Delaware

More than 700 square miles of Delaware sit within the Chesapeake Bay watershed, and [number] of the state's major rivers—including [tributary names]—flow into the Bay. Delaware has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Vital Habitats

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in Delaware: TBD

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in Delaware: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in Delaware: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In Delaware, pollution controls have lowered nitrogen loads eight percent, phosphorus loads 21 percent and sediment loads 18 percent. The state fell short of its 2017 pollution reducing target for nitrogen, but exceeded its targets for phosphorus and sediment.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in Delaware: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 12,000 acres are located in Delaware. This brings the total amount of protected land in the state to 107,845 acres: one percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in Delaware: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. Delaware is home to one of these recently opened sites, and seven public access sites in all.

Environmental Literacy Planning

- Outcome: Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.
- Progress in Delaware: In 2017, the Chesapeake Bay Program issued its second survey to measure environmental literacy preparedness in public schools. Of the responding school districts, 37 identified as well-prepared and 116 identified as somewhat prepared to deliver high-quality environmental literacy programming to their students. Five “somewhat prepared” school districts are located in Delaware.

Student MWEEs

- Outcome: Increase students’ age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.
- Progress in Delaware: In 2017, the Chesapeake Bay Program issued its second survey to measure the extent of Meaningful Watershed Educational Experiences

(MWEEs) in public schools. Of the school districts that responded to this survey, 39 percent reported providing system-wide MWEEs to their elementary school students, 43 percent reported providing system-wide MWEEs to their middle school students and 33 percent reported providing system-wide MWEEs to their high school students. While only one Delaware school district reported providing system-wide MWEEs to its elementary school students, four reported doing so for their middle school students and two reported doing so for their high school students. (Delaware is home to eight school districts in the Chesapeake Bay watershed.)

Citizen Stewardship

- Outcome (Citizen Stewardship): Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in Delaware: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of Delaware scored a 22. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

District of Columbia

All of Washington, D.C., sits within the Chesapeake Bay watershed, which means all of the District's rivers—including [tributary names]—flow into the Bay. The District has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Vital Habitats

Underwater Grasses

- Outcome: Sustain and increase the habitat benefits of submerged aquatic vegetation (SAV) in the Chesapeake Bay. Achieve and sustain 185,000 acres of SAV Bay-wide, with a target of 90,000 acres by 2017 and 130,000 acres by 2025.
- Progress in the District of Columbia: According to preliminary data from the Virginia Institute of Marine Science (VIMS), an estimated 104,843 acres of underwater grasses were observed in the Chesapeake Bay in 2017: 14,843 acres greater than the Chesapeake Bay Program's 2017 restoration target and 57 percent of the partnership's 185,000-acre goal. Just over 1,000 acres of underwater grasses were observed in the District's tidal waters, and both the Anacostia and Upper Potomac rivers surpassed their restoration goals.

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in the District of Columbia: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In the District, pollution controls have lowered nitrogen loads 45 percent and sediment loads six percent. (Estimated phosphorus loads have experienced a slight increase.) The District has exceeded each of its 2017 pollution reducing targets.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in the District of Columbia: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 500 acres are located in the District of Columbia. This brings the total amount of protected land in the District to 11,081 acres.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in the District of Columbia: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. The District of Columbia is home to two of these recently opened sites, and 24 public access sites in all.

Environmental Literacy Planning

- Outcome: Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.

- Progress in the District of Columbia: In 2017, the Chesapeake Bay Program issued its second survey to measure environmental literacy preparedness in public schools. Of the responding school districts, 37 identified as well-prepared and 116 identified as somewhat prepared to deliver high-quality environmental literacy programming to their students. The public school district in Washington, D.C., identified as somewhat prepared to put environmental literacy programs in place.

Student MWEEs

- Outcome: Increase students' age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.
- Progress in the District of Columbia: In 2017, the Chesapeake Bay Program issued its second survey to measure the extent of Meaningful Watershed Educational Experiences (MWEEs) in public schools. Of the school districts that responded to this survey, 39 percent reported providing system-wide MWEEs to their elementary school students, 43 percent reported providing system-wide MWEEs to their middle school students and 33 percent reported providing system-wide MWEEs to their high school students. The public school district in Washington, D.C., reported providing system-wide MWEEs to its elementary school students, some MWEEs to its high school students and no MWEEs to its middle school students.

Sustainable Schools

- Outcome: Increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.
- Progress in the District of Columbia: In 2017, 14 percent of public and charter schools in the Chesapeake Bay watershed were certified sustainable. The District of Columbia is home to five of these 610 sustainable schools.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in the District of Columbia: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of the District scored a 28. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

Maryland

More than 9,000 square miles of Maryland sit within the Chesapeake Bay watershed, and [number] of the state's major rivers—including [tributary names]—flow into the Bay. Maryland has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Sustainable Fisheries

Oysters

- Outcome: Increase finfish and shellfish habitat and the water quality benefits of restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.
- Progress in Maryland: Eight Chesapeake Bay tributaries have been selected for oyster reef restoration: Harris Creek, the Little Choptank River and the Tred Avon River in Maryland, and the Great Wicomico, Lafayette, Lower York, Lynnhaven and Piankatank rivers in Virginia. Each tributary is at a different level of progress in a process that involves developing a tributary restoration plan, constructing and seeding reefs, and monitoring and evaluating restored reefs. In Maryland, 715 acres of oyster reefs are considered complete. Sixty-six acres of reefs remain to be restored in the Tred Avon River and 156 acres remain to be restored in the Little Choptank. Two additional Maryland tributaries are being considered for selection: the Manokin and St. Mary's rivers.

Abundant Life: Vital Habitats

Fish Passage

- Outcome: Increase habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed's freshwater rivers and streams. By 2025, restore historical fish migration routes by opening 1,000 additional stream miles to fish passage.
- Progress in Maryland: Progress toward this outcome is measured against a 2011 baseline of 2,510 stream miles open to the migration of fish. Between 2012 and 2017, 1,236 additional miles were opened across the watershed, marking a 124 percent achievement of our 1,000-mile goal. Of this total, 2 percent (or 22.6 miles) are located in Maryland.

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in Maryland: TBD

Underwater Grasses

- Outcome: Sustain and increase the habitat benefits of submerged aquatic vegetation (SAV) in the Chesapeake Bay. Achieve and sustain 185,000 acres of SAV Bay-wide, with a target of 90,000 acres by 2017 and 130,000 acres by 2025.
- Progress in Maryland: According to preliminary data from the Virginia Institute of Marine Science (VIMS), an estimated 104,843 acres of underwater grasses were observed in the Chesapeake Bay in 2017: 14,843 acres greater than the Chesapeake Bay Program's 2017 restoration target and 57 percent of the partnership's 185,000-acre goal. About 62,360 acres of underwater grasses were observed in Maryland's tidal waters, and nine regions within the state—including the Chesapeake & Delaware Canal, Fishing Bay, the Northeast River and portions of the Big Annemessex, Chester, Choptank, Elk, Gunpowder and Manokin—surpassed their restoration goals.

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in Maryland: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in Maryland: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In Maryland, pollution controls have lowered nitrogen loads 10 percent, phosphorus loads 18 percent and sediment loads 15 percent. The state fell short of its 2017 pollution reducing target for nitrogen, but exceeded its targets for phosphorus and sediment.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in Maryland: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 406,000 acres are located in Maryland. This brings the total amount of protected land in the state to 1.65 million acres: 19 percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in Maryland: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. Maryland is home to 38 of these recently opened sites, and 610 public access sites in all.

Environmental Literacy Planning

- Outcome: Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.
- Progress in Maryland: In 2017, the Chesapeake Bay Program issued its second survey to measure environmental literacy preparedness in public schools. Of the responding school districts, 37 identified as well-prepared and 116 identified as somewhat prepared to deliver high-quality environmental literacy programming to their students. Fourteen “well-prepared” and nine “somewhat prepared” school districts are located in Maryland.

Student MWEEs

- Outcome: Increase students’ age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.

- Progress in Maryland: In 2017, the Chesapeake Bay Program issued its second survey to measure the extent of Meaningful Watershed Educational Experiences (MWEEs) in public schools. Of the school districts that responded to this survey, 39 percent reported providing system-wide MWEEs to their elementary school students, 43 percent reported providing system-wide MWEEs to their middle school students and 33 percent reported providing system-wide MWEEs to their high school students. Nineteen Maryland school districts reported providing system-wide MWEEs to their elementary school students, 16 reported doing so for their middle school students and 10 reported doing so for their high school students. (Maryland is home to 24 school districts in the Chesapeake Bay watershed.)

Sustainable Schools

- Outcome: Increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.
- Progress in Maryland: In 2017, 14 percent of public and charter schools in the Chesapeake Bay watershed were certified sustainable. Maryland is home to 503 of these 610 sustainable schools.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in Maryland: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of Maryland also scored a 24. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

New York

More than 6,000 square miles of New York sit within the Chesapeake Bay watershed, and [number] of the state's major rivers—including [tributary names]—flow into the Bay. New York has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Vital Habitats

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in New York: TBD

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in New York: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in New York: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In New York, pollution controls have lowered nitrogen loads 2 percent, phosphorus loads 22 percent and sediment loads 3 percent. The state fell short of its 2017 pollution reducing targets for nitrogen and sediment, but exceeded its target for phosphorus.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in New York: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 23,000 acres are located in New York. This brings the total amount of protected land in the state to 322,985 acres: four percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in New York: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. New York is home to 11 of these recently opened sites, and 39 public access sites in all.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in New York: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of New York scored a 26. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

Pennsylvania

More than 22,000 square miles of Pennsylvania sit within the Chesapeake Bay watershed, and [number] of the Commonwealth's major rivers—including [tributary names]—flow into the Bay. Pennsylvania has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Vital Habitats

Fish Passage

- Outcome: Increase habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed's freshwater rivers and streams. By 2025, restore historical fish migration routes by opening 1,000 additional stream miles to fish passage.
- Progress in Pennsylvania: Progress toward this outcome is measured against a 2011 baseline of 2,510 stream miles open to the migration of fish. Between 2012 and 2017, 1,236 additional miles were opened across the watershed, marking a 124 percent achievement of our 1,000-mile goal. Of this total, 52 percent (or 648 miles) are located in Pennsylvania.

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in Pennsylvania: TBD

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in Pennsylvania: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in Pennsylvania: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In Pennsylvania, pollution controls have lowered nitrogen loads five percent, phosphorus loads 16 percent and sediment loads 10 percent. The Commonwealth has fallen short of each of its 2017 pollution reducing targets.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in Pennsylvania: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 160,000 acres are located in Pennsylvania. This brings the total amount of protected land in the Commonwealth to 3,392,021 acres: 39 percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in Pennsylvania: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. Pennsylvania is home to 28 of these recently opened sites, and 209 public access sites in all.

Environmental Literacy Planning

- Outcome: Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.
- Progress in Pennsylvania: In 2017, the Chesapeake Bay Program issued its second survey to measure environmental literacy preparedness in public schools. Of the responding school districts, 37 identified as well-prepared and 116 identified as somewhat prepared to deliver high-quality environmental literacy programming to their students. Four "well-prepared" and 35 "somewhat prepared" school districts are located in Pennsylvania.

Student MWEEs

- Outcome: Increase students' age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.
- Progress in Pennsylvania: In 2017, the Chesapeake Bay Program issued its second survey to measure the extent of Meaningful Watershed Educational Experiences (MWEEs) in public schools. Of the school districts that responded to this survey, 39 percent reported providing system-wide MWEEs to their elementary school students, 43 percent reported providing system-wide MWEEs to their middle school students and 33 percent reported providing system-wide MWEEs to their high school students. Five Pennsylvania school districts reported providing system-wide MWEEs to their elementary school students, five reported doing so for their middle school students and 10 reported doing so for their high school students. (Pennsylvania is home to 193 school districts in the watershed.)

Sustainable Schools

- Outcome: Increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human

health through best practices, including student-led protection and restoration projects.
- Progress in Pennsylvania: In 2017, 14 percent of public and charter schools in the Chesapeake Bay watershed were certified sustainable. Pennsylvania is home to two of these 610 sustainable schools.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in Pennsylvania: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of Pennsylvnia also scored a 24. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

Virginia

More than 21,000 square miles of Virginia sit within the Chesapeake Bay watershed, and [number] of the Commonwealth's major rivers—including [tributary names]—flow into the Bay. Virginia has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Sustainable Fisheries

Oysters

- Outcome: Increase finfish and shellfish habitat and the water quality benefits of restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.
- Progress in Virginia: Eight Chesapeake Bay tributaries have been selected for oyster reef restoration: Harris Creek, the Little Choptank River and the Tred Avon River in Maryland, and the Great Wicomico, Lafayette, Lower York, Lynnhaven and Piankatank rivers in Virginia. Each tributary is at a different level of progress in a process that involves developing a tributary restoration plan, constructing and seeding reefs, and monitoring and evaluating restored reefs. In Virginia, 480 acres of oyster reefs are considered complete. Five acres of oyster reefs remain to be restored in the Lafayette River and 61 acres remain to be restored in the Lynnhaven. Restoration targets for the Great Wicomico, Lower York and Piankatank are under development.

Abundant Life: Vital Habitats

Fish Passage

- Outcome: Increase habitat to support sustainable migratory fish populations in the Chesapeake Bay watershed's freshwater rivers and streams. By 2025, restore historical fish migration routes by opening 1,000 additional stream miles to fish passage.
- Progress in Virginia: Progress toward this outcome is measured against a 2011 baseline of 2,510 stream miles open to the migration of fish. Between 2012 and 2017, 1,236 additional miles were opened across the watershed, marking a 124 percent achievement of our 1,000-mile goal. Of this total, 46 percent (or 565 miles) are located in Virginia.

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in Virginia: TBD

Underwater Grasses

- Outcome: Sustain and increase the habitat benefits of submerged aquatic vegetation (SAV) in the Chesapeake Bay. Achieve and sustain 185,000 acres of SAV Bay-wide, with a target of 90,000 acres by 2017 and 130,000 acres by 2025.
- Progress in Virginia: According to preliminary data from the Virginia Institute of Marine Science (VIMS), an estimated 104,843 acres of underwater grasses were observed in the Chesapeake Bay in 2017: 14,843 acres greater than the Chesapeake Bay Program's 2017 restoration target and 57 percent of the partnership's 185,000-acre goal. About 41,480 acres of underwater grasses were observed in Virginia's tidal waters, and eight regions within the Commonwealth—including the Chickahominy and Rappahannock rivers and portions of the James, Mattaponi, Pamunkey and Potomac—surpassed their restoration goals.

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in Virginia: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in Virginia: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In Virginia, pollution controls have lowered nitrogen loads 18 percent, phosphorus loads 26 percent and sediment loads seven percent. The Commonwealth fell short of its 2017 pollution reducing target for sediment, but exceeded its targets for nitrogen and phosphorus.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in Virginia: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 136,000 acres are located in Virginia. This brings the total amount of protected land in the Commonwealth to 2,907,343 acres: 33 percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in Virginia: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. Virginia is home to 71 of these recently opened sites, and 357 public access sites in all.

Environmental Literacy Planning

- Outcome: Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.

- Progress in Virginia: In 2017, the Chesapeake Bay Program issued its second survey to measure environmental literacy preparedness in public schools. Of the responding school districts, 37 identified as well-prepared and 116 identified as somewhat prepared to deliver high-quality environmental literacy programming to their students. Nineteen "well-prepared" and 66 "somewhat prepared" school districts are located in Virginia.

Student MWEEs

- Outcome: Increase students' age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.
- Progress in Virginia: In 2017, the Chesapeake Bay Program issued its second survey to measure the extent of Meaningful Watershed Educational Experiences (MWEEs) in public schools. Of the school districts that responded to this survey, 39 percent reported providing system-wide MWEEs to their elementary school students, 43 percent reported providing system-wide MWEEs to their middle school students and 33 percent reported providing system-wide MWEEs to their high school students. Twenty-five Virginia school districts reported providing system-wide MWEEs to their elementary school students, 31 reported doing so for their middle school students and 18 reported doing so for their high school students. (Virginia is home to 94 school districts in the watershed.)

Sustainable Schools

- Outcome: Increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.
- Progress in Virginia: In 2017, 14 percent of public and charter schools in the Chesapeake Bay watershed were certified sustainable. Virginia is home to 99 of these 610 sustainable schools.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in Virginia: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of Virginia also scored a 24. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.

West Virginia

More than 3,500 square miles of West Virginia sit within the Chesapeake Bay watershed, and [number] of the state's major rivers—including [tributary names]—flow into the Bay. West Virginia has committed to achieving [number] of the outcomes in the *Chesapeake Bay Watershed Agreement*. Its progress toward [number] of these outcomes is highlighted below.

Abundant Life: Vital Habitats

Forest Buffers

- Outcome: Increase the capacity of forest buffers to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.
- Progress in West Virginia: TBD

Wetlands

- Outcome: Increase the capacity of wetlands to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025, primarily on agricultural or natural landscapes.
- Progress in West Virginia: TBD

Clean Water

Estimated Nitrogen, Phosphorus and Sediment Pollution Reduced

- Outcome: By 2017, have practices and controls in place that are expected to achieve 60 percent of the nutrient and sediment load reductions necessary to achieve applicable water quality standards compared to 2009 levels. By 2025, have all practices and controls in place to achieve applicable water quality standards as articulated in the Chesapeake Bay Total Maximum Daily Load.
- Progress in West Virginia: According to the Chesapeake Bay Program's Watershed Model, pollution controls put in place across the Chesapeake Bay watershed between 2009 and 2017 have lowered nitrogen loads 11 percent, phosphorus loads 21 percent and sediment loads 10 percent. In West Virginia, pollution controls have lowered nitrogen loads seven percent, phosphorus loads nine percent and sediment loads 27 percent. The state has exceeded each of its 2017 pollution reducing targets.

Conserved Lands

Protected Lands

- Outcome: By 2025, protect an additional two million acres of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.
- Progress in West Virginia: According to data collected between 2015 and 2016, more than 1 million acres of land in the Chesapeake Bay watershed have been permanently protected from development since 2010. Of this total, more than 52,000 acres are located in West Virginia. This brings the total amount of protected land in the state to 409,635 acres: five percent of all of the protected land in the watershed.

Engaged Communities

Public Access

- Outcome: By 2025, add 300 new public access sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.
- Progress in West Virginia: Between 2010 and 2017, 153 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. West Virginia is home to two of these recently opened sites, and 46 public access sites in all.

Sustainable Schools

- Outcome: Increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.
- Progress in West Virginia: In 2017, 14 percent of public and charter schools in the Chesapeake Bay watershed were certified sustainable. West Virginia is home to one of these 610 sustainable schools.

Citizen Stewardship

- Outcome: Increase the number and diversity of trained and mobilized citizen volunteers who have the knowledge and skills needed to enhance the health of their local watersheds.
- Progress in West Virginia: In 2017, residents of the Chesapeake Bay region scored a 24 out of 100 on the Citizen Stewardship Index: the first comprehensive survey of stewardship actions and attitudes in the watershed. Residents of West Virginia also scored a 24. To score a 100 on the Citizen Stewardship Index, everyone in the region would need to do everything they could in their daily lives to improve water quality and environmental health.