Memoir III.

2018) This copy to be kept in office of Assistant C.

8

# Notes on the Coast of the United States

U. S. C. & G. SURVEY
LIBRARY
AND
ARCHIVES
No. 13247
Shelf 173
Case

by A. D. Bache, Sup'dt. U.S.C. Survey.

---

Section III. { James River. Va.
York River. Va.
Rappahannock River. Va.

( With 10 Maps )

RAREBOOK
VK
982
.J3
B3
1861

---

June. 1861.

---

Note. — These Memoirs were prepared by Prof: A. D. Bache, Sup'dt. assisted by Capt. C. P. Patterson, Hydrog: Inspector, and Prof: W. P. Trowbridge, Assist U.S.C. Survey.

---

# National Oceanic and Atmospheric Administration

## Notes on the Coast of the United States

### ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

This has been a co-operative project between the NOAA Central Library, the Office of Coast Survey, NOS and the NOAA Climate Database Modernization Program. This project includes the imaging of the full text of each document. To view the original documents, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or www.reference@nodc.noaa.gov.

LASON
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
April 20, 2004

This Book is the Property of the
U. S. COAST AND GEODETIC SURVEY,
and must be carried on Book Inventory
if not returned before the Expiration
of the Calendar Year.

# James River.

## Charts (P & Q.)



This River joins the Bay in Hampton Roads between Pig Pt on the south and Newport News Pt on the north. The average width of the River from the mouth to Pt of Shoals Light house, a distance of fourteen miles, is three and a half miles. Thence to James town Island a distance of fourteen miles, the average width is two miles and a quarter widening out to three and a quarter miles in Cobham Bay abreast of Jamestown Island contracting to a mile at the west end of the Island and six miles above, opposite mouth of the Chickahominy river, widening to three miles, and a mile beyond contracting to one mile and a quarter at the lower end of Sandy Point plantation. Thence to City Point the junction of the Appomattox River, a distance of twenty three miles, the average width is from one half to three quarters of a mile, contracting at points to one quarter and one fifth of a mile. City Point is the head of ship navigation and distant from Richmond thirty two nautical miles. Above this Point the river rapidly contracts in width to an average of one sixth of a mile, with a very crooked course for twenty miles, the land at one point, the neck of Farrar's island being less than four hundred and fifty yards across, the two points being distant by the river eight miles. The general direction of the river from the mouth to Richmond is N.W. Richmond the Capitol of the State of Virginia and the county town of Henrico Co is at the first falls on this River and the head of tide water, as also of sloop and steamboat navigation, eight feet water can be taken up at nearly all stages of the river. The level of the basin is ninety six and a half feet above mean tide level of the ocean. It is the centre of the manufacturing interests and railway systems of the State. It is distant by the river from City Point 32 nautical (37 statute) miles, from Jamestown 66 nautical (76 statute) miles; from Pt of Shoals 88

nautical (101 statute) miles; from Hampton Roads 104 nautical (121 statute) miles. It is distant by rail road from Petersburg twenty three statute miles and distant by rail road through Fredericksburg from Aquia Cr: on the Potomac (forty miles from Washington) seventy five statute miles Two rail roads connect it with the south western part of the state through to Tennessee, and with the northern and middle parts of the state. There is no other town upon the river, it being generally bordered by farms and plantations. Tributaries. Nansemond River is the first tributary on the south or right bank, it joins the river at its mouth directly opposite Newport News Point. Pig Point being common to both the James River and it. Up this eight feet can be taken fifteen miles to Suffolk.

Suffolk the county town of Nansemond C° is a Station of the Norfolk & Petersburg Rail road (twenty two miles from Norfolk) and also of the Portsmouth & Weldon railroad (seventeen miles from Portsmouth) is at the head of sloop navigation. Franklin station Va. about forty miles from Portsmouth on the Portsmouth & Weldon rail road, is upon Blackwater a deep but narrow tributary to the Chowan river North Carolina, navigated by small boats which ply to Edenton and Plymouth. Suffolk is connected by a canal with Drummond Lake, and this by a feeder in the Dismal Swamp Canal, leading to Elizabeth City, N.C. and by the Pasquotank with Albemarle Sound.

Chucatuck Creek joins the Nansemond at its mouth and has a channel of five feet leading into it. Pagan Creek, or river, comes in seven miles above the Nansemond and has a channel of eight feet to Smithfield the principal town of Isle of Wight C° connecting with Suffolk by the county road ten miles and a half, and with Petersburg thirty miles. This is the only considerable town between Suffolk and Petersburg. On the north, or left

bank Warwick Creek enters the river nine miles above Newport's News Pt and seven feet can be taken into its mouth. Skiff's Creek eight miles above Warwick creek is the boundary between "Warwick" and "James City" Counties. Lawn's Creek on the left bank, opposite the last is the boundary between the "Isle of Wight" and "Surry" Counties.

Chickahominy River is the principal tributary on the north or left bank below Richmond. It is navigable for sloops for eight miles and eleven feet can be taken into its mouth. It joins the river between Piney Grove Point and Clay Bluff thirty nine miles above the mouth and runs up the country, about midway between and parallel to the James and York Rivers, beyond Richmond, and within five miles of that place. This river is the boundary between "James City" and "Charles City" counties

The Appomattox River, is the largest and most important stream, joining the James River below Richmond, and comes into that river thirty seven miles below this place. Petersburg in Dinwiddie Co, one of the most important and flourishing towns in the State, is on this river ten miles above its mouth at City Point, and four feet water can be taken up to it at low water. It is the centre of a rail road system scarcely inferior to that of Richmond itself, connecting directly with Norfolk, Richmond, the west and south and also with City Point the head of ship navigation on James River. Port Walthal four miles above City Point, on the left, or north bank of the Appomattox, is the general landing for coal to which fifteen feet can be carried at low water. There are many small creeks emptying into James River, with channels of but two to four feet, leading up one to three miles.

# Sailing Directions.

## (See Lights, Beacons Buoys)

Entering the mouth of the river from Hampton Roads on a range of S.E. angle of Fort Monroe just open to southward of Light house, bring Newport News Pt to bear N. by W. with four fathoms water blue mud, the course in is N. W½ W. giving the point a berth of one third of a mile, and deepening the water to ten fathoms soft bottom in the distance of a mile: the course is then N.W. shoaling gradually to four and three fathoms and a half in a distance of two miles. This course leads to the entrance of the channel to the Nd of White Shoals in six fathoms water. White Shoal (upon which there is a Light house) divides the river into two channels, that to the northward being the deepest; 4¾ fathoms being the least depth and averaging half a mile in width, keep the course N.W. giving the Light house a berth of one third of a mile to the southward, when it bears S. by E. haul in gradually to the South bank of the channel and track it along into the main channel. At the mouth of the channel to the southward of the shoals is a bar over which seventeen ft. can be carried at low water. To enter this channel, when one and a half mile from White Shoal Light house, haul in to the southward with the Light house two points to the starboard bow and track the south bank until the Light house bears N. by W. when haul in for it, deepening the water to 3½ fathoms, and giving the Light house a berth of three or four hundred yards, when a course of W.N.W. will lead up the channel four miles to lower end of Burnett's Bay, then haul up to W½ S. for two miles and a quarter, then a course of N.W. by N. one and a half miles will lead up abreast of Point of Shoals Light house in from five to eight fathoms water, and the channel a little over a quarter of a mile wide. The average width of the channel from the mouth to Burnett's Bay is one mile except where divided by W. Shoal.

The line of deepest water from Newport News Point leads nearly parallel to the shore about one third of a mile distant for two miles, when it gradually leaves the shore for a mile where it is three quarters of a mile distant. It then runs directly for the Light house on White Shoal until within a mile where it drops to the northward running close in to the north bank of the channel half a mile from the Light house and one mile and a half from the shore. It continues near the north bank of the north channel until the two channels meet when it runs in the mid channel nearly up to Point of Shoals Light house. From Point of Shoals Lighthouse the course is N. by E. for two miles, then N. ½ E. four miles to a position one third of a mile above Deep Water Lighthouse, which pass close to the starboard hand and mid-way between Skiff's Creek to the northward & eastward and Lawn's Creek to the southward and westward. Just above this to the Nd and westward of Hog Island is a middle ground, the deepest channel lying to the northward – to pass through this channel, which runs nearly in a semicircle around Hog Island, track the south bank around until abreast of Allen's Wharf on the north shore, when drop off into mid channel half way between the north point of Hog Island and the marsh of Archershape Creek in from five to seven fathoms water, soft bottom. Then the course is S. W. by W. one mile and three quarters leading thro' the channel over the bar between Hog and Jamestown Islands with fifteen feet least water at low water, and to the northward of a middle ground with three feet water upon it, separating it from a crooked channel to the southward having thirteen feet water in it.

From the last position off Jamestown Island the course up the river is N. W ¼ N. three miles until Back River bears E. ½ S. with from five to eight fathoms water, when the course is W. ¼ S. keeping Smithville Point open on the starboard bow five miles. This course and distance leads over two bars, the lower with

seventeen feet on it, one mile long, and the upper one eighteen feet, - as you pass the upper bar and drop into twenty feet water, within a mile of Smithville Point, haul up N.W ¾ W. and run five miles up abreast the wharf on the lower Clarendon plantations, just below the mouth of Chipponk Creek is from six to six and a half fathoms water, soft bottom. From this last position keep the middle of the river for six miles, passing Kennon's marsh in the bend of the river and upper Brandon plantation, then give the north shore a berth, till up to the next point on the starboard hand where the channel is steep to on each side. From this point keep the middle of the river for one mile and a half, when, close in with the eastern shore and continue on a N. by E course towards Queen's Creek until abreast of the Pt of Flowery de Hundred, when haul gradually around to the westward giving the point a berth of from 400 to 600 yards, when past the Point and abreast of Swynard's wharf on the north shore, the course is S. W. by W. one and a half mile, taking you close in to the south shore, which keep aboard until up to Maycox's wharf when stand W. by N. one mile up to lower buoy on Harrison's Bar. From the lower end of Harrison's Bar to City Point the channel is very narrow and crooked, and can only be followed by the Buoys or with a chart on a large scale.

## Dangers. See Lights. Beacons &c.

Upon the point of the of the bank making out 3 miles to the Nd and Wd from Barrel Point, and 4 miles W.S.W. from Fishing Point and midway between Newport News Point and Pig Point, being about 2 miles from each, there is but 5 feet of water, the channel being steep to with 4 fathoms water - on the same side 1¼ miles further up there is but 3 feet and ¾ miles beyond are banks bare at low water. 1½ miles from shore and lying in a line of Newport News Point with two clumps of trees on edge

of the marsh between Ragged River and Fishing Point. Nasseway Shoal is the name of the great bank which extends over a mile out to the N.d and E.d of Fishing Point and runs along the shore to Pagan river. This shoal to the N.d & E.d of Fishing Point is fringed for a distance of a mile with a series of banks bare at low water, with the channel steep to in 3 to 4 fathoms. Between there and Day's Point this bank is very much broken and the south shore should not be approached within 1½ miles until past "White Shoal." — Upon the north shore, as the bank leaves the shore, it gets more ragged and broken forming a number of bare banks and shallow knolls upon the edge, like that upon the south bank, very dangerous of approach. Brown's Shoal, the first and largest of these bare banks, lies about 4 miles above Newport News Point, at right angles to the shore and is ½ a mile long. Between Brown's Shoal and Warwick River the bank is from 1 to 1½ miles wide, with several bare banks, and many shoal lumps both along the edge of the channel and over the shoal. On a line between White Shoal Lighthouse and Blunt Point, ⅓ mile from the former is a Spot of but 4 feet water on the edge of the channel which is steep to with from 5 to 7 fathoms water. White Shoal lies directly in mid-river between Pagan river on the S.W. and Nest's Creek on the N.E. and has many bare spots, upon the lowermost of which is a Lighthouse. To a depth of 12 feet, this shoal is 1¼ miles long and ⅓ mile wide and divides the river into two channels, with 4¾ fathoms in the one to the northward and 17 feet over the Bar at the entrance to that to the S.d

Point of Shoals. Between Warwick river and Mulberry Point, forming a base, the north bank makes out to the S.d and W.d, into Burnett's Bay for the distance of 4 miles from the north shore on the S.W. point of which bank is the Point of Shoals Lighthouse. The channel runs around the southern

edge of this bank. The whole of this immense bank is broken up into a multitude of bare banks, shallow knolls and deep holes. From opposite Point of Shoals Light house, to the N.d and E.d of Hog Island, the the south bank gradually makes out to 1½ miles in width, with many shallow knolls near the edge of the channel, one of which with but 3 feet water runs out from the S.E. corner of Hog I.d directly towards Deep Water Lighthouse to Archershape (sometimes called Powhatan Cr.) the north bank runs from 1¼ miles in width off Skiffs Cr. to ⅓ mile off the former. There is a shoal on this bank with from 1 to 6 feet lying off ¾ of a mile from Grove's wharf on the edge of the channel.

There is a channel of 11 feet inside this shoal, leading up to Grove's Wh.f and through the bank. To the N.d and E.d of Hog Island there is a Shoal 3 miles long, ¾ mile wide in the middle and tapering to a point at each end, with from 5 to 12 feet water, and dividing the river into two channels, that to the N.d having 19½ feet, and that to the S.d 15 feet water.

The bank off north point of Hog island makes out ½ mile. In mid river between Hog and Jamestown Islands, at the lower entrance of Cobham Bay, lies a shoal 1½ miles long, by ½ mile in the middle, and tapering to a point at each end with 12 to 13 feet water, dividing the river into two channels. The shoal in Cobham bay with but 3 to 6 feet upon it, fills the entire bay with a narrow channel around it of 7 feet close in shore. A shoal of 6 feet runs out from Starks Creek towards Church Point to the edge of the channel and within ½ mile of the latter. A Bank makes out from Chickahominy river 1½ miles extending from Dancing Point towards Back River 4 miles, and from Piney Grove Pt, the entrance of the Chickahominy river, towards Swan's point 2½ miles, with from 6 to 12 feet, the channel lies to the S.d of this bank, at from ½ to ¾ mile from the shore. There is a channel of 14 feet to the N.d of this bank leading into Chickahominy river. A shoal with from 1 to 4 ft.

on the edge makes out from Chipponk Creek running along a line from end of Wharf on Claremont plantation, to that on Lower Brandon plantation with a narrow channel of 7 feet, leading through it up the creek near the lower wharf. A Bank makes out from the E.d just below Flowery de Hundred point with but 3 feet on it, to mid channel. The channel leading along the left or E.n shore. Also ¾ a mile above this point a shoal makes out with 3 to 12 feet, with a narrow, crooked channel with 3½ fathoms close in to shore. From the lower end of Harrison's bar (over which 14 feet can be taken) to City Point, the river is crowded with shoals and bare banks, through which the channel is crooked and narrow.

## Position of Light houses James R.

| Name | Latitude | Longitude | |
|---|---|---|---|
| | | In arc | In time |
| White Shoal (approximate) | 37° 01′.4 | 76° 31′.5 | 5h 06m 0 |
| Point of Shoals do | 37° 03′.8 | 76° 39′.2 | 5 06 36.8 |
| Deep Water do | 37° 08′.2 | 76° 38′.0 | 5 06 32.0 |
| Jordan's Point | 37° 18′ 43″ | 77° 13′ 06″ | 5 08 52.4 |

### Magnetic Variation.

| | |
|---|---|
| At Old Point Comfort | 1° 27 West |
| At Richmond | 0 27 " |
| At Petersburg | 0.48 " |

# Tide Table.

| Locality | Mean interval, time between Moon's transit & time of high water | Mean Rise & Fall | Mean rise & fall | | Mean duration | |
|---|---|---|---|---|---|---|
| | | | of Spring Tides | of Neap Tides | Of Rise | Of Fall |
| Newport News Pt | 9h 9m | 2ft.5 | 3ft.4 | 1ft.7 | 6h.3m | 6h.18m |
| City Point | 2 11 | 2.8 | 3.0 | 2.5 | 5.14 | 6.58 |
| Curl's Neck | 3 31 | 3.2 | 3.0 | 2.8 | 5.32 | 6.54 |
| Richmond | 4 28 | 2.9 | 3.4 | 2.3 | 4.53 | 7.31 |
| Petersburg | 4 45 | 2. | | | 4.57 | 7.35 |

# Beacons, Buoys &c.
## of James River and its Tributaries.

| Number | Name of Station | Color | Kind of mark in feet | Prominent objects & bearings from buoys. | | General remarks | Depth L.W. Spr. tides |
|---|---|---|---|---|---|---|---|
| | | | | | | | Feet |
| | White Shoals L.H | Red & White | Screw P. | Day's Pt buoy<br>Newport News | W.N.W<br>S.E ¾ E | Shows at low water. Leave light on starboard hand going up. | |
| 1 | Day's Point | Black | Spar 29 | Glover's Bluff<br>Day's Pt beacon<br>White Sh. L.H. | W ¼ N.<br>W x N ½ N.<br>E.S.E. | Soft bottom | 18 |
| | Day's Pt beacon | Red | 1st Staff (red cage) | Day's Pt buoy | E by S ½ S | Shoal visible at low water. | |
| 3 | Glover's Bluff | Black | Spar 26 | Day's Pt<br>Rock landing<br>Glover's B. beac. | S.E.<br>W by S ½ S<br>S.E by S | Alter to clear point of shoals north.d | 20 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ... | Point of Shoals L.H. | Red & White | Ir. screw Pile | Harden's Bf. By<br>Deep Wr L.H | N½E.<br>N.E½E | Shoal seen at L.W. A turning point.<br>Leave L.H. to starboard. Berth 70 yds | |
| 5 | Harden's Bluff | Black | spar 26 | Up. bluff Burwells<br>Hayden's Blf.<br>Deep Wr L.H.<br>Pt of Shls L.H. | S.W. by S<br>N.W.<br>N by E¼E<br>S½W. | Soft bottom. | 18 |
| 7 | Lower Lyon's Cr. | Black | spar 25 | Hog I. Point<br>Lyon's Cr.<br>Deep Wr L.H. | N.N.W.<br>W by S<br>E by N½N | Soft bottom. | 12½ |
| ... | Deep Wr Shls L.H. | Red & White | Ir. Screw piles. | Lr Lyon's Cr By<br>Pt Shoals L.H. | W by S½S<br>S by W½W | Seen at L.Wr Leave Light on starboard hand. Berth 80 yds. | |
| 9 | Up. Lyon's Creek | Black | spar 26 | Deep W. L.H.<br>Harden's blf.<br>Hog I. Point | S E by S½S<br>S by W<br>N.W. by N | Soft bottom. | 15 |
| 2 | Tree Bell | Red | spar 30 | Hog I. Point<br>Grove's Whf | W½S.<br>N.E. | Sticky bottom. Dangerous shoal soundings very abrupt. | 20 |
| ... | Hog Id Swash | Black White vertical | spar 26 | Upr part Hog I<br>Grove Wharf<br>Farm H. Hog I | W.N.W<br>E.N.E<br>W.S.W. | Soft bottom | 15 |
| 11 | Hog Id Point | Black | spar 32 | Cottage Creek<br>Hog I. Point<br>Lowr Goose hill middle buoy | N½W<br>S.E by S<br>S.S.W½W | Extent of shoal out good distance soundings abrupt 6 to 3 fathoms and the to 6 feet. Sticky | 20 |
| 13 | Lowr Point Goose hill Middle | Black | spar 30 | Hog I. Point<br>House Hog I<br>Goose hill lowr | E½N.<br>S E½S<br>W by N½N | bottom. It marks lower point of Goose hill middle | 21 |
| ... | Lower or entrance Buoy to Goose hill Swash Channel | Black White vertical | spar 30 | Goose hill Pt<br>Hog I. Point<br>Middle buoy<br>Goose H. Sw. Ch. | W by N¾N<br>N.E by E½E<br>S.W½S. | Not in general use for large vessels, being lumpy and hard. Run by these 3 buoys avoiding lumps & finding deeper water than Ship Chl | 15½ |
| ... | Mid. Goose hill Channel (Swash) | Black White vertical | spar 28 | Hog I. Point<br>Goose hill Pt<br>Buoy Up. Goose hill middle | E by N½N<br>N.W by W<br>N.E½N. | same as above<br>orth, entrance to Swash Chanl | 15½ |
| ... | Upper Goose hill swash channel | Black White vertical | spar 28 | Hog I. Point<br>Goose hill Pt<br>Mid. Goose hill channel | E by N½N<br>N.W by W<br>NE½N | as above for Lower Buoy &c | 15½ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15 | Swan Point | Black | spar 28 | Swan point | W.S.W | Hard, soundings abrupt. | |
| | | | | Jamestown Ch.h | E½S. | Vessels avoid southd of buoy | |
| | | | | Coke's house | N.by E | | |
| ... | Do. 2nd Shoal | Black & | Spar 26 | Swan Point | S.E by S | Sticky. Channel narrow | 16 |
| | Water Channel | White | | Jamestown Ch | E by S½S | Up Sn Chan.l Buoy close to star- | |
| | | vertical | | Dancing Pt | W by N | board. Up the Nn berth 100 yds | |
| 17 | Brown's Shoal | Black | Spar 35 | Dancing Pt | W by N½N | Soft bottom | 18 |
| | | | | Jamestown Ch. | E½S | | |
| 4 | Dancing Point | Red | spar 34 | Dancing Pt | N by W | soft. " | 18 |
| | | | | Claremont | WNW | | |
| | | | | Sandy Pt | N.W. | | |
| 6 | Buckler's Point | Red | spar 28 | Windmill Pt | E | hard " | 17 |
| | | | | Bird's Pt | W by N | | |
| | | | | Rice's landing | S.by W½W | | |
| 19 | Scroggin's Pt | Black | spar 28 | Scroggin's Pt | S.W. | soft " | 15 |
| | | | | Bird's Pt | NW by N½N | | |
| | | | | Jordan's Pt L.H | W by N¾N | | |
| 8 | North Lump | Red | spar 28 | Berkley House | NE by N | Pass near to the buoy | 14 |
| | | | | Jordan L.H. | W½N | | |
| | | | | Harrison Br buoy | W½N | hard " Channel narrow | |
| 21 | Harrison's Bar | Black | Inn Can 2d summer | Berkley house | N.E½N | Pass near to the buoy. do. | 14 |
| | | | spar in winter | Jordan L.H | W¾N | | |
| | | | | North lump By | S E by E | hard bottom | |
| 10 | Upper Bar Buoy | Red | spar 28 | Berkley house | NE by E½E | Soft " | 16 |
| | | | | Jordan L.H. | W½N | | |
| | | | | N. Lump buoy | S E by E | | |
| 23 | Jordan's Pt middle | Black | spar 28 | L.H. Jordan's Pt | W by N | soft " | 17 |
| | | | | Scroggin's Pt | E by S½E | | |
| 12 | 1st in bend between | Upper (Red) | spar 28 | Berkley house | E | soft " | 16 |
| | Bar buoy and Jordan Pt | | | Harrison Br By | S E by E | | |
| | | | | Jordan's L.H | W by S | | |
| 14 | 2d in bend between | Upr (Red) | spar 32 | Jordan's L.H. | S W | soft " | 18 |
| | Bar buoy and Jordan Pt | | | City Point | W by S | | |
| 16 | 3d in bend nearly oppo- | | spar 30 | Jordan's L.H. | S.W | soft " | 16 |
| | site Jordan's Pt | Red | | City Point | W½S | | |
| | | | | Birds Point | E | | |
| 25 | Jordan's Pt Spit | Black | Iron Can (summer) | Jordan's L.H. | E½S | soft " | 16 |
| | | | spar (winter) | City Point | W½S | | |
| | | | | Epp's Id Point | W½N | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| .... | Jordan's Pt L.H. | White | Light on dwelling | Harrison's Br buoy | E¾S | soft bottom - sides of house white - roof red - lantern black | |
| 18 | Epp's Slue, lower entrance | Red | spar 36 | City Point<br>Jordan's L.H. | W½S<br>E½S | soft bottom | 21 |
| 20 | Epps' Slue, upper entrance | Red | Iron Num 2d (summer) spar in (winter) | Depot, City Pt<br>Upper Pt Epps I<br>Jordan's L.H. | W½S<br>WNW<br>E½S | soft " | 20 |
| 27 | Bight of City Pt | Black | spar 36 | Jordan's L.H.<br>Point of Epps I.<br>Depot, City Pt | ENE<br>NW½W<br>WbyN | sticky " | 18 |
| 29 | 2d Buoy in Bight of City Point | Black | spar 36 | Jordan's L.H.<br>City Point | EbyN½N<br>NWbyW | sticky " | 18 |
| 22 | Point of Epps Id Middle | Red | Iron Num 2d Summer Spar in winter | Jordan's L.H.<br>Depot, City Pt<br>Point of Epps I | ENE<br>W¾N<br>NWbyW ½W | soft " | 18 |
| 24 | Turn of Middle to Bermuda hundd | Red | Iron Num 2d Summer spar in winter | Cox's Point<br>Shirley's Pt<br>Bermuda Hundd | SbyW½W<br>NNE<br>NbyE | soft " | 20 |
| 31 | Trent's Reach 1st | Black | spar 22 | Mill rock | WSW | hard " | 11 |
| 26 | Buoy " 2d | Red | spar 22 | Mill rock | SWbyW | hard " | 11 |
| 28 | Buoy " 3d | Red | spar 22 | Mill rock | SWbyW | hard " | 11 |
| 30 | Richmond bar, low. | Red | spar 24 | State house | NNW | hard " | 12 |
| 32 | " 2d buoy | Red | spar 22 | State house | NNW | hard " | 10 |
| 34 | " 3d buoy | Red | spar 24 | State house | NNW | hard " | 12 |
| 33 | Good's Rocks | Black | In can 3d Spar Winter | State house | NbyW | hard " | 15 |
| 35 | Rocks near Richmond | Black | In buoy summer spar in Winter | Wh Fat Rockets<br>State house | N<br>NWbyN | hard " | 12 |

## Channel of the Appomattox River Va.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Mouth of the river Appomattox | Red | spar 23ft | Cox's Point<br>Middle buoy<br>Bermuda hund. | SbyE<br>SW½W<br>NbyE½E | sticky bottom | 13 |
| 1 | Middle buoy | Black | spar 24 | Cox's Point<br>Bermuda hund. | S½E<br>E¾N | channel very narrow | 13 |
| 4 | Upper buoy | Red | spar 22 | Cox's Point<br>Bermuda hund<br>Buoy in mouth river | SE¾E<br>NEbyN<br>EbyN½N | channel very narrow | 14 |

# York River Va



## Charts D & S & T & T'.

From Cape Henry to the eastern extremity of York River Spit is eighteen miles, and thence to the line joining Tod's Point and Monday's Point is eight miles. Thence to Yorktown narrows is six miles. Thence to West Point at the junction of the Pamunky and Mattapony rivers which form the York River is twenty one and a half miles. York River entrance is in Latitude 37°15 N. Longitude 76°23 W. The general course from the mouth to Yorktown narrows is E.S.E. and thence to West Point N.W. The Richmond and York River rail road crosses the Pamunky at White house above Indian Island about fifteen and a half miles by water and 12½ miles by rail road N. and W. of West Point. The distance by rail road from West Point to Richmond is thirty eight miles. The shortest distance from Richmond to the Pamunky is twelve and a half miles and to the Mattapony twenty and a half miles. The Chickahominy, a tributary of the James River, lies between these rivers and Richmond four miles from the city. The Rail road to Aquia creek crosses the South Anna river, the southern branch of the Pamunky, about 57 miles by the river above West Point at Chesterfield, and North Anna about six miles north of this, about four miles north of the South Anna crossing is the junction with the Virginia Central Railroad, branching at Gordonsville north to Alexandria and south to Charlotteville and Lynchburg. The width of the York River at the mouth is two miles and one eighth which suddenly contracts to seven eighths of a mile at Yorktown. It widens again to two miles at King's Creek, then gradually narrows for eight miles between Moody's Wharf and Purtun's Island to three miles above Yorktown between which and West Point the width is irregular, the least being at Terrapin Point five miles above Moody's Wharf and three miles

and a quarter below West Point and opposite to Dudley's Ferry. The channel between the eighteen feet curves, which at the entrance is one and three quarter miles wide, narrows before reaching Terrapin Point to about one quarter of of a mile. The depths at each five miles from York Spit in fathoms are 6, $5\frac{1}{2}$, $6\frac{3}{4}$, $7\frac{1}{4}$, $5\frac{1}{2}$, $3\frac{3}{4}$, $3\frac{1}{2}$, $3\frac{1}{2}$, the bar at Goff's Point has eighteen feet on it and then $3\frac{1}{2}$ occurs again. Thirteen feet can be carried to West Point.

## Islands.

The entrance of York River is marked by broken patches of Marsh and and Islands not marked with names on the ordinary maps. Two very small ones on the northern side of the entrance are known as Hog island and Ellen's island. About two miles above Gloucester Point, and about a mile apart and near the north shore are several groups known as the Mumfort islands, Carmine islands, and Catlett's islands. Purtan's Island, nine miles further up and directly opposite to Moody's wharf, is cut off from the north shore by Adam's creek. A small indentation at the lower end of the island is called Purtan Bay.

## Sailing Directions.

The sailing lines for entering York River are given in the chart as follows. In six fathoms water bring the Light Boat off York Spit to bear N by W $\frac{3}{4}$ W (N 20° W) which will be in range with New Point Comfort, then stand in for the mouth of the river on a N.W. by W. (N 57° W) course leaving the black buoy on York Spit three quarters of a mile to the starboard hand. In eight fathoms water, with Too's Pt bearing S.W. by S. (S. 32° W) steer W. by S. $\frac{1}{4}$ S. (S. 74° W). The best water is found in the middle of the river.

Above Yorktown the chart is the best guide. The shoals are generally attached to the shore, the channel following one other shore according to the shape of the river. One mile above Moody's wharf the shoal from the southern (right) bank makes out eight tenths of a mile and there is just above this a detached shoal nearly in mid channel with but seventeen feet on the upper end and three eighths of a mile long. The cleanest channel is on the north side of this Shoal. The great bar off Goff's Point is made by the sudden widening of the river and the consequent deposit from the two rivers forming the York. At the Yorktown narrows the depth is thirteen and a half and fourteen fathoms. By the aid of the buoys properly placed the navigation is easy, but it is known that many of these have been purposely displaced of late. **Bottoms.** Sand and mud constitute the bottom at the entrance. York Spit is hard. The Pocosin flats less hard. Within the river the bottom is blue mud and sand.

## Magnetic Variation.

At York Spit Light Vessel 1857 1° 28′ West

## Tides.

Corrected Establishment VIII$^{H}$ XXXIX$^{M}$ (approx) at entrance

Mean rise and fall of tides (approx) 2·4 feet

| No in order | Name of Station | Color | Kind of mark | Bearings of Prominent objects from buoy or beacon | | General remarks | Depth at L.W. of Spring tide |
|---|---|---|---|---|---|---|---|
| .... | York spit L. Vessel | Cream | 2 masts 1 light | New Pt L. house | N.W by N½N. | Off end of spit. | 24 |
| | | | | Back R.L. house | S.W by S ½ S | | |
| | | | | Too's Point | W½N | | |
| 1 | Pocosin Flats | Black | 2d Iron Can | Back R.L. house | S by E | Soft bottom. | 20 |
| | | | | New Pt L. house | N by E ¼ E | | |
| | | | | Too's Pt trees | W by N ¼ N | | |
| 2 | Elbow of Yorkspit | Red | 2d Iron Nun | New Pt L. house | N.E by N ¾ N | Soft bottom. Should not pass to Nd of buoy, soundings abrupt 7 fath. to 10 ft within 50 yds | 42 |
| | | | | Back R.L. house | S by E | | |
| | | | | Too's Point | W | | |
| 3 | Off Too's Point | Black | 2d Iron Can | Too's Point | W S W | soft bottom. | 39 |
| | | | | New Pt L. house | N E ½ N | | |
| | | | | York Spit L.H. | E by S ½ S | | |
| 4 | Green Pt Flats | Red | ft Spar 28 | Green point | N.E. | soft bottom. | 18 |
| | | | | Gloucester Pt | S.E | | |
| | | | | Blundering Pt | N.N.E | | |
| 6 | Page's Rocks | Red | ft Spar 33 | Gloucester Pt | S E ½ S | soft bottom. | 22 |
| | | | | Low Pt Popatank | N W ½ N | | |
| | | | | Roseville Bk H. | N E by N | | |
| 5 | E. end of Middle off Aberdeen C. | Black | ft Spar 32 | Roseville Bk H | E by N | soft bottom. | 20 |
| | | | | Barren point | N W by N ½ N | | |
| | | | | Scimminure Cr | S S.W | | |
| 8 | Bellview mud Flats | Red | ft Spar 30 | Mt Holly banks | S.W | soft bottom. | 18 |
| | | | | Bellview | N ½ W | | |
| | | | | Purten Id | S E ½ S | | |

Note. (May 1861) It is uncertain whether any of the lights, beacons or buoys are now in their places.

# Rappahannock River Va.

## Charts U,V,W,X,Y,Z.

The Light Vessel off Windmill Point, at the extremity of Rappahannock Spit, which marked the entrance to this River and made it safe, has recently been removed in contravention of the authority of the United States.

Windmill Point is in Latitude 37° 35′ N. Longitude 76° 17′ W. and the spit extends four and a tenth miles from it. The entrance from Chesapeake Bay is between Rappahannock Spit and Stingray Point Shoal, on which last there are rocks marked upon the chart with but two feet of water on them. From the mouth of the river between Windmill Point and Stingray Point shoal to Fredericksburg Rail-road bridge is ninety two nautical miles. Curratoman river is the only important tributary of the Rappahannock and it is rather an arm of the river itself with small streams coming in at the head of the creek. From the entrance of the Rappahannock to Curratoman Creek is ten miles: to Urbanna Creek on the south (right) bank is fourteen and a half miles; thence to Tappahannock, also on the south bank, twenty three miles: thence to Occupacia Creek, a tributary from the south, six miles and a half: thence to Port Tobacco six and a half miles: to Camden one mile: to Port Royal four miles: thence to Fredericksburg twenty six miles and a half.

There the bridge of the Rail road from Richmond to Aquia Creek crosses the river, and, about one mile above, the bridge of the turnpike road from Orange Court house. On this road is a remarkable stretch across Orange County of straight road for twenty miles. The Rappahannock is three miles and one eighth wide between Stingray Point

on the south and Windmill Point on the north. It is very irregular in its width, the narrow parts, in ascending, being as follows: Grey's Point (south shore) to near Cherry Point (north shore) one mile and six tenths wide: Circus Pt (north shore) one mile and three eighths: opposite Accakeek Point seven eighths of a mile. At a low marshy point on the south shore, two miles and a half above Tappahannock, it is five eighths of a mile wide, and at a similar point a mile below Occupacia Creek the width is four tenths of a mile. The river begins to take a meandering course above Tappahannock but above Occupacia creek there is a decided change in the width and in the frequent and extended meanderings of the stream, though this creek is not an important affluent. At the point just above Occupacia creek the width is about three tenths of a mile · at Smith's wharf (north side) it is two tenths: at Saunder's wharf (south side) thirteen hundreths: at Brisco mines one tenth, and so on to six hundredths of a mile near Fredericksburg. The river runs between high banks from Fredericksburg down to a point below Port Royal, or frequently one bank is high and the other low & marshy.

## Depths.

There is no proper bar at the river entrance, four fathoms and three quarters being the least water on the sailing line at the entrance. The channel deepens to twelve and a half fathoms and then decreases again. The depth between Grey's Point and Cherry Point is seven and a half fathoms on the sailing line. Off Curratoman river, from twelve and a quarter to fourteen fathoms: off Urbana creek seven fathoms: off Tappahannock three fathoms, but the river is obstructed by shoals. Off Occupacia creek the depth is 3 fathoms, and in the narrow parts, the river retains this depth or in-

creases it, only losing in the extraordinary enlargements which occur at intervals as high up as Nanzatico on the north shore. Above it is obstructed by bars, and the deep water only shows itself in deep holes. Steamboats drawing six feet ply upon the Rappahannock between Fredericksburg and Baltimore.

## Dangers.

Give Rappahannock Spit a wide berth in entering, the Light Vessel having been removed. It is probable that the buoys have been removed or their places purposely changed so as to mislead the navigator. A Shoal with seven and a half and nine feet off the Punch Bowl six tenths of a mile from the south shore. Just above this two Shoals on the opposite side of the channel and rather over a mile from the shore (left bank) the lower with eleven feet, and the upper with twelve and a half upon it. A twelve feet Spot of Farnham's creek in Latitude 37°49′N. The vicinity of Bowler's ledge (Sheet V) which was marked by a Light boat and buoy is very foul ground. Above it there is a clean but very narrow channel to the bar between Accaceek and Lowry's Point which closes the navigation for eighteen feet and over at low water (19½ feet at high water). Opposite to Lowry's point is a Shoal dry at low water, and a half a mile above a bar of seventeen and a half feet. The eighteen feet curve disappears except in deep holes and the channel shoals to eleven and a half, to eleven, nine, and seven and a half feet; the twelve feet curve nearly disappearing until the river narrows. Sheet (W) shows quite a deep and wide channel with not less than seventeen feet.

On Sheet X just above Port Micon is a Spot with fifteen and a half in the line of best water; one just below the Devil's Elbow of eighteen, and one above of seventeen feet. Above the Devil's Elbow is a bar of fifteen feet. This depth can be carried to the bar below Long Point which has fourteen and a half feet upon it. No more than eight feet can be carried above Long Point and Port Tobacco, the river again deepening as it contracts. A wreck lies off Nanzatico in deep water and is dangerous. Eight feet can be carried as high nearly as Haugh's creek, then six and a half to above Moss creek (Chart Y) At Castle's Ferry (Chart Z) there is a bar of five feet and Spottswood bar has but four feet least water. At Deep Run is a bar with but three feet and half on it.

## Bottoms.

Off the entrance of the Rappahannock is blue mud close up to the Spit which is hard. At the river mouth is sand and grey mud, but chiefly hard sand, occasionally with shells (Sheet U). Hard sand predominates with occasionally grey or black mud or a mixture of the two.

On Sheet W the bottom is sandy sometimes and hard, or muddy & soft. The same character applies generally to Sheet X but at the Devil's elbow hard clay appears. Sheets X, Y, Z, give bottoms sometimes hard, some times soft: as a rule the deep water overlies soft bottom and the bars are hard, but with many exceptions.

## Lights

Windmill Pt Light ressel on the north side of the entrance to Rappahannock R 4 miles E.S.E ½ E from Windmill Pt — 4½ from Stingray Pt E by N ½ N. is of straw color, with light 34 feet above sea level. Visible 11 nautical miles. Fog bell. Probably not now operating.

# Beacons & Buoys marking Rappahannock River Va

| No. in Order | Name & Station | Color | Marks Buoys | Bearings of prominent objects from buoys &c | | General remarks | Depth of water at M.L.W. |
|---|---|---|---|---|---|---|---|
| | Stingray L.H | White | screw pile | | | | |
| 1 | Sturgeon C. Bar | Black | spar 32 ft | Windmill Pt | N.E by E ½ E | Sticky bottom Important to large Vessels | 21 |
| | | | | Stingray Pt | S.E. ¾ E. | for safe anchorage - Leaving on stand up to lee to good | |
| 3 | Punch bowl Pt. Br | Black | spar 28 | Punch bowl Pt | S.W. | When up to this, steer for Tapley B buoy. Cross bar | 18 |
| | | | | Dove's Pt | S.S.E. | in 19 feet, leaving Tapley buoy on Starboard hand | |
| | | | | Maratico poplars | NW by N | | |
| 2 | Tapley's Pt Bar | Red | spar 26 | Punch bowl Pt | S E ½ S | Bar makes out half way across river. Sticky. | 19 |
| | | | | Maratico | N ¾ E | | |
| 5 | Low. Jones' Pt Br | Black | spar 27 | Lower Jones Pt | S W by S | Water shoals suddenly 25 to 10 feet Sticky. | 25 |
| | | | | Maratico | E NE | | |
| 4 | Dumpling Rcks | Red | spar 26 | Bowler's | W by N ½ N | Buoy on edge of Dumpling Rocks ¾ mile below | 15 |
| | | | | Suggett's Pt | NW by N ½ N | the buoy on Corner Rock or L. Boat Station. | |
| | | | | Jones' Pt | S E by S | | |
| 6 | Corner Rock & L. Boat Station | Red | spar 28 | West view | N NE ½ E | Fog bell on boat. Buoy used when Boat is off the | 16½ |
| | | | | Bowler's | W by N | station. Approach with berth of 30 yds. Hard. | |
| | | | | Peach Pt | E | | |
| 7 | Bowler's Rock | Black | spar 29 | Akee Pt | NW by N ½ N | Soundings change quickly 4 fathoms to 8 feet. | 20 |
| | | | | Bowlers | W | No vessels should go inside of buoy: in Shore | |
| | | | | Light boat | E S E | are extensive Oyster "Rocks". Soft. | |
| 8 | Ross Rocks | Red | spar 38 | Jones' Pt | W.N.W | Dangerous oyster bank shoaling from 4 fathoms | 22 |
| | | | | Lowry's Pt | S | to 8 feet. Sticky. | |
| 9 | Up. Jones' Pt bar | Black | spar 29 | Tappahannock | NW by W ½ W | Vessels reaching this can haul up for Tappa- | 16½ |
| | | | | Jones' Pt | S W by S | hannock thus clearing Mangorite soft marsh | |
| 10 | Mangorite Msh | Red | spar 28 | Tappahannock | W by N ½ N | Marks shoal which makes off from marsh | 18 |
| | | | | Marshall's ferry | NW by N | Jones Pt S E by S ½ S | |
| 12 | Naylor's Hole east bank | Red | spar 18 | Gwinfield Pt | NW | Soft | 12 |
| | | | | Cat Pt creek | N by E | | |
| | | | | Tappahannock | S | | |
| 11 | Naylor's Hole west bank | Black | spar 18 | Cat Pt Creek ferry | NE ½ N | Soft | 12 |
| | | | | Gwinfield Pt | NW ½ W | | |
| | | | | Tappahannock | S by E | | |
| 14 | Mulberry Id bar | Red | spar 20 | Pt Msh Mulberry Id | E by N | Sticky. Bar makes out ⅔ across river | 12 |
| | | | | Gwinfield farm ho. | S by E | | |
| 13 | Blind Pt in Gum Bottom Reach | Black | spar 35 | Poplars, marl bank | NW ¾ N | Sticky. Bar makes out ½ across river | 20 |
| | | | | Blind Pt | S W by W | Sounding change from 3 fathoms to 5 feet | |
| 16 | Green Bay Pt | Red | spar 38 | Green Bay Pt | NE by E | Soft. At turning point up or down the river. | 21 |
| | | | | Goose creek | S ½ E | | |
| | | | | Liberty hill Poplars | S W ¾ S | | |
| 18 | Middle Ground Port Tobago Rch | Red | spar 21 | Long Pt | W by N ¾ N | Sticky. At turning point up or down river | 13 |
| | | | | Liberty hill Poplars | S S.W | | |
| 20 | L. end Port Royal Reach | Red | spar 21 | Poplar Pt | W ½ N | Sticky. Flat makes out ⅔ across river. | 13 |
| | | | | Port Conway Whf | NW ½ N | | |

Taken from official publications of the Light house Board

# Tides.

*At the mouth of the Piankatank near the mouth of the Rappahannock*

| | |
|---|---|
| *the Establishment is* | $X^{H}\ V^{M}$ |
| *Mean rise and fall* | 1.3 |
| *Spring tide* | 1.9 |
| *Neap tide* | 0.7 |
| *Mean duration of rise* | $5^{h}.51^{m}$ |
| *Mean duration of fall* | $6^{h}.36^{m}$ |

*At Tappahannock the Establishment is* $-^{H}\ XLII^{M}$ *Mean rise and fall* 1.6 ft