experience various degrees of growth. Recreational demands have increased and will continue to increase as the coastal population expands.

There are a wide variety of recreational opportunities at public beaches that

result in net benefits to individuals and to society as a whole. People are intensely interested in recreational opportunities afforded by beaches. These interests are dominated by swimming and sunbathing but also include fishing, surfing, SCUBA diving, windboarding, and certainly strolling. Usage ranges from daily trips to a local town beach to week-long vacations (Edwards, 1987).

The Commonwealth of Virginia has a wide variety of tidal public beaches that are used in a variety of ways (Figure 1). Table 1 lists Virginia's public beaches that have been identified and measured by the cities and counties as locally-owned beaches. The Resort Strip in Virginia Beach is a highly developed tourist area which attracts visitors from not only all over the Commonwealth but also brings in tourists from out-of-state. On the other end of the spectrum is Beach Park in West Point. This is a small (50 feet wide) grassy area on the shoreline with benches for residents to enjoy the view of the York River. In between are landings now used as public beaches like Vir-Mar Beach in Northumberland County or Canoe House Landing in Middlesex County. Some slightly larger beaches in Gloucester, Yorktown, Cape Charles, and Stafford County are local beaches, primarily used by the residents of the area. Larger beaches with more amenities tend to be regional beaches, such as Buckroe Beach in Hampton or Huntington Park in Newport News.

Some beaches are restricted to residential use because of lack of access or parking. These include Salt Ponds Beach in Hampton, Ocean Park and parts of Sandbridge in Virginia Beach, and parts of Norfolk's shoreline with the exception of where the beach parks and access ramps are located. Colonial Beach is somewhat of a local beach, but this locality also tends to be a tourist area with large numbers of second homes. Festival Beach at Diggs in Mathews County is hardly used for beach-associated recreation since erosion has removed the amenities that were placed on the shoreline. However, it is still used as a walking beach.

Another type of beach in the Commonwealth is the beach at Grandview in Hampton. Grandview Beach is part of the Grandview Nature Preserve. Usage of this beach is extremely limited since there is very little parking and about a quarter mile walk through the Preserve to the beach.

In order to determine non-market recreation benefits, economic valuation is used. Recreation benefits are generated when a public beach area has been rebuilt or maintained such that it is capable of supporting beach users. The basis for this economic benefit is that if a public beach erodes, recreational opportunities are eliminated; therefore a benefit is derived from building and maintaining a beach. More people will visit a nourished beach over the project's life, generating a net benefit to the nourishment project. Beach visits saved or increased by beach nourishment represent an economic benefit. Beach users also may change the value they place on amenities because of a change in the quality of a beach (National Research Council, 1995).

Table 1. Locally-owned public beaches with shoreline length and amount of matching grant funds received by the locality through the Board between 1980 and 1997.

Locality	Site/Location	Miles	Matching Grants
Cape Charles	Cape Charles	0.5	$111,076
Colonial Beach	Castlewood Park		
	Central Beach		
	Total:	2.5	$254,250
Gloucester	Gloucester Point	0.18	
Hampton	Buckroe	0.76	
	Salt Ponds	0.76	
	Grandview	2.46	
	Total:	3.98	$1,058,800
King George	Wayside Park	0.27	
Mathews	Festival Beach	0.10	
Middlesex	Canoe House Landing	0.04	$2,225
Newport News	Anderson Park	0.28	
	Hilton Riverfront Park	0.10	
	Huntington Park	0.10	
	King-Lincoln Park	0.28	
	Total:	0.76	$410,559
Norfolk	Willoughby Spit to		
	East Ocean View	7.40	$2,919,152
Northumberland	Vir-Mar Beach	0.02	
Stafford	Aquia Landing	0.3	$235,000
Virginia Beach	Croatan Beach	0.82	
	Ocean Park	1.03	
	Resort Beach, North End	3.33	
	Resort Beach	2.67	
	Total:	7.85	$1,956,328
West Point	Beach Park	0.01	
York	Yorktown Beach	0.23	$37,857
	TOTALS:	**24.14**	$6,985,247

C. Funding for Public Beaches

1. State Funding

The Board on Conservation and Development of Public Beaches is charged with conserving and maintaining Virginia's public beaches. It does this through the allocation of state funds to the individual localities in the form of matching grants. Grants are made for shoreline protection projects, such as the installation of breakwaters and beach nourishment, as well as for studies on shoreline management and other projects such as constructing dune fences and walk-overs. Listed in Table 1 are the amount each locality has received through the matching grant program.

The Board also has a special emergency fund for emergency allocations to localities that suffer damage to their beaches. Money allocated to the Board but not spent on the localities is put into the fund. This fund has been used three times; Cape Charles, Gloucester Point, and Yorktown received emergency funds after a severe northeaster in 1985. **Unfortunately, since funding has decreased for the Board, the fund presently has no money available to rebuild beaches should a storm strike. Emergency Fund allocations are not included in Table 1 and the present balance is near zero.**

2. Federal Funding

In 1956, Congress expanded the alternatives for shore protection to include periodic beach nourishment as "construction" for the protection of shores, when it is the most suitable and economical remedial measure. Since 1960, a significant shift in coastal engineering has occurred from fixed structures to beach restoration and nourishment. Approximately 90% of total federally-sponsored shoreline damage mitigation costs have been spent on beach restoration and periodic nourishment.

When the Water Resources Development Act of 1986 was passed, the primary allowable "benefit" for Corps of Engineers sponsored projects became "hurricane and storm damage reduction." In other words, the Corps legally can include only damage mitigation benefits to the federal government in its benefit/cost (B/C) analysis. The total benefits, which will include recreational benefits, local property taxes, tourist industry benefits in the form of increased local sales taxes, room and meal taxes, jobs, etc., are excluded from the analysis. Therefore, the true B/C ratio is always much larger than that reported by the Corps of Engineers.

In January 1995, President Clinton instructed the Corps to stop all future studies of beach nourishment as an alternative for storm damage mitigation. The Administration and Congress continue to battle over this issue. The Energy and Water Development Appropriations Bill for 1998 contains no new studies by the

Corps for beach restoration projects in the United States.

In summary, the Corps today no longer studies and sets priorities for new beach nourishment projects. Many **coastal states** with beach-driven tourist economies and large investments in infrastructure at the coast already have responded by developing their plans to finance and manage their beaches. **Virginia should do likewise.**

3. New Funding Strategies

Florida has been the leader in obtaining dedicated state funding for beach nourishment. In the early 1980's, the state appropriated **$50 million each year** for both state participation in Corps projects and for 100% state funding of new projects designed by private consulting engineering firms. The state simply could not afford the long delays and uncertainty surrounding Corps projects. In recent years, due to state budget problems, the total is lower, but the state continues to provide funds for its own projects.

New Jersey recently has developed an innovative plan for dedicated funding of beach projects at **$15 million each year**. No new taxes were required. Each year the state collects about $70 million in real estate transaction fees. (Every time property is exchanged in New Jersey, the state collects a nominal fee from each transaction). The state legislature has simply dedicated $15 million from this fund for beach nourishment projects. And, more importantly, the state legislature has included a "poison-pen" provision in this statute. If one year the legislature diverts the $15 million for other uses, then the ENTIRE real estate transaction fee is canceled! The state legislature of New Jersey understands the immense pressures at work in the budget process.

In **Orange County, California**, the popular beaches are supervised and maintained by funds raised through the lease of advertising space on beach property. Recreational equipment, lifeguard stands, trash receptacles, etc. are all now adorned with advertisements.

Many other innovative approaches are appearing to finance beach projects. One goal of this study will be to summarize what all the coastal states are doing to offset the diminishing role of the federal government in financing beach nourishment and maintenance projects.

D. Economics of Beaches

Worldwide, many techniques have been utilized to look at the economics of beaches. Studies have ranged from using aerial photos to determine beach utilization to modeling property values versus distance to a public beach. However, beaches only have value if people value them, directly or indirectly. Societal values can be aggregated from individual values (Lipton and Wellman, 1995). How beaches are valued is not only financial but also social. When funds are made available for conservation or maintenance of a beach, this reflects the choices society makes toward resource allocation.

Public beaches generate substantial economic impacts in the form of sales, taxes, income, and employment. Beaches mitigate storm damage; generally, the wider and the higher the beach, the less damage during a storm occurs to property and infrastructure behind the beach. In addition, beach-users derive considerable benefits, usually well in excess of expenditures, from the beach. There are, however, competing interests relative to beach access and use and the development and utilization of waterfront property (Kirkley, pers. comm.).

At present, the Commonwealth does not have a full characterization of beach use and expenditure patterns. For example, how many individuals use Norfolk beaches?; where do they come from?; and what do they buy? More important, how much do the beaches contribute to the state and local economies of Virginia? What type of property and infrastructure is the beach protecting and how much is it worth? How much productivity and how much tourism dollars would be lost during recovery from a major storm? These are extremely critical questions relative to maintaining and developing beaches or deciding to allow waterfront development. In the case of development or damage caused by pollution or misuse of beaches, the critical question is what is the economic value of the beach. This latter question requires a considerably different type of economic assessment (Kirkley, pers. comm.).

Beaches are assets that produce a flow of goods and services with both market and non-market values to users and non-users. There is an important distinction between economic impacts and economic valuations. **Economic impact** analysis considers market values such as how many people participate in beach activities and how much money they spend while recreating. These expenditures create jobs and income for people who directly and indirectly depend on beaches for their livelihood. This relates to the sales, employment, wages, and taxes generated by people using beaches for recreation (Bell and Leeworthy, 1986). **Economic valuation** attempts to measure the non-market benefits received by beach users or the value people place on a day at the beach (Bell and Leeworthy, 1986).

1. Economic Impact Analysis

The economic impact analysis requires several steps. In addition, it treats residents separately from tourists. For both tourists and residents, the first three steps are the same.

1) Estimate how many people use the beach,
2) Determine on average, how many days beach users visit beaches annually and on average, how much they spend.
3) Estimate how many people depend on the beach for their livelihoods and how much income (wages) they receive.

With information found in Steps 1 and 2, the total sales impact can be determined and the amount of tax revenues generated can be estimated. Step 3 relates directly to the employment impact. These steps relate to the economic impact of beach users; there is also a significant amount impact related to the construction and maintenance of public beaches.

All of the above are direct effects on the economy that can be derived directly. In addition to these effects, tourists have an indirect or induced effect on the economy since they bring "new" money into the state which is recycled. To model this effect, a multiplier is applied to the amount of money spent by tourists. This multiplier creates induced sales, employment, and wages. When the analysis results for both tourists and residents are added together, the beaches effect on the local and state economy can be determined (Bell and Leeworthy, 1986).

Determining the contributions or importance of beaches to the state and local economies requires an extensive input/output or similar type of impact analysis. Extensive information must be collected to assess the economic impacts. An intercept survey of beach users and possibly a mail survey of businesses are required to obtain the necessary information to assess the economic impacts in terms of sales, taxes, employment, and income generated from beach-related activities. In addition, an input/output model must be purchased for the state and county level. The models must be modified to adequately reflect economic activities associated with beach use. If statistical sampling offers any reliability, useable information must be obtained from approximately 1,100 individuals for each different type of beach and related community. It is likely that Virginia Beach and the Eastern Shore beaches would require a larger sample size because of the extreme variation in type of beach and beach user (Kirkley, pers. comm.).

2. Economic Valuation

Economic impact analysis does not account for social benefit or value. Nor does it take into account anything that is not traded on the market. Measures of benefits attempt to account for subjective preferences of society regarding the use and existence of coastal resources (Lipton and Wellman, 1995). Economic principles

dictate that decisions about resource use (i.e. development of land for beaches) should be based on the benefits to society. The valuation concepts are designed to provide quantitative measures of the environmental benefits of natural resources. They allow us to better understand how changes in the natural environment influence human behavior. In addition, if net benefits to society are known beforehand, the state can receive compensation if a resource has been damaged by pollution associated with a trackable or man-induced source.

Unfortunately, economic valuation is considerably more complicated than the input/output analysis. It also can require an extensive intercept survey of beach users regarding expenditures and travel time and distances as well as reasons for selecting a particular beach. Moreover, the valuation analysis provides information on total and net benefits which are measures that often are difficult for the general public to understand (Kirkley, pers. comm.).

Lipton and Wellman (1995) provide a descriptive example of the differences between economic impacts and valuation. "Natural disasters offer examples of why economic activity is not a measure of social value. Most people would have considered society better off had Alaska's Exxon Valdez oil spill not occurred. Likewise, society would have been better off had Hurricane Andrew not hit south Florida. However, each of these disasters generated increased amounts of economic activity. A good deal of money changed hands in the form of increased demand for services, oil spill cleanup employment, construction, sales of plate glass and household supplies. While no one would claim that society benefitted as a whole (clearly some individuals and businesses did), the economic impact of these events was positive." The four basic types of economic valuation techniques suggested are travel-cost method, unit-day-value, contingent valuation, and hedonic or implicit demand analysis.

E. Tourism and Impact of Beaches

1. Outside Virginia

Methods of valuing natural resources are well-described in literature. Presented here are practical applications of various methods for determining value. A Florida study (Bell and Leeworthy, 1986) used both economic impact and economic valuation on Florida's beaches. Economic impact analysis showed the following results:

- during 1984, over 13.2 million residents and tourists used Florida's saltwater beaches of which, 61% were tourists;
- residents and tourists generated direct and indirect beach-related sales of $4.581 billion or 2.8% of gross sales in the State of Florida generating $164 million in revenue for the state;
- sales generated by residents and tourists created an estimated 179,256 jobs or 4.1% of Florida employment.

Economic valuation analysis showed:

- user values from the demand function (i.e. consumer surplus) per day varied from $10.23 for residents to $29.32 for tourists;
- willingness to pay for the recreational beach experience ranged from $1.31 per day for residents to $1.45 per day for tourists – the authors believe these figures are seriously biased downward;
- depending on which of the two methods are used, the property or asset value of Florida saltwater beaches could vary from $2 to $28 billion.

The South Shore barrier island system offshore of Long Island was described in economic terms by Terchunian and Smith (1995). Their findings include:

- private real estate on the South Shore barrier island system - $2.8 billion;
- private property within the coastal flood plain on the South Shore (which includes the barrier island system, ocean beaches, and mainland area of Long Island) -- $11 billion;
- less than half of this development has flood insurance;
- daily visitors number about 18 million annually spending an average of $15-$25 resulting in total economic benefits of ocean beaches to the Long Island region of $1.5 billion annually;
- local taxes generated are $28 million annually;
- estimated sales tax revenue is between $36 million and $96 million annually.

Regional Research Associates (Internet, 1997) conducted a study on the economic benefits of beaches at Anna Maria Island, Manatee County, Florida. This study concluded that a beach restoration project paid for by cost-share between the county (non-federal cost was $4.3 million) and the federal government (federal cost

was $5.5 million) resulted in:

- an additional $67.5 million to local property values and $25.9 million and 711 jobs to the island's economy;
- Manatee County's economy being boosted by $39.1 million and 1,077 jobs
- the West Central Florida region having an added $68.1 million to the economy and 1,872 jobs;
- the study estimated that out-of-state visitors produce $8.2 million of direct and indirect spending outside the County;
- survey that found people were willing to pay $0.64 per hour prior to the restoration and $1 per hour after.

2. Inside Virginia

The Coastal Erosion Abatement Commission found that, in 1978, tourist travel in Norfolk and Virginia Beach amounted to expenditures of $197 million and $118 million, respectively. In the Commission's report (Commonwealth of Virginia, 1979), tourism in these two cities alone provided 11,700 jobs, $12.9 million in state tax revenues and $8.4 million in local tax revenues (in 1978 dollars). The Commission indicated that part of these expenditures, jobs and tax revenues, can be attributed to the availability of public beaches.

In an attempt to estimate the economic impact of Virginia's public beaches on tourism, the following cities and counties were recognized to have public beaches supporting tourism-related activities: Cape Charles, Colonial Beach, Gloucester County, Hampton, Norfolk, Newport News, Stafford County, Virginia Beach, and Yorktown. The only city or county where primary information on tourism is available is Virginia Beach. Therefore, estimates on tourism are provided for other beaches wherever possible. In addition, any available existing information is presented.

Virginia Beach

The City of Virginia Beach depends heavily on the revenue generated by the tourists visiting their public beaches. Estimates indicate that roughly 2.2 million out-of-town visitors arrived in Virginia Beach in 1996. These visitors spent roughly half a billion dollars and directly created over 11,000 jobs within Virginia Beach. City revenue generated by these expenditures was $38.7 million. The City's expenses to support the tourist industry was approximately $22.9 million. The net result to the City was $15.8 million which was up $2.3 million from 1994. That is, for every $1 invested in the beach, the City receives $1.69 in revenue (Yochum and Agarwal, 1997).

The impacts of tourism in Virginia Beach to other localities within the region was also addressed. Indirect benefits generated by beach visitors created an additional 5,500 jobs with an associated $500 million in expenditures within the

Hampton Roads region (Yochum and Agarwal, 1997).

Cape Charles

We do not have any information on tourism.

Colonial Beach

The Town of Colonial Beach was the recipient of the first matching grant from the Board on Conservation and Development of Public Beaches. In 1980, a breakwater and beach fill system was installed to abate erosion along the Town's shoreline. Approximately $250,000 was spent by the Commonwealth on this project. Additional beach renourishment projects have been funded by the locality and the federal government.

Primary information on tourist visitation or spending is not available. However, based on data from retail sales, meal and lodging revenue, and the length of tourist season, estimates of tourist spending were obtained. It is estimated that tourists spent $2.0 million in 1995 and $3.1 million in 1996 and that tourist visitation to Colonial Beach continues to increase over time.

According to the Commissioner of Revenue, properties in Colonial Beach fall into three categories: waterfront, waterview, and inner lots. While primary numbers are not available for the value of real estate directly adjacent to the beach, in general, waterfront properties assess about 50% higher and waterview properties at 25% higher than inner lots. About 25-30% of all properties in Colonial Beach are waterfront or waterview. The total assessed value of Colonial Beach is $157,280,720.

Gloucester

While we do not have any primary information on tourism, we believe that this beach has some tourism related expenditures since surveys show that nearly one half of the people who visit Gloucester Point Beach are from outside of the county. Many tourists are attracted to the area because of the accessibility of fishing, crabbing, sunbathing, and boating. There are no charges for using any of the recreational facilities at Gloucester Point Beach. Recent improvements to the park including the addition of a picnic shelter and new boat landing have increased the interest in this site. In addition, the fishing pier will be expanded in early 1998 which will attract more tourists.

Hampton

While we do not have any recent primary information, previous information suggests that Buckroe Beach attracts visitors. For example, according to a survey in 1987, 60% of beach visitors originated from Hampton; of the Non-Hampton residents, 34% originated from outside Hampton Roads area. Further, a 1996 survey shows that 16% of tourists visited Buckroe Beach.

The City of Hampton and the Corps of Engineers completed a final reconnaissance report for a coastal storm protection project along six miles of Chesapeake Bay shoreline. The proposed plan would increase the width and height of the protective beach. The City of Hampton also reports the value of beach nourishment in relation to storm damage reduction and property protection. The $300,000 spent to rebuild Buckroe Beach was reported to protect approximately $18 million worth of private property.

However, property owned by the City of Hampton which functions as a public park, townhouses and condominiums, single family properties, marinas and vacant lots and the estimated value of the beaches and infrastructure associated with the public beaches was assessed between Point Comfort Avenue and Salt Ponds Inlet. The approximated depth of the area analyzed is two blocks, inclusive of the beach front. The total value is $81,319,500.

Norfolk

Primary information on tourist spending or tourist visitation to Ocean View Beaches is not available. However, based on Ocean View hotel occupancy, compiled by the Norfolk Hotel Motel Association, and estimated average room rates by month, tourist spending during summer season, April through September, can be estimated. It is assumed that hotel occupancy during October through April is not related to tourism, and that the same occupancy would prevail during the remaining months of the year in the absence of tourism. The estimates show that tourists spend approximately $2.8 million on lodging alone each year.

The City of Norfolk utilizes beach improvement projects to reduce erosion along their 7.3 mile Chesapeake Bay shoreline. The City estimates the implementation of the erosion control measures over the last 14 years has protected property valued at $20,475,000. The total cost of the most recent erosion control projects was $5,086,300.

Newport News

While no survey data on visitor's expenditures are available, the Parks and Recreation Department provided estimates on visitation to the three beaches in Newport News. In 1995, 78,000 individuals visited Huntington Park Beach. Forty eight percent of visitors were from Newport News; the remaining 52% were from surrounding cities and counties. Approximately, 11,400 individuals came to Anderson Park Beach, of which 80% are estimated to be from Newport News. King-Lincoln Park Beach attendance was estimated at 19,600. Seventy percent of visitors were estimated to have originated from Newport News.

Stafford County

According to the Director of the Stafford County Department of Parks and Recreation, approximately 166,800 visitors came to the Aquia Landing Beach.

Ninety two percent of the visitors originated from the county; the remaining 8% came from other areas. In 1996, Visitors paid $15,541 in parking fees and, with the "Beachfest '96", Aquia Landing had a direct economic impact of $30,000 on Stafford County.

Yorktown

In 1988, the Yorktown improvement initiatives were implemented based on the premise that the waterfront has the potential to be a major attraction and is essential to the success of any effort to enhance visitation to Yorktown as a whole. The Yorktown Master Plan recognizes that the enhancement and stabilization of the beaches and shoreline is an essential prerequisite to any significant public or private investment in waterfront area improvements. The first phase of these efforts was completed in 1995 through a unique partnership between the County and the Virginia Department of Transportation (VDOT). VDOT contributed $140,000 toward the total $300,000 beach enhancement project, recognizing that stabilization and enhancement of the public beach would serve to protect the public streets that parallel the shoreline, for which it is responsible for maintenance. The enhanced beach also has provided storm protection for the waterfront businesses and related infrastructure.

With the public beach improvements in place and functioning well, the County is now in the process of developing the Yorktown Riverwalk, which will be a continuous pedestrian walkway extending along the York River shoreline and linking the major visitor attractions - the National Park Service Visitor Center, Yorktown Beach, and the Yorktown Victory Center. This is a $900,000 project which is being funded through a $528,000 Enhancements Program grant through VDOT and the County. The Riverwalk will enhance the appearance of the waterfront and, with its interpretive plaques and pleasant vistas of the York River, will itself become a visitor destination.

The improvements undertaken and planned for the Yorktown Beach and Waterfront already have generated increased activity and positive feelings about its future. For example, the enhanced Yorktown Beach was the site of the first Yorktown Festival over the 1997 Labor Day weekend. Based on the Income method of appraisal, the York County Real Estate Assessor believes that Yorktown beach has a positive economic impact on businesses, including four restaurants, a hotel, and the Waterman's Museum. While no survey data are available, this beach may attract thousands of people during the summer months.

F. Recommendations

1. Study Extension

This Board respectfully recommends that:

The General Assembly, in its 1998 Session, authorize a one-year extension of the SJR 338 study, thereby providing for the thorough development and collection of essential data that will fully determine the economic impact of public beaches on tourism and economic development within the Commonwealth of Virginia.

2. Appropriations for Study Extension

This Board respectfully recommends that:

The General Assembly, in its 1998 Session, appropriate $300,000 to enable the above study.

3. Minimal Annual Funding

In this report, information provided discusses the continually increasing competition of other beaches along the East Coast for the tourist dollar. Therefore, the Board respectfully recommends that:

A minimum of $2 million per year be invested in Virginia's public beaches by the Commonwealth in order to generate the optimal economic return.

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Appendix 1

Committee for the Study of the Impact of Public Beaches on Tourism and Economic Development within the Commonwealth of Virginia

Board on Conservation and Development of Public Beaches

John Matthews	York Co.	Committee Chair & Public Beach Board Member
D. O. "Spec" Campen, Jr.	Henrico Co.	Public Beach Board Chairman
Whitt Sessoms	Virginia Beach	Public Beach Board Member
Thomas Godwin	Cape Charles	Public Beach Board Member
Laura Bales Black	Mathews	Public Beach Board Member
Pete Bone	Colonial Beach	Mayor
Mike Jenkins	Colonial Beach	Erosion Commission
John Biemech	Colonial Beach	Council Member
Jack Maguire	Colonial Beach	Erosion Commission
Joseph Fitzpatrick	Norfolk	Treasurer, City of Norfolk & Originator, Senate Joint Resolution 22 (1978)
Ted Drake	Norfolk	Representative for Delegate T. Drake
Calvin Pearson	Hampton	
Tom Daniel	Hampton	Director, General Services
Diann Stutz	Hampton	Conv. & Tourism
Terry O'Neill	Hampton	Planning Department
Bob Matthias	Virginia Beach	
Phill Roehrs	Virginia Beach	
Michael Poplawski	Newport News	Dept. of Parks and Recreation
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Keith Cannady	Norfolk	
Michael King	York County	
Michael Scott	Stafford Co.	Dept. of Parks and Recreation
Carol Steele	Gloucester Co.	Dept. of Parks and Recreation
Jo Turek	King George Co.	Dept. of Parks and Recreation
Vinod Agarwal	Old Dominion Univ.	Dept. of Economics
Gilbert Yochum	Old Dominion Univ.	Dept. of Economics
Dave Basco	Old Dominion Univ.	Coastal Engineering Center
Donna Milligan	Virginia Institute of Marine Science	
Scott Hardaway	Virginia Institute of Marine Science	
Don Wright	Virginia Institute of Marine Science, Director	
Kirsten Niemann	Virginia Tourism Commission	
Rebecca Francese	Waterway Surveys	
John Whaley	Hampton Roads Planning District Commission	
Hugo Valverde	Hampton Roads Planning District Commission	
Jeryl Rose Phillips	Hampton Roads Planning District Commission	
Julie Morris	Northern Neck Planning District Commission	
Chuck Roadley	Virginia Marine Resource Commission	
Lee Hill	Dept. of Conservation and Recreation	
Alexandra Bourne	Dept. of Conservation and Recreation	

Appendix 2

SENATE JOINT RESOLUTION NO. 338

Requesting the Board on Conservation and Development of Public Beaches to study the economic impact of Virginia's public beaches on tourism and economic development within the Commonwealth.

Agreed to by the Senate, January 30, 1997
Agreed to by the House of Delegates, February 7, 1997

WHEREAS, Virginia's public beaches are primary attractions for outdoor recreation, attracting visitors statewide and nationwide; and

WHEREAS, Virginia has more than 5,000 miles of shoreline, but only approximately 24 miles of public beach; and

WHEREAS, Virginia's public beaches are located not only in Virginia Beach, but also in Cape Charles, Colonial Beach, Hampton, Mathews, Newport News, Norfolk, and West Point, and in the counties of Gloucester, King George, Middlesex, Northumberland, Stafford and York, as defined by the Public Beach Conservation Act; and

WHEREAS, the economic benefits of public beaches on Virginia Beach and Hampton Roads are well-documented, demonstrating that in 1995, two million visitors to Virginia Beach spent approximately half a billion dollars, creating about 11,000 jobs in Virginia Beach, and an equal amount of money supplied an additional 5,550 jobs in Hampton Roads; and

WHEREAS, the same 1995 study found that money invested in attracting tourism in Virginia Beach provided a 64 percent rate of return to the city; and

WHEREAS, the economic impact of public beaches other than Virginia Beach is not documented, and the level of investment needed to realize optimal return from Virginia's public beach resources is not known; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Board on Conservation and Development of Public Beaches, in cooperation with Old Dominion University, The College of William and Mary in Virginia, the Virginia Institute of Marine Science, and the Virginia Economic Development Partnership, be requested to study the economic impact of Virginia's public beaches on tourism and economic development within the Commonwealth. The study shall determine (i) the economic impact of Virginia's public beaches on tourism in the localities in which such beaches are located, and the jobs created by tourism, and (ii) the amount of public investment in Virginia's public beaches needed to generate the optimal economic return.

The Board on Conservation and Development of Public Beaches shall complete its work in time to submit its findings and recommendations to the Governor and the 1998 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.