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Summary Tables: Charles City County, Virginia Shoreline Inventory Report

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Table 4. Charles City County, Virginia Shoreline Attributes - Miles Surveyed and Inventory Dates - River System Summary

| RIVER SYSTEM | Field Surveyed (miles) | Remote Surveyed (miles) | Total Miles Surveyed (field + remote) | FIELD SURVEY DATES |
|---------------------|---------------------------|----------------------------|---|--|
| Chickahominy River | 39.81 | 89.95 | 129.76 | June 11 & 12, 2013 and VBMP 2009 imagery |
| Herring Creek | 12.14 | 1.89 | 14.03 | June 20, 2013 and VBMP 2009 imagery |
| James River | 40.77 | 19.48 | 60.25 | June 12, 13 & 20, 2013 and VBMP 2009 imagery |
| Kittewan Creek | 5.70 | 15.64 | 21.34 | June 13, 2013 and VBMP 2009 imagery |
| Morris Creek | 20.81 | 7.60 | 28.41 | June 12, 2013 and VBMP 2009 imagery |
| Queens Creek | 1.29 | 18.49 | 19.78 | June 13, 2013 and VBMP 2009 imagery |
| Tomahund Creek | 6.77 | 9.44 | 16.21 | June 11 & 12, 2013 and VBMP 2009 imagery |
| Turkey Island Creek | 0.42 | 1.90 | 2.32 | June 20, 2013 and VBMP 2009 imagery |
| Total | 127.71 | 164.39 | 292.10 | |

Table 5. Charles City County, Virginia Shoreline Attributes - Riparian Land Use (miles) - River System Summary

| RIVER SYSTEM | TOTAL* MILES SURVEYED | AGRICULTURE | | | | BARE | | | | COMMERCIAL | | | | FOREST | | | GRASS | | | | INDUSTRIAL | | | | MILITARY | | | | PAVED | | | | | | |
|---------------------|-----------------------------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|-------------------------------|-------------------------|--------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|------|------|------|
| | | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no canopy over- hang | canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | | | |
| Chickahominy River | 129.76 | 7.35 | 2.58 | 0.68 | 10.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.00 | 0.11 | 110.72 | 3.21 | 113.92 | 1.30 | 0.32 | 0.14 | 1.76 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 |
| Herring Creek | 14.03 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.79 | 3.74 | 13.53 | 0.24 | 0.02 | 0.00 | 0.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | |
| James River | 60.25 | 1.12 | 2.33 | 0.35 | 3.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.07 | 34.06 | 12.11 | 46.17 | 4.03 | 1.83 | 0.33 | 6.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.04 | 0.00 | 0.18 | | |
| Kittewan Creek | 21.34 | 0.04 | 1.32 | 0.00 | 1.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.46 | 0.00 | 19.46 | 0.07 | 0.12 | 0.00 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Morris Creek | 28.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 27.18 | 0.25 | 27.43 | 0.22 | 0.17 | 0.00 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.03 | | | |
| Queens Creek | 19.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.48 | 0.44 | 18.92 | 0.18 | 0.46 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | | | | |
| Tomahund Creek | 16.21 | 0.00 | 0.22 | 0.00 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.92 | 1.12 | 14.04 | 0.01 | 0.51 | 0.05 | 0.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Turkey Island Creek | 2.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.13 | 0.19 | 2.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Total | 292.10 | 8.51 | 6.45 | 1.07 | 16.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.11 | 0.07 | 0.00 | 0.18 | 234.73 | 21.06 | 255.79 | 6.05 | 3.43 | 0.52 | 9.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.06 | 0.00 | 0.26 |

| RIVER SYSTEM | TOTAL* MILES SURVEYED | RESIDENTIAL | | | | SCRUB-SHRUB | | | | TIMBERED | | | |
|---------------------|-----------------------------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|-------------------|------------------------|---|-------|
| | | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total | no tree buffer | tree fringe only | fringe with canopy over- hang | total |
| Chickahominy River | 129.76 | 2.02 | 1.08 | 0.12 | 3.22 | 0.09 | 0.00 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| Herring Creek | 14.03 | 0.03 | 0.12 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| James River | 60.25 | 2.32 | 1.05 | 0.09 | 3.47 | 0.37 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 | 0.00 | 0.00 |
| Kittewan Creek | 21.34 | 0.28 | 0.05 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morris Creek | 28.41 | 0.14 | 0.43 | 0.00 | 0.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queens Creek | 19.78 | 0.10 | 0.05 | 0.00 | 0.15 | 0.00 | 0.07 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tomahund Creek | 16.21 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.78 | 0.48 | 1.27 | 0.00 | 0.00 | 0.07 | 0.07 |
| Turkey Island Creek | 2.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 292.10 | 4.90 | 2.82 | 0.21 | 7.93 | 0.46 | 0.85 | 0.48 | 1.80 | 0.00 | 0.00 | 0.07 | 0.07 |

*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh)

Table 6. Charles City County, Virginia Shoreline Attributes - Riparian Bank Condition - River System Summary

| RIVER SYSTEM | TOTAL* MILES SURVEYED | BANK COVER (miles) | | | BANK HEIGHT AND EROSION STATUS (miles of shore) | | | | | | | | | | | |
|---------------------|-----------------------------|-----------------------|---------|--------|---|--------|--------------|-----------|--------|--------------|------------|--------|--------------|-----------|--------|--------------|
| | | bare | partial | full | 0-5 FEET | | | 5-10 FEET | | | 10-30 FEET | | | >30 FEET | | |
| | | | | | erosional | stable | transitional | erosional | stable | transitional | erosional | stable | transitional | erosional | stable | transitional |
| Chickahominy River | 129.76 | 0.68 | 0.48 | 128.61 | 0.11 | 102.18 | 0.00 | 0.13 | 14.13 | 0.01 | 0.68 | 11.27 | 0.06 | 0.01 | 1.16 | 0.00 |
| Herring Creek | 14.03 | 0.00 | 0.02 | 14.01 | 0.00 | 13.72 | 0.00 | 0.00 | 0.22 | 0.00 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| James River | 60.25 | 1.49 | 2.75 | 56.01 | 0.37 | 48.41 | 0.32 | 0.15 | 4.16 | 0.40 | 0.47 | 3.69 | 0.22 | 0.37 | 1.65 | 0.06 |
| Kittewan Creek | 21.34 | 0.00 | 0.00 | 21.34 | 0.00 | 18.77 | 0.00 | 0.00 | 2.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Morris Creek | 28.41 | 0.35 | 0.11 | 27.95 | 0.03 | 20.81 | 0.09 | 0.02 | 5.08 | 0.00 | 0.20 | 2.18 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queens Creek | 19.78 | 0.00 | 0.00 | 19.78 | 0.00 | 18.27 | 0.00 | 0.00 | 1.21 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.22 | 0.00 |
| Tomahund Creek | 16.21 | 0.00 | 0.00 | 16.21 | 0.00 | 14.62 | 0.00 | 0.00 | 1.51 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 |
| Turkey Island Creek | 2.32 | 0.00 | 0.00 | 2.32 | 0.00 | 2.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 292.10 | 2.52 | 3.36 | 286.22 | 0.51 | 239.09 | 0.41 | 0.30 | 28.86 | 0.41 | 1.35 | 17.39 | 0.28 | 0.38 | 3.03 | 0.06 |

*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh)

Table 7. Charles City County, Virginia Shoreline Attributes - Natural Buffers, *Phragmites australis* and Marsh Survey Dates - River System Summary

| RIVER SYSTEM | BEACH (miles) | # Wetland Polygons | | Marsh Type (acres) | | | | | MARSH | | | | | | | | | | | | PHRAGMITES ³ (percent of field checked marshes) | MARSH SURVEY DATES | |
|---------------------|---------------|--------------------|---------------|--------------------|-----------|--------|--------------|---------|-------------------------------------|------|------|------|------|------|---------|-------------------|-------|------|--------|------|--|--------------------|----------------------|
| | | total | field checked | embayed | extensive | fringe | marsh island | total | Community Type ¹ (acres) | | | | | | | | | | | | | | |
| | | | | | | | | | I | II | III | IV | V | VI | VII | VIII ² | IX | X | XI | XII | DNS ^{**} | | |
| Chickahominy River | 5.71 | 73 | 51 | 134.99 | 1374.43 | 43.57 | 0.22 | 1553.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1369.50 | 0.12 | 18.81 | 0.00 | 102.79 | 0.00 | 61.98 | 2 | June 12, 2013 |
| Herring Creek | 0.13 | 38 | 33 | 7.60 | 356.13 | 3.14 | 6.22 | 373.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 285.23 | 0.00 | 0.00 | 0.00 | 80.81 | 0.00 | 7.04 | 0 | June 20, 2013 |
| James River | 12.00 | 113 | 69 | 136.47 | 125.26 | 77.68 | 0.84 | 340.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.95 | 0.12 | 0.00 | 0.00 | 27.97 | 0.00 | 292.21 | 3 | June 12-13, 20, 2013 |
| Kittewan Creek | 0.00 | 60 | 14 | 173.80 | 0.00 | 35.47 | 4.16 | 213.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 48.95 | 0.00 | 0.00 | 0.00 | 69.32 | 0.00 | 95.16 | 0 | June 13, 2013 |
| Morris Creek | 0.06 | 62 | 38 | 122.34 | 234.01 | 23.85 | 5.67 | 385.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 259.51 | 0.00 | 0.00 | 0.00 | 31.20 | 0.00 | 95.14 | 3 | June 12, 2013 |
| Queens Creek | 0.17 | 71 | 11 | 34.69 | 64.67 | 22.66 | 0.19 | 122.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.88 | 0.00 | 0.00 | 0.00 | 32.96 | 0.00 | 82.37 | 0 | June 13, 2013 |
| Tomahund Creek | 0.02 | 40 | 16 | 238.70 | 0.00 | 0.87 | 0.25 | 239.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 52.96 | 0.00 | 0.00 | 0.00 | 117.73 | 0.00 | 69.13 | 6 | June 12, 2013 |
| Turkey Island Creek | 0.00 | 6 | 4 | 0.00 | 8.06 | 4.80 | 0.00 | 12.86 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | 0.00 | 0.00 | 0.00 | 8.06 | 0.00 | 4.06 | 0 | June 20, 2013 |
| Total | 18.08 | 463 | 236 | 848.59 | 2162.55 | 212.05 | 17.54 | 3240.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 2043.72 | 0.24 | 18.81 | 0.00 | 470.84 | 0.00 | 707.09 | | |

**DNS = Did Not Survey

¹Community Type:

| | |
|-------------------------------------|---|
| I = Saltmarsh Cordgrass / low marsh | VII = Arrow Arum – Pickerel Weed |
| II = Saltmeadow / high marsh | VIII = Reed Grass (<i>Phragmites australis</i>) |
| III = Black Needlerush | IX = Yellow Pond Lily |
| IV = Saltbush | X = Saltwort |
| V = Big Cordgrass | XI = Freshwater mix |
| VI = Cattail | XII = Brackish mix |

²Type VIII - Field checked marshes where *Phragmites australis* was estimated to cover >50% marsh area.

³Phragmites - percent of field checked marshes where *Phragmites australis* is present in any amount.

Table 8. Charles City County, Virginia Shoreline Attributes - Shoreline Features - River System Summary

| RIVER SYSTEM | TOTAL* MILES SURVEYED | No. | | | | | | | | | | Miles of | | Miles of | | Miles of | | Miles of | |
|---------------------|-----------------------------|-----------|-------------------|----------------|-----------|---|-----------------|-------------|---|-------------|-----------------------------|-----------------|----------------------------------|-------------------------------|------------------------------|-----------------|----------------|----------|--|
| | | No. docks | dilapidated docks | No. boathouses | No. ramps | | No. groinfields | No. marinas | | No. jetties | No. breakwater ¹ | Miles of debris | Miles of unconventional bulkhead | Miles of dilapidated bulkhead | Miles of marsh toe revetment | Miles of riprap | Miles of wharf | | |
| Chickahominy River | 129.76 | 53 | 4 | 38 | 11 | 1 | 1 | 0 | 1 | 0 | 5 | 0.00 | 0.06 | 0.74 | 0.00 | 0.06 | 0.92 | 0.00 | |
| Herring Creek | 14.03 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.02 | 0.06 | 0.00 | 0.00 | 0.05 | 0.00 | |
| James River | 60.25 | 53 | 2 | 34 | 8 | 1 | 0 | 0 | 0 | 0 | 1 | 0.00 | 0.15 | 1.71 | 0.00 | 0.01 | 1.01 | 0.10 | |
| Kittewan Creek | 21.34 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Morris Creek | 28.41 | 2 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Queens Creek | 19.78 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Tomahund Creek | 16.21 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | |
| Turkey Island Creek | 2.32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Total | 292.10 | 119 | 6 | 81 | 25 | 3 | 1 | 0 | 1 | 0 | 6 | 0.00 | 0.23 | 2.57 | 0.00 | 0.07 | 1.98 | 0.10 | |

*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh)

¹ number of breakwater groups (one or more breakwaters within a group)