

Reports

9-2001

Virginia Boating Plan and Access Needs Assessment

Thomas J. Murray
Virginia Institute of Marine Science

Follow this and additional works at: <https://scholarworks.wm.edu/reports>



Part of the [Natural Resource Economics Commons](#)

Recommended Citation

Murray, T. J. (2001) Virginia Boating Plan and Access Needs Assessment. Virginia Marine Resource Report No. 2001-13. Virginia Institute of Marine Science, College of William and Mary. <https://doi.org/10.21220/V5DN2D>

This Report is brought to you for free and open access by W&M ScholarWorks. It has been accepted for inclusion in Reports by an authorized administrator of W&M ScholarWorks. For more information, please contact scholarworks@wm.edu.

Virginia Boating Plan and Access Needs Assessment

Completed on behalf of the
Virginia Department of Health,
Office of Environmental Health Services
and the
Virginia Sea Grant College Program

By

Thomas J. Murray
Marine Business and Coastal Development Specialist
Sea Grant Marine Advisory Program
Virginia Institute of Marine Science
Gloucester Point, Virginia

Virginia Marine Resource Report No. 2001-13

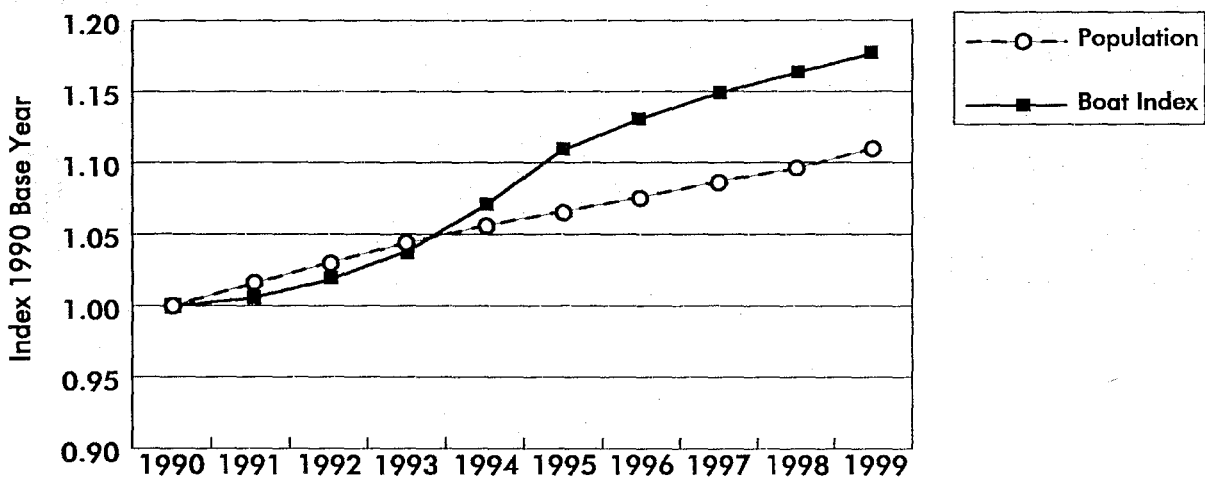
September 2001

Virginia Boating Plan and Access Needs Assessment

Background

In an effort to support Virginia's application for federal grant funds under the Department of Interior's "Boating Infrastructure Grant Program" (Grants), the Marina Technical Advisory Program (MTAP) at the Virginia Institute of Marine Science has undertaken assessment of the state's recreational boating infrastructure needs.¹ A total of \$32 million has been authorized over four years to fund this new program. It is designed to help states develop and maintain facilities for transient non-trailerable (26' and over) recreational boats. The Virginia Department of Health (VDOH) has provided overall leadership in the Boating Infrastructure Grants process and has been supported by the Virginia Sea Grant Program in completing marina and boater needs assessments, culminating in this Boating Plan.

Relative Growth in Virginia's Registered Watercraft and Population
1990 - 1999



¹ National Boating Infrastructure Grant Program U.S. Fish and Wildlife Service, Department of Interior. Federal Register / Volume 65 No. 13 / January 20, 2000.

Population and in particular coastal population are growing rapidly in Virginia. Per capita incomes are also increasing and together the two forces are shifting the demand for recreational activity outward. In summary, prior studies have indicated the major economic factors influencing the growth in demand for recreational boating are population and income growth. Specifically, federal and state statistics indicate that private boat ownership continues to grow in Virginia. With this increase, future limitations on access to saltwater tidal waters become more probable.

The activity of private boat anglers is of critical importance to the Commonwealth. It is estimated that two-thirds of the total economic activity associated with recreational saltwater angling in Virginia is contributed by those on private boats.²

Top 10 States with the Largest Net Population
Gains: 1995 to 2025
(In thousands.)

Rank	-----1995 to 2000-----		-----1995 to 2025-----	
	State	Population	State	Population
1	Texas	1,395	California	17,696
2	Florida	1,068	Texas	8,459
3	California	932	Florida	6,544
4	Georgia	674	Georgia	2,699
5	North Carolina	582	Washington	2,377
6	Arizona	580	Arizona	2,195
7	Washington	427	North Carolina	2,154
8	Colorado	422	Virginia	1,848
9	Tennessee	401	New York	1,694
10	Virginia	379	New Jersey	1,613

Source: U.S. Bureau of the Census, PPL-47, and Table 1.

According to the federal regulation, states must base program plans on a recent, completed survey following the national framework. Sec. 86.136 The plan must:

- (a) Identify current boat use patterns.
- (b) Identify current tie-up facilities and features open to the public and their condition.
- (c) Identify boat access user needs and preferences and their desired locations. Include repair, replacement, and expansion needs and new tie-up facilities and features needed.
- (d) Identify factors that inhibit boating in specific areas, such

² "Saltwater Angling and its Economic Importance to Virginia." VIMS SRAMSOE NO.339 1997.

as lack of facilities, or conditions attached that inhibit full use of facilities. Identify strategies to overcome these problems.

(e) Include information about the longevity of current tie-up facilities.

In order to collect information sufficient to address these questions completion of Virginia's boating infrastructure needs assessments followed the guidelines for surveys and survey instruments presented by the U.S. Fish and Wildlife Service in their proposed final regulations published January 20, 2000. The surveys were conducted in a way that included facility providers that serve boats of 26' in length and over and facilities that serve boats of less than 26', as well as registered boat owners representing the two size classes. Separate survey instruments were drafted to follow the "Grants" Proposed Rule and associated survey document found in the Federal Register. The survey instruments included the required questions for marina operators and boat owners representing both size classes of boats.³

I. Current Boat Use Patterns

There's little doubt that recreational boating activity has reached an all-time high both in Virginia and the United States.⁴ Continued growth in disposable personal incomes and leisure time, have allowed consumers to apply discretionary income to the purchase of durable goods such as recreational watercraft. The trend has continued upward, with only a slight leveling in the early 1980s during a period of economic recession and high gas prices.

Across the country, purchases of all classes of boats and related marine equipment remained high until the second half of 2001. Estimates of the number of adults actively engaged in boating range from 22 to 24 million nationwide. One method to arrive at trends in Virginia is to examine per capita ownership. Prior research indicates that between 1973 and 1980, Virginia's boat ownership grew faster than the population – rising from 1 boat for every 43 citizens in 1973, to 1 boat for every 38 citizens in 1980.

The most recently available population estimates and watercraft registration numbers, suggest that the current ratio is approximately 1 boat for every 29 Virginians.⁵

A look at the numbers reveals close to a seven-fold increase in active boat registrations with Virginia's Department of Game and Inland Fisheries – from 35,600 in 1960 to over

³ See Appendix A for the survey reports and Summary statistics.

⁴ Virginia Marine Resource Bulletin, Volume 33, No. 2

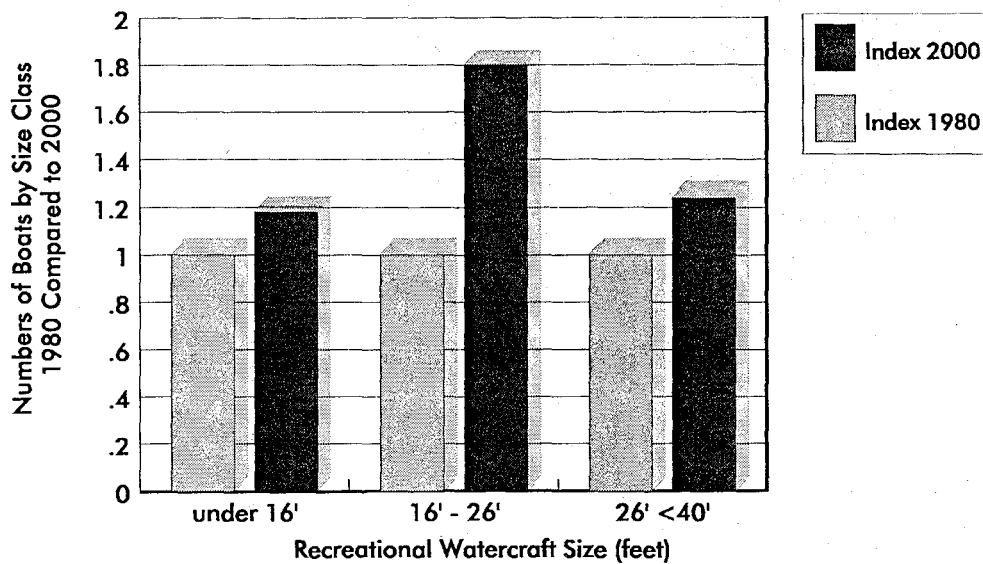
⁵ Recreational Boating in Virginia: a preliminary analysis. Tom Murray and Jon Lucy VIMS Special Report in Applied Marine Science and Ocean Engineering No. 251. A Report to the Virginia Boating Advisory Committee. 1981

240,300 in the year 2000. These numbers do not include smaller powerboats, sailboats less than 18 feet in length, and do not necessarily include large boats “documented” with the U.S. Coast Guard. While they do not tell the whole story, registration numbers are useful in gauging trends.

With over 10,000 miles of tidal shoreline and twice that number of navigable, inland waterways, Virginia offers much to the recreational boater. As the original highways for commerce and travel in the new country, Virginia Rivers and bays are steeped in historical and cultural treasures.

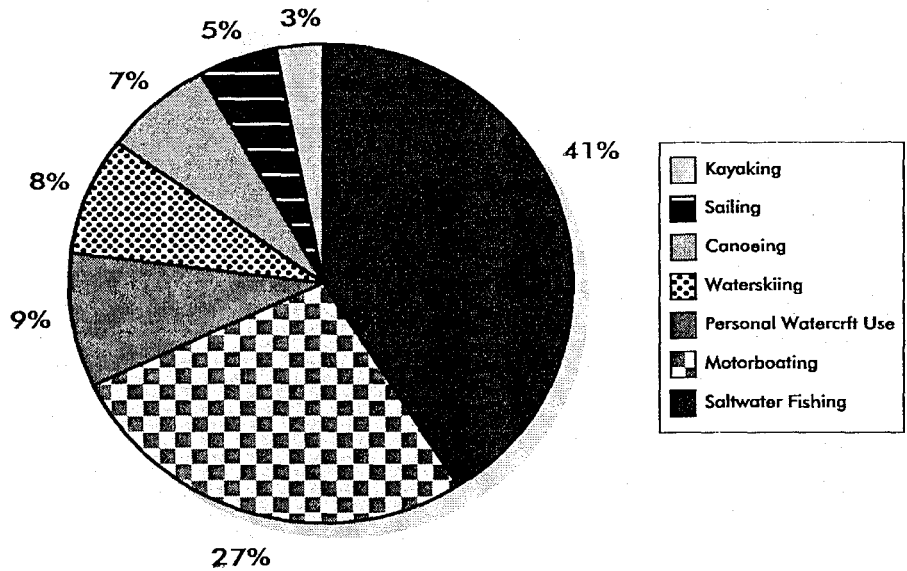
The preponderance of boating activity occurs in the more densely populated regions of Virginia, according to boat registration data. In 2001, the top coastal locations for boat *dockage* are reported as the City of Virginia Beach, and Chesterfield, Prince William, Fairfax, Henrico, Chesapeake, and Middlesex counties.⁶ Boating *activity* mimics that order, with the exception of Henrico County, which drops lower on the list. Moving from north to south, hotspots of action include the upper Potomac River, Deltaville on the lower Rappahannock at the bay, and the Hampton Roads-Virginia Beach corridor along the lower James River and Chesapeake Bay.

Growth in Relative Frequency of Recreational Watercraft in Virginia by Size Class (1980 - 2000)



⁶ Virginia Department of Game & Inland Fisheries.

**Relative Participation Rates in Virginia Coastal Watercraft Recreation
2000**



Summary of Current Boat Use Statistics

TABLE 1. PRIMARY LOCATION OF BOAT DURING BOATING SEASON (%)				
BOAT LENGTH	PRIMARY RESIDENCE	IN WATER AT MARINA	SEASONAL RESIDENCE	DRY STACK
Under 26'	61	8	21	4
26' and Over	28	50	9	11

TABLE 2. PRIMARY METHOD OF PLACING BOAT IN WATER IF NOT KEPT IN WATER (%)

Boat Length	Trailer	Carry Down To Water	Other
Under 26'	57	9	28
26' and Over	20	2	0

TABLE 3. PRIMARY REASONS FOR KEEPING BOAT AT PREFERRED LOCATION (#1 BEING MOST IMPORTANT #5 BEING LEAST IMPORTANT)

Boat Length	Access To Primary Residence	Access To Good Fishing	Sheltered Location	Access To Natural Scenic Locations	Quality Of Docking Facility
Under 26'	1	4	3	5	2
26' and Over	1	4	2	5	3

TABLE 4. FREQUENCY OF BOATING TRIPS DURING THE YEAR (%)

Boat Length	Fewer than ten times	11 - 20 times	20-50 times	More than 50 times
Under 26'	9	22	43	26
26' and Over	3	29	48	19

TABLE 5. AVERAGE NUMBER OF PEOPLE ONBOARD PER BOATING TRIP (%)

Boat Length	One	Two-Three	Four-Six	More than Six
Under 26'	4	83	13	0
26' and Over	2	61	37	0

TABLE 6. TYPICAL BOATING TRIP DURATION (%)			
Boat Length	Day Trips	Weekends	Extended Trips/longer than one weekend
Under 26'	87	9	4
26' and Over	76	22	6

TABLE 7. AVERAGE DISTANCE TRAVELED DURING BOATING TRIPS (%)						
Boat Length	Less Than One Mile	One-Three Miles	Three- Six Miles	More Than Six Miles	Connected Waters Up To 25 Miles	Connected Waters 25-50 Miles From Port
Under 26'	4	8	38	30	8	12
26' and Over	0	5	21	30	26	11 ⁷

⁷ Seven (7) percent of owners of boats 26' and over that responded reported on average traveling to destination ports of over 50 miles.

III. Tie-Up Facilities Open to the Public: Features and Condition.

The information characterizing marinas or “tie-up facilities” in Virginia was primarily obtained by a survey of coastal marinas conducted by the author in 2001. As reported in the survey summary report, the sample data tabulated here is not to be interpreted as based upon a scientifically selected sample within prescribed margins of error. Due to the complexity of the marina industry, no assessment of the accuracy of the sample data can be made. The mailings attempted to cover the entire population of marinas in Virginia’s coastal zone. The averaging of results and reported ranges of data assembled here may be considered representative of marinas in Tidewater Virginia; however, it should be recognized that wide differences exist between marinas across and within regions of the state.

Summary of Tie –Up Facility Statistics

Tables 8-10 summarize the use of marinas by watercraft class and reflect the common features associated with commercial marinas.

Table 8. Average % of facility use by number of boats served in most recent year⁸

Boat Length	% Power Boats	% Sailboat	% Pontoon Boat	% Other Recreational	% Commercial
Under 26’	25	9	2	6	4
26’ and Over	31	16	1	8	7
Total	56	25	3	14	11

Table 9. Average use and accommodations of marinas reporting # (range)

% With Transient Boats	# Transients Boats	Largest Boat Length	Largest Draft	# Of Wet Slips	# Moorings	# Out Water spaces
65%	25 (0-2500)	63 (26-210)	6 (2-15)	70 (2-440)	4 (1-80)	50 (0-500)

⁸ The respondents in some cases provided breakdowns by numbers rather than percentages, and for total rather than size class; thus the percentages do not equal 100% by length of boat. The results should be considered indicative of the relative composition of the marina customers’ boat size.

Table 10. Number of Responding Marinas Needing Repairs Replacements or Additions⁹				
	<i>Repair</i>	<i>Replace</i>	<i>Expand</i>	<i>Add New</i>
Transient slips or tie-ups	11	14	17	25
Transient Moorings	1	2	1	9
Gasoline Facilities	8	9	7	5
Diesel Facilities	7	7	3	6
Utilities:				
Power:	10	12	13	13
Water:	9	7	10	9
Other:	5	10	5	7
Restrooms	15	6	15	10
Oil Disposal	3	0	3	14
Sewage Pump-outs	3	8	5	5
Haul-out Facilities	6	0	6	2
Painting Facilities	2	0	1	4
Boat Launching Ramp	17	7	2	2
Other	6	6	3	12

Sixty- Two percent of marinas reported that they operated on a “first come first served” basis; 5% of responding marinas required club membership and 30% of respondents indicated that reservations were either required or recommended (particularly during peak holiday periods). Seventy-four percent of responding marinas charged a dockage fee.

⁹ The numbers are not additive due to multiple responses by marinas regarding individual “needs”.

Types of services provided at Virginias Tidewater marinas:

Eighty percent of marinas responding to the survey offered transient slips or tie-ups and 15% offered transient moorings. Fifty-six percent offered gasoline sales (48% offered diesel sales). The vast majority (91%) offered utilities including power and water and also provided restrooms/showers. Seventy-seven percent provided sewage pump out facilities and dump stations for portable toilets. Forty-seven percent provided haul-out facilities and furnished necessary repair and maintenance services including electrical, mechanical and painting. Over 50% offered boat-launching ramps and 41% offer additional shore side amenities including shuttles, daycare, recreation facilities, etc.

II. Boat Access User Needs and Preferences

As reflected above, under boat participation and activities, recreational fishing is the primary use of watercraft in Virginia. Virginia's saltwater recreational fishermen have clearly indicated that a leading priority for managers should be the construction and maintenance of angling access points.

Boat Length	Shore side Slip/Tie Up	Dinghy	Gangway	Boat Ramp	Pulling On Or Close To Shore
Under 26'	48	17	0	39	39
26' and Over	73	22	8	16	34

Boat Length	No, Need A lot More	No, Need A Few More	Yes, More than enough	Yes, The right amount	Don't Know
Under 26'	49	19	0	14	17
26' and Over	31	30	1	9	28

¹⁰ Percentages do not equal 100% due to some respondents listing more than one mode of access.

Results of angler surveys completed on behalf of the Virginia Marine Resources Commission in 1994 and 1998 were consistent in illustrating the extremely high priority Virginia recreational anglers place on the provision of fishing access and ramp construction and support facilities to accommodate angling participation. Most recently anglers placed the provision of recreational fishing access at the top of the list of uses for their recreational saltwater license expenditures.

TABLE 13. FOR AREAS OF GREATEST INFRASTRUCTURE NEED		
WHAT IS NEEDED? (%)		
Infrastructure Needed:	Under 26'	26' And Over
Transient Slip or Tie-Up Facility	48	53
Transient Moorings	30	34
Fuel (Gasoline)	30	36
Fuel (Diesel)	13	22
Utilities (Electricity, water, phone)	26	34
Restrooms	35	44
Sewage Pump-out stations	22	38
Launch Ramp	26	18
Boarding Floats	4	14
Parking	35	15

Primary Reasons for Boaters selecting individual marinas:

Average ranking of the primary reasons that boaters use individual marinas with #1 being the top reason:

- Access to nearby cultural, historical attractions - 4
- Access to natural, scenic attractions - 3
- Access to services (shopping, dining) - 4
- Good water quality for fishing - 2
- Good water quality for swimming - 5
- Sheltered Location - 2
- Access to Primary Residence - 3
- Other - 1

Other reasons specified: For example, modern clean facilities; boatyard and services located near offshore and inland routes; cost; covered slips; no other nearby access;

access to sailing grounds; only fuel services within miles; access to ICW; boat repairs; quality of work; reputation and location; ease of boat handling-dry storage.

III. Factors That Inhibit Boating

The boaters needs assessment survey included the opportunity to rate impediments to boat use and access, as summary of those responses are contained in Table 14.

How Important Is Impact (Ranked 1 Highest To 7 Least Important Impact)	Under 26'	26' And Over
Not enough transient slips, moorings, tie-ups etc. for boats 26' or longer	6	3
Inaccessibility due to shallow water/channel depths	1	7
Not enough information about transient tie-up facility locations for boats 26' and over.	5	4
Not enough adequate facilities (fuel, utilities, etc.)	4	6
Congested Waterways (boat traffic)	7	1
Poor Water Quality for Fishing	2	2
Poor Water Quality for Swimming	3	5

IV. Longevity of Current Tie-Up Facilities

Based upon the survey of marinas, the overall condition of Virginia's tie-up facilities can be characterized as "fair" to "good"; with over 90% needing some improvements or upgrades within the next 10 years. Notably, almost two-thirds of the marinas indicate that upgrades are required within the next 5 years.

Overall Rating of Virginia's Tie-Up Facilities Condition and Functional Aging

- 8% rated their facility "Excellent": *"with no improvements needed."*
- 28% rated their facility "Good": *"will require upgrades within 10 years."*
- 41% rated their facility "Fair": *"will require upgrade within next 5 years."*
- 23% rated their facility "Poor": *"requires upgrade now."*

Virginia's marinas also estimate that such improvements will entail considerable additional investments in infrastructure, including both replacement costs of improvements and the annual facility maintenance costs. The average replacement cost¹¹ of existing buildings and improvements for marinas responding to the survey was \$1.24 million in 2000 (ranging from \$7,500- \$6,000,000). The estimated cost for needed improvements averaged of \$318,000 (ranging from \$2,000-\$2,000,000). Also the average maintenance costs of the facilities and improvements were \$25,000 in 2000, with a range of \$500 to \$85,000.

¹¹ The survey requested that marina provide the replacement cost estimates based upon agreed values from their property insurance policies, both for the sake of ease and benchmarking against a reasonable standard or control.

Areas with Greatest Need for Access (Frequency of Responses)

