USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

NEW JERSEY STATE RESOURCE ASSESSMENT

The purpose of the SRA is to assist leadership with linking locally-led natural resource priorities to technical and financial resources, using a resource-based, data-driven, and forward-looking approach.

GOALS

The goals of the New Jersey State Resource Assessment are as follows:

- To identify the resource concerns that will have the most impact in the state and remain relevant to the changing population and landscape.
- To develop a process that will allow NJ-NRCS to assess state natural resource locations and conditions quickly and efficiently.
- Create and document a method to compile and present state resource assessment to allow state leadership, field offices and NRCS partners and customers access to this information to support or guide decisions where to allocate staff, program funds, and outreach initiatives to make the most efficient resource improvements.
- Update SRA once every 3 to 5 years with 1-3 targeted natural resource improvement initiatives implemented.

PROCESS

The SRA Team reviewed prior resource assessments that were completed in 2011 and 2019 (NRCS Leadership Program) and the analysis used in Conservation Desktop (CD) assessment to determine the most appropriate methods for the 2022 State Resource Assessment. In addition, results from the Employee Feedback survey were considered when selecting the top three resource concerns. For each of the top resource concerns chosen, existing data layers were used to identify areas of high risk, areas that have already been addressed (Conservation Practices implemented from 2012 through 2022 that have a positive Conservation Practice Physical Effect (CPPE) score) and areas of opportunity for future projects. An interactive tool based on this information will allow NRCS Field Offices to view the data and results at a local level. This information can be used in combination with other data sources to conduct targeted outreach to Historically Underserved communities with natural resource conservation needs.

OUTCOMES

Top Three Resource Concerns: Soil, Water, Plants

NRCS utilizes a list of 47 resource concerns during the Conservation Planning Process. For the 2022 State Resource Assessment, the following resource concerns were prioritized for analysis:

Soil

- Sheet and rill erosion
- Ephemeral gully erosion
- Organic matter depletion

Water

- Nutrients transported to surface water
- Nutrients transported to groundwater
- Pesticides transported to surface water
- Pesticides transported to groundwater
- Sediment transported to surface water

Plants

- Plant productivity and health

USDA Natural Resources Conservation Service
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NEW JERSEY STATE RESOURCE ASSESSMENT

Soil
Sheet and Rill Erosion

PROCESS

Soils data was used to create priority areas based on their risk for sheet and rill erosion potential. Priority areas include the top three at-risk classes of "Erodibility Potential – Water Elwt" (High, Moderately High, and Moderate). The equations below were used to calculate the risk categories.

Equation 1: $Eiwt=K*(LS)/T$ where K =(kffact) and LS = (LS_USLE)

Equation 2: Equation 2: LS = [0.065 + 0.0456 (slope) + 0.006541 (slope)2] (slope length ÷ constant) NN Where: slope = (slope), slope length = (LS_USLE), constant = 22.1 metric, T = (tfact), and NN is derived from the slope.

For slopes <1, NN = 0.2; for slopes equal to 1 and less than 3, NN = 0.3; for slopes equal to three and less than 5, NN = 0.4; for slopes equal to and greater than 5, NN = 0.5.

DATA

Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	1959	31,862
328-Conservation Crop Rotation	1294	18,532
329-Residue and Tillage Management, No Till	388	5,083
512-Pasture and Hay Planting	219	2,141
327-Conservation Cover	194	3,592
345-Residue and Tillage Management, Reduced Till	179	2,165
449-Irrigation Water Management	166	4,152
484-Mulching	113	2,076
342-Critical Area Planting	108	1,994
511-Forage Harvest Management	60	605

Acres at Risk	**Total Acres Treated**	72,202
660,704	202,201	
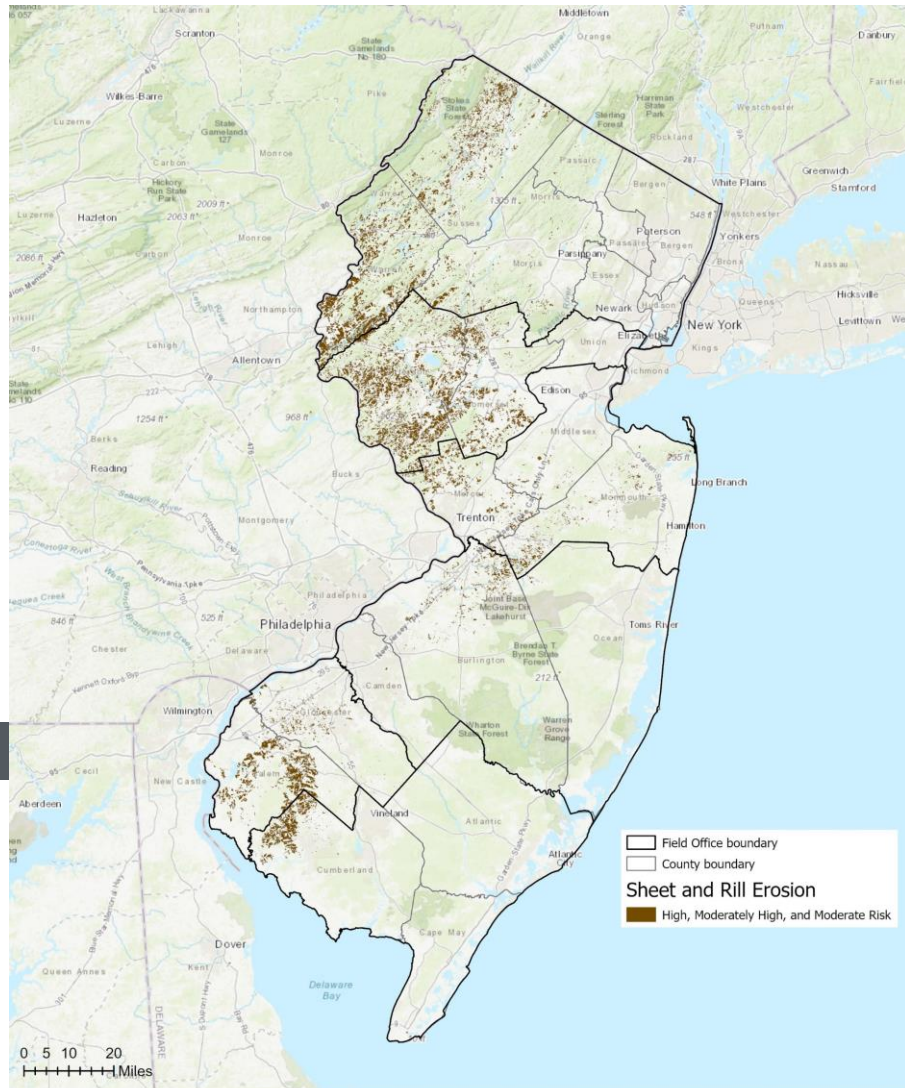
OUTCOMES

Over the past 10 years, our implementation of key Conservation Practices has aligned well with the area of greatest need for protection from sheet and rill erosion. Although more than 202,000 acres in total have already been treated with conservation practices that have a positive CPPE score for this resource concern, there are an addition 458,500 acres remaining to be treated. On average during the past ten years, approximately 20,000 acres have been treated each year. At that rate, it would take 20 more years to address all of the at-risk acreage. It is important to note that many of the top ten practices are agronomic management practices with a one-year lifespan. Practices will need to be routinely implemented to protect the resource.

Field Office boundary
County boundary
Sheet and Rill Erosion
High, Moderately High, and Moderate Risk

0 5 10 20 Miles

Sheet and Rill Erosion on Agricultural Land

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

USDA Natural Resources Conservation Service
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NEW JERSEY STATE RESOURCE ASSESSMENT

Soil
Ephemeral Gully Erosion

PROCESS

This dataset was generated from LiDAR-derived digital elevation models. The process utilized techniques developed by NRCS-PA in 2016. In that project, Lidar-derived data was used to define areas of High and Medium Concentrated Flow Accumulation. Some field verification was done as part of that project. As a result, NRCS-PA determined that flow accumulation values above 200 were actually gullies, but anything below 200 was not a gully. This process was replicated for New Jersey. Thus, flow accumulation values of 200 -1000 are considered medium/moderate risk and 1001 >= high risk. Priority areas mapped include the top two at-risk classes (High and Moderate). Analysis was done on both Agricultural Lands and Forested Lands in the NJDEP Land Use/Land Cover dataset.

DATA

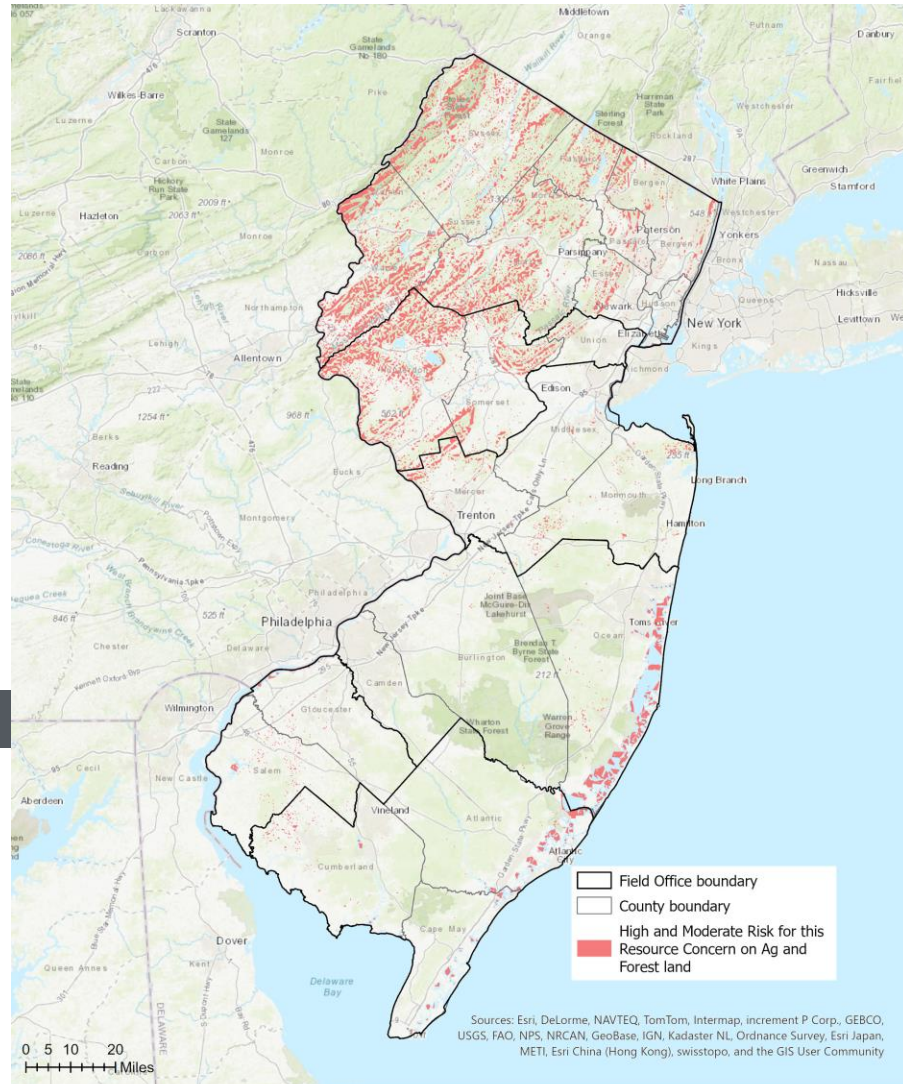| Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	122	1,989
329-Residue and Tillage Management, No Till	22	196
345-Residue and Tillage Management, Reduced Till	15	173
327-Conservation Cover	11	204
512-Pasture and Hay Planting	11	52
342-Critical Area Planting	6	56
557-Row Arrangement	4	129
412-Grassed Waterway	3	55
333-Amending Soil Properties with Gypsum Products	2	31
410-Grade Stabilization Structure	2	30
	198	2,915

Acres at Risk
44,066

Acres Treated
131,340

OUTCOMES

The number of acres treated by Conservation Practices actually exceeds the number of acres calculated to be at-risk. This can be explained by the fact that the areas derived from Lidar show the footprint of the potential ephemeral gullies, which tend to be very small areas (~.10 acre). In contrast, Conservation Practices needed to treat or prevent the ephemeral gullies from forming encompass a much broader area. Data sourced from IDEA is in "land unit acres," which typically covers much larger areas (whole fields), which average ~15 acres statewide. More analysis of the Atlantic coastal region showing High and Moderate risk needs to be done to categorize to source of the ephemeral gullies and to determine if our Conservation Practices would be appropriate to address the need.

Legend:
- Field Office boundary
- County boundary
- High and Moderate Risk for this Resource Concern on Ag and Forest land

0 5 10 20 Miles

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Ephemeral Gully Erosion on Agricultural and Forest Land

Natural Resources Conservation Service
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NEW JERSEY STATE RESOURCE ASSESSMENT

Soil
Organic Matter Depletion

PROCESS

Rating class terms indicate the extent to which the soils enable the depletion of organic matter. "Organic matter depletion high" indicates that the soil and site have features that are very conducive to the depletion of organic matter. Very careful management is needed to prevent serious loss of organic matter if these soils are farmed. "Organic matter depletion moderately high," "Organic matter depletion moderate," and "Organic matter depletion moderately low" are gradients of the level of management needed to avoid organic matter depletion. "Organic matter depletion low" indicates soils that have features that are favorable for organic matter accumulation. These soils allow more management options while still maintaining favorable organic matter levels. For the purposes of this SRA, the Priority Areas are defined as the soils within the At-risk class category of "Moderately High." Moderately High soils have an Organic Matter Depletion rating>= .6.
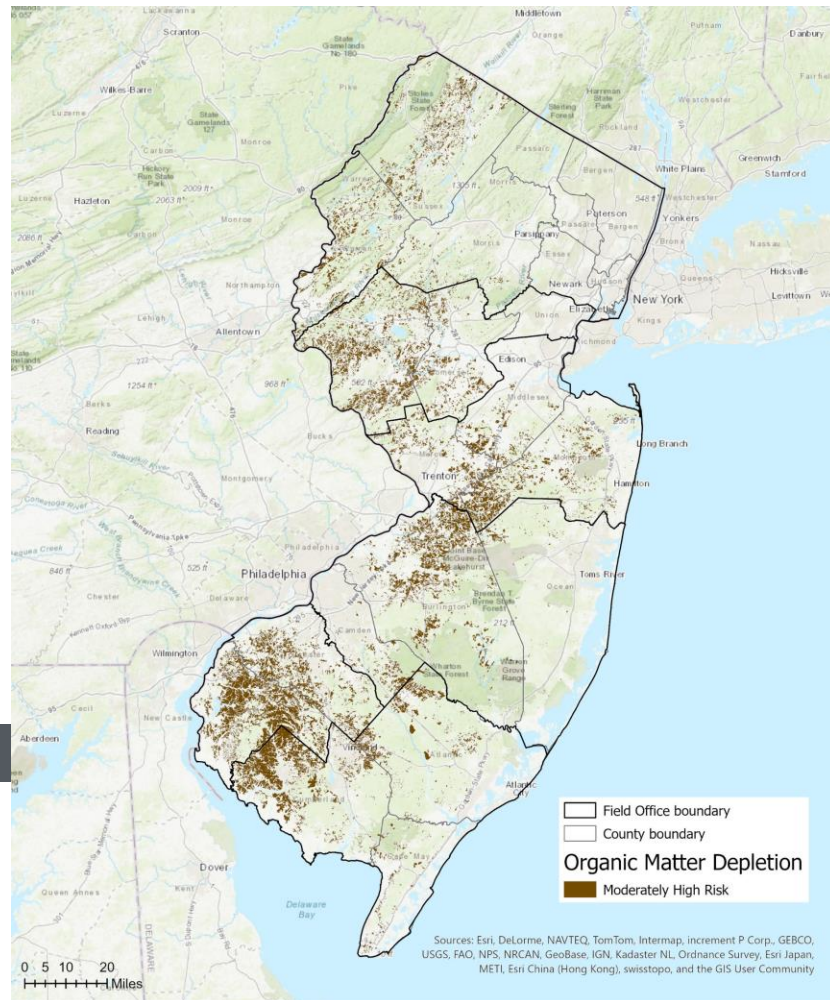
DATA

Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	4,336	74,509
328-Conservation Crop Rotation	2,426	38,758
329-Residue and Tillage Management, No Till	744	10,451
590-Nutrient Management	717	9,164
327-Conservation Cover	325	5,803
345-Residue and Tillage Management, Reduced Till	301	4,842
528-Prescribed Grazing	270	2,342
512-Pasture and Hay Planting	230	2,232
484-Mulching	184	3,688
511-Forage Harvest Management	122	921
		152,709

Acres at Risk	Acres Treated
1,382,792	183,509

OUTCOMES

It is important to note that many of the top 10 practices are agronomic management practices with a one-year lifespan. Practices will need to be routinely implemented to address the resource need. Data shows that the location of practices implemented does correspond with the areas of greatest need. However, areas of opportunity are present, especially where Burlington, Mercer, and Monmouth Counties interest in Central New Jersey. Pockets of Cumberland County also show a need for action.

Field Office boundary
County boundary
Organic Matter Depletion
Moderately High Risk

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

0 5 10 20 Miles

Organic Matter Depletion on Agricultural Land

USDA Natural Resources Conservation Service
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NEW JERSEY STATE RESOURCE ASSESSMENT

Water
Nutrients Transported to Surface Water

PROCESS

Section 303(d) of the Clean Water Act requires states, territories, and authorized tribes to develop lists of specific waterb odies where water quality is impaired by pollutants and does not meet state water quality standards. Each impairment reflected on the 303(d) list requires a calculation of the maximum amount of the impairing pollutant that a waterbody can receive and still meet water quality standards. For the purposes of this State Resource Assessment, 303(d) list data was analyzed to determine watersheds that have impairments due to a combination of *Escherichia coli*, fecal coliform, nitrate, and total phosphorus. Watersheds (HUC12s) that exceed 20% agriculture were prioritized. Theses impairment s can be attributed, in part, to livestock operations. Therefore, practices related to protecting water quality from animal waste were noted.
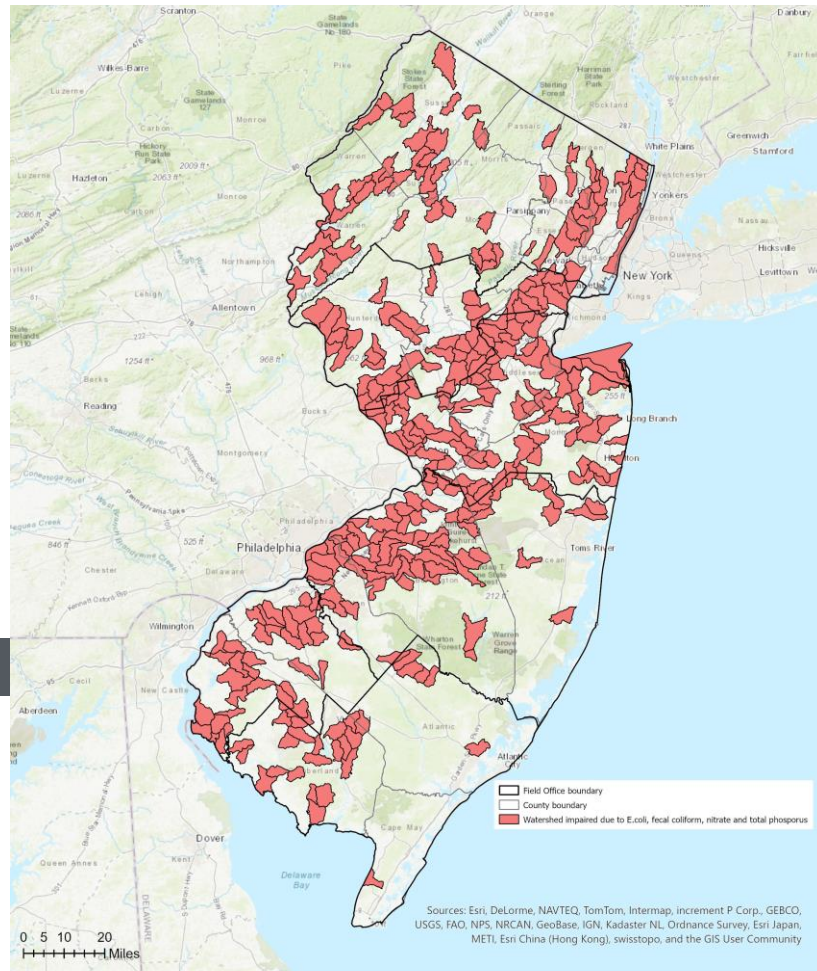
DATA

Top 10 Practices	Frequency	Land Unit Acres
561-Heavy Use Area Protection	133	1,294
558-Roof Runoff Structure	93	983
362-Diversion	66	1,028
313-Waste Storage Facility	42	445
367-Roofs and Covers	32	288
634-Waste Transfer	11	104
635-Vegetated Treatment Area	9	134
360-Waste Facility Closure	3	19
521-Pond Sealing or Lining Bentonite Sealant	1	37
632-Waste Separation Facility	1	48

Acres at Risk
123,493

Acres Treated
4,216

Legend:
- Field Office boundary
- County boundary
- Watershed impaired due to E.coli, fecal coliform, nitrate and total phosporus

0 5 10 20 Miles

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Nutrients Transported to Surface Water

OUTCOMES

Further analysis can be done on a local level to determine more precisely if impairments are due to farming/livestock operations or other sources, such as wildlife (excessive geese, deer, etc.) or failing septic systems. Additionally, manure is commonly spread an agricultural fields. Opportunities to work innovatively with producers on the rate, timing, quantity, etc. of manure application should be explored. If it is found that impairments to certain watersheds are not due to agriculture, those watersheds can be eliminated from this dataset.

NEW JERSEY STATE RESOURCE ASSESSMENT

Water
Nutrients Transported to Groundwater

PROCESS

Areas designated as at-risk for nutrients transported to groundwater was determined by utilizing a private well testing dataset. High priority was given to areas where greater than 15% of wells tested exceeded the 10 mg/L Maximum Contaminant Level (MCL) for nitrates (percent calculated for 2-mile grid cells across the state).
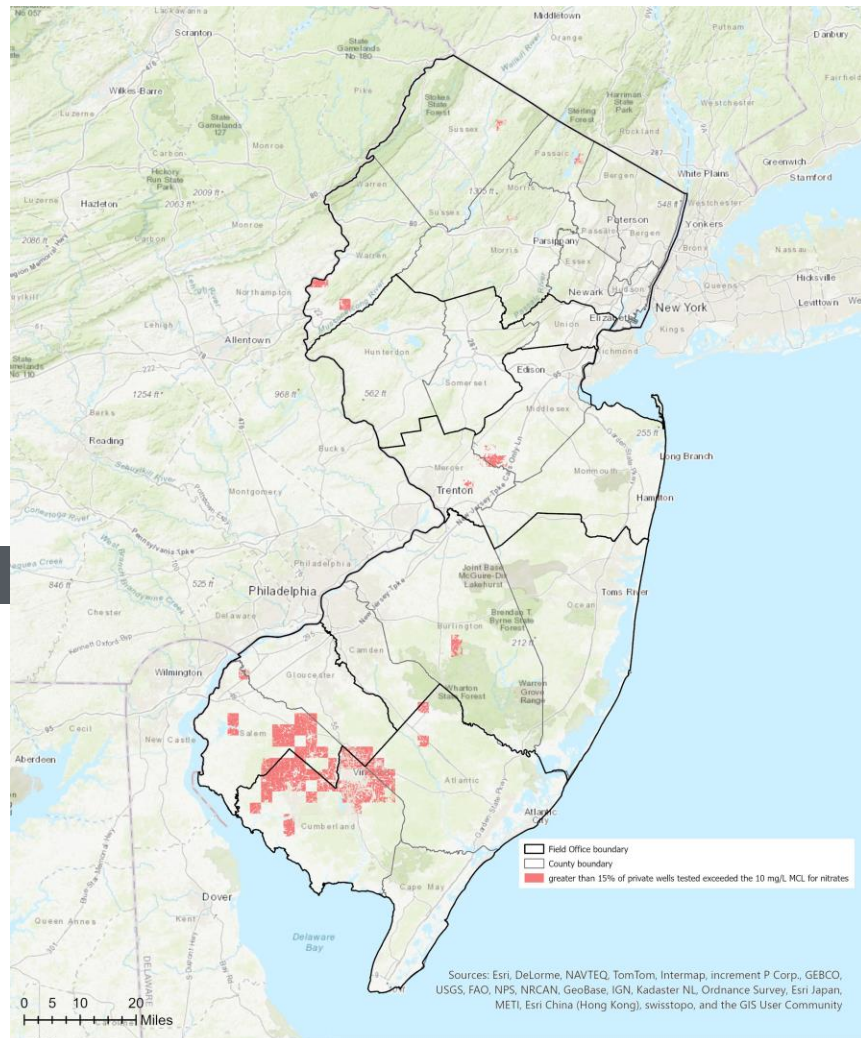
DATA

Top Practices	Frequency	Land Unit Acres
561-Heavy Use Area Protection	10	78
558-Roof Runoff Structure	8	60
313-Waste Storage Facility	2	7
362-Diversion	2	136
367-Roofs and Covers	2	7
521C-Pond Sealing or Lining, Bentonite Sealant	1	37
		325

Acres at Risk	Acres Treated
123,493	4,216

OUTCOMES

Further analysis can be done on a local level to determine more precisely if impairments are due to farming/livestock operations or other sources. Additionally, manure is commonly spread an agricultural fields. Opportunities to work innovatively with producers on the rate, timing, quantity, etc. of manure application should be explored. If it is found that impairments to certain watersheds are not due to agriculture, those watersheds can be eliminated from this dataset. There is clearly a high priority region in South Jersey that should be investigated more closely to determine the source and develop solutions. Opportunities to partner with other USDA agencies, such as Rural Development, may exist and be useful for this particular resource concern.

Field Office boundary
County boundary
greater than 15% of private wells tested exceeded the 10 mg/L MCL for nitrates

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Nutrients Transported to Ground Water

0 5 10   20   Miles

NEW JERSEY STATE RESOURCE ASSESSMENT

Water
Pesticides Transported to Surface Water

PROCESS

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long duration storms. For the purposes of this State Resource Assessment, 2022 soils data was analyzed to prioritize areas within the Runoff class defined as "Very Limited" and "Somewhat Limited."

DATA

Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	2,828	47,037
328-Conservation Crop Rotation	1,711	24,939
329-Residue and Tillage Management, No Till	544	7,248
449-Irrigation Water Management	317	7,300
528-Prescribed Grazing	271	2,248
595-Pest Management Conservation System	261	2,221
512-Pasture and Hay Planting	245	2,341
327-Conservation Cover	224	5,449
345-Residue and Tillage Management, Reduced Till	204	3,055
484-Mulching	148	2,840
		104,678

Acres at Risk

1,029,152

Acres Treated

223,385

OUTCOMES

Overall, our analysis shows that our practices that address the "Water-Transported Pesticides to Surface Water" resource concern were implemented in the highest priority areas. More opportunities exist in central and northwestern regions of the state. Further analysis can be done to see if practices implemented over the past years are still present and effective.

Field Office boundary
County boundary
Risk of Pesticides Transported to Surface Water
Very Limited and Somewhat Limited

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

0 5 10 20 Miles
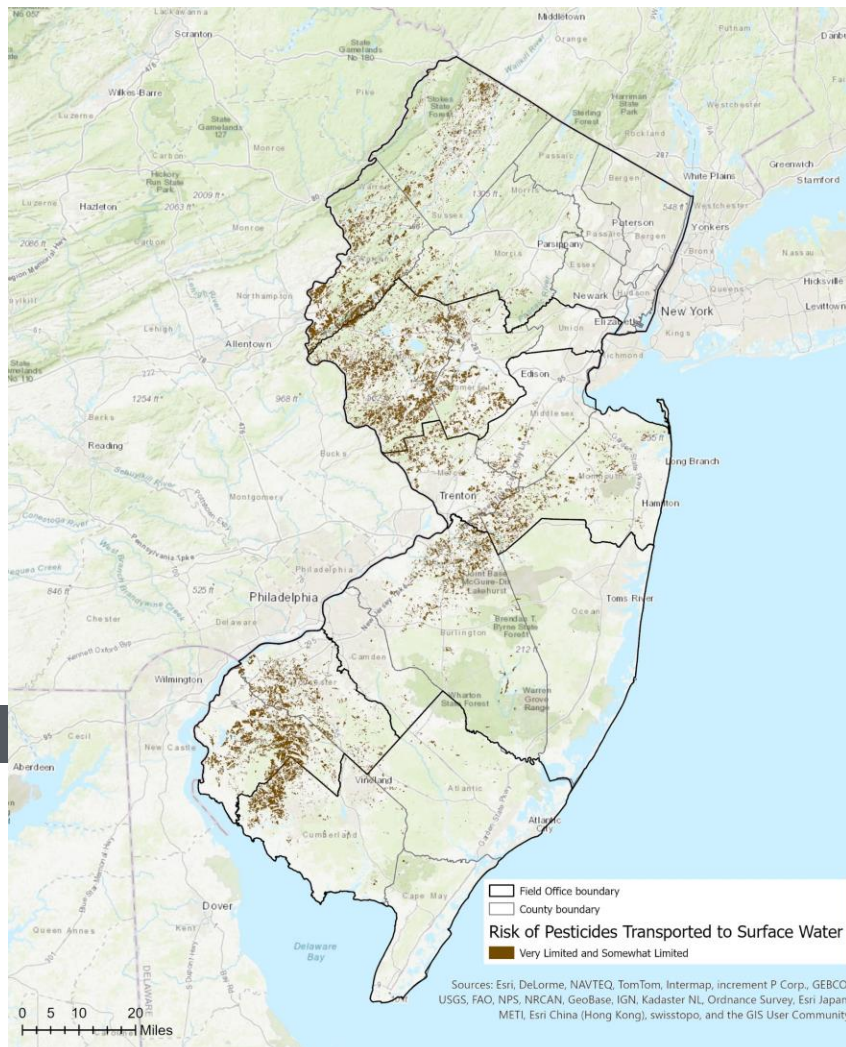
Pesticides Transported to Surface Water on Agricultural Land

NEW JERSEY STATE RESOURCE ASSESSMENT
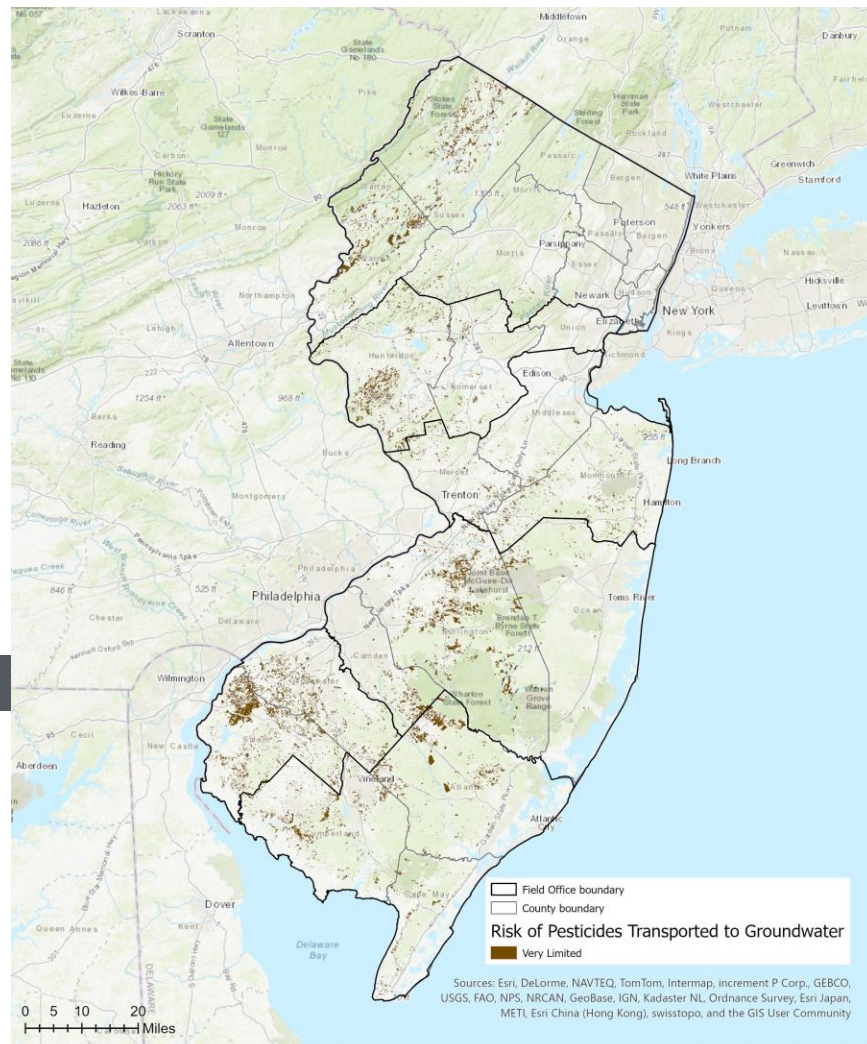
Water
Pesticides Transported to Groundwater

PROCESS

For the purposes of this State Resource Assessment, soils data was used to determine areas that are at-risk for impacts to the resource concern "Water-Pesticides Transported to Groundwater." Priority was given to areas within the soil leaching classification of "Very limited." Leaching is the movement of contaminants, such as water-soluble pesticides, carried by water (rain or irrigation) through permeable soils. Conservation Practices that can be used to address the impacts of leaching were quantified.

DATA

Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	1,817	27,338
449-Irrigation Water Management	438	7,036
327-Conservation Cover	208	4,116
441-Irrigation System, Microirrigation	195	2,295
512-Pasture and Hay Planting	113	995
595-Pest Management Conservation System	59	734
612-Tree/Shrub Establishment	52	907
362-Diversion	10	163
381-Silvopasture	2	3
Subsurface	1	2
		43,589

Acres at Risk	Acres Treated
1,035,000	128,272

OUTCOMES

In general, the practices analyzed based on their positive Conservation Planning Physical Effects (CPPE) rating were implemented in the areas of greatest need according to the soil leaching classification. This data can be analyzed more closely on a local level to target efforts in the future. There are opportunities statewide to treat more acres. "Hot spots" occur in the cranberry region of Burlington County, central Cumberland County, sporadically throughout Monmouth County, and clustered in Hunterdon County.

Field Office boundary
County boundary
Risk of Pesticides Transported to Groundwater
Very Limited

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Pesticides Transported to Ground Water on Agricultural Land

USDA **Natural Resources Conservation Service**
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NEW JERSEY STATE RESOURCE ASSESSMENT

Water
Sediment Transported to Surface Water

PROCESS

Section 303(d) of the Clean Water Act requires states, territories, and authorized tribes to develop lists of specific water bodies where water quality is impaired by pollutants and does not meet state water quality standards. Each impairment reflected on the 303(d) list requires a calculation of the maximum amount of the impairing pollutant that a water body can receive and still meet water quality standards. For the purposes of this State Resource Assessment, the 2020 303(d) list data was analyzed to determine watersheds that have impairments due to Total Suspended Solids (TSS).

DATA

Top 10 Practices	Frequency	Land Unit Acres
340-Cover Crop	5,142	86,296
329-Residue and Tillage Management, No Till	901	12,537
449-Irrigation Water Management	886	18,840
327-Conservation Cover	472	9,955
528-Prescribed Garzing	423	3,502
345-Residue and Tillage Management, Reduced Till	380	5,923
512-Pasture and Hay Planting	347	3,243
484-Mulching	223	4,198
342-Critical Area Planning	179	3,734
468-Lined Waterway of Outlet	170	4,355
		152,583

Acres at Risk
87,262

Acres Treated
166,406
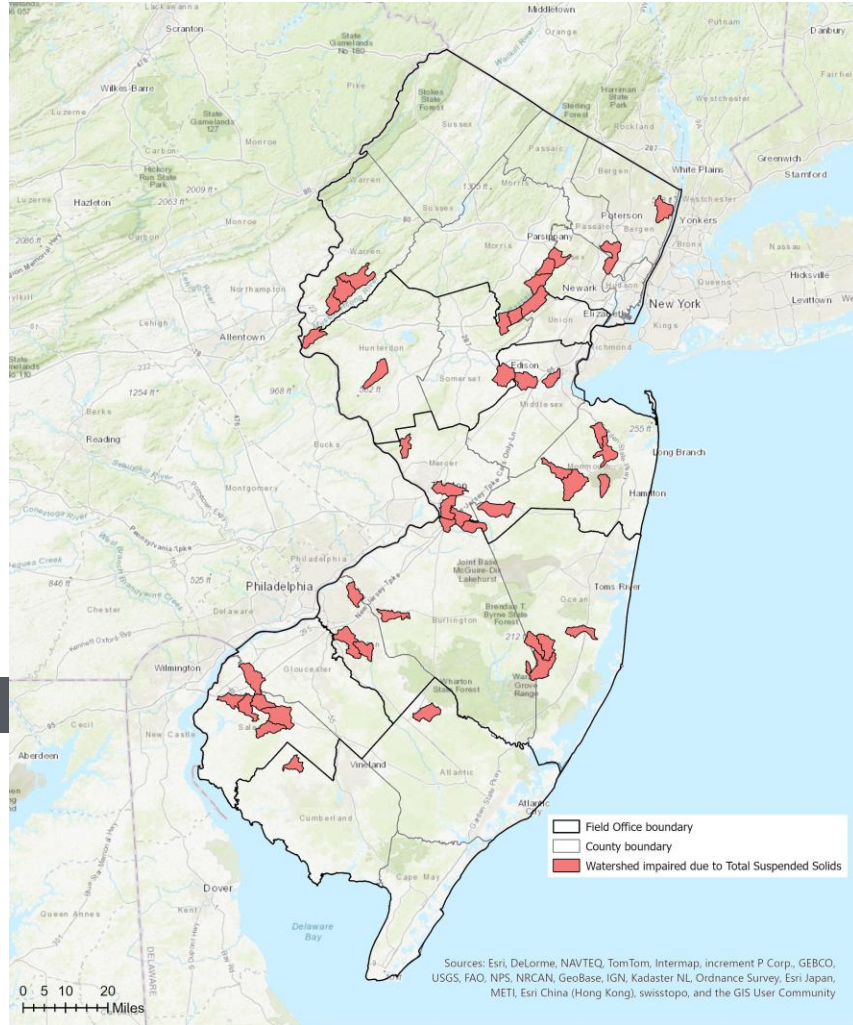
OUTCOMES

According to our analysis, the number of impaired watersheds due to Total Suspended Solids (TSS) is limited. Opportunities should be explored further at the confluence of Morris, Essex, and Union Counties. Camden County watersheds needing work may dovetail into Urban Agriculture priorities. Watersheds in Salem County that show extensive work can be attributed, in part, to the prioritization of the area through the National Water Quality Initiative (NWQI). The Upper Cohansey River, Upper Salem River, and Upper Alloway Creek Watersheds in Salem and Cumberland Counties were all part of this focus area.

Legend:
☐ Field Office boundary
☐ County boundary
🟥 Watershed impaired due to Total Suspended Solids

0 5 10 20 Miles

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

Sediments Transported to Surface Water

NEW JERSEY STATE RESOURCE ASSESSMENT

Plants
Plant Productivity and Health

PROCESS

For this State Resource Assessment, forestry is the focus for the Plant Productivity and Health Priority resource concern. Using the Landuse/Land Cover dataset, forested acres designated as "NJDEP Open Space" were subtracted from all other forest cover types to calculate the total acreage of private forest land in New Jersey. We then looked at the number of Forestry Conservation Activity Plans (CAP 106) that have been written for NRCS program participants. Next, we looked at how many of these sites subsequently had forestry related management practices (Forest Stand Improvement-666) implement on them.

DATA

Forest	1,518,986
Atlantic White Cedar	41,910
Coniferous Scrub Shrub	6,517
Coniferous Wooded	72,602
Decidous Scrub Shrub	39,250
Decidous Wooded	342,685
Mixed Scrub/Shrub Coniferous	8,142
Mixed Scrub/Shrub Decidous	12,575
Mixed Wooded Coniferous	73,092
Mixed Wooded Decidous	59,621
Total Forest	2,175,380
NJ DEP Open Space Layer	1,137,955
Total Private Forest = Total Forest minus NJ DEP Open Space Layer Calculated in GIS*	1,323,414
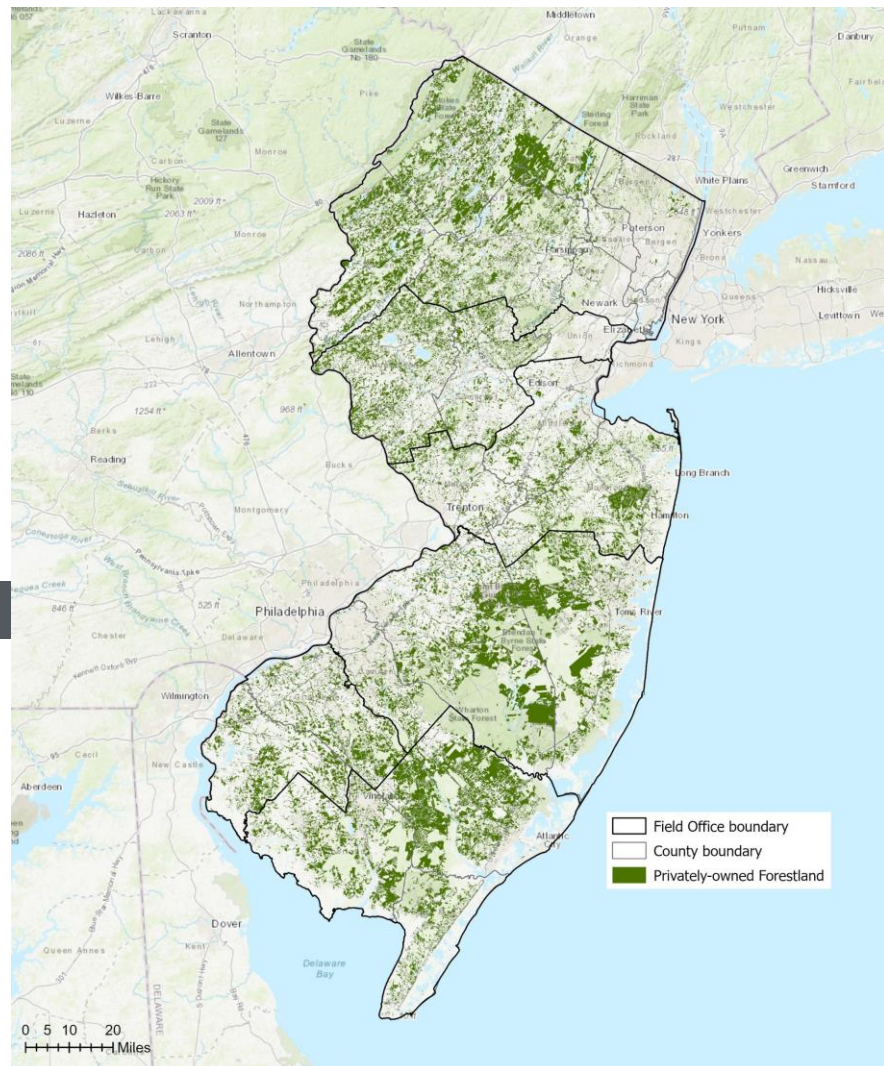
OUTCOMES

Data shows that **579** Conservation Activity Plans (CAP 106) were written statewide during the past 10 years. There were only **82** occurrences where Forest Stand Improvement (CPS 666) was later implemented on one of the sites that had a CAP 106. This shows that there is a great opportunity to implement more of the practices recommended in the forestry plans. Additionally, there are large areas of privately held forests that can be targeted for outreach to historically under-served communities. Restoration of healthy forest ecosystems will reduce wildfire threats, protect water quality and supply, and improve habitat for at-risk species. Climate-smart forestry will help address climate change resiliency. Overall, CPS 666 was implemented **378** times for a total of **32,309** acres in the past 10 years.

Field Office boundary
County boundary
Privately-owned Forestland

Private Forestland

PROCESS & OUTCOMES

Through the Working Lands for Wildlife (WLFW) partnership, a collaborative approach to conserve habitat on working lands, NRCS has developed a multi-state, areawide planning initiative with the first biome-scale framework for wildlife conservation in the working lands within the 25-states of the northern bobwhite framework. The framework focuses on pine and savannas, providing tools to landowners to manage for forests with wildlife openings and diverse understory vegetation the bobwhite needs; and on grasslands where NRCS will help landowners replace non-native grasses with native grasses, forbs and legumes that benefit bobwhite and other wildlife.

Crop producers will also be participating to install field borders, hedgerows, and other practices that habitat corridors in agricultural landscapes.

In New Jersey, **113** conservation practices have been implemented through the WLFW partnership. **7,228** acres have been treated in total.
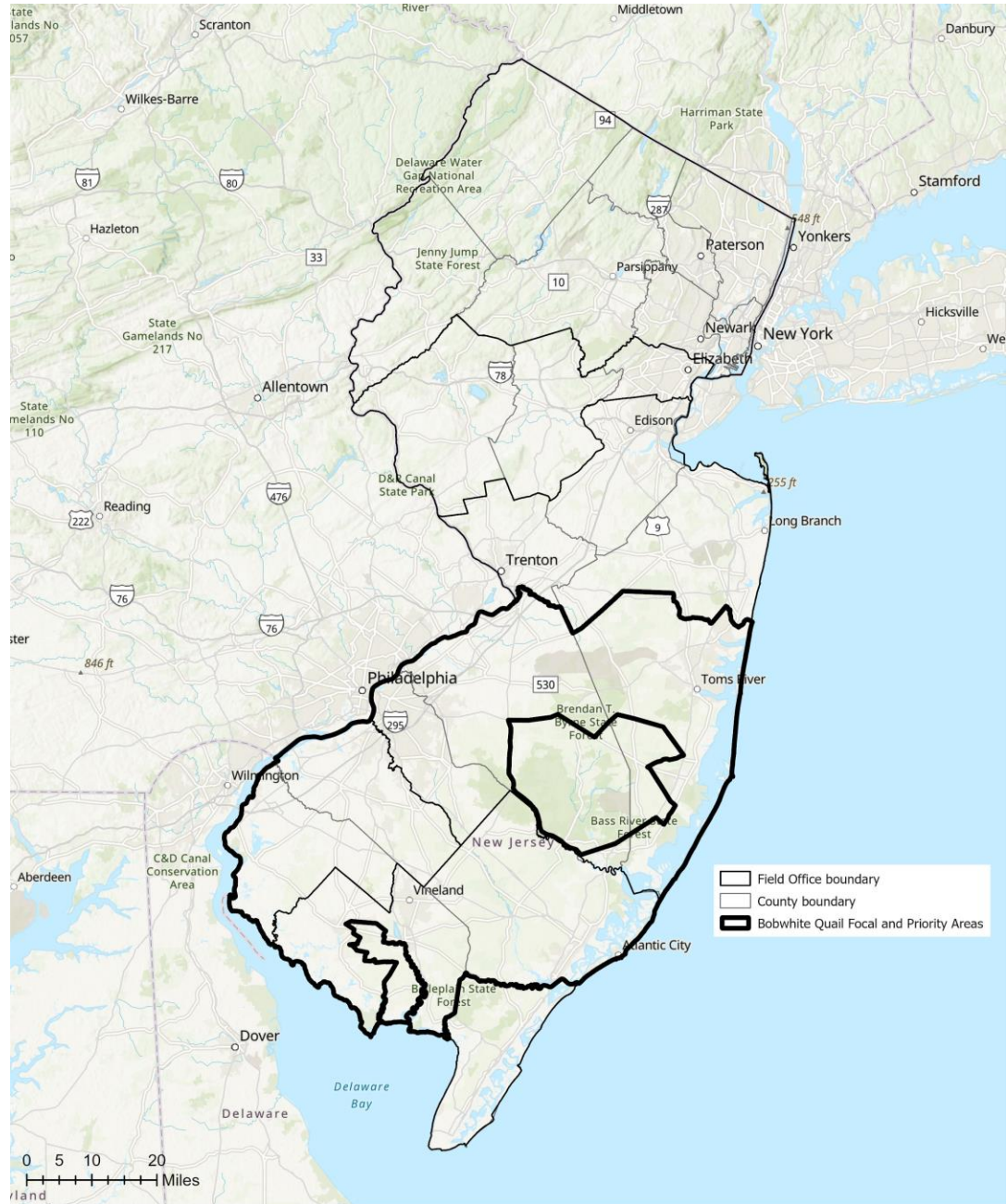
Legend:
- Field Office boundary
- County boundary
- Bobwhite Quail Focal and Priority Areas

Bobwhite Quail

PROCESS & OUTCOMES

On its breeding grounds, the golden-winged warbler requires expansively forested landscapes comprised of young forests and shrub-land patches used for nesting that are interspersed among a diversity of other forest age-classes that are used to raise fledglings. Early successional habitat in the bird's breeding range has declined over the past 50 years as aging forests have come to dominate huge expanses. Both game and non-game species that rely on younger forests are in decline, including the golden-winged warbler, which has suffered a 66 percent population decline since the 1960s. This major shift in the age classes of forests is the result of a lack of fires that occurred historically and unsustainable forestry practices that do not result in healthy, structurally diverse forests.

Most of the golden-winged warbler's nesting habitat falls on private lands. Landowners are helping the at-risk bird and many associated wildlife species by voluntarily improving the health and diversity of their forests. Forest landowners in Georgia, Kentucky, Maryland, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Virginia, and West Virginia are helping the golden-winged warbler rebound by voluntarily conserving habitat on their land. Specifically, these landowners have worked with NRCS field offices and partners such as the American Bird Conservancy, Pheasants Forever, and National Turkey Federation to develop and implement conservation plans that target the creation of high quality early successional habitat.

In New Jersey, Brush Management (CPS 314), Herbaceous Weed Treatment (CPS 315), Early Successional Habitat Development/Management (CPS 647), and Forest Trails and Landings (CPS 655) have been used for a combined total of 17,316 acres.

Legend:
- Field Office boundary
- County boundary
- Golden-winged Warbler Focal Area
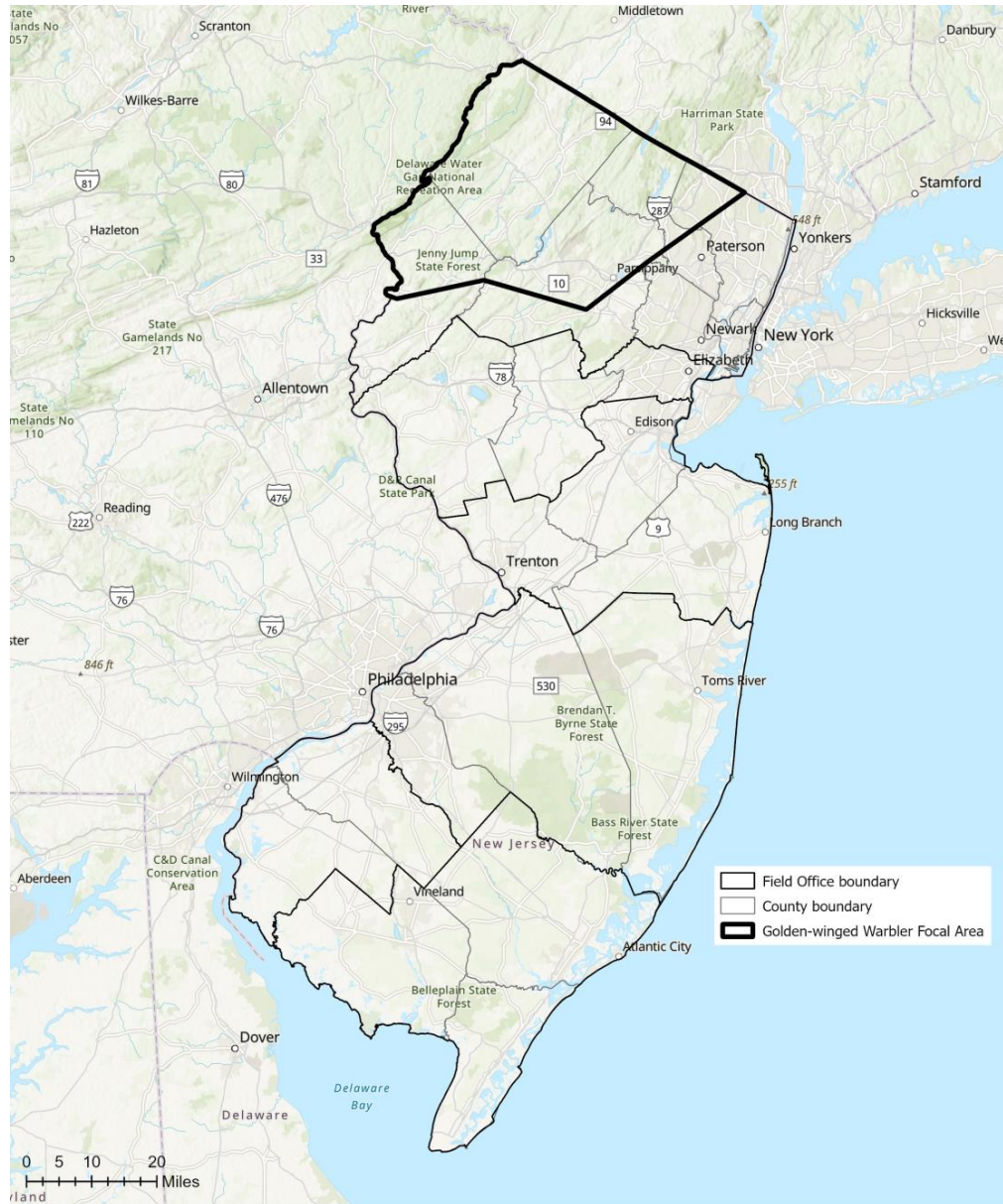
Golden-winged Warbler

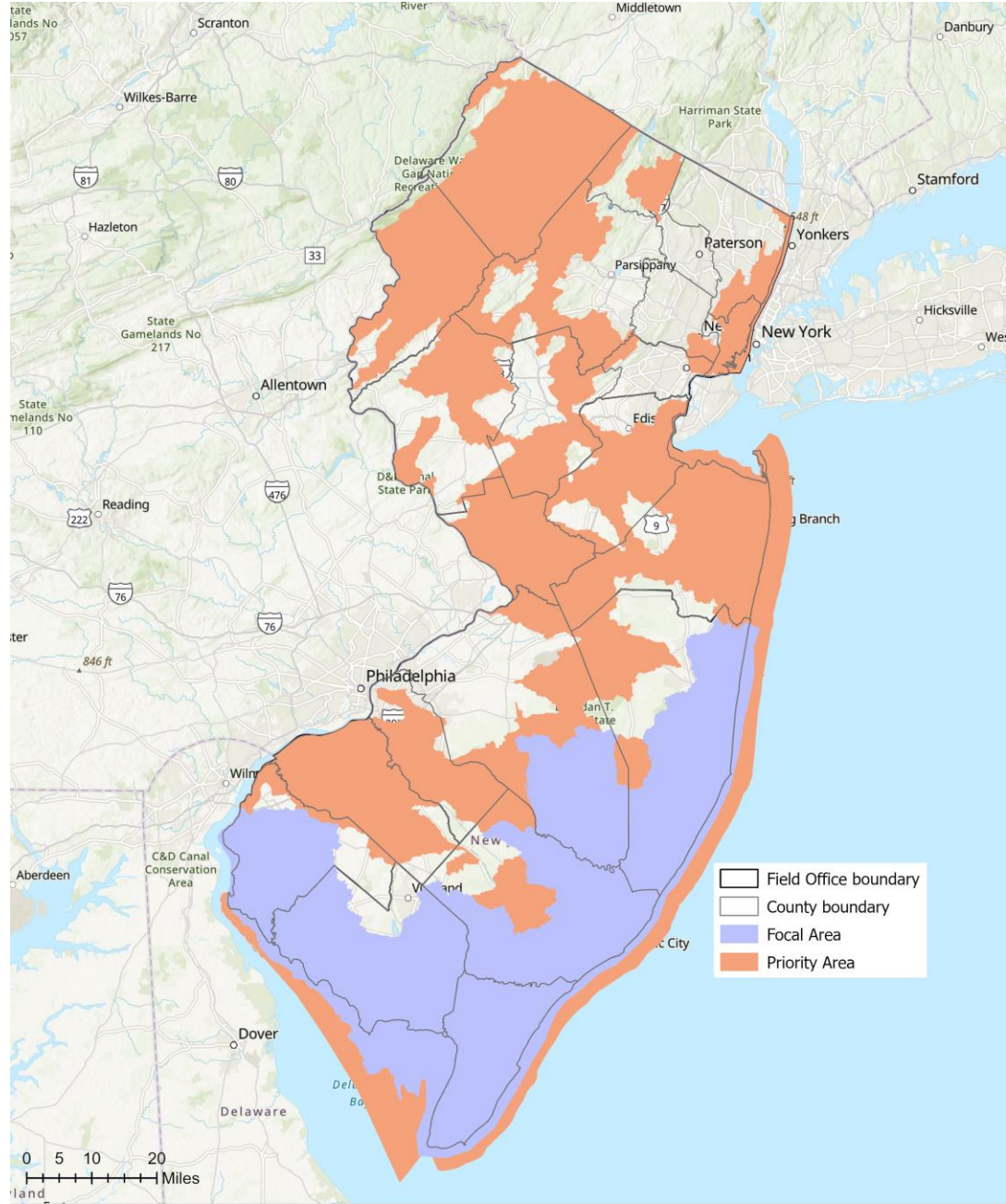## NEW JERSEY STATE RESOURCE ASSESSMENT

Animals
Terrestrial Habitat for Wildlife and Invertebrates - American Back Duck

PROCESS & OUTCOMES

The American black duck (Anas rubripes) is an iconic species of East coast marshes from New York to Virginia.

The loss of coastal habitats because of development, pollution and wetland conversion has contributed to the decline of black ducks. Between the 1950s and 1980s, black duck populations declined by more than 50 percent. The Mid-Atlantic region supports the largest populations of North America's wintering black ducks, and protecting and restoring habitat in the region is critical to the long-term sustainability of the waterfowl species. To help reverse black duck declines, NRCS is working with private landowners in the Delaware Bay and Chesapeake Bay watersheds to increase available high-quality habitat to support the species' recovery. Landowners in Delaware, Maryland, New Jersey and Virginia are helping the black duck by restoring and protecting wetland ecosystems. With the help of NRCS, landowners are making wildlife improvements to working lands and protecting lands not suitable for farming with conservation easements. Through conservation practices, landowners are restoring tidal and floodplain wetlands, as well as managing healthy riparian areas and streams. Conversion of unproductive fields experiencing saltwater intrusion in order to create salt marsh habitat is a particular focus of this effort.

Legend:
- Field Office boundary
- County boundary
- Focal Area
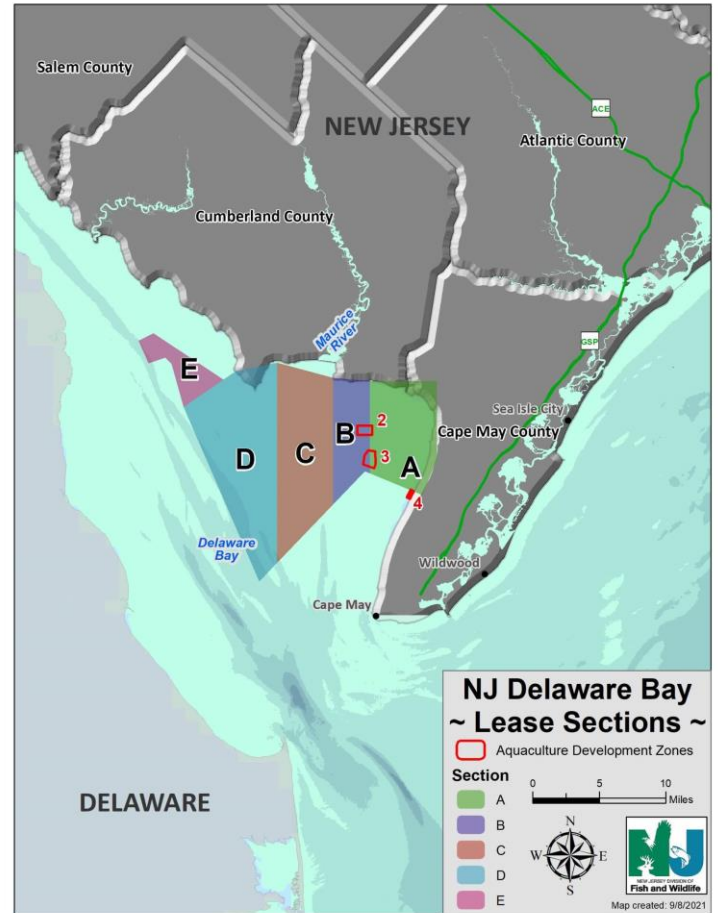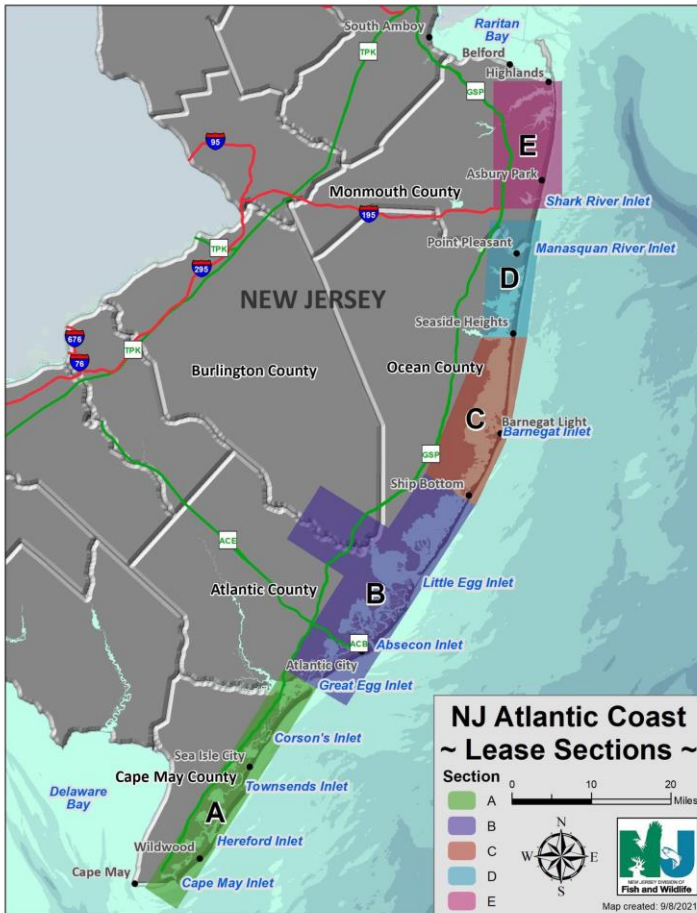- Priority Area

Black Duck

NEW JERSEY STATE RESOURCE ASSESSMENT

Wildlife
Aquatic Habitat for Fish and Other Organisms

PROCESS & OUTCOMES

Aquaculture projects were first implemented in New Jersey in response to the industries need to address impacts to red knot (*Calidris canutus*) which is Federally listed as an endangered species. Restoration and Management of Declining Species (CPS 657) was used to ensure that horseshoe crabs were not impinged under oyster racks, which facilitated creating a more stable food source (horseshoe crab eggs) for red knot.

Additional practices have been implemented by growers to enhance or create shellfish beds. We have also worked to help reduce the impacts to water quality (Water-Nutrients transported to surface waters resource concern) from Biofouling activities (Bivalve Aquaculture Gear and Biofouling Control-CPS 400). Opportunities for expansion of this work occur in both the Delaware Bay region and on the Atlantic Coastal region.

NEW JERSEY STATE RESOURCE ASSESSMENT

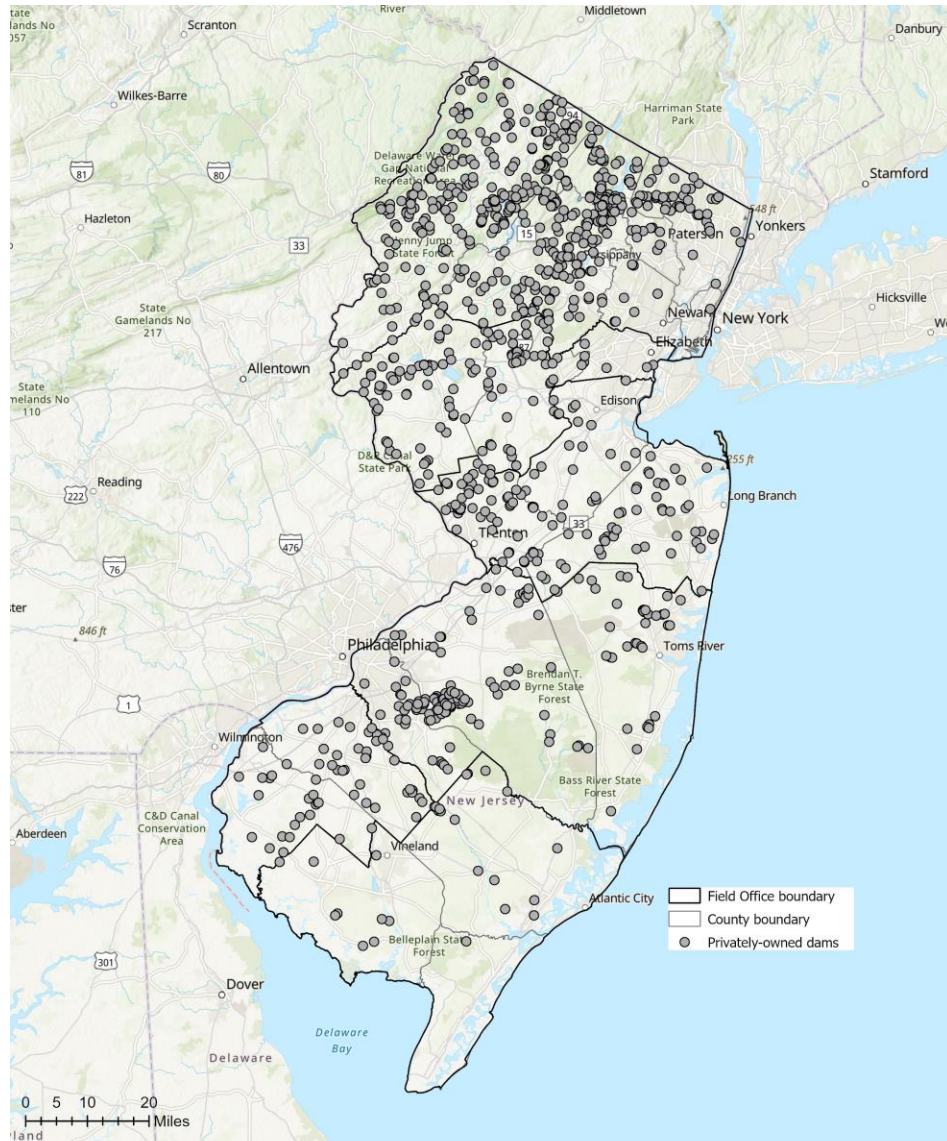## Wildlife
Aquatic Habitat for Fish and Other Organisms

PROCESS & OUTCOMES

Aquatic Organism Passage

New Jersey has been a leader in removing dams and other blockages to our state waters. Dam removal projects help to address public safety needs, increase access for recreational purposes and to improve habitat for fish and wildlife. Since efforts began in the early 2000s, NRCS has been involved in partnerships to remove dams. NRCS is a current member of both the Musconetcong River Restoration Partnership and the New Jersey Statewide Dam Removal Partnership.

Since 2012, NRCS has implemented **10** instances of Aquatic Organism Passage (CPS 396). With 1,013 regulated dams remaining on private land in New Jersey, NRCS has plenty of opportunities to expand our efforts into the future.

Additional information including highlights of some NRCS projects can be found at www.njdams.org. This website also contains maps showing prioritization for removal at the local NRCS Field Offices can utilize for outreach efforts.

Aquatic Organism Passage

NEW JERSEY STATE RESOURCE ASSESSMENT

Wildlife
Wildlife-Aquatic Habitat for Fish and Other Organisms
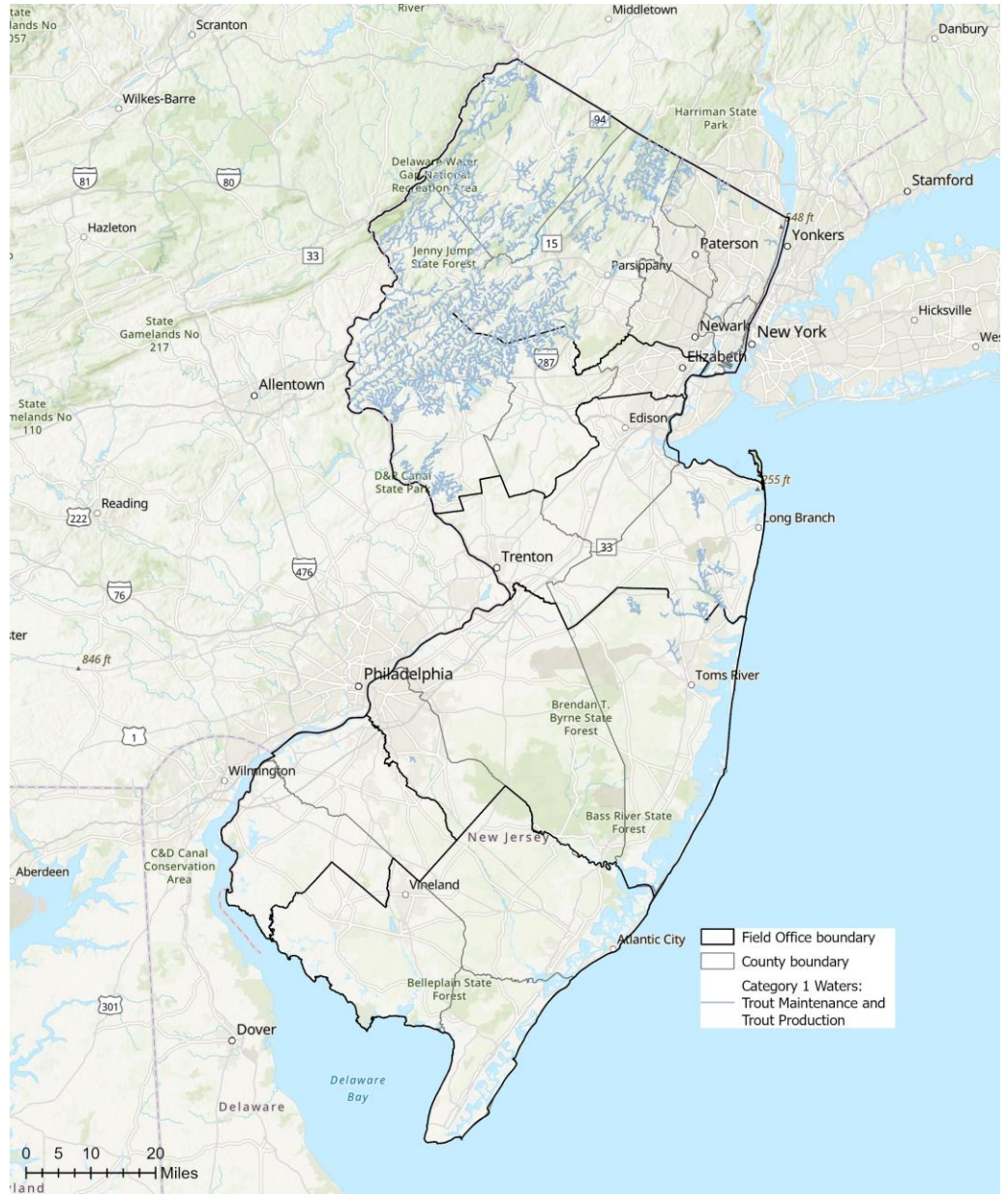
PROCESS & OUTCOMES

Stream Habitat Improvement

NRCS - NJ has been funding a unique type of stream restoration since 2007. The technique known as "stream bed manipulation" focuses mainly on stream channels that have become broad and flat, lacking topography (often due to changes over time in the watershed) and seeks to restore the thalweg (centerline of flow) by enhancing/ restoring the natural riffle, pool, run features of the streams found in the northern portion of the state.

NRCS has had great success having implemented Stream Habitat Improvement (CPS 395) on **18** different projects enhancing/restoring **11.32 miles (59,787 feet)** of New Jersey's streams and rivers.

With a total of 2,297 miles of combined Trout Production/Trout Maintenance listed waters within the state, there are still plenty of opportunities for NRCS to expand our restoration efforts. This data can be analyzed on a local level to determine impairments and prioritize areas needing restoration.

Field Office boundary
County boundary
Category 1 Waters: Trout Maintenance and Trout Production

Stream Habitat Improvement

Esri, CGIAR, USGS, Bucks County, PA, data.pa.gov, New Jersey Office of GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS