



Ingleside Plantation Vineyards

PREMIUM VIRGINIA WINES

30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.

P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

May 29, 1984

Director
B.A.T.F., Department of Treasury
Washington, DC 20026

Dear Sir:

Ingleside Plantation, Inc., a Virginia Corporation, grape growers and interested persons of the Northern Neck of Virginia hereby petition the Bureau of Alcohol, Tobacco and Firearms to establish the area comprising the five counties of the Northern Neck of Virginia as a viticultural area to be known as the "George Washington Birthplace Viticultural Area".

You will find attached the following information in support of this petition:

- 1 - Supportive signatures of grape growers, interested persons
- 2 - Boundary description with maps
- 3 - General nature of area
- 4 - History of the "Northern Neck"
- 5 - Soil types
- 6 - Climate and rainfall

This document was prepared by the undersigned, largely gathering agricultural information from the U.S.D.A.'s Soil Survey of Westmoreland County and history from the Northern Neck Historical Society Magazine.

Yours very truly,

Carl F. Flemer, Jr., President

CFF:cjw

1A - SUPPORTIVE SIGNATURES OF GRAPE GROWERS

Mr. Gabriel Amirault
Rt. 3, Box 704
King George, VA 22485

Gabriel Amirault

Mr. Ralph Ball
Rt. 2, Box 773
Montross, VA 22520

Ralph J Ball

Mr. Stewart Barber
P.O. Box 61
Lottsburg, VA 22511

Stewart Barber

Mr. Jean Francois Calza
Le Vignobles
Rt. 2, Box 124-A
Colonial Beach, VA 22443

Jean Francois Calza

Mr. Louis Calza
Hill Farm
Rt. 2, Box 145-A
Colonial Beach, VA 22443

Louis Calza

Mr. Douglas E. Flemer
Ingleside Plantation Vineyards
P.O. Box 1038
Oak Grove, VA 22443

Douglas E. Flemer

Morland Vineyards
P.O. Box 287
King George, VA 22485

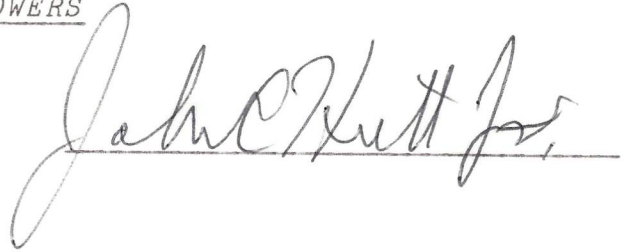
Morland Loste

Mr. Charles Geyer
Westmoreland Berry Farm
and Orchard
Box 1121
Oak Grove, VA 22443

Charles Geyer

1B - SUPPORTIVE SIGNATURES OF GRAPE GROWERS

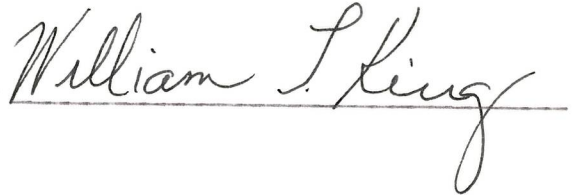
Mr. John C. Hutt, Jr.
P.O. Box 98
Montross, VA 22520



Mr. Thomas C. Iezzi
Camillo Vineyards
Rt. 2, Box 242
King George, VA 22485




Mr. William T. King
Ivondale Vineyard
P.O. Box 163
Warsaw, VA 22572



Mr. Jacques Recht
La Jacquerie
P.O. Box 1149
Oak Grove, VA 22443



Gen. W.A. Tidwell
Tydeswall Vineyard
Index, VA 22544



Mr. Dabney Wellford
Sabine Hall
Rt. 1, Box 631
Warsaw, VA 22572



1C SUPPORTIVE SIGNATURES OF INTERESTED PERSONS

Ammon G. Dunton, Jr.
D.C. Rumsey, III

Ammon G. Dunton, Jr.
Verville, Merry Pt, VA

Dexter C. Rumsey, III
White Stone, VA 22578

C.H. Smith

Craig H. Smith
White Stone, VA 22578

E.A. Stephens Jr

E.A. Stephens Jr
Box 309
Irvington, VA 22460

Richmond County Board of Supervisors by W.D. Gray
J.T. Robertson

James T. Robertson
Attorney-at-Law
Montross, VA 22520

L.W. Latane, Jr
Betty R. Horner

Lawrence Washington Latane, Jr
Washington's Birthplace, VA 225

Betty R. Horner, Chairman
Westmoreland Co. Planning Comm
Montross, VA 22520

Ian R. D. Williams

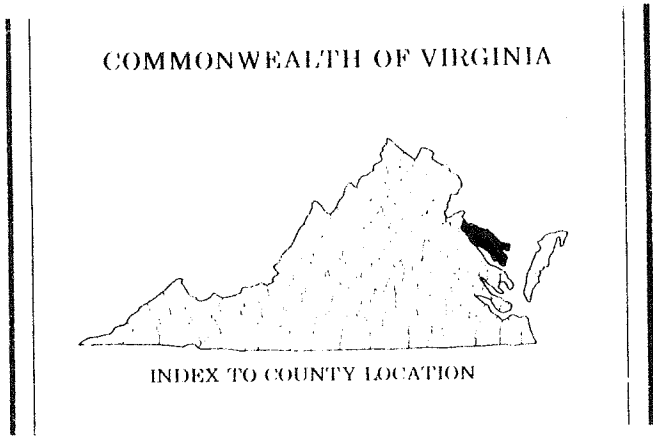
Ian R. D. Williams, Member
Westmoreland Co. Bd. of Superv
Montross, VA 22520

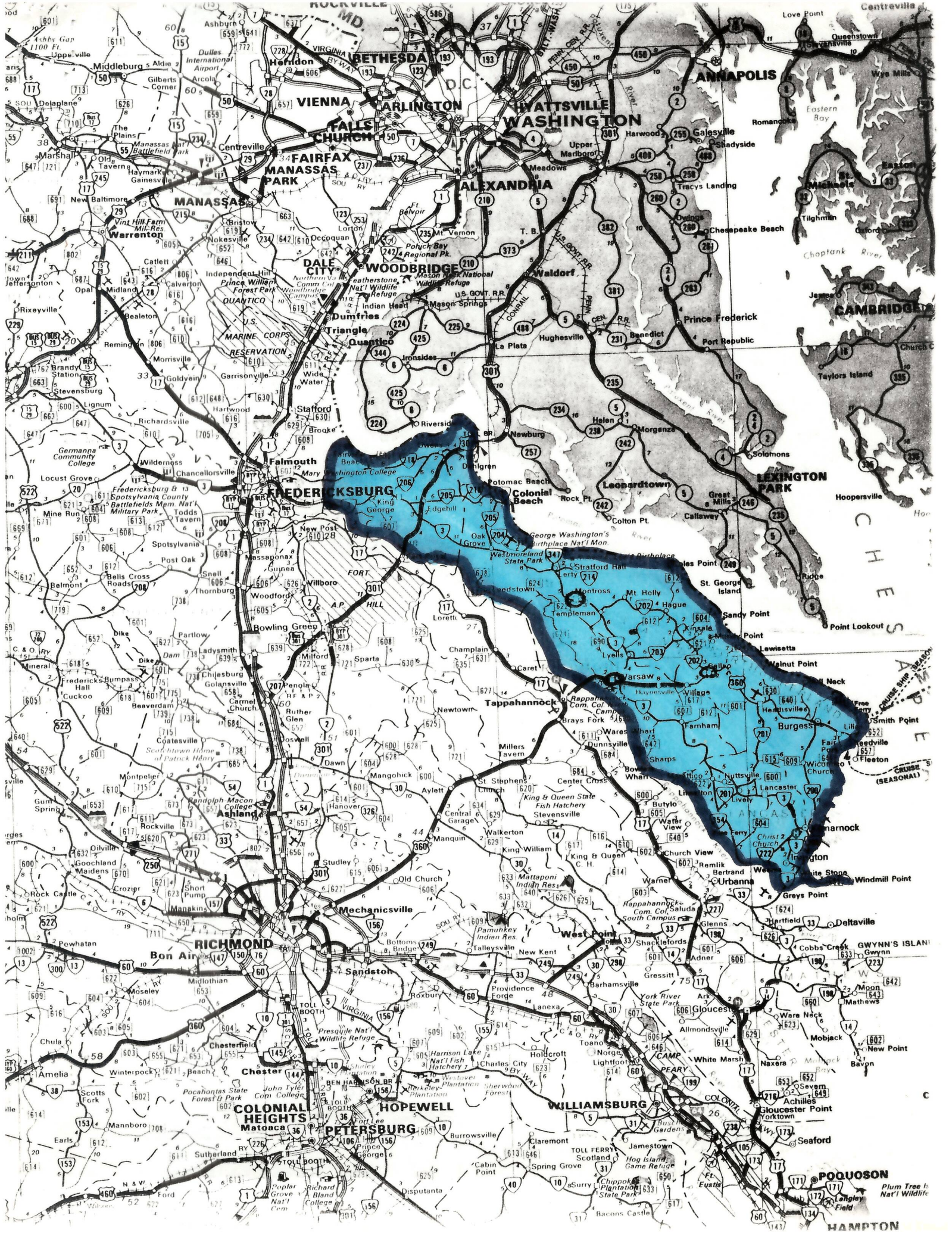
S. Dorsey Edwards, Jr.

S. Dorsey Edwards Jr., Member
Westmoreland Co. Bd. of Superv.
Montross, VA 22520

2 - BOUNDARY DESCRIPTION of proposed viticultural area

The proposed GEORGE WASHINGTON BIRTHPLACE VITICULTURAL AREA comprises the five counties of King George, Westmoreland, Richmond, Lancaster and Northumberland. This area is locally known as the Northern Neck of Tidewater Virginia. It is bounded on the North by the Potomac River, the East by the Chesapeake Bay, on the South by the Rappahannock River, and on the West by King George County western boundary line. The total area is approximately 922 square miles.





Plum Tree Is. Nat'l Wildlife Field

HAMPTON

3 - GENERAL NATURE OF AREA

The Northern Neck's five counties extend approximately 100 miles from the Chesapeake Bay westward to within a few miles of the city of Fredericksburg. The distance from north to south between the Potomac and Rappahannock Rivers varies from 10 to 20 miles, making the area a long narrow peninsula between the two tidal rivers.

A ridge with elevations up to 190 feet extends generally through the center of King George and eastward through Westmoreland with sandy clay, well drained soil types. Other excellent agricultural soils are found along each of the rivers in what is generally called the river flats with excellent air drainage and a moderating climate influenced by the huge bodies of surrounding water.

General agriculture predominates the farming communities with small grains, corn and soybeans the leading cash crops.

Wine grape production since 1960 has been a growing factor throughout the Northern Neck with approximately 20 vineyards now in production or being planted.

The bonded Ingleside Plantation Winery in Westmoreland County is the only winery in the Northern Neck area. 1984 Virginia State Department of Agriculture records indicate Ingleside is Virginia's largest Farm Winery with a finished production of over 23,000 gallons in 1983.

4 - HISTORY

No more history attaches to any small geographical area in this country than to that peninsula between the Rappahannock and Potomac Rivers known as the Northern Neck of Virginia. It may be truthfully said that this section was the birthplace of the nation (*). From Northumberland County Richard Lee founded the famous Lee Family of America; Lancaster County was the home of "King" Robert Carter of "Corotoman", also the Ball family which produced Mary Ball the Mother of Washington; Richmond County was the home of Landon Carter of "Sabine Hall" and John Tayloe of "Mt. Airy"; Westmoreland County the home of Thomas Lee of "Stratford Hall" and the birthplace of Richard Henry Lee, Francis Lightfoot Lee and Robert E. Lee. James Monroe and George Washington were born only a few miles apart in upper Westmoreland; King George produced James Madison. Throughout the Northern Neck these and many other great planter families lived, prospered and held positions of great influence and leadership in the formation of this Republic. For these reasons this region became known as the "Athens of America".

John Washington, the immigrant, settled near Pope's Creek in Westmoreland County in 1656. He prospered, became the owner of between four and five thousand acres, was made Colonel in the Militia, was elected vestryman, justice and a member of the House of Burgesses. From this beginning the Washington family grew in prominence throughout the area for the next several hundred years. John Washington's great grandson, George, was born on the Pope's Creek farm on February 22, 1732, over 75 years after John's arrival in the Northern Neck.

George Washington's Birthplace National Monument encompassing a portion of the original Pope's Creek farm, as well as the birthplace site, has been since 1932 open to the public and maintained by the park service under the supervision of the U.S. Department of the Interior.

This land of the Northern Neck of Virginia as epitomized by this National Monument is widely and properly known and recognized as "The Birthplace of George Washington".

(*) Northern Neck Historical Magazine (Foreword) Senator R.O. Norris

5 - SOIL TYPES

Great differences in soil types and soil properties do occur within short distances throughout the Northern Neck. In general the best agricultural soils are to be found in the sandy flat lands along the rivers, and in the sandy clay soils along the highest elevations of the ridge of land between the rivers. In both of these areas are found well drained soils which have excellent air drainage, are easily tilled, are rich in minerals, and are of excellent quality for wine grape production. These soils are considered by the U.S. Department of Agriculture to be prime farmland and are suitable for top production of food, feed, forage and fiber.

The parent material of the soils of the Northern Neck is transported material that was moved by marine and stream action, many thousands of years ago. The older soils are those of the uplands, while other types along the rivers are classified geologically as young soils.

6 - CLIMATE AND RAINFALL

The climate of the Northern Neck is greatly influenced by the waters of the Chesapeake Bay and the Potomac and Rappahannock Rivers. The moderating effect of the surrounding waters places most of the Northern Neck in Zone 8 of the U.S. Department of Agriculture hardiness zone map.

From temperatures recorded at Colonial Beach in the western part of the Northern Neck during the period 1963 to 1978, it is noted that the approximate average last frost date during the spring occurs about April 22nd. While the earliest average fall frost date is approximately October 26th. This gives an average of over 210 days of frost free growing season. For the counties to the east, this season is extended by a few days as one approaches the Chesapeake Bay.

The average winter temperature is 38 degrees F, while the summer average is 77 degrees F. The lowest recorded temperature at Colonial Beach is 0 degrees which occurred January 18, 1977, while the hottest temperature of 100 degrees occurred July 3, 1966. Here again these cold temperatures moderate as we move east toward the Bay.

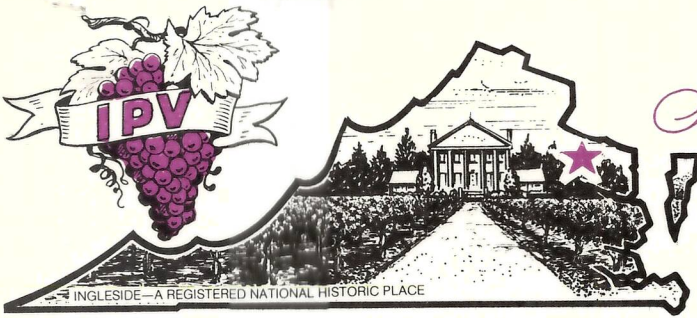
The total average annual precipitation is 40 inches, which includes an average of 4 inches of snow for the area.

The average relative humidity in mid-afternoon is 50 percent. Humidity is higher at night and the average at dawn is 80 percent. The sun shines 70 percent of the time possible during the summer and 50 percent in the winter. The prevailing wind is from the south (*).

In farmed areas soils are frozen only for short periods to a shallow depth each winter, while wooded or heavily sodded areas are rarely frozen.

(*) U.S.D.A. Soil Survey of Westmoreland County 1981

PHONE: (804) 224-7111



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PREMIUM VIRGINIA WINES
30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.
P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

August 10, 1984

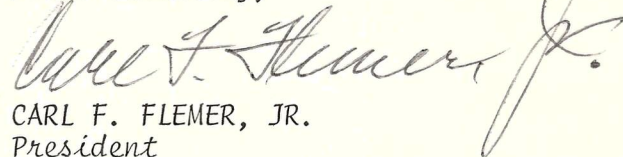
Mr. Ed Reisman, A.T.F. Specialist
Department of the Treasury
Bureau of Alcohol, Tobacco & Firearms
Washington, DC 20026

Dear Mr. Reisman:

I am enclosing the additional information which you have requested to further document our petition for establishing the Northern Neck as the George Washington Birthplace Viticultural Area.

I hope we have supplied sufficient evidence; however, if anything further is needed, please do not hesitate to call me.

Yours sincerely,



CARL F. FLEMER, JR.
President

CFF:cwc

Enclosures

RECEIVED
8/15/84

A. EVIDENCE THAT THE NORTHERN NECK OF VIRGINIA IS KNOWN AS THE
LAND AND BIRTHPLACE OF GEORGE WASHINGTON

George Washington was born in the Northern Neck in Westmoreland County, on Wakefield Plantation on February 22, 1732.

Exhibit 1. David Eaton in his Atlas of Westmoreland County, published in 1942, states that George Washington was born on his father's farm "Wakefield Plantation" on February 22, 1732.

Exhibit 2. Current brochures from George Washington Birthplace National Monument.

Exhibit 3. H. Ragland Eubank in his 1934 Guidebook of the Northern Neck specifically states that the Historic Northern Neck of Virginia is the Land of George Washington. Further, he states that Mary Ball, the Mother of Washington, was closely identified and associated with each of the five Northern Neck Counties, having been born in Lancaster, lived in Northumberland, Westmoreland and King George, and owned property in Richmond County.

Exhibit 4. The "Westmoreland Association" formed in the 1920's states in its foreword (page 3) that the Northern Neck is the Land of George Washington and Robert E. Lee. "From its four corners came the blood that flowed in their veins." On page 7 Paul Kester, the famous playwright, states the "Westmoreland Association" means not only Westmoreland County but also those other counties "with which it has lived on such intimate and friendly terms."

Exhibit 5. The Northern Neck Historical Society was established in 1950 to collect and preserve data peculiar to the region. Its organizational meeting and at least one annual meeting is held each year at the County Seat of Westmoreland, the Birthplace of George Washington.

Exhibit 6. The Northern Neck News, published in Warsaw, Richmond County, is probably the most widely distributed and most widely read of all weekly newspapers of the Neck. It has and does consider itself to be serving the "Heart of Historyland" the Land and Birthplace of George Washington. Copy of August 2, 1984 grape industry article.

B. HISTORICAL AND CURRENT EVIDENCE THAT THE BOUNDARIES OF THE PROPOSED
VITICULTURAL AREA ARE AS SPECIFIED IN THE PETITION

The Northern Neck of Tidewater Virginia is an elongated area lying between the tidewater Potomac and tidewater Rappahannock Rivers, extending from the Chesapeake Bay westward to the western boundary of King George County. Approximately at this western boundary of the Northern Neck, the climate begins to change from the gentle influence of the Chesapeake Bay, Potomac and Rappahannock Rivers to the more harsh influences of Piedmont, Virginia.

The Northern Neck is entirely within the Northern Coastal Plain with topography running into two general agricultural types called neckland and upland. Neckland, located along the river flats, is nearly level with elevations from 6 feet to about 50 feet above sea level. The upland is a gently sloping plateau along the center of the Northern Neck with elevations beginning at 50 feet and going to 190 feet in the western areas of Westmoreland and King George.

All of the parent material that has given rise to the soils of the Northern Neck is transported material that has been moved by marine and stream action. The soils have a wide range in age, the soils of the upland ridges are older and well developed while soils of the necklands are considered young soils.

Standing near the center of the Northern Neck in Westmoreland County is the George Washington Birthplace National Monument which stands as the historical center for the proposed George Washington Birthplace Viticultural Area.

Exhibit 7. Miriam Haynie states in her book, "Washington's Boyhood," that "every plantation had its fruit trees and grape arbors." and "wild grapes were made into wine."

Exhibit 8. J. Paul Hudson in his 1956 National Park Service Handbook shows examples of John Washington's wine bottle seals found at the Birthplace site.

Exhibit 9. Charles E. Hatch, Jr. in "Popes Creek Plantation" Birthplace of George Washington, 1979, shows examples of both John Washington's and Augustine Washington's wine bottle seals. Also on page 115 he writes of the abundance of wild grape vines and the importation of English vines.

Exhibit 10. The 1983 History of Westmoreland County shows other local wine bottle seals of the 17th and 18th Centuries indicating the widespread making and use of wines in the Northern Neck.

Exhibit 11. Agricultural census figures supplied by Sam Johnson, Westmoreland Agricultural Extension Agent, indicate that the Northern Neck counties have continuously since colonial days produced grapes for family table use and home wine making.

Total pounds harvested in 1910	-	59,601
" " " " 1930	-	67,490
" " " " 1940	-	75,414
" " " " 1950	-	34,007

C. EVIDENCE RELATING TO THE CLIMATIC AND GEOGRAPHICAL CHARACTERISTICS WHICH DISTINGUISH THE FIVE COUNTY NORTHERN NECK AS A SEPARATE VITICULTURAL AREA

Climatic features are the most prominent and compelling characteristics which distinguish the five county Northern Neck as a separate viticultural area. The climate of the proposed area is vastly influenced by the

Chesapeake Bay, the Potomac River and the Rappahannock River which indeed almost surround it. The moderating effect of these huge bodies of surrounding salt water are the chief reason we find native stands of longleaf pine (*Pinus taeda*), southern bayberry (*Myrica cerifera*) and other plants growing from King George County eastward to the Bay and do not find these varieties in native stands in any substantial degree to the west of King George in Stafford County. By contrast there are in Stafford County native stands of hemlock (*Tsuga canadensis*) which are not found anywhere in the Northern Neck counties. An interesting fact too, is that chipmunks (*Tamias striatus*) are native in Stafford County while, to the writer's knowledge, there has never been a chipmunk in the Northern Neck.

These examples indicate, perhaps in a most elementary but accurate way, where the invisible line between one climatic zone and another has been placed by nature. The climate of the five county Northern Neck is milder, its native plants more southern, its snowfall less severe, its frost-free days longer, its temperatures more even and moderate than the Piedmont plateau to the west, beginning with Stafford County.

Great differences in soil types and soil properties do occur within short distances throughout the Northern Neck. In general the best agricultural soils are to be found in the sandy flatlands along the rivers and in the sandy clay soils along the highest elevations of the ridge of land between the rivers. In both of these areas are found well-drained soils which have excellent air drainage, are easily tilled, are rich in minerals, and are of excellent quality for wine grape production. These soils are considered by the U.S. Department of Agriculture to be prime farmland and are suitable for top production of food, feed, forage and fiber.

The parent material of the soils of the Northern Neck is transported material that was moved by marine and stream action many thousands of years ago. The older soils are those of the uplands, while other types along the rivers are classified geologically as young soils.

The classification of the major agricultural soils of the Northern Neck by the U.S. Department of Agriculture as being prime farmland, combined with a mild climate, a short but freezing winter season, a 40-inch average yearly rainfall, and a generally dry, sunny grape ripening and harvest time make for an ideal growing situation for wine grapes, especially the *vinifera* varieties grafted on American rootstocks which may be doubtfully winter-hardy throughout western Virginia and the Northeast United States.

D. BOUNDARY DESCRIPTION OF PROPOSED AREA

The appropriate maps for determining the boundaries of the proposed George Washington Birthplace Viticultural Area are two U.S.G.S. Maps titled Richmond NJ18-7, 1:250,000 minutes series and Washington NJ18-4, 1:250,000 minute series.

The proposed George Washington Viticultural Area is located in the Northern Neck of Tidewater Virginia and includes the entire counties of King George, Westmoreland, Richmond, Lancaster and Northumberland encompassing a total of 920 square miles. The area is bounded on the north by Potomac

Creek and the Potomac River, on the east by the Chesapeake Bay, on the south by the Rappahannock River and on the west by the King George County western boundary line.

Specific boundaries are as follows: Beginning at a point on Potomac Creek where the King George western boundary line at its northern most point intersects Potomac Creek, thence easterly along the Potomac Creek shoreline approximately 3 miles to the Potomac River, thence easterly and southeasterly along the Virginia shoreline of the Potomac River for approximately 66 air miles to Smith Point on the Chesapeake Bay, thence southerly along the shoreline of the Chesapeake Bay for approximately 20 air miles to Windmill Point at the mouth of the Rappahannock River, thence northeasterly along the north shore of the Rappahannock River approximately 72 air miles to Muddy Creek at the point where the western boundary line of King George County at its southernmost point begins, thence northward along the King George-Stafford County line approximately 7 air miles to the point of the beginning.

E. MAP OF THE NORTHERN NECK SHOWING EXISTING AND PROPOSED VINEYARDS AND WINERIES

Exhibit 12. Located on this map are 16 established and 1 proposed vineyard with 92.5 acres planted at this date in vinifera and French-American hybrid grapes. There is considerable interest in establishing other vineyards, see Exhibit 6 in which the August 2, 1984 Northern Neck News article notes the strong local interest in grape production. There is one bonded winery in Westmoreland County and one proposed for King George County.

ATLAS
OF
WESTMORELAND COUNTY
VIRGINIA

EXHIBIT 1



PATENTS

SHOWING HOW LANDS WERE PATENTED FROM THE CROWN & PROPRIETORS
OF THE NORTHERN NECK OF VIRGINIA, INCLUDING SOME HISTORY
OF THE PATENTEES, INDIANS, CHURCH & STATE, PARISHES,
MINISTERS, PROMINENT MEN, SURVEYS, PORTRAITS,
MAPS, AIRPLANE VIEWS & OTHER DATA

"We are a bundle of our ancestors."—EMERSON.

BY

DAVID W. EATON
OAK GROVE, VA.

THE DIETZ PRESS, RICHMOND, VA.

1942



George Washington of Virginia

First President of the United States

Born at Wakefield February 22, 1732

Died at Mt. Vernon December 14, 1799

Age 67 Years

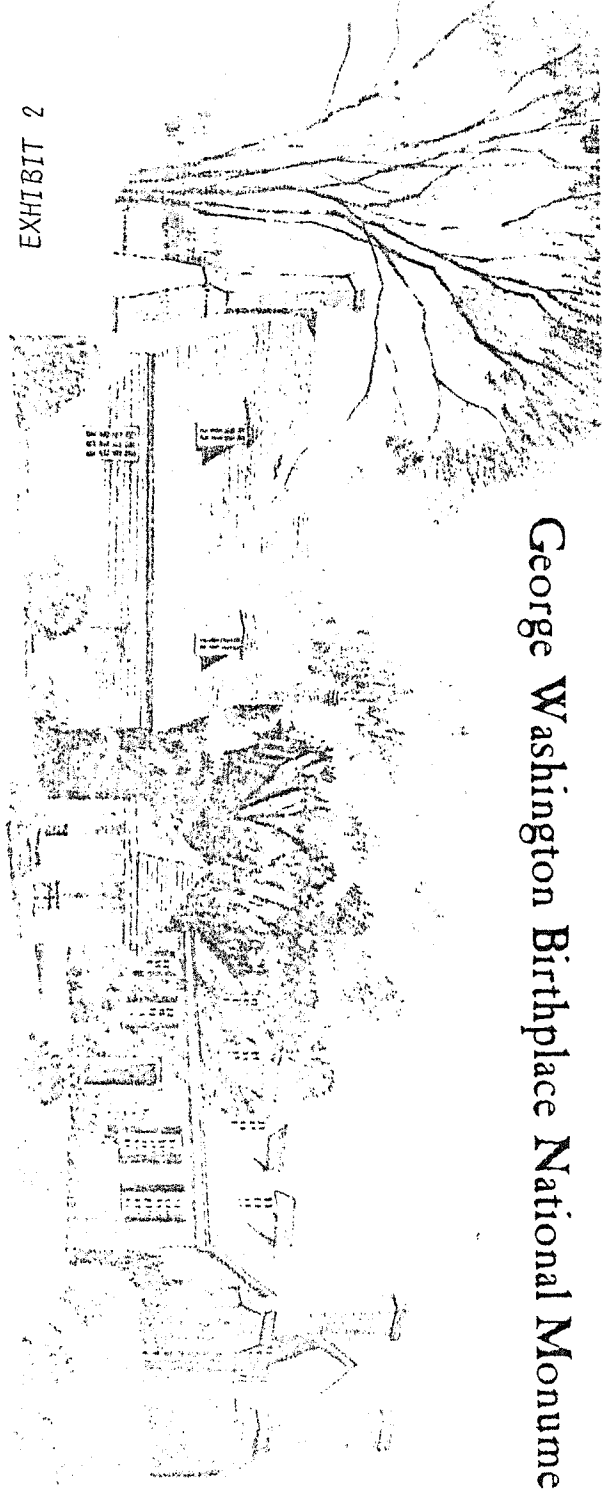


George Washington was born on his father's farm, Wakefield Plantation, February 11, 1731, Old Style; or, February 22, 1732, the present style. Here George lived until 1736 when his father moved to Mt. Vernon. Augustine Washington then moved to "Ferry Farm" on the Rappahannock river in King George, now Stafford county. Here he died in 1743, and was buried on Wakefield Plantation. George spent the Winters of 1745 to 1747 with his half-brother Augustine (called Austin, to distinguish him from his father). Here he went to school to a noted teacher, Henry Williams, at Church Point. George studied surveying, and

the only leaf of his note books left shows a practice-survey made from Mattox creek to the "Digwood" swamp, published in *History of the George Washington Bicentennial Celebration*, Vol. I, p. 387, Plate 8, which may be seen at Birthplace of George Washington. This plat shows that he had attained considerable skill in mapping. He then went to school in Fredericksburg where he was instructed by noted teachers.

"After coming back from the school kept by Williams in Westmoreland County, Washington attended the Rev. James Marye school."—(See Moncure D. Conway.)





George Washington Birthplace National Monument

Washington's Birthplace, VA

George Washington was born on his father's Popes Creek tobacco farm on February 22, 1732. He lived here until he was 3½ and again for several years in his teens. Today, a Memorial House stands near the site of the original home, which burned down in 1779. Here, the National Park Services operates a colonial farm re-creating the sights, sounds and smells of 18th-Century plantation life — a life that influenced the character and development of the young Virginian who became the first president of the United States.

Visiting the Park

George Washington Birthplace National Monument is located on Popes Creek off the Potomac River 61 kilometers (38 miles) east of Fredericksburg, Virginia, and is accessible over Virginia Route 3 and Route 204. The park is open daily 9:00 AM - 5:00 PM, closed only December 25 and January 1. Admission is free. Groups should call (804-224-0196) or write the park to advise the staff of your visit - date, time, and number in group. A picnic area is available, as well as several picnic tables located at the park's Visitor Center. No refreshments, except snack and soda machines. Disabled visitors will find the Visitor Center completely accessible; transportation is provided for those unable to walk the 300 yards to the historic area. Allow 2 hours for a leisurely visit.

Daily Activity Schedule

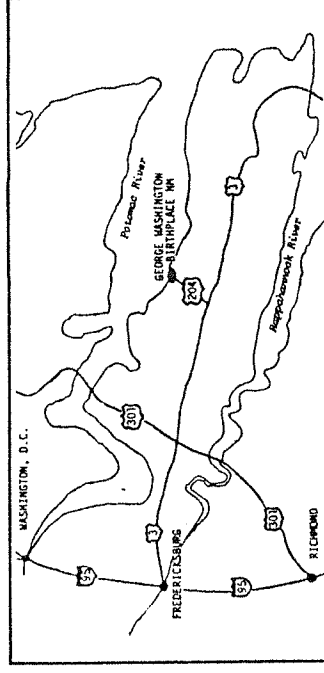
VISITOR CENTER — "A Childhood Place," a 14-minute film on life at Popes Creek, shown every half-hour. Exhibits on colonial artifacts and Washington family history.

MEMORIAL HOUSE — Tour of Memorial House and Kitchen leaves kitchen every half-hour.

WEAVING ROOM — Demonstrations of spinning and weaving, as staffing permits.

FARM WORKSHOP — Demonstration and discussion of plantation crafts, such as woodworking, blacksmithing and leather-working.

COLONIAL FARM — Weekly chores of plowing, hoeing, planting, harvesting and weeding are done as the need arises. Ox-driving demonstrations as staffing permits.



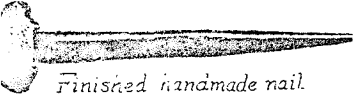

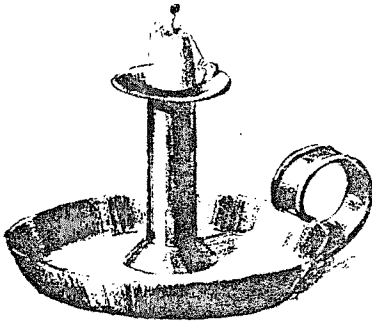
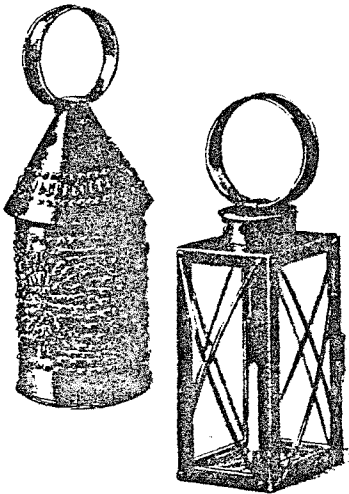

Administration

George Washington Birthplace National Monument is administered by the National Park Service, U.S. Department of the Interior. A Superintendent whose address is RR1, Box 717, Washington's Birthplace, Virginia 22575, is in immediate charge.

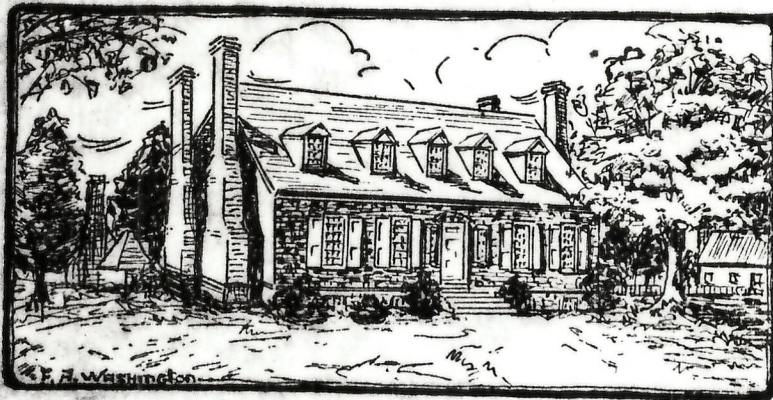
Calendar of Activities

George Washington Birthplace National Monument

Summer 1984

 <p>Finished handmade nail</p>	<p>SATURDAY, 30th - July 4th Weekend - Celebrate independence on an 18th century plantation. Free ox cart rides to all children who pull a handful of flax in the farm. Candlemaking demonstrations in the kitchen, and blacksmithing in the farm workshop. 10:00 a.m. to 12:00 p.m. and 2:00 to 4:00 p.m.</p>	<p>SATURDAY, 14th - Craft Day - Come see a variety of colonial crafts as demonstrated by the staff and numerous private craftsmen. Candlemaking in the kitchen, spinning and weaving in the spinning room, and blacksmithing and coopering in the farm workshop. Other craft demonstrations throughout the historic area. 10:00 a.m. to 4:30 p.m.</p>	<p>SUNDAY, 19th - Evening Concert, Listen to a service band perform colonial airs on the front lawn of the Memorial House. 5:00 to 7:00 p.m.</p>
<p>MAY</p>		<p>SATURDAY, 28th - Musical - Various 18th century tunes played in the Memorial House. 2:00 to 4:30 p.m.</p>	<p>SUNDAY, 12th Spinnet Music - 18th century airs played in the Memorial House. 2:00 to 4:30 p.m.</p>
<p>SUNDAY, 6th -May Day - Join the staff in celebrating the coming of spring. Sheep Shearing in the farm, 1:30 and 3:00 p.m. Spinnet music at the House. 2:30 to 4:30.</p>	<p>JULY</p>	<p>SUNDAY, 29th - Digging For Washington - Join the park's archaeologist for an explanation and walk pointing out the excavations done at George's home. 2:00 p.m. at the house site.</p>	
<p>SUNDAY, 13th, 20th & 27th - Sheep Shearing - Demonstrations using hand shears in the farm. 1:30 and 3:00 p.m.</p>	<p>SUNDAY, 1st - July 4th Weekend - See June 30th listing for description and times.</p>		<p>SEPTEMBER</p>
 <p>"Hand" of tobacco</p>	<p>WEDNESDAY, 4th - Independence Day - Join us for a lively musical celebration of the Fourth. Singing, musical instruments, and colonial dancing. On the front lawn of the house. 5:00 to 7:00 p.m.</p>	<p>AUGUST</p>	<p>SATURDAY, 1st - Musical - Colonial songs and spinnet music performed in the Memorial House. 2:00 to 4:30 p.m.</p>
<p>JUNE</p>	<p>SATURDAY, 7th - Afro-Heritage History Day - Come join us for 18th century Black music, songs, and dancing in the historic area. 10:00 a.m. to 4:30 p.m.</p>	<p>SUNDAY, 5th - Herb Garden Tour - Examine the use of herbs in the 18th century, in the herb garden. 2:00 p.m.</p>	<p>SUNDAY, 2nd - Children's Day at the Birthplace - Bring the family down for a fun day. Children's games in the house area, carding and spinning wool at the spinning room, and free ox cart rides. 10:00 a.m. to 12:00 p.m. and 2:00 to 4:00 p.m.</p>
<p>SUNDAY, 10th - Herb Garden Tour - Examine the use of herbs in the 18th century, in the herb garden. 2:00 p.m.</p>	<p>SUNDAY, 8th - Herb Garden Tour - Examine the use of herbs in the 18th century, in the herb garden. 2:00 p.m.</p>		<p>MONDAY, 3rd - Labor Day - Say goodbye to summer at the birthplace. Blacksmithing in the farm workshop and fireplace cooking demonstrations at the kitchen. 10:00 to 11:30 a.m. and 1:30 to 4:30 p.m.</p>
<p>SATURDAY AND SUNDAY, 16 and 17th - Blacksmithing and Coopering - Craft demonstrations in the farm workshop. 9:30 to 11:30 a.m. and 1:30 to 3:30 p.m.</p>			

THE LAND OF
GEORGE WASHINGTON
AND ROBERT E. LEE



"FROM the portals of its stately homes it sent its sons
to lay the foundations of a free Government.

Again and again from cot and manor they have gone
forth to make the bounds of Freedom wider yet.

Courage and courtesy have ever marked their conduct ;
Fidelity to duty has been their guiding star."



THE WESTMORELAND ASSOCIATION
INCORPORATED
MONTROSS, VIRGINIA

THE LAND OF GEORGE WASHINGTON & ROBERT E. LEE

FOREWORD



THE WESTMORELAND ASSOCIATION has been called into being to obtain and to disseminate authentic information of general interest relating to the region of Virginia lying between the upper and lower waters of the Potomac and Rappahannock Rivers, the city of Fredericksburg and the neighboring counties which border on the Rappahannock.

It is the land of George Washington and Robert E. Lee. From its four corners came the blood that flowed in their veins. Throughout its confines each went in his youth. From its borders each set forth to his life's work.

It is the land of George Mason and George William Fairfax; of Madison and Monroe; of Marshall and Hugh Mercer and Geo. Weedon; of Paul Jones and Mathew Maury; of Richard Henry Lee and his illustrious brothers and of "Light Horse" Harry Lee.

It is the land of Robert Carter and Joseph Ball; of John Washington and Richard Lee; of Thomas Marshall and William Monroe, prodigious progenitors, whose descendants have ever stood for the rights of man and ordered liberty in the law.

It is a kindly land. John Smith cruising its waterways in 1608 said, "The verdure of the earth in most places doth manifestly prove the soyle to be lusty and very rich."

It is a land of infinite variety of fertile valleys and wooded hills; of rolling uplands and undulating plains and lush meadows; of sweet springs and gurgling brooks; of soft flowing broad placid rivers and great tidal inlets and the smell of salt sea. It has ever been the greatest home region of America. The precepts and examples of its Mary Washington, of Epping Forest, and its Ann Carter Lee, of Corrotoman, have served to keep its home fires burning.

From the men of this region, led by the descendants of Cavaliers of old England, the resolve to be free from British oppression came and was accomplished.

Here the great republic was conceived and fostered and fashioned into being. It is the greatest birthplace on earth. It is hallowed ground.

By - PAUL KESTER

Again, when that group of intrepid patriots met at Leedstown in February, 1766, and formed that earlier Westmoreland Association, which was, I believe, the first organized challenge to English power to which responsible men in considerable numbers dared affix their signatures, it was not alone the men of Westmoreland who signed it, not alone Richard Henry Lee and his brothers, and the Washingtons, but Thompson Mason, of Loudoun; the Mountjoys, of Stafford and King George; William Bronaugh, of Fairfax; John Ballantine and William Grason, of Prince William, and William Ball, of Lancaster. The hundred and fourteen signatures represented a region, and not a single county.

It will be evident then that The Westmoreland Association of today means not only Westmoreland County, but those counties with which it lives in the present as it has lived in the past, on such intimate and friendly terms.

History has dealt very fully with the towering figures who first saw the light of day on this long richly wooded peninsula, which lies between the two broad tidal rivers, the Potomac and the Rappahannock. It would seem little more can be learned of Washington, Madison, Monroe, Richard Henry Lee and Robert E. Lee, yet historians are constantly making pilgrimages to this region, if not with the hope of finding new material, then with the purpose of securing a better understanding of these great men by a more intimate acquaintance with the environment in which they were born.

After visiting Gunston Hall, the home of George Mason, author of the Virginia Bill of Rights, and of the first Constitution of Virginia, and one of the framers of the Constitution of the United States, Lord Balfour told his friend, Mr. J. P. Morgan, that the old Hall and its surroundings had enabled him to understand the great planter statesmen of the Revolutionary era as he had never understood them before.

Who can really pretend to a knowledge of the character of Washington who is not in some measure familiar with the land in which his character was developed? It is easy to read of Washington, but to know him one must have spent hours at Mount Vernon and Wakefield and the Ferry Farm, and must know the streets of Fredericksburg, which he trod as a boy and through which he rode as a

Northern Neck Historical Magazine

MONTROSS, Westmoreland County, VIRGINIA

VOL. I

DECEMBER 1951

NO. 1

FOREWORD

by ROBERT O. NORRIS, JR., *President of the
Northern Neck Historical Society*

No more history attaches to any relatively small geographical unit in the country than to that peninsula lying between the Rappahannock and Potomac Rivers and between the Chesapeake Bay and the foothills of the Blue Ridge Mountains. It may be truthfully said that this section was the birthplace of the nation for the reason that so many of the most illustrious characters of the heroic age of our country's history were born and spent the greater part of their early lives here. In the County of Westmoreland which lies in this region was born George Washington who, after having taken the leading part in securing our independence, assumed leadership in the formation of our Federal Constitution and became our first president. In the same county were born Richard Henry Lee and Francis Lightfoot Lee, two of the signers of the Declaration of Independence; James Monroe, fifth president of the United States and author of the Monroe Doctrine, and Robert E. Lee, the greatest military strategist our nation has produced and an ardent believer in the doctrine of States Rights and local self-government. Richard Henry Lee introduced in the Continental Congress at Philadelphia the resolution directing that a committee be appointed for the purpose of drafting and presenting a suitable Declaration of Independence. In the adjoining County of King George was born James Madison who, because of his

familiarity with the philosophy of the Republican Theory of Government and his erudition as a student, as a member of the Constitutional Convention of 1787, became known as the "Father of the Federal Constitution." In the present County of Fauquier, also in this section, was born Chief Justice John Marshall, the great interpreter of the Federal Constitution, who did more than any other single person to weld the several states of this union into a nation. Here also were born a considerable number of other persons who were identified in an outstanding manner with the achievement of independence and the formation of the Republic or who held positions of great leadership in colonial affairs. Among these latter should be mentioned Colonel Robert Carter of Lancaster County, known as "King Carter;" Richard Lee of Northumberland, founder of the distinguished Lee Family of America; William Fitzhugh of Stafford; Thomas Lee of Westmoreland, and George Mason of Stafford County, author of the Bill of Rights, which has been written into the Federal Constitution and the Constitutions of most of the states of the Union.

It is interesting to note that all of these historic personages, except Richard Lee and William Fitzhugh who came to Virginia from England, were descendants of families, nearly all of whom had lived in the Northern Neck for generations. Mary Ball Washington, the mother of George Washington, was a member of the well known Ball Family which had been in Lancaster County for several generations and his father, Augustine Washington, was a scion of a family which had lived in Westmoreland County for several generations. In the days preceding and during the Revolutionary period the great planter families along the Rappahannock and Potomac Rivers were accustomed to send their sons to England to be educated, and in the course of time created a civilization of great culture and learning, which had as its prime interest the philosophy of enlightened government, and it was for this reason that this region became known to some as the "Athens of America." The result was that there came about a conception of political equality and democracy among all the people of the Northern Neck which has persisted to this day and is a characteristic of these people. While many of them were not in a financial position to educate their sons at foreign universities, by keeping themselves informed through reading and study in the splendid libraries that adorned many of the homes of this section and by contact with the leaders, there came about a very fine understanding of and admiration for enlightened self-government through a representa-

tive democracy which permeated the entire population and which resulted in their great contribution to the successful formation of the Republic.

A great part of the Northern Neck of Virginia was for many years an isolated section, particularly the eastern portion. To this day no railroad runs through the four eastern counties. However, its natural beauty, its history, its excellent roads and bridges have in recent years brought this region to the attention of the outside world and many cultured and enlightened people have settled within its limits and have contributed their share to the outlook and perspective of the present generation. The stranger who comes into the Northern Neck from the south over the Downing Bridge at Tappahannock, or the Port Royal Bridge, from the east by way of its ferry connections, from the north by way of the Potomac bridge, or from the west by state highway number three from Fredericksburg cannot help being greatly impressed with its rolling landscape, its good highways, its excellent farm lands, its magnificent vistas, its fine old colonial homes and churches, its history and its people.

It is but natural that those people of the Northern Neck to whom history appealed and who knew something about the history of the section should reach the conclusion that there should be formed the "Northern Neck Historical Society" with the purpose of collecting and preserving historical data peculiar to the region and the publication of a magazine disseminating such information. The result was that a number of interested persons, including the present President of the Society, met at Montross and issued a call for an organization meeting to be held at Montross in Westmoreland County in October, 1950. The response was much greater than was expected and on the date named a large number of people met in the Museum Building at the county seat of Westmoreland County and adopted a Constitution and By-laws which are printed in this issue of the magazine and elected officers and members of the necessary committees. The Society now has nearly four hundred members, several of whom are life members. It is proposed to issue a magazine annually, known as the "Northern Neck Historical Magazine," containing articles with reference to the history of the section so that they may be preserved for all time. The President on the part of the Society desires to express his great appreciation of the interest that has been manifested in this work and to say that the Society will welcome members from any part of the country and appeals to people everywhere who are

Washington's Boyhood

By

MARIAM HAYNIE



ILLUSTRATIONS

By

SIDNEY E. KING

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"TREE AND VINE"



very plantation had its fruit trees and grape abors. Fresh fruits were enjoyed in season, and they were also preserved in various ways for winter use.

Apples were cored, peeled in spirals and hung in the sun to dry, made into jelly or cider. Jelly, preserves and wine were made from grapes, and peaches were used for preserves, pickle and brandy. Nothing was wasted, even wild fruits were preserved in various ways -- wild cherries and wild grapes were made into wine and persimmon were made into beer or brandy. (Persimmon beer was especially enjoyed in the quarters.) Each plantation mistress had her secret recipes "handed down" in the family from generation to generation.

Drinking toasts at dinner was a customary plantation rithual. Lime punch and Madeira were often used for toast drinking, as well as the wine, cider, and brandy made on the plantation.¹⁹⁴

As evidence of the gracious living of colonial times, at Ferry Farm there were -- seven rundletts, which held eighteen gallons of wine each, as well as a large cooler, five small coolers and a decanter.¹⁹⁵

194. Fithian. Journal, pp. 72, 38, 185, 186, 251.

195. King George County, Inventories (Book 1) 1721-1744.

GEORGE WASHINGTON
BIRTHPLACE
National Monument
Virginia

by J. Paul Hudson



NATIONAL PARK SERVICE HISTORICAL HANDBOOK SERIES No. 26

Washington, D. C., 1956

(Reprint 1961)



Wine bottle seal found near homesite of John Washington, and drawing of a bottle of the period.

place was forgotten for so many years that knowledge of the exact location and use of many of the plantation buildings became lost.

The third and last period of the story covers the years when the Federal Government, various individuals, and patriotic organizations became interested in preserving the historic site; a period culminating in the preservation of the ancient plantation by the Wakefield National Memorial Association and the United States Government.

John Washington

In late 1656, or early 1657, John Washington, about 24 years old, arrived in the Potomac River in Westmoreland County, Va., as mate of the Ketch, *Sea Horse of London*. Owing to a disagreement with the owner and captain of the vessel, Edward Prescott, John decided to remain in Virginia.

Of John's early history little is known. He was born in England about 1632, son of the Reverend Lawrence Washington (M.A., B.D., Fellow of Brasenose College, Oxford, Rector of Purleigh, Essex) and Amphillis Twigden of Northamptonshire. In November 1640, Charles I presented John with a "scholar's place" at Sutton Hospital (Charterhouse School), but owing to a long waiting list he did not receive an appointment and appears to have been educated elsewhere.

A year or two after his arrival in Virginia, John married Anne Pope and, in 1659, was given land on Mattox Creek by his father-in-law, Col. Nathaniel Pope. Here their first son, Lawrence (George's

Popes Creek Plantation
Birthplace of George Washington
by
Charles E. Hatch, Jr.

Addendum by Brooke S. Blades

Edited by George C. Mackenzie

Published by The Wakefield National Memorial Association
In cooperation with the National Park Service
United States Department of the Interior

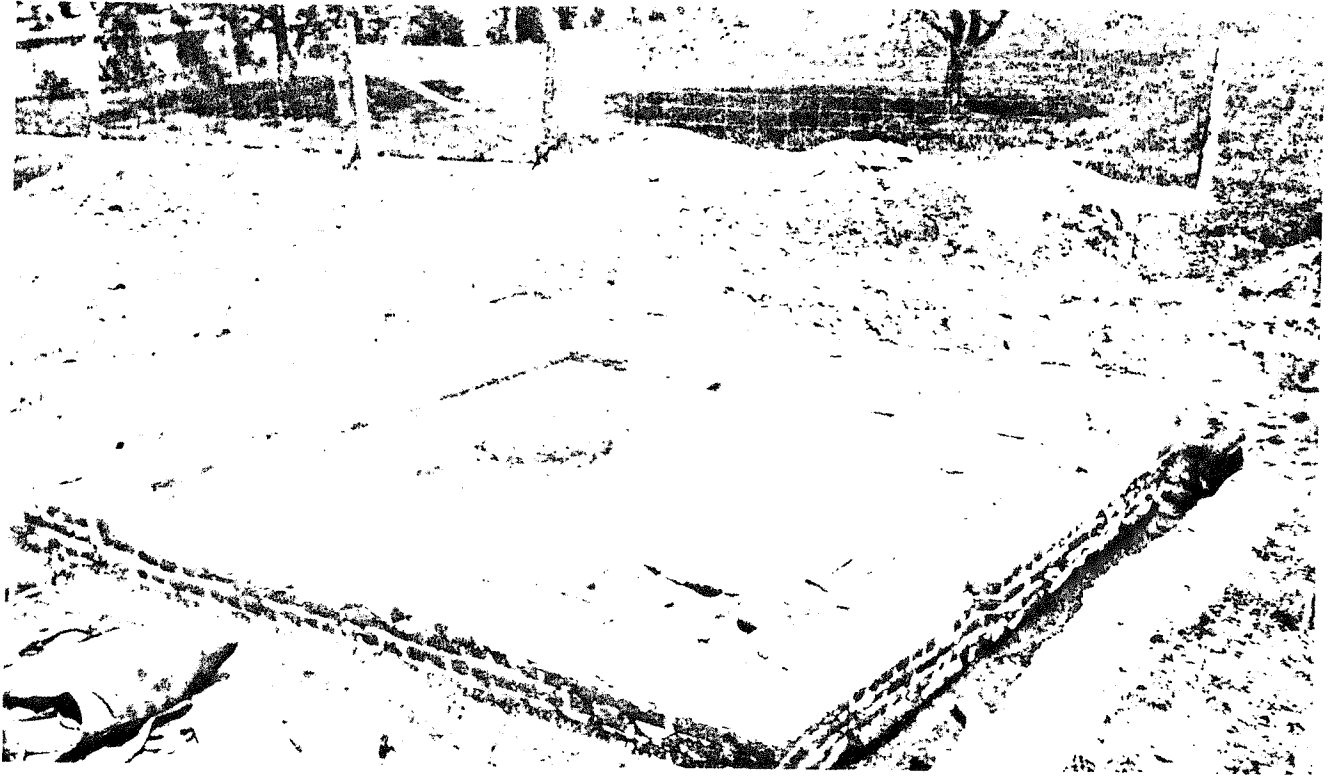
George Washington Birthplace National Monument
Washington's Birthplace, VA 22575

ISBN 0-934146-00-4

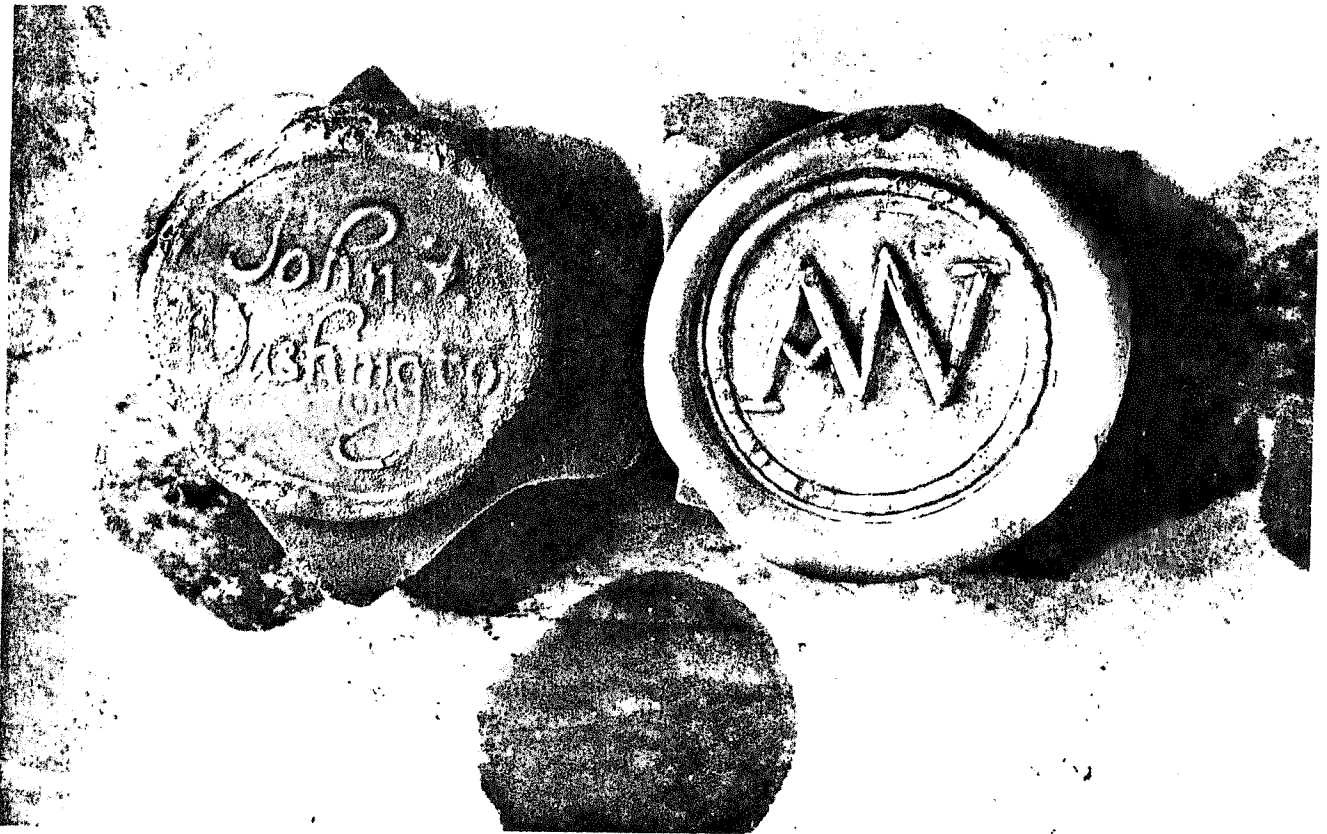
Library of Congress Catalog Card Number 79-63853

Printed in the United States of America

1979



19. *These foundations, excavated in 1934, are those of a dependency—possibly the smokehouse of the Popes Creek Plantation.*



20. *Monograms, such as these for wine bottles, were found during archeological investigations near the home sites of John and Augustine Washington.*

much better (I think) than in England; though the fruit-trees soon decay, yet they are soon raised to great perfection."⁹⁵

Pears also were, or came to be, common. In Glover's day there were "some sorts of *Pears*, but very few Plantations; I have seen the *Bergamy*, *Warden*, and two or three other sorts, and these are fair, large and pleasant as they are in *England*." However, other varieties were introduced and they became much more common. Byrd could list "sugar pears" (two sorts), "bergamot" (three species, "all good"), "warden" (which ripened early), "Summer Bon Chretien" (three varieties), "egg-shaped" (two species), "Winter Bon Chretien" (two kinds), "Madeira" ("it came from the Island of Madeira"), musk and others. John Oldmixon wrote, in his account issued in 1741, that "They have had such extraordinary Success with Apples and Pears, that there's never a Planter but has an Orchard, and makes Large Quantities of cyder and Perry, which is some of their common Drinks."⁹⁶

Glover noted that "here are likewise *Apricoock*, and some sorts of *English Plums*, but these do not ripen so kindly as they do in *England*." On the same subject Byrd commented: "There are two species of *plums*, not counting the ones, namely the white and the black, which were sent from Europe." "Apricot trees grow very tall and thick here." He identified but two species.⁹⁷

Glover reported "great store of quinces" and consequently "Quince-drink." They were "longer and fairer than those of *England*, and not so harsh in taste." Byrd had found six varieties, "namely, Indian, Spanish, Portuguese, Italian, Barbary, and Brunswickian, which are all sweet and good either raw or cooked."⁹⁸ As for currants Glover saw none of the English varieties; however, a half-century later Byrd made a different observation. "One has different varieties of currants, from England as well as from other lands. [They are the] black, white and red varieties, and are all very good in taste."⁹⁹

By 1737 "*Pomegranates* are also found at the home of the fanciers and they have become exceptionally beautiful and good in this land." Figs, however, were more well-entrenched. Byrd reported that "One may find here two species of *fig trees*. One is low and bears a good fruit, which is very large. The other grows tall and thick, gives a beautiful shade, and bears abundantly." Earlier

Glover had found that in Virginia they "grow as good Figgs as they do in Spain."¹⁰⁰

There were other fruits, too, of a native kind that grew well. It is doubtful that they were orchard or garden stock; however, likely they were part of most plantation scenes and available for use. Fruit bearing mulberries were most common, the native red and the imported white, likely too some of the black variety. Byrd wrote that "*Mulberry trees* grow everywhere of themselves and the uncultivated [ones] are the best in the country." Those sent from Europe, "however do not yield such good berries or such fine foliage as the Indian [red ones]."¹⁰¹

Then there was the persimmon, new to the English, who tried hard to identify it as a plum. Beverley wrote that "These, like most other Fruits there, grow as thick upon the Trees, as Ropes of Onions; the Branches very often break down by the mighty Weight of the Fruit." Hugh Jones added, "Some planters, etc., make good small drink with cakes of parsimmons a kind of plumbs, which grow there in great plenty." Beverley, also, noted the use of persimmons to make a kind of beer.¹⁰²

There were grapes, too, with great "abundance of vines in the woods," but little to indicate that they were cultivated extensively in planters' gardens and orchards as a general rule. This was particularly true after the flush of effort to produce wine of native origin in the early days of the Virginia colony. This was an unfruitful effort much after the manner of, but more easily discouraged than, sericulture. At one stage the two were linked and English vines were brought to the Colony as the white mulberry had been.¹⁰³

Though not a cultivated plant, there was one that should be mentioned here. It was the "Myrtle," and its berries were put to general use in candle-making, as both Beverley and Byrd detail. In the words of the latter:

One has two species of *myrtle berries*, the ones somewhat larger than the others. They grow on small bushes, and are green all year long. From the fruit one makes the most beautiful, best and finest wax in the whole world, which is as green and as transparent as crystal. It is made in the following manner: namely, one takes the berries, when they are ripe, and cooks them in water until they are completely

EXHIBIT 10

Westmoreland County Virginia

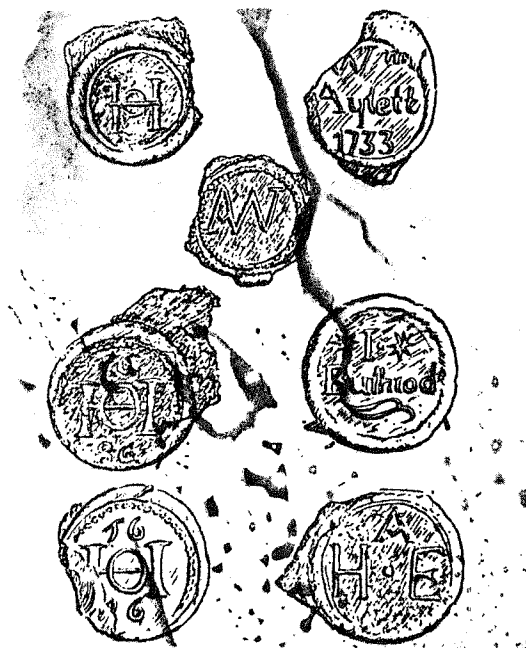
1653-1983

Edited by
Walter Biscoe Norris Jr.

Westmoreland County Board of Supervisors
Montross, Virginia
1983

110 Westmoreland County, Virginia - 1653-1983

- ¹⁵Westmoreland County Orders: 129, 130.
- ¹⁶J.F. Dorman: Westmoreland County Orders 1694-1698: 67.
- ¹⁷*Ibid.*: 53.
- ¹⁸Westmoreland County Orders 1698-1705: 98.
- ¹⁹Westmoreland County Deeds #5: 10, 11.
- ²⁰Elizabeth Hardidge Ashton's tombstone on Nomini Plantation.
Henry Ashton *Ibid.*
Frances Ashton: *Ibid.*
- ²¹Westmoreland County Deeds #8 (Part 1): 130.
- ²²Westmoreland County Records and Inventories 1723-1764: 110.
- ²³George Washington, *Diaries 1748-1799*.
- ²⁴Westmoreland County Deeds #16: 35, 36, 37, 38, 59.
- ²⁵Westmoreland Land Tax Rolls - 1818 to 1841.
- ²⁶Westmoreland Land Tax - 1854.
- ²⁷Westmoreland Land Tax - 1882.
- ²⁸Westmoreland County Deeds #52: 128.
- ²⁹Westmoreland County Deeds #35:656, 657.



Glass wine bottle seals found at Nomini Plantation.
Traced by Janet Curtis.

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U.S. DEPARTMENT OF
AGRICULTURE

DATE

AUG. 8, 1984

REFERENCE SLIP

SAM JOHNSON

VPI & SU EXT. AGT.

PO Box 8

MONTROSS VA 22520

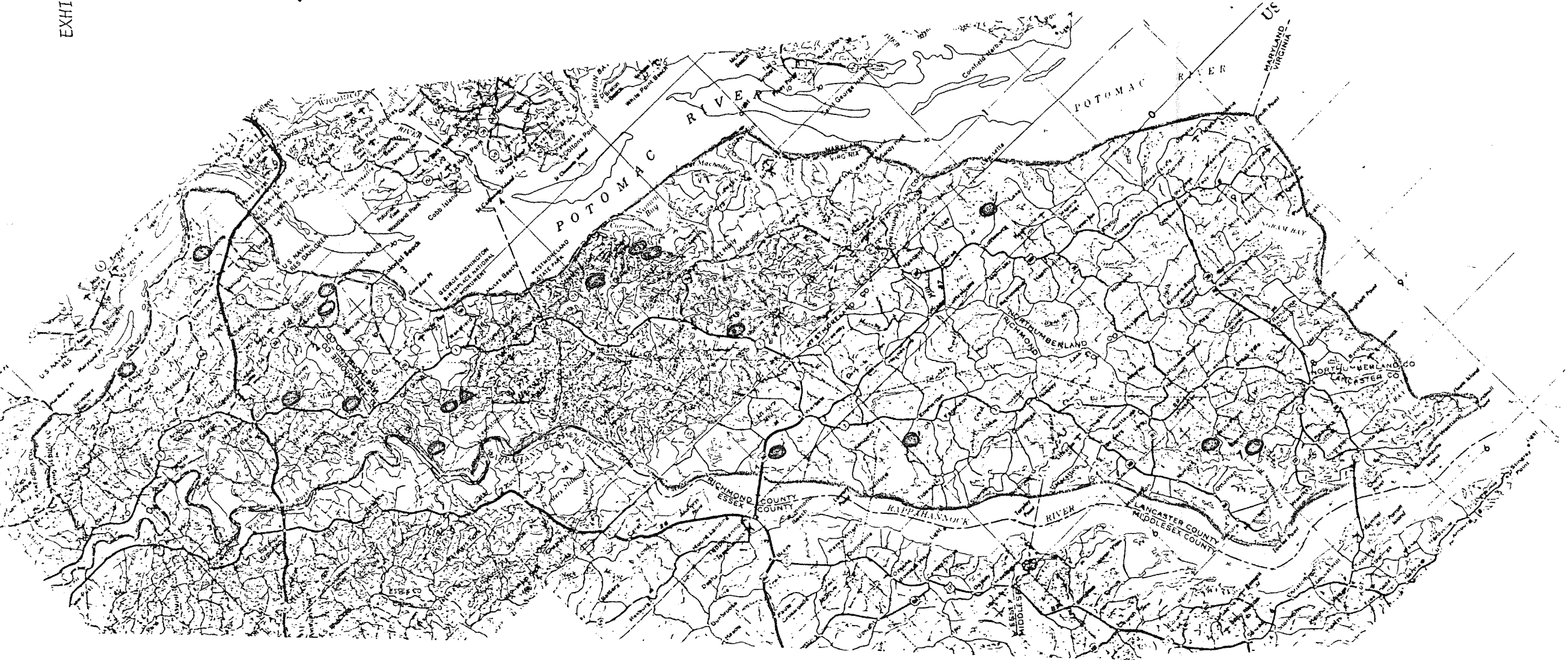
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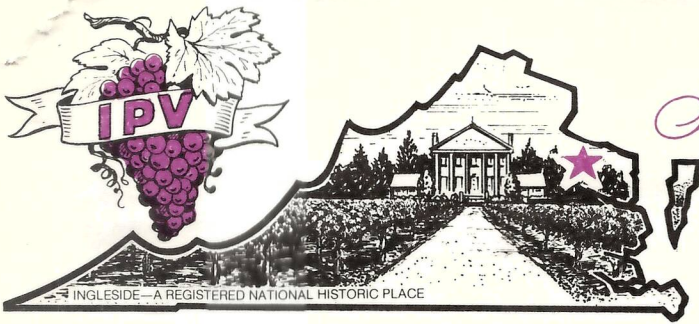
GRAPES

EXHIBIT 11

YEAR	FARMS	VINES	LBS. HARVES
1910			
King Geo.	N/A	480	2,543
Lancaster	N/A	1,719	17,420
Northumbld	N/A	778	25,405
Richmond	N/A	784	4,023
Westmoreld	N/A	1,484	10,210
1920			
King Geo.	N/A	N/A	N/A
Lancaster	N/A	N/A	N/A
Northumbld	N/A	N/A	N/A
Richmond	N/A	N/A	N/A
Westmoreld	N/A	N/A	N/A
1930			
King Geo.	182	4,252	30,247
Lancaster	139	1,488	11,175
Northumbld	240	972	8,684
Richmond	170	1,013	11,324
Westmoreld	105	3,713	6,060
1940			
King Geo.	77	1,374	29,062
Lancaster	128	829	6,823
Northumbld	71	270	10,409
Richmond	213	880	15,188
Westmoreld	149	1,142	13,932
1950			
King Geo.	97	705	18,469
Lancaster	156	667	4,482
Northumbld	120	347	3,184
Richmond	44	94	1,760
Westmoreld	167	843	6,112



PROPOSED - GEORGE WASHINGTON BIRTHPLACE VITICULTURAL AREA
ESTABLISHED AND PROPOSED VINEYARDS - ● , BONDED WINERY - ▲ , AUG. 6, 1984



Ingleside Plantation Vineyards

PREMIUM VIRGINIA WINES
30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.
P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

October 22, 1984

Mr. Ed Reisman, A.T.F. Specialist
Department of the Treasury
Bureau of Alcohol, Tobacco & Firearms
Washington, DC 20026

Dear Mr. Reisman:

I have received from Mr. Sam Johnson, our county agent, the climatological summary reports for our area and the two adjacent areas to the west ~~of~~ Louisa County and Orange County.

There are significant differences of which I have underlined several on the copies I am enclosing for you.

First of all there is a most significant difference to topography and elevation ranging from our near sea level flat land to the rolling almost mountainous thousand foot elevations in the western portions of Louisa County.

Secondly I am certain that the climate of our area, bordering on the Chesapeake Bay and the salty tidal Potomac and Rappahannock Rivers is vastly affected by the salt water. By contrast the reports also speak of large open bodies of water in or near Louisa and Orange affecting the climate. I do not know how the bay and the large tidal rivers can have much influence on the areas to the west of us as they do on this immediate five county area.

Climatologists claim that if the earth's atmospheric temperatures would move down a degree or up a degree it would cause the difference between new glacial age or a new tropical age. The more than a few degrees difference between our tidewater counties and the piedmont counties makes it apparent that we should be divided into two separate climatic zones.

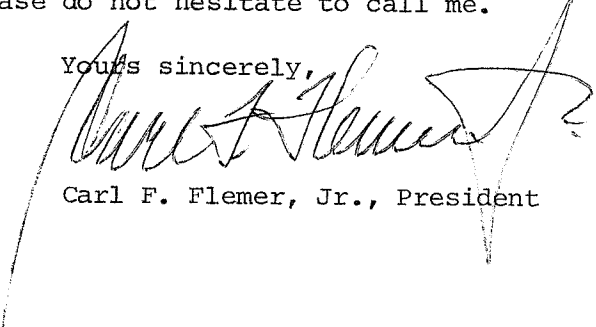
As we suggested in our petition the division line is really an invisible line. No one can say exactly where such a line should be placed. The best measure of this is to observe where nature has decreed the plants, animals, birds and reptiles, through timeless ages, may thrive or die. For the purpose of this petition, the most reasonable location for this climatic division line is the western boundary of King George County.

Mr. Ed Reisman
October 22, 1984
Page 2

It will take only a few consecutive sub-zero days to kill or greatly harm grafted vinifera vines. The report notes that we very seldom have sub-zero days in our lower tidewater area. Late spring frost dates are important in grape production; a few days will make a vast difference. April 15 appears to be our last average frost date, while April 17 to 24 are frost dates to the west of us. Our frost free growing season averages 194 days, while to the west it varies from 173 to 189 days.

If you desire further information please do not hesitate to call me.

Yours sincerely,



Carl F. Flemer, Jr., President

CFF,Jr./maj

Enclosures

CLIMATOLOGICAL SUMMARY

STATION: LOUISA, VA.

LATITUDE 38°02'N
 LONGITUDE 78°00'W
 ELEV. (GROUND) 420 FT.

MEANS AND EXTREMES FOR PERIOD 1941-70

MONTH	TEMPERATURE (°F)											PRECIPITATION TOTALS (INCHES)											MONTH											
	MEANS			EXTREMES				MEAN DEGREE DAYS BASE 65°	MEAN NUMBER OF DAYS				MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY**	SNOW, SLEET					MEAN NUMBER OF DAYS										
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY**	RECORD LOWEST		YEAR	DAY**	90° AND ABOVE	80° AND ABOVE							70° AND ABOVE	60° AND ABOVE	MEAN	GREATEST MONTHLY			YEAR	GREATEST DAILY	YEAR	DAY**	MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY**
JAN	46.1	26.1	36.1	77*	50	26	-9	62	11	883	0	3	22	1	3.00	5.38	47	2.18	48	13	6.0	32.2	66	10.0*	66	30	10	7	1.9	0.7	JAN			
FEB	49.2	26.9	38.1	81	48	28	-2	65	1	741	0	2	20	0	2.95	5.78	61	1.91	64	6	5.2	20.0	48	11.0*	58	15	9	6	2.1	0.5	FEB			
MAR	57.9	33.4	45.7	89*	45	29	2	60	3	552	0	0	15	0	3.90	6.60	63	2.08	63	12	4.0	28.5	60	12.0*	60	3	10	7	2.8	0.9	MAR			
APR	69.8	43.3	56.6	94	60	26	20*	65	8	277	1	0	5	0	3.09	5.53	48	2.26	48	1	0.2	3.0	59	3.0	59	12	10	7	2.0	0.7	APR			
MAY	78.0	52.5	65.3	99*	41	29	26	47	6	90	3	0	1	0	3.26	8.47	48	1.96	68	27	0.0											MAY		
JUN	84.9	60.6	72.8	101*	45	30	37	45	6	11	9	0	0	0	3.32	8.10	51	3.30	68	11	0.0												JUN	
JUL	87.6	64.8	76.2	104	53	30	43	57	3	0	12	0	0	0	4.66	11.10	45	5.18	56	22	0.0												JUL	
AUG	86.1	63.3	74.7	104	53	31	41	42	2	3	10	0	0	0	4.79	16.33	69	11.18	69	20	0.0												AUG	
SEP	80.1	56.1	68.2	104	54	7	29*	42	30	55	4	0	0	0	3.11	8.61	66	3.04	66	14	0.0													SEP
OCT	70.3	45.0	57.7	98*	41	7	18	69	24	248	0	0	4	0	2.94	8.08	61	3.70	61	20	0.0													OCT
NOV	58.7	35.5	47.2	85	50	1	11*	73	25	531	0	0	13	0	3.10	6.91	52	2.73	52	20	0.5	3.0	68	2.0*	68	10	8	6	2.1	0.8	NOV			
DEC	47.2	27.0	37.2	76	54	7	-5*	62	12	656	0	2	23	0	3.50	7.66	48	2.59	48	4	4.0	19.5	66	14.0	69	26	5	6	2.5	0.8	DEC			
YEAR	68.0	44.5	56.3	104	54	7	-9	62	11	4287	39	7	102	1	41.62	16.33	69	11.18	69	20	19.9	32.2	66	14.0	69	26	112	76	28.	10.	YEAR			

*Also on earlier dates, months, or years. **Day observation was made.

NARRATIVE CLIMATOLOGICAL SUMMARY

Louisa is located in the central part of Louisa County which is in the Central Piedmont Plateau. The topography within the county is generally rolling with elevations ranging from 200 to 500 feet above sea level. The county seat is located in the town of Louisa although the nearest large population and industrial centers are at Charlottesville, Fredericksburg, and Richmond.

The climate is modified continental with mild winters and warm and humid summers. The mountains to the west, Chesapeake Bay, and the Atlantic Ocean are major factors controlling the climate in addition to the latitude and location on the North American continent. The mountains produce various steering, blocking, and modifying effects on storms and air masses. The large open bodies of water, which are slow in reacting to atmospheric changes, contribute to the humid summers and mild winters.

Mean annual temperatures at Louisa vary slightly from year to year but average 56 degrees, which is near the average of other nearby stations. Rather cool similar temperatures prevail during the cold season and rather warm similar temperatures prevail during the warm season with the spring and fall temperatures showing the upward and downward trends. May and September are usually warm, each having an average of a few days with the temperature greater than or equal to 90. Daytime highs during the cold season are usually in the upper 40's with nighttime lows in the upper 20's. Maximum temperatures in the upper 70's and minimum temperatures as low as -9 are the extremes during the winter season. Daytime highs during summer are usually in the upper 80's and nighttime lows in the low to middle 60's. Maximum temperatures up to 104 and minimum temperatures in the low 40's are the extremes during July and August.

The number of days with the temperature greater than or equal to 90 has ranged from 15 in 1967 up to 72 days in 1943. The maximum temperature is below freezing on an average of 7 days each year. The temperature falls below freezing 20 to 23 days a month during the winter months and reaches zero often enough to give a numerical average of 1 day for the year.

The growing season, defined as the period between the average date of the last freezing temperature in spring (April 24) and the average date of the first freezing temperature in fall (October 14), is 173 days. Freezing temperatures in spring have occurred as late as May 17 and as early in fall as September 21. This growing season is long enough to allow proper maturity of a large variety of crops. Since knowledge of critical temperatures near and below freezing is needed by various users, a separate table has been computed showing the probabilities of occurrence for different temperatures. Caution should be used in

applying these values to other locations in the county. Elevation, air drainage, soil characteristics, night radiation, and type of air mass are some of the factors controlling the minimum temperature, sometimes causing large differences in short distances.

Heating degree days (mean degree days) as shown in the above table are a measure of the departure of the average daily temperature from 65 degrees. When the average daily temperature is above 65, the degree day value for that day is zero. The usual practice is to accumulate daily totals starting July 1 through June 30. The accumulated degree days can be used as a measure of past temperature effect upon power and fuel consumption.

Precipitation is well distributed throughout the year with the maximum in July and August and the minimum in October and again in February. During this 30 year period, the monthly amounts varied from less than 1/4 inch up to 16.33 inches during August 1969. The highest daily total of over 11 inches occurred during the same month and was associated with the passage of hurricane Camille. Rainfall in summer is due mainly to showers and thunder-showers. Nearly 40 days each year have thunderstorm activity which is about average for the state. In winter, some of the precipitation usually occurs as snow. The average is 20 inches a year but yearly amounts are extremely variable ranging from 3/4 up to 46 1/2 inches.

South to southwest winds predominate but with a secondary maximum frequency from a northerly direction in most months generally reflecting the progression of weather systems across the state. Relative humidity varies inversely with temperature being high in the morning and low in the afternoon. During the warm season average values are in the 80's early in the morning, dropping into the 50's in the afternoon. Cloudiness is least in fall averaging around five-tenths coverage, and greatest in winter, with over six-tenths coverage. Partly cloudy days are most frequent in summer with about 40% of the days in this category.

Hurricanes and other tropical disturbances occasionally move far enough inland to affect Louisa and the surrounding areas. They have generally lost their identity as hurricanes by this time, and the remaining low pressure centers usually produce heavy rains and occasionally strong winds. Tornadoes are local storms of short duration formed of winds rotating at high speeds usually visible as a "funnel cloud." Tornadoes are infrequent in Louisa County with none officially documented during the last 55 years. Thunderstorms, accompanied by severe lightning, high wind and hail, are much more frequent and produce the greatest amount of storm damage.

Curtis W. Crockett
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 November 1971

PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS					
	16°	20°	24°	28°	32°	36°
90	FEB 6	FEB 26	MAR 13	MAR 25	APR 8	APR 19
70	FEB 20	MAR 8	MAR 22	APR 3	APR 18	APR 28
50	MAR 1	MAR 15	MAR 28	APR 10	APR 24	MAY 5
30	MAR 10	MAR 22	APR 3	APR 17	MAY 1	MAY 11
10	MAR 22	APR 1	APR 11	APR 26	MAY 10	MAY 20

PERCENT CHANCE OF EARLIER DATE IN FALL	TEMPERATURE LEVELS					
	16°	20°	24°	28°	32°	36°
10	NOV 22	NOV 8	OCT 28	OCT 11	SEPT 29	SEPT 25
30	NOV 29	NOV 17	NOV 4	OCT 20	OCT 8	OCT 2
50	DEC 5	NOV 23	NOV 10	OCT 27	OCT 14	OCT 7
70	DEC 10	NOV 29	NOV 15	NOV 2	OCT 21	OCT 11
90	DEC 18	DEC 8	NOV 22	NOV 11	OCT 29	OCT 18

STATION HISTORY

DATE	LOCATION	ELEVATION	OBSERVER
APRIL, 1916 - MARCH, 1941	8 MILES MINERAL	250	M. B. QUISENBERRY
MARCH, 1941 - NOV, 1970	0.3 MILE NW	437	L. M. SIMS
NOV, 1970 - PRESENT	0.3 MILE E	420	R. D. GREEP

STATION: WARSAW, VA.

LATITUDE 37°59'N
LONGITUDE 76°46'W
ELEV. (GROUND) 140 FT.

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD 1941-71

MONTH	TEMPERATURE (° F)											PRECIPITATION TOTALS (INCHES)											MONTH								
	MEANS			EXTREMES					MEAN NUMBER OF DAYS			MEAN	GREATEST MONTHLY	GREATEST DAILY	SNOW, SLEET					MEAN NUMBER OF DAYS											
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY **	RECORD LOWEST	YEAR	DAY **	MEAN DEGREE DAYS BASE 65°	MAX.				MIN.		MEAN	MAXIMUM MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY **		.01 or MORE	.10 or MORE	.50 or MORE	1.00 or MORE				
											90° AND ABOVE				32° AND BELOW	32° AND BELOW												0° AND BELOW			
JAN	46.8	27.1	37.0	82	43	17	-4	61	28	849	0	3	22	0	2.79	5.40	52	2.46	62	6	4.9	24.0	66	9.0	66	26	9	6	1.7	0.5	JAN
FEB	49.7	28.3	39.0	77*	61	19	-1	71	2	724	0	1	14	0	2.65	5.16	61	1.61	61	8	3.7	21.2	67	7.5	60	13	8	6	1.9	0.3	FEB
MAR	58.0	34.9	46.5	92	45	29	10	43	4	562	0	0	13	0	3.43	6.05	63	2.50	46	20	3.6	19.8	60	8.0*	64	30	9	7	2.5	0.6	MAR
APR	70.1	44.4	57.3	95	60	26	0	47	0	259	1	0	3	0	2.97	5.10	58	2.00	46	26	0.1	1.5	57	1.5	57	13	9	6	2.4	0.6	APR
MAY	78.6	53.9	66.3	99	41	29	0	47	0	76	3	0	0	0	3.65	8.24	71	2.35	69	20	0.0					10	6	2.5	1.1	MAY	
JUN	85.9	62.4	74.2	105	59	30	41	45	6	7	10	0	0	0	3.51	6.88	63	4.03	63	3	0.0					9	6	2.5	1.0	JUN	
JUL	88.7	67.3	78.0	106	42	20	47	52	2	0	14	0	0	0	5.08	20.21	45	4.00	45	17	0.0				10	7	3.1	1.6	JUL		
AUG	87.0	65.0	76.0	103	53	31	44	41	29	1	11	0	0	0	4.34	11.90	55	6.45	55	12	0.0				9	6	2.8	1.1	AUG		
SEP	81.8	58.5	70.1	105	54	7	35	63	25	30	5	0	0	0	3.49	11.17	66	3.98	66	14	0.0				7	5	2.1	1.1	SEP		
OCT	71.4	47.8	59.7	100	41	6	24	52	30	157	0	0	2	0	3.20	8.68	71	5.80	61	21	0.0				7	5	2.0	0.9	OCT		
NOV	60.7	38.1	49.4	84	71	2	14	55	29	462	0	0	10	0	3.10	7.50	59	3.59	56	2	0.5	8.0	53	4.0*	53	7	7	5	2.3	0.7	NOV
DEC	49.0	29.4	39.3	78	71	16	-1	42	21	781	0	2	20	0	3.05	6.25	69	2.50	58	29	2.6	13.3	58	9.0	58	14	8	5	2.2	0.7	DEC
YEAR	69.0	46.4	57.7	106	42	20	-4*	61	28	3548	44	6	69	0	41.26	20.21	45	6.45	55	12	15.4	24.0	66	9.0	58	14	102	70	28.	10.	YEAR

*Also on earlier dates, months, or years. **Day observation was made.

NARRATIVE CLIMATOLOGICAL SUMMARY

Warsaw, the county seat, is located in central Richmond County. This county lies in the Coastal Plain on the narrow Peninsula between the Potomac and Rappahannock Rivers known as the Northern Neck. The topography within the county is low and relatively flat. Elevations range from near sea level up to about 170 feet above sea level.

The climate of Warsaw is modified continental with mild winters and warm and humid summers. The mountains to the west, Chesapeake Bay with its tidal tributaries, and the Atlantic Ocean to the East are major factors controlling the climate in addition to the latitude and location on the North American continent. The mountains produce various steering, blocking, and modifying effects on storms and air masses. The large open bodies of water nearby and to the east, which are slow in reacting to atmospheric changes, contribute to the humid summers and mild winters.

Mean annual temperatures at Warsaw vary slightly from year to year but average about 58 degrees which is similar to the average of other stations in this region. Rather cool similar temperatures prevail during the cold season and rather warm similar temperatures prevail during the warm season with the spring and fall temperatures showing the upward and downward trends. May and September are usually warm, each having an average of a few days with the temperatures greater than or equal to 90. Daytime highs during the cold season are usually in the upper 40's with nighttime lows in the upper 20's. Maximum temperatures around 80 and minimum temperatures as low as -4 are the extremes during the winter season. Daytime highs during summer are usually in the upper 80's and nighttime lows in the middle 60's. Maximum temperatures up to 106 and minimum temperatures in the middle 40's are the extremes during July and August.

The number of days with the temperature greater than or equal to 90 has ranged from 13 in 1967 up to 78 days in 1943. Temperatures equal or exceed 90 mainly from April through October with the greatest frequency during June, July, and August which have averages from 10 to 14 days. The maximum temperature is below freezing on an average of 6 days each year. The temperature falls below freezing 19 to 22 days a month during the winter months but does not reach zero often enough to give a numerical average for the year.

The growing season, defined as the period between the average date of the last freezing temperature in spring (April 15) and the average date of the first freezing temperature in fall (October 26), is 194 days. Freezing temperatures in spring have occurred as late as May 11 and as early in fall as October 6. This growing season is long enough to allow proper maturity of a large variety of crops. Since knowledge of critical temperatures near and below freezing is needed by various users, a separate table has been computed showing

the probabilities of occurrence for different temperatures. Caution should be used in applying these values to other locations in the county. Elevation, air drainage, soil characteristics, night radiation, and type of air mass are some of the factors controlling the minimum temperature, sometimes causing large differences in short distances.

Heating degree days (mean degree days) as shown in the above table are a measure of the departure of the average daily temperature from 65 degrees. When the average daily temperature is above 65, the degree day value for that day is zero. The usual practice is to accumulate daily totals starting July 1 through June 30. At any time during the year, the accumulated degree days can be used as a measure of past temperature effect upon power and fuel consumption.

Precipitation is well distributed throughout the year with the maximum in July and the minimum in February. During this 30 year period, monthly amounts varied from less than 1/2 inch up to 20.21 inches during July 1945. The highest daily total of over 6 inches occurred during August 1955 and can be attributed to the passage of a hurricane. Rainfall in summer is due mainly to showers and thundershowers. Nearly 40 days each year have thunderstorm activity which is about average for the state. In winter, some of the precipitation usually occurs as snow. The average is about 15 inches a year but yearly amounts are extremely variable ranging from almost none up to nearly 40 inches during the winter 1966-67.

South to southwest winds predominate but with a secondary maximum frequency from a northerly direction in most months generally reflecting the progression of weather systems across the state. Relative humidity varies inversely with temperature being high in the morning and low in the afternoon. Average values are in the 80's early in the morning dropping into the 50's in the afternoon. Cloudiness is least during the fall season averaging less than five-tenths coverage, and greatest in winter, with almost six-tenths coverage. Partly cloudy days are most frequent in summer with about 40% of the days in this category.

Hurricanes and other tropical disturbances occasionally move far enough inland to affect Warsaw and the surrounding areas. They have generally lost their identity as hurricanes by this time, and the remaining low pressure centers usually produce heavy rains and occasionally strong winds. Tornadoes are local storms of short duration formed of winds rotating at high speeds usually visible as a "funnel cloud." Tornadoes are quite rare in Richmond county with only two reported in the last 55 years. Thunderstorms, accompanied by severe lightning, high wind and hail, are much more frequent and produce the greatest amount of storm damage.

February 1972

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PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS					
	16°	20°	24°	28°	32°	36°
90	JAN 25	FEB 7	FEB 24	MAR 13	APR 2	APR 12
70	FEB 11	FEB 21	MAR 8	MAR 24	APR 10	APR 21
50	FEB 22	MAR 2	MAR 16	MAR 31	APR 15	APR 27
30	MAR 4	MAR 11	MAR 23	APR 7	APR 20	MAY 4
10	MAR 19	MAR 24	APR 4	APR 17	APR 27	MAY 13

PERCENT CHANCE OF EARLIER DATE IN FALL	TEMPERATURE LEVELS					
	16°	20°	24°	28°	32°	36°
10	DEC 2	NOV 20	NOV 8	OCT 26	OCT 11	SEPT 27
30	DEC 10	NOV 27	NOV 16	NOV 1	OCT 20	OCT 6
50	DEC 15	DEC 3	NOV 22	NOV 5	OCT 26	OCT 13
70	DEC 22	DEC 8	NOV 28	NOV 9	NOV 1	OCT 19
90		DEC 16	DEC 6	NOV 15	NOV 10	OCT 29

STATION HISTORY

DATE	LOCATION	ELEVATION	OBSERVER
	(FROM POST OFFICE)	(FT MSL)	
JAN, 1941 - JUL, 1947	.1 MILE S	143	R. A. FARMER
JAN, 1951 - MAY, 1966	2.3 MILES N	140	EASTERN VA. RESEARCH S
MAY, 1966 - PRESENT	2.0 MILES NW	140	EASTERN VA. RESEARCH S HOUSTON M. CAMPER

AVERAGE TEMPERATURE (°F)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
41	38.7	36.2	42.1	59.6	69.0	73.5	79.1	76.1	69.7	65.1	51.0	43.7	58.6
42	35.1	35.9	49.3	59.7	69.9	75.6	80.5	75.6	71.9	60.7	52.5	36.1	58.6
43	40.2	42.2	47.4	53.9	70.3	80.2	78.5	77.9	64.4	58.8	49.0	40.1	59.0
44	39.9	40.5	46.2	56.6	72.2	77.1	78.4	75.8	72.2	59.3	49.3	36.7	58.7
45	34.3	41.9	59.0	61.7	64.4	76.1	76.1	75.9	75.1	60.2	52.4	33.5	59.2
46	38.9	42.6	54.8	57.2	66.1	72.8	75.5	74.0	70.7	63.0	55.5	44.4	59.6
47	44.2	34.7	40.6			72.7	86.4						
48													
49													
50													
51	42.0	42.0	46.4	55.9	63.7	73.6	77.6	76.1	70.5	61.4	45.4	42.4	58.1
52	42.3	41.2	45.4	58.0	64.2	76.9	80.3	76.1	68.8	55.4	49.3	38.8	58.1
53	42.7	43.5	47.5	56.7	70.1	74.3	79.7	75.7	65.8	60.0	48.4	42.2	59.2
54	38.0	44.7	47.9	61.0	63.1	74.3	78.0	76.1	74.1	63.1	45.9	38.5	58.7
55	35.9	39.8	49.8	60.4	66.6	65.9	61.0	78.4	70.0	59.9	46.8	34.5	57.8
56	35.0	42.6	46.0	54.6	64.6	74.3	77.4	76.1	67.9	60.8	48.6	48.1	58.0
57	35.1	42.5	46.4	60.9	67.8	75.8	77.8	75.1	71.9	54.4	51.2	42.9	58.5
58	34.3	33.4	41.9	57.4	65.3	71.2	79.4	75.4	68.2	58.8	51.0	33.0	55.8
59	36.9	40.6	47.3	58.9	69.3	75.9	77.7	79.1	71.5	61.8	48.3	42.8	59.2
60	38.9	39.5	35.4	61.0	63.9	73.7	76.6	77.7	65.8	59.0	50.0	33.8	56.6
61	31.8	41.7	49.5	51.5	62.8	72.7	78.1	76.7	74.2	59.7	51.7	37.9	57.4
62	36.6	37.4	44.2	57.0	69.4	73.3	74.5	74.9	67.0	59.5	45.1	33.4	56.0
63	32.8	31.3	49.9	58.5	65.0	73.3	77.5	76.4	66.8	59.9	52.1	32.6	56.3
64	39.3	37.4	46.3	55.5	67.2	74.7	77.2	74.0	68.2	54.2	52.0	43.4	57.6
65	36.5	39.1	43.2	54.2	69.9	72.1	76.0	75.8	71.5	57.0	49.8	42.5	57.3
66	32.8	37.3	47.7	53.4	64.1	73.7	78.0	76.1	67.4	56.5	49.5	37.5	56.2
67	42.0	36.4	46.0	58.2	60.3	72.3	75.3	74.4	65.5	57.0	44.3	41.1	56.1
68	32.8	32.9	50.2	56.6	63.1	73.9	76.9	77.5	68.6	60.3	51.1	37.0	56.7
69	34.9	36.8	43.0	58.4	65.7	75.4	77.8	74.4	68.3	58.2	47.0	35.9	56.3
70	30.4	38.2	42.7	55.4	67.5	73.4	76.8	76.4	73.7	61.9		39.9	
71	32.9	39.9	43.4	54.0	63.1	74.0	75.5	74.1	70.6	64.4	47.8	47.1	57.2
72	39.5												

TOTAL PRECIPITATION (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
41	2.40	1.45	2.92	3.40	2.73	1.70	5.13	2.63	0.02	0.65	0.66	3.13	26.82
42	3.33	0.97	5.37	0.46	1.55	3.76	4.73	6.96	4.25	5.43	1.88	2.22	40.95
43	2.37	1.92	2.46	3.31	6.33	2.64	4.24	3.34	3.38	3.79	1.74	1.85	37.37
44	2.89	3.57	5.62	4.79	0.77	2.72	6.45	3.71	3.51	2.89	3.60	1.91	42.43
45	1.59	2.32	0.84	2.41	4.66	3.02	20.21	0.92	5.13	1.24	4.12	5.67	52.13
46	1.90	1.67	3.25	2.65	6.33	3.47	6.35	4.56	3.71	2.49	1.26	2.30	39.94
47	4.53	1.43	1.39		4.93	3.09	4.53						
48													
49													
50													
51	1.47	1.69	2.68	3.07	3.04	4.66	5.23	2.91	2.68	2.19	5.27	3.87	38.76
52	5.40	2.87	3.99	4.67	3.28	2.92	2.62	2.61	3.44	2.53	4.58	3.46	42.37
53	3.94	3.28	4.38	3.31	4.25	1.40	1.33	4.73	1.50	2.77	1.70	2.68	35.27
54	3.86	1.20	2.86	2.08	3.58	5.52	2.60	3.29	0.63	2.21	2.67	2.92	28.42
55	0.98	2.90	4.21	4.20	3.06	5.92	2.86	11.90	5.47	2.63	1.97	0.82	46.92
56	2.23	3.30	2.94	3.08	2.39	2.78	6.48	2.24	8.01	5.02	6.58	2.94	47.99
57	3.23	3.41	3.70	2.60	1.96	4.68	1.16	6.24	3.22	6.40	3.80	5.48	45.88
58	3.81	4.52	5.87	5.10	4.78	4.15	4.75	7.85	2.41	4.78	3.29	4.37	55.68
59	1.22	1.57	2.79	3.92	0.71	1.10	12.21	1.93	2.29	5.20	7.50	2.89	43.33
60	2.08	3.73	2.61	3.34	6.97	1.07	5.63	6.02	7.97	3.13	1.18	3.01	46.74
61	3.49	5.16	4.65	2.26	6.33	5.49	2.39	2.82	3.56	8.48	1.61	5.12	51.36
62	4.92	3.45	4.32	4.08	2.44	5.81	4.39	4.45	3.95	0.78	6.85	2.88	48.32
63	1.81	1.83	6.05	0.14	2.59	6.88	0.66	1.57	2.52	0.00	5.98	1.98	32.02
64	3.48	4.97	2.60	4.88	0.73	3.93	3.63	6.08	3.38	2.65	2.28	2.84	41.45
65	2.38	2.01	3.48	2.26	1.25	5.31	7.24	2.40	3.36	1.10	0.43	0.37	31.59
66	3.20	3.70	0.83	3.41	2.91	3.79	3.75	1.36	11.17	5.19	1.45	3.15	43.91
67	1.88	2.41	2.38	1.20	4.26	0.90	6.36	6.48	1.47	1.41	2.01	5.08	35.84
68	2.63	0.51	5.38	1.49	4.33	4.34	2.97	4.23	1.21	1.89	2.87	1.84	35.69
69	3.28	3.02	3.16	3.52	4.35	2.18	5.75	11.25	3.59	1.28	1.63	6.25	49.26
70	1.16	1.92	3.27	2.72	3.37	4.33	5.36	0.57	1.27	1.70		2.63	
71	2.61	3.37	1.92	1.73	8.24	3.74	3.32	4.11	1.26	8.68	3.60	0.81	43.39
72	2.38												

MONTHLY AND SEASONAL SNOWFALL (INCHES)

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
41-42	0.0	0.0	0.0	0.0	5.5	0.0	3.0	0.0	0.0	8.5
42-43	0.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	8.0
43-44	0.0	0.0	0.8	2.0	2.9	1.5	1.0	0.0	0.0	8.2
44-45	0.0	0.0	0.0	0.0	1.0	0.5	0.0	0.0	0.0	1.5
45-46	0.0	0.0	0.0	7.0	5.0	0.0	0.0	0.0	0.0	12.0
46-47	0.0	0.0	0.0	0.0	0.0		13.9		0.0	
47-48	0.0	0.0								
48-49										
49-50										
50-51					0.1	1.5	0.0	0.0	0.0	1.2
51-52	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	4.5
52-53	0.0	0.0	1.0	0.0	0.5	0.0	4.3	0.0	0.0	5.8
53-54	0.0	0.0	8.0	0.0	9.0	0.0	0.0	0.0	0.0	17.0
54-55	0.0	0.0	0.0	2.5	8.0	2.0	0.0	0.0	0.0	12.5
55-56	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7
56-57	0.0	0.0	0.0	0.3	7.4	0.7	0.0	1.5	0.0	9.9
57-58	0.0	0.0	0.0	3.5	4.3	6.4	7.2	0.0	0.0	21.4
58-59	0.0	0.0	0.0	13.3	1.5	0.0	0.0	0.0	0.0	14.8
59-60	0.0	0.0	0.0	0.0	1.4	8.5	19.8	0.0	0.0	29.7
60-61	0.0	0.0	0.0	5.5	5.7	8.5	0.0	0.0	0.0	19.7
61-62	0.0	0.0	0.0	0.8	19.4	5.5	8.0	0.0	0.0	33.7
62-63	0.0	0.0	1.0	9.4	2.3	3.1	0.0	0.0	0.0	15.8
63-64	0.0	0.0	0.0	1.5	4.2	16.6	9.5	0.0	0.0	31.8
64-65	0.0	0.0	0.3	0.3	11.8	3.9	1.7	0.0	0.0	18.0
65-66	0.0	0.0	0.0	0.2	24.0	4.5	0.5	0.0	0.0	29.2
66-67	0.0	0.0	0.0	12.0	6.0	21.2	0.0	0.0	0.0	39.2
67-68	0.0	0.0	1.5	3.8	3.1	1.0	4.0	0.0	0.0	13.4
68-69	0.0	0.0	0.0	1.5	0.0	4.0	15.5	0.0	0.0	21.0
69-70	0.0	0.0	0.0	3.0	6.9	1.3	0.0	0.0	0.0	11.2
70-71	0.0	0.0		0.4	7.4	0.8	6.7	0.0	0.0	
71-72	0.0	0.0	0.0	0.0	0.0					

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.95
JAN	1.24	1.50	1.86	2.16	2.44	2.72	3.02	3.37	3.80	4.47	5.00
FEB	0.97	1.21	1.55	1.84	2.10	2.39	2.69	3.04	3.49	4.18	4.60
MAR	1.45	1.77	2.22	2.59	2.93	3.29	3.67	4.11	4.66	5.51	6.00
APR	0.84	1.12	1.54	1.91	2.26	2.64	3.05	3.53	4.16	5.15	6.00
MAY	1.07	1.42	1.94	2.39	2.84	3.30	3.80	4.40	5.18	6.35	7.00
JUN	0.95	1.27	1.76	2.19	2.61	3.05	3.53	4.11	4.86	6.03	7.00
JUL	1.31	1.79	2.54	3.21	3.87	4.56	5.33	6.25	7.45	9.34	11.00
AUG	1.01	1.42	2.08	2.66	3.24	3.86	4.56	5.39	6.48	8.22	9.00
SEP	0.57	0.88	1.42	1.94	2.48	3.07	3.75	4.58	5.69	7.52	9.00
OCT	0.41	0.65	1.07	1.47	1.90	2.36	2.91				

U. S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,
IN COOPERATION WITH THE WATER RESOURCES RESEARCH CENTER AND THE RESEARCH
DIVISION OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

CLIMATOGRAPHY OF THE UNITED STATES NO. 20-44

Orange
STATION: PIEDMONT RESEARCH STN.

LATITUDE 38°13'N
LONGITUDE 78°07'W
ELEV. (GROUND) 515 FT.

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD 1946-70

MONTH	TEMPERATURE (°F)											PRECIPITATION TOTALS (INCHES)											MONTH								
	MEANS			EXTREMES				MEAN DEGREE DAYS BASE 65°	MEAN NUMBER OF DAYS				MEAN	GREATEST MONTHLY	YEAR	GREATEST DAILY	YEAR	DAY**	SNOW, SLEET					MEAN NUMBER OF DAYS							
	DAILY MAXIMUM	DAILY MINIMUM	MONTHLY	RECORD HIGHEST	YEAR	DAY**	RECORD LOWEST		YEAR	DAY**	90° AND ABOVE	32° AND BELOW							32° AND BELOW	0° AND BELOW	MAXIMUM MONTHLY	YEAR		GREATEST DAILY	YEAR	DAY**	.01 or MORE	.10 or MORE	.50 or MORE	1.00 or MORE	
JAN	46.0	24.6	35.3	78	50	26	-9	70	21	913	0	4	24	1	2.51	4.82	49	2.71	68	14	5.3	27.0	66	12.0	66	30	9	6	1.6	0.4	JAN
FEB	48.0	25.9	37.0	81	48	28	-1	65	1	786	0	2	21	0	2.32	4.73	60	2.33	65	8	6.4	25.0	61	15.0	58	15	8	6	1.8	0.4	FEB
MAR	56.2	32.3	44.3	87	48	21	7*	60	9	639	0	0	16	0	3.56	5.83	63	2.76	62	6	4.8	25.5	60	18.0	62	6	10	7	2.8	0.8	MAR
APR	68.2	43.2	55.7	94	60	24	20*	64	9	299	0	0	3	0	3.12	5.63	52	2.51	48	1	0.3	4.0	59	4.0	59	13	11	7	2.2	0.5	APR
MAY	76.8	52.3	64.6	99	63	10	28	47	9	106	0	0	0	0	3.35	7.79	48	2.07	62	2	0.0					11	7	2.0	1.0	MAY	
JUN	84.2	60.5	72.4	102	52	27	41	66	5	11	0	0	0	0	3.34	9.37	51	3.50	51	10	0.0					10	6	2.1	0.9	JUN	
JUL	87.6	64.9	76.4	106	59	1	50*	67	5	0	13	0	0	0	3.72	6.93	49	3.28	61	22	0.0					11	6	2.5	1.0	JUL	
AUG	86.3	63.6	75.0	103	53	31	48	65	25	0	4	0	0	0	4.29	13.32	55	3.98	55	18	0.0					10	7	2.5	1.3	AUG	
SEP	80.0	56.5	68.3	106	54	6	33	63	25	49	0	0	0	0	3.27	10.72	66	2.92	66	20	0.0	6.0	68	4.0	68	12	9	6	2.0	0.7	SEP
OCT	70.0	49.6	57.8	108	51	7	22	52	30	243	0	0	13	0	2.92	7.18	54	5.24	54	15	0.0					7	4	1.9	0.8	OCT	
NOV	58.3	35.0	46.7	86	50	1	9*	56	24	544	0	0	0	0	3.05	6.98	52	2.82	52	20	0.9	6.0	68	4.0	68	12	9	6	2.0	0.7	NOV
DEC	47.6	26.5	37.1	78	56	7	1*	42	13	859	0	2	23	0	3.03	7.14	67	2.55	50	4	4.3	23.1	66	16.5	69	26	7	5	2.1	0.7	DEC
YEAR	67.5	44.2	55.9	106*	54	SEPT 6	-9	70	JAN 21	4450	37	8	102	1	38.68	13.32	55	9.24	54	15	22.0	27.0	66	18.0	62	6	111	72	26	10	YEAR

*Also on earlier dates, months, or years. **Day observation was made.

NARRATIVE CLIMATOLOGICAL SUMMARY

The Piedmont Research Station is located just outside of the town of Orange which is the county seat of Orange County. The county is in the north central part of the Piedmont Plateau. The topography is generally rolling but becomes steep near the few mountains in the county. Elevations range mostly from 200 to 500 feet above sea level except up to 1200 feet on the Southwestern Mountains in the western part of the county.

The climate of the Piedmont Research Station is modified continental with mild winters and warm and humid summers. The mountains to the west, the Chesapeake Bay, and the Atlantic Ocean are major factors controlling the climate in addition to the latitude and location on the North American continent. The mountains produce various steering, blocking, and modifying effects on storms and air masses. The large open bodies of water, which are slow in reacting to atmospheric changes, contribute to the humid summers and mild winters.

Mean annual temperatures at the Piedmont Research Station vary slightly from year to year but average 56 degrees, which is near the average of other nearby stations. Rather cool similar temperatures prevail during the cold season and rather warm similar temperatures prevail during the warm season with the spring and fall temperatures showing the upward and downward trends. May and September are usually warm, each having an average of a few days with the temperature greater than or equal to 90. Daytime highs during the cold season are usually in the upper 40's with nighttime lows in the middle 20's. Maximum temperatures near 80 and minimum temperatures as low as -9 are the extremes during the winter season. Daytime highs during summer are usually in the middle to upper 80's and nighttime lows in the low to middle 60's. Maximum temperatures up to 106 and minimum temperatures around 50 are extremes during July and August.

The number of days with the temperature greater than or equal to 90 has ranged from 12 in 1967 up to 61 days in 1954. The maximum temperature is below freezing on an average of 8 days each year. The temperature falls below freezing 21 to 24 days a month during the winter months and reaches zero often enough to give a numerical average of 1 day for the year.

The growing season, defined as the period between the average date of the last freezing temperature in spring (April 17) and the average date of the first freezing temperature in fall (October 23), is 189 days. Freezing temperatures in spring have occurred as late as May 17 and as early in fall as October 4. This growing season is long enough to allow proper maturity of a large variety of crops. Since knowledge of critical temperatures near and below freezing is needed by various users, a separate table has been computed showing the probabilities of occurrence for different temperatures. Caution should be used in ap-

plying these values to other locations in the county. Elevation, air drainage, soil characteristics, night radiation, and type of air mass are some of the factors controlling the minimum temperature, sometimes causing large differences in short distances.

Heating degree days (mean degree days) as shown in the above table are a measure of the departure of the average daily temperature from 65 degrees. When the average daily temperature is above 65, the degree days value for that day is zero. The usual practice is to accumulate daily totals starting July 1 through June 30. The accumulated degree days can be used as a measure of past temperature effect upon power and fuel consumption.

Precipitation is well distributed throughout the year with the maximum in August and the minimum in January and February. During this period, monthly amounts varied from about 4 inch up to 13.32 inches during August 1955. Two hurricanes passed through the state during this month causing excessive rainfall. The highest daily total of over 5 inches occurred during October, 1954 and was associated with hurricane Hazel. Rainfall in summer is due mainly to showers and thundershowers. Thirty-five to forty days each year have thunderstorm activity which is slightly less than the average for the state. In winter, some of the precipitation usually occurs as snow. The average is about 22 inches a year but yearly amounts are extremely variable ranging from less than 5 up to 48 inches.

South to southwest winds predominate but with a secondary maximum frequency from a northerly direction in most months generally reflecting the progression of weather systems across the state. Relative humidity varies inversely with temperature being high in the morning and low in the afternoon. During the warm season average values are around 80 early in the morning, dropping into the 50's in the afternoon. Cloudiness is least in fall averaging around five-tenths coverage, and greatest in winter, with over six-tenths coverage. Partly cloudy days are most frequent in summer with about 40 percent of the days in this category.

Hurricanes and other tropical disturbances occasionally move far enough inland to affect the Piedmont Research Station and the surrounding areas. They have generally lost their identity as hurricanes by this time, and the remaining low pressure centers usually produce heavy rains and occasionally strong winds. Tornadoes are local storms of short duration formed of winds rotating at high speeds usually visible as a "funnel cloud." Tornadoes are infrequent in Orange County with only one officially documented during the last 55 years. Thunderstorms, accompanied by severe lightning, high wind and hail, are much more frequent and produce the greatest amount of storm damage.

December 1971

Curtis W. Crockett
NOAA Climatologist for Virginia
Agronomy Department, V.P.I. & S.U.
Blacksburg, Virginia 24061

PROBABILITY OF FREEZES OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES SHOWN IN THE FOLLOWING TABLE

PERCENT CHANCE OF LATER DATE IN SPRING	TEMPERATURE LEVELS					
	16°	20°	24°	28°	32°	36°
90	FEB 5	FEB 25	MAR 7	MAR 22	MAR 31	APR 12
70	FEB 18	MAR 7	MAR 16	APR 1	APR 10	APR 23
50	FEB 26	MAR 14	MAR 23	APR 7	APR 17	APR 30
30	MAR 5	MAR 21	MAR 29	APR 14	APR 24	MAY 8
10	MAR 16	APR 1	APR 8	APR 23	MAY 4	MAY 19
PERCENT CHANCE OF EARLIER DATE IN FALL						
10	NOV 24	NOV 9	OCT 31	OCT 21	OCT 7	SEPT 29
30	DEC 2	NOV 18	NOV 9	OCT 28	OCT 16	OCT 6
50	DEC 8	NOV 24	NOV 15	NOV 1	OCT 23	OCT 12
70	DEC 14	NOV 30	NOV 21	NOV 6	OCT 29	OCT 17
90	DEC 23	DEC 9	NOV 30	NOV 13	NOV 7	OCT 25

STATION HISTORY

DATE	LOCATION	ELEVATION	OBSERVER
	(FROM POST OFFICE)	(FT. MSL)	
NOV, 1946 - PRESENT	1.6 MILES SSW	515	PIEDMONT RESEARCH STATION (GEORGE D. JONES)

AVERAGE TEMPERATURE (°F)

MONTHLY AND SEASONAL SNOWFALL (INCHES)

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
46													
47	42.6	31.9	38.3	58.4	65.7	71.0	74.3	77.6	69.5	63.1	45.4	45.5	33.6
48	30.0	39.0	50.0	57.5	64.7	73.3	76.8	74.6	67.7	55.1	50.9	40.9	56.7
49	44.8	45.6	47.1	54.6	66.1	74.2	78.9	76.0	66.3	61.6	47.7	40.5	58.6
50	48.5	38.8	43.1	53.8	64.5	72.7	74.8	74.4	68.3	60.4	46.7	34.7	56.6
51	38.8	39.9	45.8	55.5	64.9	72.9	76.8	75.3	69.2	61.8	43.5	40.6	57.1
52	41.3	40.8	44.5	54.7	64.2	77.0	78.7	74.8	68.5	55.1	48.5	37.6	57.3
53	41.1	42.5	47.5	56.1	71.0	74.1	78.9	76.4	70.5	61.0	48.0	40.4	59.0
54	37.6	43.7	46.0	60.4	62.2	74.0	77.9	77.0	73.7	63.0	44.8	36.2	58.0
55	35.1	38.4	47.8	59.4	66.9	69.2	81.0	76.7	68.3	54.4	43.8	35.1	56.3
56	34.5	41.5	44.8	54.5	63.9	72.5	74.8	74.0	67.3	59.2	46.4	46.4	56.6
57	33.3	42.1	46.1	59.5	67.2	74.5	77.5	75.2	70.9	53.4	48.5	41.1	57.4
58	33.6	30.6	41.3	56.2	63.9	70.5	77.9	74.0	68.2	57.3	50.2	33.0	54.7
59	35.2	40.0	46.1	56.7	67.7	73.1	76.4	77.4	69.3	59.1	43.8	38.3	56.9
60	36.6	35.3	32.7	58.4	62.1	71.5	75.1	75.9	68.6	57.0	46.8	29.3	54.1
61	29.0	37.5	46.9	50.2	60.1	70.2	75.7	74.3	72.4	58.1	48.9	35.5	54.9
62	32.3	33.8	41.8	54.4	67.8	71.1	72.5	73.0	64.5	58.6	42.9	32.3	53.8
63	30.4	29.1	48.0	57.3	63.1	71.6	75.3	74.3	65.1	59.8	48.0	28.8	54.2
64	35.1	34.2	45.1	56.7	64.4	73.2	76.7	73.0	67.5	52.9	50.3	38.5	55.4
65	33.1	34.8	41.0	51.9	68.7	69.6	75.4	74.3	69.9	54.0	47.2	38.9	54.9
66	29.2	33.4	45.4	49.7	62.0	71.7	76.4	74.6	66.3	53.7	46.8	34.7	53.7
67	38.0	31.4	43.8	56.2	58.0	71.5	74.2	72.6	63.5	54.4	42.0	38.8	53.7
68	29.9	31.9	47.9	55.8	60.1	72.0	76.1	76.4	67.8	58.1	47.9	34.5	54.9
69	30.8	35.5	41.3	56.8	64.4	72.9	76.1	73.3	66.8	55.8	44.5	33.1	54.3
70	27.1	35.3	40.1	54.1	65.6	72.7	75.4	74.5	71.1	58.9	47.0	37.2	54.9
71	29.7	35.6	40.9	53.0	61.5	73.2	74.3	72.8	69.6	62.4	46.1		

SEASON	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	TOTAL
46-47				4.6	2.5	15.5	13.0	0.0	0.0	35.3
47-48	0.0	0.0	0.0	0.0	0.5	4.0	0.0	0.0	0.0	4.5
48-49	0.0	0.0	1.0	0.1	3.5	5.5	0.0	0.0	0.0	10.1
49-50	0.0	0.0	5.0	0.1	0.0	8.5	0.0	0.0	0.0	8.6
50-51	0.0	0.0	1.5		0.0	1.0	0.0	0.0	0.0	
51-52	0.0	0.0	0.0	6.0	0.5	0.0	2.5	0.0	0.0	9.0
52-53	0.0	0.0	3.0	1.0	0.5	0.0	6.9	0.0	0.0	11.0
53-54	0.0	0.0	3.5	0.0	6.0	0.0	0.0	1.0	0.0	10.5
54-55	0.0	0.0	0.0	4.3	5.5	2.5	0.0	0.0	0.0	12.3
55-56	0.0	0.0	3.0	0.0	3.0	1.5	2.0	0.0	0.0	9.5
56-57	0.0	0.0	0.0	0.0	9.7	3.0	0.0	1.0	0.0	13.7
57-58	0.0	0.0	1.0	7.0	1.0	19.0	15.0	0.0	0.0	43.0
58-59	0.0	0.0	0.0	1.0	5.0	0.0	0.0	4.0	0.0	10.0
59-60	0.0	0.0	0.0	0.0	1.5	11.5	25.5	0.0	0.0	38.5
60-61	0.0	0.0	0.0	8.0	14.5	25.0	0.5	0.0	0.0	48.0
61-62	0.0	0.0	1.5	7.5	8.0	8.3	20.0	0.0	0.0	45.3
62-63	0.0	0.0	1.0	12.0	1.0	2.5	3.6	0.0	0.0	19.5
63-64	0.0	0.0	0.0	8.0	7.0	5.0	7.0	0.0	0.0	27.0
64-65	0.0	0.0	0.0	1.0	13.0	3.0	3.0	0.0	0.0	20.0
65-66	0.0	0.0	0.0	1.0	27.0	9.0	0.0	0.0	0.0	37.0
66-67	0.0	0.0	0.1	23.1	3.0	17.0	1.0	0.0	0.0	44.2
67-68	0.0	0.0	0.0	3.0	6.0	3.0	0.0	0.0	0.0	12.0
68-69	0.0	0.0	6.0	0.0	0.5	6.5	15.0	0.0	0.0	28.0
69-70	0.0	0.0	0.0	16.5	7.5	3.0	0.0	0.0	0.0	27.0
70-71	0.0	0.0	0.0	0.0	14.0	1.0	8.0	2.5	0.0	25.5

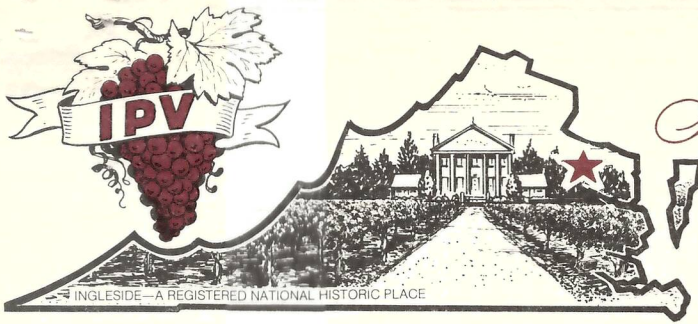
TOTAL PRECIPITATION (INCHES)

PRECIPITATION WITH PROBABILITY EQUAL OR LESS THAN

YR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNL
46													
47	3.92	1.30	1.76	2.53	2.58	3.15	3.14	1.38	3.11	1.14	1.19	2.22	3.41
48	3.18	1.69	3.45	5.07	7.79	2.09	4.02	7.62	2.51	3.98	6.52	5.58	53.50
49	4.82	2.14	2.77	2.92	2.60	5.18	6.93	6.26	3.25	2.78	0.74	2.63	43.02
50	2.22	2.61	2.60	1.98	4.91	2.11	2.83	1.33	6.61	2.50	1.84	3.90	35.04
51	1.15	2.72	4.43	4.20	1.54	9.37	2.90	5.25	1.35	1.55	4.97	4.33	43.76
52	4.56	2.28	5.61	5.63	5.70	3.93	2.02	4.13	3.09	1.12	6.98	2.17	47.22
53	3.27	2.48	5.40	3.79	3.66	3.70	1.01	1.70	0.62	2.50	0.65	3.78	32.48
54	1.85	1.12	4.05	3.51	3.04	1.27	3.18	1.25	0.79	7.18	2.35	4.60	34.21
55	0.43	3.31	4.87	3.52	2.95	3.12	4.46	13.32	0.90	1.86	1.65	0.28	40.67
56	1.08	3.13	2.66	2.44	0.71	2.54	5.97	3.32	6.43	4.00	2.38	1.77	36.43
57	1.93	3.51	1.92	4.11	1.12	4.59	1.10	1.28	4.57	4.85	3.80	4.01	36.79
58	3.52	2.54	4.53	2.99	2.71	5.90	3.46	5.55	2.49	2.22	2.10	2.53	40.54
59	2.19	1.08	3.05	4.07	3.09	3.65	4.06	4.82	2.18	5.54	2.53	2.88	39.14
60	2.56	4.73	2.47	3.59	4.59	3.00	2.00	3.72	5.40	1.17	1.01	1.89	36.13
61	2.21	4.14	2.97	4.17	3.99	2.26	5.75	6.91	1.63	4.84	1.91	3.79	44.57
62	1.82	3.28	4.76	2.92	4.78	3.26	3.56	3.44	4.08	1.43	5.19	3.27	41.79
63	1.16	1.71	5.83	1.19	1.14	2.98	3.00	2.46	3.36	0.0	6.25	1.29	30.37
64	4.22	3.60	2.05	3.09	0.65	2.62	2.03	3.00	3.60	3.14	2.79	3.32	34.11
65	2.65	4.69	3.94	2.62	3.48	1.72	2.98	4.80	2.19	2.36	0.79	0.28	32.48
66	3.06	2.69	2.28	3.31	6.02	2.74	3.13	0.88	10.72	4.16	1.80	2.76	43.55
67	1.67	1.21	4.61	1.07	3.51	1.21	6.50	8.58	1.70	3.45	0.81	7.16	41.66
68	3.47	0.29	3.31	1.50	4.34	4.23	3.62	5.96	2.01	3.17	4.68	1.59	38.17
69	2.02	2.02	3.31	1.28	2.09	4.19	5.69	4.63	4.22	1.43	2.08	6.13	39.09
70	1.39	2.35	2.82	3.89	3.43	1.27	6.03	1.30	1.59	3.61	4.71	2.65	35.04
71	2.32	4.55	3.13	2.51	10.29	3.92	3.69	5.34	2.43	11.46	3.03		

	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.95
JAN	0.88	1.12	1.46	1.74	2.02	2.30	2.60	2.96	3.41	4.11	4.60
FEB	0.85	1.09	1.44	1.73	2.01	2.30	2.62	2.98	3.46	4.19	4.60
MAR	1.88	2.17	2.56	2.87	3.16	3.44	3.74	4.07	4.50	5.12	5.60
APR	1.35	1.63	2.02	2.34	2.64	2.94	3.26	3.63	4.09	4.80	5.60
MAY	0.98	1.31	1.81	2.24	2.64	3.09	3.58	4.15	4.89	6.06	7.60
JUN	1.24	1.55	2.00	2.37	2.71	3.08	3.48	3.93	4.51	5.40	6.60
JUL	1.45	1.80	2.31	2.73	3.09	3.53	3.97	4.48	5.13	6.13	7.60
AUG	0.93	1.32	1.95	2.51	3.08	3.69	4.37	5.19	6.27	7.99	9.60
SEP	0.77	1.07	1.55	1.98	2.41	2.87	3.37	3.98	4.78	6.05	7.60
OCT	0.45	0.70	1.12	1.52	1.94	2.40	2.93	3.58	4.45	5.87	7.60
NOV	0.61	0.88	1.33	1.74	2.19	2.60	3.10	3.71	4.52	5.81	7.60
DEC	0.66	0.94	1.39	1.79	2.19	2.62	3.10	3.68	4.44	5.65	6.60

Median precipitation amounts (0.50 probability level) in the above table differ from the means shown on the opposite page because of the method used in making the computations. The above values were determined from the incomplete gamma distribution whose curve has been found to give best fits to precipitation climatological series.



Ingleside Plantation Vineyards

PREMIUM VIRGINIA WINES

30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.

P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

April 4, 1985

Mr. Ed Reisman, ATF Specialist
Bureau of Alcohol, Tobacco and Firearms
FAA, Wine and Beer Branch
Washington, DC 20226

Dear Mr. Reisman:

In response to our recent phone conversations in regard to the proposed George Washington Birthplace Viticultural Area, I wish to present the following:

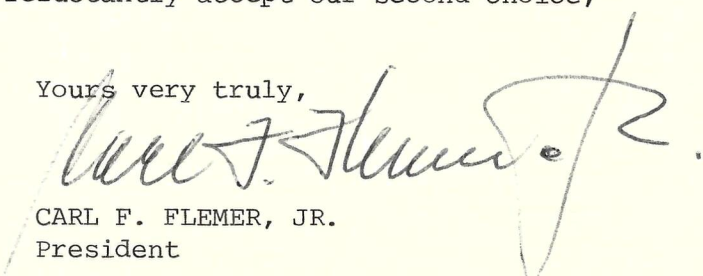
The five county proposed viticultural area is locally known as the "Northern Neck" being, of course, the northern most neck of land situated between the great rivers of tidewater Virginia. The name "Northern Neck" however, is not very well known throughout the rest of the state and is almost unknown outside the state.

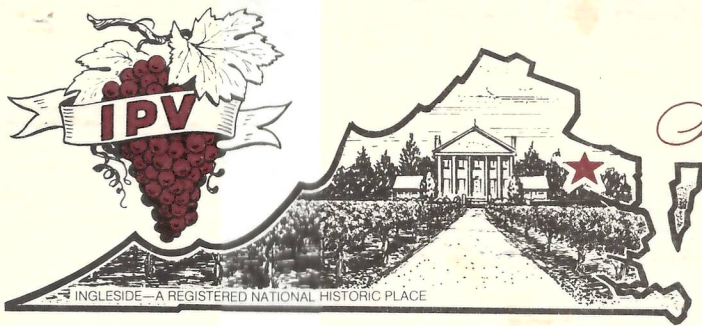
It seems to us that in order to fully utilize the advantages in having a viticultural area established, the name, if appropriate and fitting, should be one that is recognizable to the general public not only in the state but also the region and the nation. We think that the names "Shenandoah" and "Monticello" are appropriate and will benefit not only the wine industry in those areas but also the area itself should receive certain deserved benefits.

George Washington's family, both father and mother, for three generations before his birth were either residents, land owners, or intimately connected in some way with each of the five northern neck counties of the proposed viticultural area. His birth here was not just an accidental birth which may have happened because his mother was visiting or had just moved to the area. George Washington sprang from the Northern Neck as did his mother and father and their mothers and fathers. This is the land and birthplace of George Washington. We feel the name is appropriate and fitting.

Mr. Reisman, if we cannot get approval of this name, we will naturally be extremely disappointed and will reluctantly accept our second choice, "Northern Neck."

Yours very truly,


CARL F. FLEMER, JR.
President



Ingleside Plantation Vineyards

PREMIUM VIRGINIA WINES
30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.
P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

August 20, 1986

Richard A. Mascolo
Chief, FAA, Wine and Beer Branch
Department of the Treasury
Bureau of Alcohol, Tobacco and Firearms
Washington, DC 20226

Dear Mr. Mascolo:

Your letter of August 6, 1986 has been received and I thank you.

In reply, I would like to make one more appeal for the name "George Washington's Birthplace" or "George Washington".

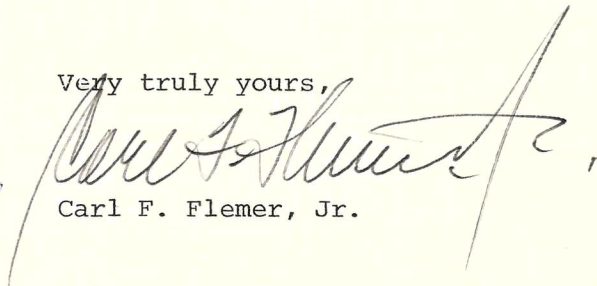
I enclose a map, which I recently discovered, of the original Northern Neck of Virginia grant. I have highlighted the entire boundary of the more than 5,000,000 acre tract and in another color highlighted the relatively small tidewater county area which all of us natives consider closely associated and directly connected with the Washington family and the Birthplace of George Washington.

We agree, we are locally called the "Northern Neck" and without a doubt we are a portion of the vast original "Northern Neck" tract, however, we are that relatively small, isolated tidewater portion of the original grant in which the Washington and Ball families have lived for generations (and still do) and in which George Washington was born. In each of these five counties a vast majority of the citizenry take great pride in the fact that the "Father of Our Country" sprang from their area. Leading citizens in each county (as recent correspondence, enclosed, indicates) stand with us in asking you to give us the Washington name.

Though we feel that, in a loose term sense, we locally call ourselves the "Northern Neck" we are statewide, nationwide and internationally better identified as the "Land and Birthplace of George Washington". It is in no way misleading to anyone anywhere for us to be named the "George Washington viticultural area" or the "George Washington Birthplace viticultural area".

At your suggestion, for a compromise name, we would be willing to consider "George Washington's Northern Neck Birthplace" however, I wonder how all of this would fit on a wine label. Could an abbreviated form be used for labels and other printed matter? If so, how exactly, may it be abbreviated so that the use of the term will not be cumbersome?

Very truly yours,


Carl F. Flemer, Jr.

CFF:lmf

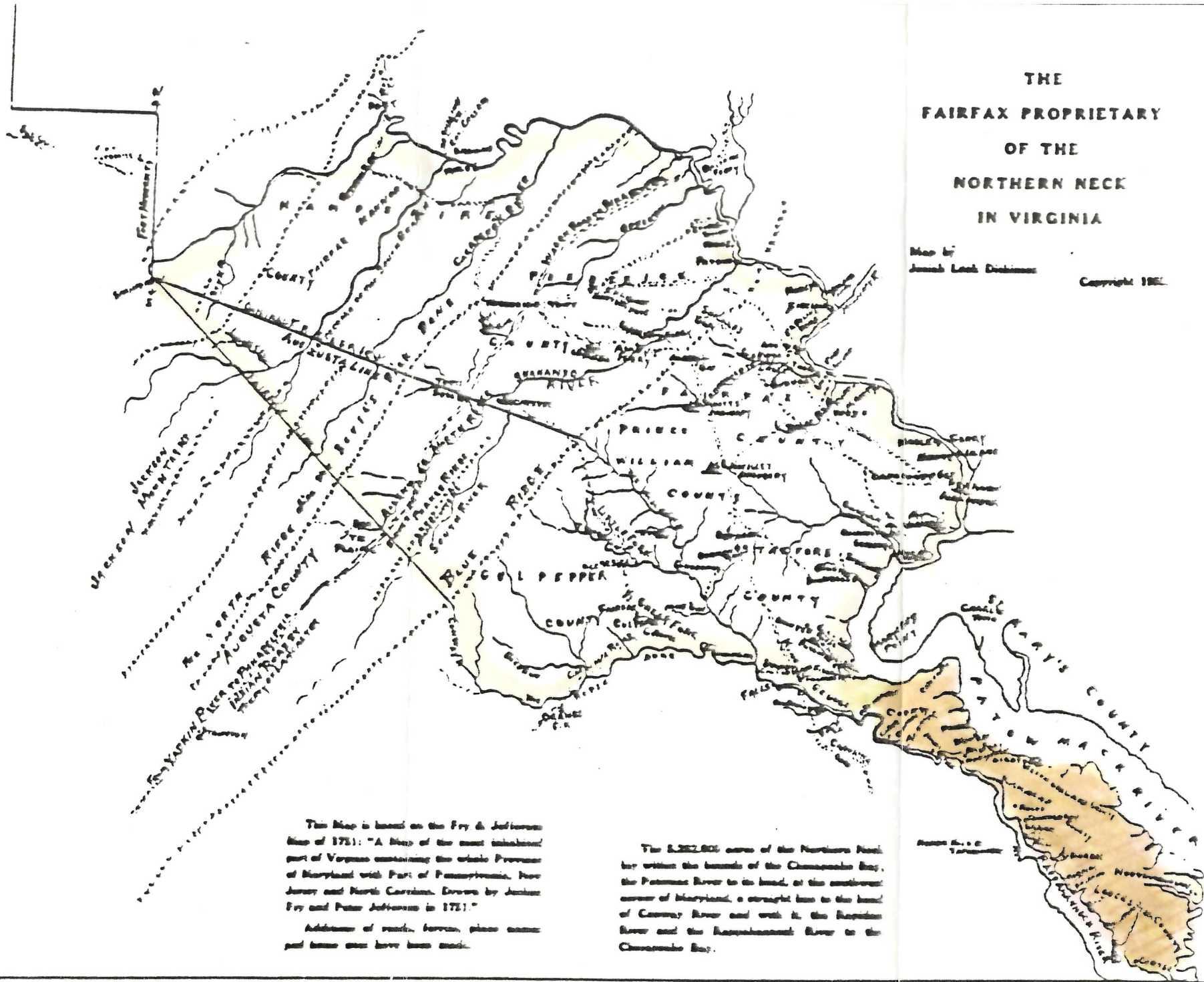
Enclosures

cc: Senator Paul Trible
Ian Williams

THE
FAIRFAX PROPRIETARY
OF THE
NORTHERN NECK
IN VIRGINIA

Map by
Joseph Louis Dubois

Copyright 1881



The Map is based on the Fry & Jefferson Map of 1751: "A Map of the most inhabited part of Virginia containing the whole Province of Maryland with Part of Pennsylvania, New Jersey and North Carolina. Drawn by John Fry and Peter Jefferson in 1751."

Alterations of roads, towns, place names and towns since have been made.

The S.W. corner of the Northern Neck, by within the bounds of the Chesapeake Bay, the Potomac River to its head, at the southern corner of Maryland, a straight line to the head of Currier River and with it, the Rappahannock River and the Accommodack River to the Chesapeake Bay.

Mary Ball Washington Museum & Library, Inc.

P. O. BOX 97
LANCASTER, VIRGINIA 22503
TELEPHONE (804) 462-7280

August 13, 1986

Ms. Anita Sanders
County Administrator
Board of Supervisors
P. O. Box 167
Lancaster, Virginia 22503

Dear Anita:

In response to your letter of the eleventh instant, this museum and library would very much like to see the Northern Neck be designated as a viticultural area, and named for George Washington.

To my knowledge, no organization, place, street, etc. uses his name. However, since his mother, Mary Ball, was born in Lancaster County, and since The Mary Ball Washington Museum and Library, Inc. is the only institution, to my knowledge, in the United States to have been founded to honor Washington's mother, it would seem fitting and proper that Lancaster County qualify as a part of the George Washington Viticultural Area in the Northern Neck. Our museum and library has members all over the country who are Ball-Washington family descendants. Our organization is widely-recognized and houses a very large collection of Washington memorabilia, including an authenticated lock of his hair and a very important early lithograph, a huge silver tray bearing his crest, and many fine silhouettes, all presented by members of the family.

On behalf of the Board of Directors, I heartily support so naming and identification of this viticultural area.

Sincerely,

Ann Lewis Burrows

Ann Lewis Burrows
Executive Director
and

Secretary to Board

ALB:amI



Ingleside Plantation Nurseries

VIRGINIA'S LARGEST AND FINEST NURSERY
2,000 ACRES LOCATED IN HISTORIC WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.
P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

September 26, 1985

Chief, FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco & Firearms
P.O. Box 385
Washington, DC 20044-0385

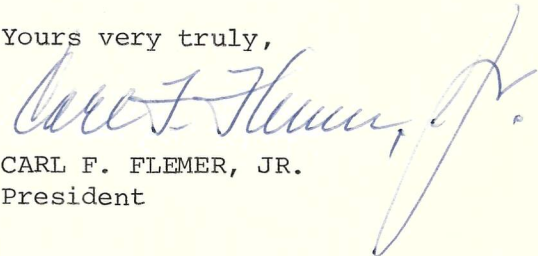
Dear Sir:

I enclose resolutions unanimously adopted recently by each of the Boards of Supervisors of the five counties, Lancaster, Northumberland, Richmond, Westmoreland and King George, in which they each recommend that the proposed viticultural area be approved and named the "George Washington Viticultural Area."

Our original petition asks for the name "George Washington Birthplace." We wish to state here that we will be pleased to accept either "George Washington Birthplace" or "George Washington" as the name for our viticultural area. We strongly feel that "Northern Neck" will mean very little to the vast majority of Virginia's population and nothing to those living in other states. We further submit that "Monticello" was an excellent and meaningful name choice for the viticultural area extending through the counties of Orange, Albemarle and Nelson covering 1,250 square miles which is an area considerably larger than our 922 square miles.

As is stated in the Federal Register Public Notice, George Washington's Birthplace is actually only the area encompassed by the National Park Service Memorial site in Westmoreland County. So also, we submit, Monticello is only the site of Jefferson's home in Albemarle County.

Yours very truly,



CARL F. FLEMER, JR.
President

CFF:cwc

Enclosure

WHEREAS, the Northern Neck of Virginia is a geographical area with great historical significance; and

WHEREAS, George Washington, "the Father of Our Country", was born in Westmoreland County, located in the Northern Neck, and served the region in the Virginia House of Burgesses,

WHEREAS, Mary Ball, mother of George Washington, was closely associated with each of the five Northern Neck counties, having been born in Lancaster, lived in Northumberland, Westmoreland and King George and owned property in Richmond County; and

WHEREAS, the growing of grapes in the Northern Neck of Virginia has developed in recent years as a significant agricultural pursuit worthy of designation as a viticultural area; and

WHEREAS, the historical association of George Washington and the Washington family with the Northern Neck is appropriate for naming and identifying such a viticultural area.

NOW THEREFORE, BE IT RESOLVED that it be recommended by this Board to the appropriate state and federal agencies that the Northern Neck of Virginia be designated as a viticultural area and be it further recommended that it be named the George Washington Viticultural Area.

Westmoreland
County

By Connett W. O'Neill
Chairman, Board of Supervisors

Date July 10, 1985

MASON, WILLIAMS
& MASON
601 COLONIAL AVENUE
COLONIAL BEACH, VA 22443

TESTE COPY E. E. Burge
E. E. Burge, County Administrator

E. Ralph Dameron
First District

E. R. "Betty" Barrack
Second District

John J. Cardwell
Third District

THE COUNTY OF LANCASTER, VIRGINIA



Anita Sanders
County Administrator
804-462-522C
24 Hr. Inv.
804-462-5111

BOARD OF SUPERVISORS
P.O. BOX 167
LANCASTER, VIRGINIA 22503

At a meeting on August 29, 1985, the Board of Supervisors of Lancaster County adopted the following resolution to be forwarded to the proper state and federal agencies recommending the Northern Neck of Virginia be designated a viticultural area, named the George Washington Viticultural Area.

RESOLUTION

WHEREAS, the Northern Neck of Virginia consists of four counties, being Lancaster, Northumberland, Richmond and Westmoreland Counties, and is a geographical area of great historical significance; and

WHEREAS, "the father of our Country", George Washington, was born in Westmoreland County and served the area in the Virginia House of Burgesses; and

WHEREAS, the mother of George Washington, Mary Ball, was born in Lancaster County, lived in Northumberland and Westmoreland Counties, and owned property in Richmond County; and

WHEREAS, the growing of grapes in the Northern Neck has developed in recent years as a significant agricultural pursuit worthy of the area being designated as viticultural; and

WHEREAS, the historical association of George Washington and his family with the area is appropriate for the naming and identification of this viticultural area;

THEREFORE, BE IT RESOLVED, the Board of Supervisors of Lancaster County recommends the Northern Neck of Virginia be designated as a viticultural area and it be named the George Washington Viticultural Area.

THE BOARD OF SUPERVISORS OF LANCASTER COUNTY



By: Anita Sanders
Anita Sanders, County Administrator

W. D. "Berry" Gray, Chairman
Washington Magisterial District
Rt. 3, Warsaw, Virginia 22572

Louis G. Peckett, Vice Chairman
Marshall Magisterial District
Warsaw, Virginia 22572

Milton W. Douglas
Farnham Magisterial District
Rt. 1, Farnham, Virginia 22460

A. Myers France
Stonewall Magisterial District
Rt. 1, Warsaw, Virginia 22572

RICHMOND COUNTY, VIRGINIA

Board of Supervisors
Warsaw, Virginia 22572

Stephen K. Whiteway
County Administrator
Warsaw, Virginia 22572
804-333-3415

William T. King
Commonwealth Attorney
Warsaw, Virginia 22572

RESOLUTION

WHEREAS, the Northern Neck of Virginia is a geographical area with great historical significance; and

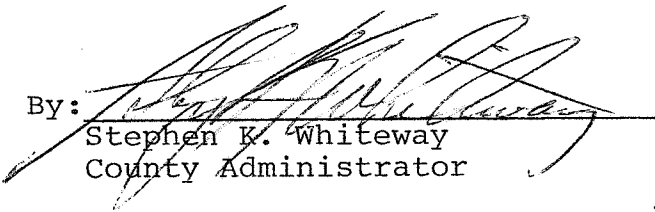
WHEREAS, George Washington, "the Father of Our Country", was born in Westmoreland County, located in the Northern Neck, and served the region in the Virginia House of Burgesses,

WHEREAS, Mary Ball, mother of George Washington, was closely associated with each of the five Northern Neck counties, having been born in Lancaster, lived in Northumberland, Westmoreland and King George and owned property in Richmond County; and

WHEREAS, the growing of grapes in the Northern Neck of Virginia has developed in recent years as a significant agricultural pursuit worthy of designation as a viticultural area; and

WHEREAS, the historical association of George Washington and the Washington family with the Northern Neck is appropriate for naming and identifying such a viticultural area.

NOW, THEREFORE, BE IT RESOLVED that it be recommended by the Board of Supervisors of Richmond County, Virginia to the appropriate state and federal agencies that the Northern Neck of Virginia be designated as a viticultural area and be it further recommended that it be named the George Washington Viticultural Area.

By: 
Stephen K. Whiteway
County Administrator

Date: August 8, 1985

SUPERVISORS

Edwin A. Sisson, Chairman
Heathsville, VA 22473

William E. Sanford, Jr., Vice-Chairman
Lottsburg, VA 22511

Leonard W. Newsome
Lottsburg, VA 22511

William A. Hudnall
Heathsville, VA 22473



COUNTY ADMINISTRATOR

John E. Burton
Heathsville, VA 22473
804-580-7666

Northumberland County, Virginia
Board of Supervisors
Heathsville, Virginia 22473

VIRGINIA:

At a regular monthly meeting of the Northumberland County Board of Supervisors held in the Courthouse at Heathsville, Virginia on Thursday, August 8, 1985 at 10:00 a.m.

Present:

- Edwin A. Sisson, Chairman
- William E. Sanford, Jr., Vice-Chairman
- Leonard W. Newsome
- William A. Hudnall

Upon motion by William A. Hudnall duly seconded by William E. Sanford, Jr., and unanimously carried the following resolution was adopted:

RE: DESIGNATION OF THE NORTHERN NECK AS GEORGE WASHINGTON VITICULTURAL AREA

WHEREAS, the Northern Neck of Virginia is a geographical area with great historical significance; and

WHEREAS, George Washington, "the Father of Our Country", was born in Westmoreland County, located in the Northern Neck, and served the region in the Virginia House of Burgesses,

WHEREAS, Mary Ball, mother of George Washington, was closely associated with each of the five Northern Neck counties, having been born in Lancaster, lived in Northumberland, Westmoreland and King George and owned property in Richmond County; and

WHEREAS, the growing of grapes in the Northern Neck of Virginia has developed in recent years as a significant agricultural pursuit worthy of designation as a viticultural area; and

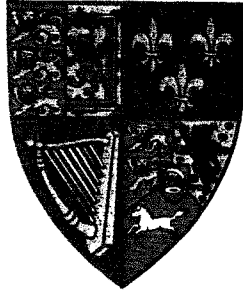
WHEREAS, the historical association of George Washington and the Washington family with the Northern Neck is appropriate for naming and identifying such a viticultural area.

NOW, THEREFORE, BE IT RESOLVED that it be recommended by this Board to the appropriate state and federal agencies that the Northern Neck of Virginia be designated as a viticultural area and be it further recommended that it be named the George Washington Viticultural Area.

A true copy, teste: John E. Burton
John E. Burton, County Administrator

7

King George County, Virginia



BOARD OF SUPERVISORS

Isaac S. Hughes
James Madison District

Woodrow W. Saft
Dahigren District

Diane F. Shields
James Monroe District

COUNTY ADMINISTRATOR

Kenneth M. Scruggs
P.O. Box 169
King George, Virginia 22485
Phone (703) 775-9181

At a regular meeting of the Board of Supervisors of King George County, Virginia, held on Thursday, the 15th day of August 1985, the following resolution was adopted on a motion by Diane E. Shields, seconded by Isaac S. Hughes, and carried unanimously, with Ms. Shields, Mr. Hughes and Mr. Saft voting aye:

RESOLUTION

WHEREAS, the Northern Neck of Virginia is a geographical area with great historical significance; and

WHEREAS, George Washington, "the Father of our Country," was born in Westmoreland County, located in the Northern Neck, and served the region in the Virginia House of Burgesses; and

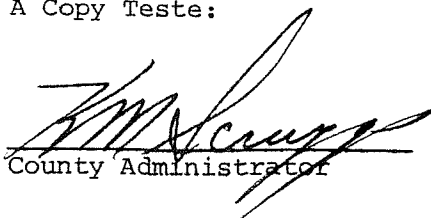
WHEREAS, Mary Ball, mother of George Washington, was closely associated with each of the five Northern Neck counties, having been born in Lancaster, lived in Northumberland, Westmoreland and King George and owned property in Richmond County; and

WHEREAS, the growing of grapes in the Northern Neck of Virginia has developed in recent years as a significant agricultural pursuit worthy of designation as a viticultural area; and

WHEREAS, the historical association of George Washington and the Washington family with the Northern Neck is appropriate for naming and identifying such a viticultural area;

NOW, THEREFORE, BE IT RESOLVED that it be recommended by this Board to the appropriate state and federal agencies that the Northern Neck of Virginia be designated as a viticultural area, and be it further recommended that it be named the "George Washington Viticultural Area."

A Copy Teste:


County Administrator

PHONE: (804) 224-7111



Ingleside Plantation Vineyards

PREMIUM VIRGINIA WINES

30,000 GALLON BONDED WINERY IN WESTMORELAND COUNTY

INGLESIDE PLANTATION, INC.

P.O. BOX 1038 • OAK GROVE, VIRGINIA 22443-0838

October 1, 1986

Mr. Richard A. Mascolo
Chief, FAA, Wine and Beer Branch
Department of the Treasury
Washington, DC 20226

Dear Mr. Mascolo:

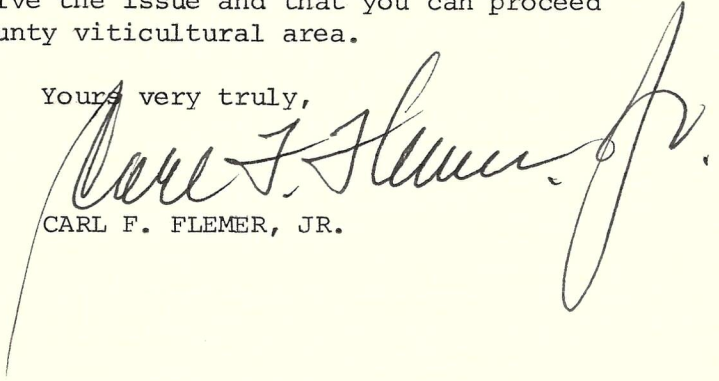
Your letter of September 23rd has been received.

We feel that the most acceptable name of your four suggestions would be:

Northern Neck
George Washington Birthplace

We hope that this will finally resolve the issue and that you can proceed with establishing and naming our five county viticultural area.

Yours very truly,


CARL F. FLEMER, JR.

CFF:maj