

**Final  
Programmatic Environmental Assessment  
New York Conservation Reserve Enhancement  
Program (CREP)**



**Farm Service Agency  
United States Department of Agriculture**



**April 2004**

## Cover Sheet

- Mandated Action:** The United States Department of Agriculture, Commodity Credit Corporation (USDA/CCC) and the State of New York have agreed to implement the New York Conservation Reserve Enhancement Program (CREP), a component of the national Conservation Reserve Program (CRP).
- USDA is provided the statutory authority by the provisions of the Food Security Act of 1985, as amended (16 U.S.C. 3830 et seq.), and the regulations at 7 CFR 1410. In accordance with the 1985 Act, USDA/CCC is authorized to enroll lands through December 31, 2007.
- The Farm Service Agency (FSA) of USDA proposes to enter into a CREP agreement with the State of New York covering the counties of Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Fulton, Genesee, Greene, Herkimer, Franklin, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, St. Lawrence, Saratoga, Schoharie, Schuyler, Seneca, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, and Yates.
- CREP is a voluntary land conservation program for State agricultural landowners.
- Type of Document:** Final Programmatic Environmental Assessment (PEA)
- Lead Agency:** United States Department of Agriculture, Farm Service Agency
- Sponsoring Agencies:** New York State Department of Agriculture and Markets; New York State Department of Environmental Conservation; New York State Soil and Water Conservation Committee
- Cooperating Agencies:** United States Department of Agriculture, Natural Resource Conservation Service (NRCS); Soil & Water Conservation Districts in New York State; Cornell Cooperative Extension Associations
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<http://www.usda.gov/dafp/cepd/crep.htm>
- Abstract:** New York State has nearly 7.6 million acres of cropland and pasture distributed throughout the State. This acreage plays a uniquely important

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water quality function in the United States because of the large number of separate rivers, streams, estuaries and lakes of national priority that receive water from New York's watersheds.

**Comments:**

This Final PEA was prepared in accordance with the United States Department of Agriculture FSA National Environmental Policy Act Implementation Procedures found in 7 CFR 799, as well as the National Environmental Policy Act of 1969, Public Law 91-190, 42 U.S.C. 4321-4347, 1 January 1970, as amended. A Notice of Availability is being published in the Federal Register concurrent with this Final PEA.

Any written comments regarding this assessment shall be submitted to Ron C. Robbins, State Executive Director, Attn: Creg Ivison, State Environmental Coordinator, Farm Service Agency, 441 South Salina St., Suite 356, Syracuse, NY 13202.

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## Chapter 1.0 Purpose of and Need for Action

### 1.1 Introduction

#### 1.1.1 Conservation Reserve Enhancement Program Overview

The U.S. Department of Agriculture (USDA)/Commodity Credit Corporation (CCC) and the State of New York propose to implement the New York Conservation Reserve Enhancement Program (CREP), administered by USDA's Farm Service Agency (FSA). The CREP enrollment period will run from the signing in 2004 through 2007.

The CREP is a component of FSA's Conservation Reserve Program (CRP), which targets the specific environmental needs of each State. The CRP was established under subtitle D of the Food Security Act of 1985. The purpose of CRP is to cost effectively assist owners and operators in conserving and improving soil, water, and wildlife resources on their farms and ranches. Highly erodible and other environmentally sensitive acreage, normally devoted to the production of agricultural commodities, is converted to a long term resource conservation cover. CRP participants enter into contracts for periods of 10 to 15 years in exchange for annual rental payments and cost-share assistance for installing certain conservation practices.

The initial goal of CRP was to reduce soil erosion on highly erodible cropland. Subsequent amendments of the CRP regulations have made certain cropland and pastureland eligible for CRP based on its benefits to water quality and wildlife habitat. The environmental impact of this program shift was studied in the 1996 Environmental Assessment for Selected Amendments of the Conservation Reserve Program and the 2002 Programmatic Environmental Impact Statement (PEIS), and previous analysis referenced in that document. The Farm Security and Rural Investment Act of 2002 authorized CRP through 2007 and raised the overall enrollment cap to 39.2 million acres.

In 1997, the Secretary of Agriculture initiated CREP as a joint Federal-State partnership that provides agricultural producers with financial incentives to install FSA-approved conservation practices (CPs). CREP is authorized pursuant to the 1996 Federal Agriculture Improvement and Reform Act. CREP agreements are done as partnerships between USDA, State and/or tribal governments, other Federal and State agencies, environmental groups, wildlife groups, and other non-government organizations (NGOs). This voluntary program uses financial incentives to encourage farmers and ranchers to enroll in contracts of 10 to 15 years in duration to remove lands from agricultural production. Through the CREP, farmers can receive annual rental payments and cost-share assistance to establish long term, resource conserving covers on eligible land. The two primary objectives of CREP are to:

- Coordinate Federal and non-Federal resources to address specific conservation objectives of a State (or Tribal) Government and the nation in a cost-effective manner.
- Improve water quality, erosion control, and wildlife habitat related to agricultural use in specific geographic areas.

This Final PEA has been conducted in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended 42 USC 4321 – 4347, the NEPA implementing regulations of the Department of Agriculture, 7 CFR Part Ib, and the FSA NEPA implementation procedures found in 7 CFR Part 799. This PEA does not address individual site specific impacts.



CRP and CREP are administered by FSA in cooperation with the Natural Resource Conservation Service (NRCS), Cooperative State Research and Education Extension Service, State forestry agencies, and local Soil and Water Conservation Districts. FSA is the lead agency developing this PEA. For additional information on this Final PEA, contact: Creg Ivison, State Environmental Coordinator, Farm Service Agency, 441 South Salina Street, Suite 356, Syracuse, NY 13202.

### **1.1.2 Purpose of Using an Environmental Assessment to Analyze this Action**

FSA's regulations for NEPA are found at 7 CFR part 799. Both of these environmental regulations classify the Agency's actions into levels of environmental review such as Categorical Exclusions, Environmental Assessments, and Environmental Impact Statements. The National Historic Preservation Act (NHPA) compliance and other cultural resource considerations also are incorporated into FSA's NEPA process.

FSA prepared this PEA to address the implementation of the CREP to comply with NEPA, Council on Environmental Quality Regulations (CEQ), and 7 CFR 799: Environmental Quality and Related Environmental Concerns—Compliance with the National Environmental Policy Act.

FSA has a framework in place to ensure NEPA compliance at the field level, where site specific NEPA evaluations will take place prior to implementing a CREP contract. The review will consist of completing a site specific Environmental Evaluation (EE), which will tier off of this Final PEA and the CRP PEIS.

A PEA allows FSA to reduce paperwork and identify potential impacts at a State level to be aware of at a site specific level. Regulations promulgated by the CEQ state the following:

Sec. 1500.4 Reducing paperwork:

- (i) Using program, policy, or plan environmental impact Statements and tiering from statements of broad scope to those of narrower scope, to eliminate repetitive discussions of the same issues (Secs. 1502.4 and 1502.20).

Sec. 1502.4 Major Federal actions requiring the preparation of environmental impact Statements:

- (b) Environmental impact Statements may be prepared, and are sometimes required, for broad Federal actions such as the adoption of new agency programs or regulations (Sec. 1508.18). Agencies shall prepare Statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making.

- (c) When preparing Statements on broad actions (including proposals by more than one agency), agencies may find it useful to evaluate the proposal(s) in one of the following ways:

1. Geographically, including actions occurring in the same general location, such as body of water, region, or metropolitan area.
2. Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.
3. By stage of technological development including Federal or Federally assisted research, development or demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment. Statements shall be prepared on such programs and shall be available before the program has reached a stage

of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.

FSA plans to use this Final PEA to address similar actions in the implementation of this program, and to tie off of this document and the PEIS that has been prepared for the CRP for site specific implementation of the program whenever NEPA analysis is required.

## 1.2 Purpose of the Proposed Action

The purpose of the New York CREP is to enhance the water quality of 12 major watersheds in the State by reducing the amount of nutrients, sediments, and chemical runoff from agriculture sources while increasing wildlife and wetland habitat for birds, migrating waterfowl, and other aquatic organisms. Implementation of approved FSA CPs is designed to improve the water quality of discharges coming from agricultural land. The 12 major watershed areas that would be included are:

- Allegany River;
- Black River & St. Lawrence River;
- Chesapeake Bay & Susquehanna River;
- Delaware River (Excluding that portion covered under the Catskill and Delaware Watershed CREP);
- Genesee, Oswego, Oneida, Seneca Rivers (Excluding those portions covered under the Skaneateles Lake Watershed CREP);
- Lake Champlain;
- Lake Erie-Niagara River Direct Drainage;
- Lake Ontario Direct Drainage;
- Long Island Sound & Peconic Bay
- Lower Hudson River Basin (Excluding those portions covered under the Catskill and Delaware Watershed CREP);
- Mohawk River; and
- Upper Hudson River.

The primary goal of the New York CREP agreement is to provide an opportunity, through financial and technical assistance within these targeted watersheds, for eligible producers in New York to voluntarily establish buffers, filter strips, grass waterways, hardwood tree plantings, wildlife habitat, wetlands, and other approved CPs that improve the water quality of agricultural nonpoint discharges. In addition, implementing CREP would:

- Improve drinking water supplies for local communities;

- Protect and conserve the diversity of aquatic life including threatened and endangered (T&E) species;
- Protect and conserve the diversity of terrestrial wildlife including T&E species;
- Improve water based recreation;
- Improve private and commercial fishing and shell fishing harvests;
- Decrease the cost of drinking water treatment;
- Decrease the cost of aquatic vegetation control;
- Improve soil quality; and
- Provide economic benefits to the producer.

### 1.3 Need for the Proposed Action

The New York State Water Quality Report, published in 2000 by the New York State Department of Environmental Conservation (NYSDEC), states that “nonpoint sources of both toxic and conventional pollutants are much more significant contributors to water quality impairment than point sources. Nonpoint source pollution is the primary contributor to:

- All impacted/impaired rivers 91 percent
- Lakes and reservoirs 90 percent
- Estuarine waters 68 percent
- Great Lakes shoreline 95 percent

Agricultural activity is the most frequently cited nonpoint source of water quality impairment and threat to New York State rivers, lakes, and reservoirs. Current agricultural practices in New York continue to contribute to poor water conditions within the targeted watersheds (Section 1.2). Agricultural runoff contains high amounts of phosphorous, nitrogen, nutrients, silt, and pathogens. The nutrients cause excessive weed and algae growth which can impair recreational uses of the waters. Silt and sediment loads result in excessive turbidity which can impair recreation, aquatic life support, and water supply uses. Urban runoff, stormwater runoff, and combined sewer overflows (CSOs) are also cited as primary nonpoint sources of water quality impairment in the estuarine waters of New York State (NYSDEC, 2000a).

In 1998, the Federal Clean Water Action Plan committed additional Section 319 funding to help States further their water quality restoration efforts. A key element of the plan required each State to prepare a Unified Watershed Assessment (UWA), identify restoration priorities, and develop action strategies to be eligible for Section 319 funds. Unsurprisingly, the UWA watersheds that met the U.S. Environmental Protection Agency’s (EPA) Category I definition for areas needing restoration were existing priorities for the State of New York. Of New York’s 54 watersheds, EPA currently categorizes 26 as high restoration priorities (NYSDEC, 2003e).

According to U.S. Bureau of the Census and NRCS watershed data approximately 55 percent of the State's population (10.5 million people) lives in and relies on the 30,564,898 acres of watersheds addressed in the CREP. In addition, many unique natural features are located within the watershed boundaries identified in the proposed CREP area and include:

- Eleven National Wildlife Refuges
- Twelve sole source aquifers (SSAs)
- Upper Delaware National Scenic and Recreational River
- Twenty-six National Natural Landmarks
- Finger Lakes National Forest
- Two of the Great Lakes (Ontario and Erie)
- St. Lawrence River
- Hudson River – National Heritage River
- Niagara Falls
- Adirondacks

Of the 34 federally listed T&E species (Appendix C), eight are found in the CREP watersheds. There are a number of existing programs in New York working to improve conditions in specific waterbodies and in the watersheds as a whole. The New York CREP would complement those programs and their objectives.

The area is of tremendous economic importance internationally, nationally, regionally, and for the State of New York.

## **1.4 Objectives of the New York CREP**

The primary goal of the New York CREP is to provide financial and technical assistance to eligible producers within targeted areas of New York. This assistance will help to establish filter strips, buffers, hardwood tree plantings, wildlife habitat, wetland areas, and/or other approved conservation practices that improve the water quality of agricultural stormwater discharges.

The primary objectives of this agreement are to achieve, to the extent practicable, the following:

### **1.4.1 Objective #1: Reduce nutrient runoff from pasturelands and croplands from entering waterbodies.**

#### **Indicators:**

- Enrollment of up to 40,000 acres.
- Reduce phosphorus loading from 145,284 lbs. per year to 72,642 lbs. per year.
- Reduce nitrogen loading from 77,376 lbs. per year to 38,688 lbs. per year.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### **1.4.2 Objective #2: Reduce runoff of pesticides from entering waterbodies.**

**Indicators:**

- Enrollment of up to 40,000 acres.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### **1.4.3 Objective #3: Reduce the amount of waterborne pathogens in waterbodies.**

**Indicators:**

- Enrollment of up to 40,000 acres.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### **1.4.4 Objective #4: Reduce sediment loading in waterbodies.**

**Indicators:**

- Enrollment of up to 40,000 acres.
- Reduce **sediment loading** from 175,316 lbs. per year to 70,126 lbs per year.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### **1.4.5 Objective #5: Reduce livestock access to riparian corridors.**

**Indicators:**

- Enrollment of up to 40,000 acres.
- Establish riparian buffers adjacent to 4,598 stream miles and 473,457 acres of surface water.
- Implementation of FSA CPs 8A, 15A, 21, 22, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### **1.4.6 Objective #6: Establish conservation cover on EPA approved wellhead zones.**

**Indicators:**

- Enrollment of up to 40,000 acres.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 10, and 11. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

#### 1.4.7 Objective #7: Improve Wildlife Habitat.

##### Indicators:

- Enrollment of up to 40,000 acres.
- Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30. Appendix D of this PEA contains the full description and requirements of each practice from the FSA Handbook 2-CRP.

### 1.5 Area Covered by New York CREP

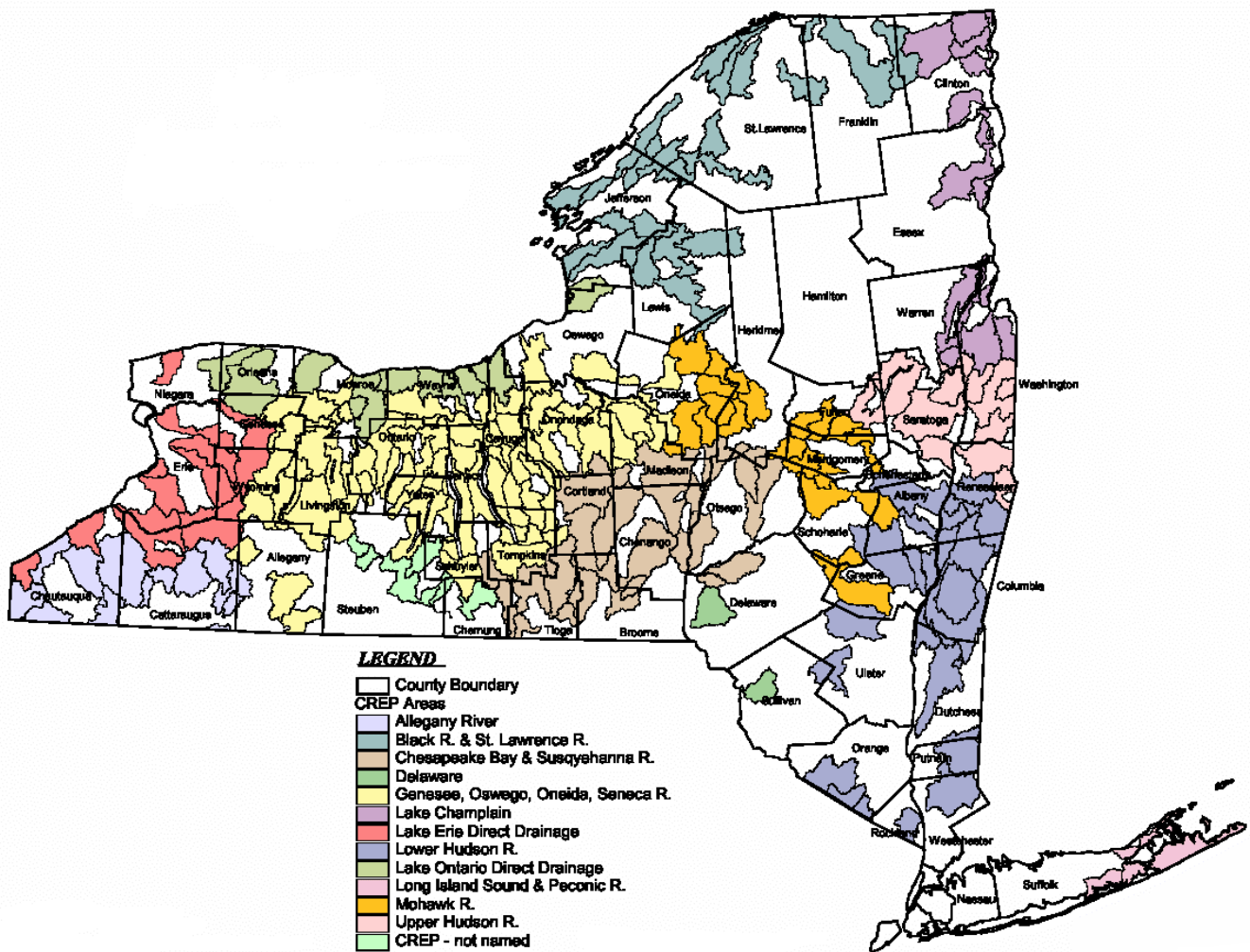
Agricultural production is very diverse in New York State. Twenty-five percent of the State's land area is devoted to agriculture, comprising approximately 7.6 million acres used by 37,500 farms. According to the New York Agriculture Statistics Service, agriculture generated over \$3.4 billion in 2001 (NASS, 2002). This acreage plays a uniquely important water quality function in the United States because of the large number of separate estuaries and lakes of national priority that receive water from New York's watersheds. New York's waters flow into Lake Erie, Lake Ontario and Long Island Sound, each of which is a recognized national priority area under the CRP and subject to a separate section of the Clean Water Act (CWA). New York State also occupies significant portions of the Chesapeake Bay, New York Harbor Delaware Bay, Peconic Bay, and Lake Champlain watersheds. Each of these is designated as a national priority water body under the CWA. These watersheds are not only nationally important but also contain State priority water bodies where one or more uses are designated as precluded, impaired, stressed or threatened by the NYSDEC.

Following is a breakdown of the watersheds included in the New York CREP, including counties, acres in production, and major agricultural crops.

**The Allegany River Basin** is in the southwestern part of the State and is comprised of portions of three counties. These counties are Allegany, Cattaraugus and Chautauqua where there are 3,830 farms with a total of 623,000 farmland acres. Twenty-nine percent of the total 2,177,280 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, cattle and calves, fruits and berries, nursery and greenhouse, hay and silage, poultry, and vegetables.

**The Black River / St. Lawrence Watersheds** are in the northern part of the State and are comprised of portions of four counties. These counties are Franklin, Jefferson, Lewis and St. Lawrence where there are 4,025 farms with a total of 1,103,000 farmland acres. Twenty-five percent of the total 4,394,240 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, cattle and calves, hay and silage, and corn for grain.

**The Chesapeake Bay / Susquehanna River Watershed** is in the central and southern part of the State and is comprised of portions of ten counties. These counties are Broome, Chenango, Cortland, Delaware, Herkimer, Madison, Onondaga, Otsego, Schuyler, and Tioga where there are 7,295 farms with a total of



**Figure 1. CREP area watersheds.**

Prepared by: NRCS Soil Survey Staff at the New York State Office, June 2003.

1,549,300 farmland acres. Twenty-nine percent of the total 5,277,440 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, cattle and calves, corn for grain, hay and silage, and nursery and greenhouse.

**The Delaware River Watershed** is in the southern part of the State in the Catskill mountains and is comprised of portions of two counties. These counties are Delaware and Sullivan where there are 1,220 farms with a total of 252,000 farmland acres. Sixteen percent of the total 1,546,240 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, poultry products, cattle and calves, hay and silage, and greenhouse.

**The Genesee – Oswego – Seneca – Oneida River Watershed** is in the central part of the State and is comprised of portions of nineteen counties. These counties are Allegany, Cayuga, Chemung, Cortland, Genesee, Livingston, Madison, Monroe, Oneida, Onondaga, Ontario, Oswego, Schuyler, Seneca,

Steuben, Tompkins, Wayne, Wyoming, and Yates where there are 14,650 farms with a total of 3,240,800 farmland acres. Forty percent of the total 8,140,800 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, cattle and calves, corn for grain, vegetables, nursery and greenhouse, hay, and silage, fruits and berries, and poultry products.

**The Lake Champlain Watershed** is in the northeastern part of New York State in the Adirondack Mountains, and comprised of portions of four counties. These counties are Clinton, Essex, Warren and Washington where there are 1,785 farms with a total of 431,300 farmland acres. Fifteen percent of the total 2,906,880 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, cattle and calves, fruits and berries, hay and silage, nursery and greenhouse, and poultry products.

**The Lake Erie – Niagara Watersheds** are in the western part of New York State and are comprised of portions of six counties. These counties are Cattaraugus, Chautauqua, Erie, Genesee, Niagara, and Wyoming where there are 6,465 farms with a total of 1,155,400 farmland acres. Thirty-five percent of the total 3,217,280 acres in these counties is in farmland. The major agricultural products in these counties are dairy products, fruits and berries, nursery and Greenhouse, vegetables, cattle and calves, hay and silage, and corn for grain.

**The Lake Ontario Direct Drainage Watershed** is in the northwestern part of New York State and is comprised of portions of six counties. These counties are Cayuga, Genesee, Monroe, Orleans, Oswego, and Wayne where there are 4,270 farms with a total of 1,026,000 farmland acres. Forty-two percent of the total 2,428,160 acres in these counties is in farmland. The major agricultural products in these counties are vegetables, fruits and berries, dairy products, corn for grain, nursery, and greenhouse.

**The Peconic River – Long Island Sound Watersheds** are in Long Island and are comprised of a portion of Suffolk County where there are 715 farms with a total of 36,900 farmland acres. Six percent of the total 583,040 acres in this county is in farmland. The major agricultural products in this county are nursery and greenhouse products, vegetables, potatoes, poultry and poultry products, and fruits and berries.

**The Lower Hudson River Basin** is located in the southeastern part of the State and is comprised of portions of eleven counties. These counties are Albany, Columbia, Dutchess, Greene, Orange, Putnam, Rensselaer, Rockland, Sullivan, Ulster, and Westchester where there are 4,240 farms with total of 694,900 farmland acres. Fifteen percent of the total 4,490,240 acres in these counties is in farmland. The major agricultural products in this area are dairy products, nursery and greenhouse, vegetables, cattle and calves, fruits and berries, and hay and silage.

**The Mohawk River Watershed** is located in the central eastern portion of the State and is comprised of portions of seven counties. These counties are Albany, Fulton, Herkimer, Madison, Montgomery, Oneida, and Schoharie where there are 4,605 farms with a total of 952,200 farmland acres. Twenty-eight percent of the total 3,409,280 acres in these counties is in farmland. The major agricultural products in this area are dairy products, cattle and calves, hay and silage, nursery and greenhouse, vegetables, and corn for grain.

**The Upper Hudson Watershed** is in the central eastern part of the State and is comprised of portions of four counties. These counties are Fulton, Rensselaer, Saratoga, and Washington where there are 2,190 farms with a total of 428,000 farmland acres. Twenty-four percent of the total 1,790,720 acres in these counties is in farmland. The major agricultural products in this area are dairy products, cattle and calves, nursery and greenhouse, hay and silage, and poultry products.



## **1.6 Relevant Laws, Regulations, and Other Documents**

### **1.6.1 Clean Water Act of 1972**

The CWA was passed in 1972, with a goal to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” The Act contains a number of provisions that affect agriculture:

Clean Lakes Program is authorized by Section 314 of the CWA. It authorizes EPA grants to States for lake classification surveys, diagnostic/feasibility studies, and for projects to restore and protect lakes.

Nonpoint Source Pollution Program is established by Section 319 of the CWA. It requires States and U.S. territories to identify navigable waters that cannot attain water quality standards without reducing nonpoint source pollution, and then develop management plans to reduce such nonpoint source pollution.

National Estuary Program is established by Section 320 of the CWA. It provides for the identification of nationally significant estuaries that are threatened by pollution for the preparation of conservation and management plans and calls for Federal grants to States, interstate, and regional water pollution control agencies to implement such plans.

National Pollutant Discharge Elimination System Permit Program is established by Section 402 of the CWA. This program controls point-source discharge from treatment plants and industrial facilities (including large animal and poultry confinement operations).

Dredge and Fill Permit Program was established by Section 404 of the CWA. Administered by the U.S. Army Corps of Engineers, it regulates dredging, filling, and other alterations of waters and wetlands jointly with EPA, including wetlands owned by farmers. Under administrative agreement, NRCS has authority to make wetland determinations pertaining to agricultural land.

### **1.6.2 Coastal Barrier Resources Act of 1982**

Congress recognized the vulnerability of coastal barriers to development by passing the Coastal Barrier Resources Act in 1982 (CBRA). By restricting Federal expenditures and financial assistance which have the effect of encouraging development of coastal barriers, Congress aimed to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife, and other natural resources associated with coastal barriers along the Atlantic and Gulf of Mexico coasts. The CBRA, while not prohibiting privately financed development, prohibits most new Federal financial assistance, including flood insurance, within a designated Coastal Barrier Resources System (CBRS).

In 1990, Congress passed the Coastal Barrier Improvement Act (CBIA). The CBIA tripled the size of the System established by the CBRA. The CBIA also prohibits the issuance of new Federal flood insurance within “otherwise protected areas” on buildings constructed after November 16, 1991, unless the building is used in a manner consistent with the purpose for which the area is protected. Otherwise Protected Areas (OPAs) are generally used for certain activities such as fish and wildlife research and refuges

### **1.6.3 Coastal Zone Management Act of 1972**

In response to intense pressure on coastal resources and because of the importance of coastal areas of the United States, Congress passed the Coastal Zone Management Act of 1972 (CZMA). The CZMA authorizes a State-Federal program to encourage coastal States and territories to develop comprehensive coastal management programs. The CZMA requires that, to the maximum extent practicable, any Federal action that affects any land/water use or coastal zone natural resource be consistent with the enforceable policies of an approved State coastal management program.

### **1.6.4 Comprehensive State Groundwater Protection Program**

The program was initiated by EPA in 1991. It coordinates the operation of all Federal, State, tribal, and local programs that address groundwater quality. States have the primary role in designing and implementing the program based on distinctive local needs and conditions.

### **1.6.5 Endangered Species Act of 1973**

The Endangered Species Act (ESA) was enacted to conserve threatened or endangered species and the ecosystems in which they exist. When a species is designated as threatened with extinction, a recovery plan that includes restrictions on cropping practices, water use, and pesticide use is developed to protect the species from further population declines.

### **1.6.6 Executive Order (EO) 11988: Floodplain Management (g) Floodplains and Wetlands**

EO 11988 restricts Federal support of development in floodplains by requiring Federal projects in a floodplain to meet National Flood Insurance Program standards, consider alternatives, and require agencies to inform all participants of the dangers involved in floodplain activities.

### **1.6.7 Executive Order 11990: Protection of Wetlands**

EO 11990 restricts Federal support of development in wetlands and outlines the use of the NEPA process in determining whether building in a wetland is necessary.

### **1.6.8 Federal Insecticide, Fungicide, and Rodenticide Act of 1947**

The Federal Insecticide, Fungicide, and Rodenticide Act provides the legal basis under which pesticides are regulated. A pesticide can be restricted or banned if it poses unacceptable risks to human health or the environment. The re-registration process, mandated in 1988 for all active ingredients then on the market, has resulted in manufacturers dropping many less profitable products rather than paying the registration fees.

### **1.6.9 Food Security Act of 1985**

The CCC is authorized under the Food Security Act of 1985, as amended and 7 CFR 1410 to institute the actions contemplated in the proposed action. The CCC is authorized to enroll land through December 2007. Sections 1230, 1234, 1242 of the act and 7 CFR 1410.50 authorize CCC to enter into agreements with States to use the CRP in a cost-effective manner to further specific conservation and environmental

objectives of a given State and the nation. The following provisions are especially applicable to the implementation of CREP:

Highly Erodible Land Conservation Compliance Provisions require that all persons that produce agriculture commodities must protect all cropland classified as being highly erodible from excessive erosion. The provisions have been amended in the 1990, 1996, and 2002 Farm Bills. The purpose of these provisions is to remove the incentive to produce annually tilled agricultural commodity crops on highly erodible land unless it is protected from excessive soil erosion.

Wetland Conservation Provisions (Swampbuster) help preserve the environmental functions and values of wetlands, including flood control, sediment control, groundwater recharge, water quality, wildlife habitat, recreation, and aesthetics. The 1996 Farm Bill modified Swampbuster to give USDA participants greater flexibility to comply with wetland conservation requirements and to make wetlands more valuable and functional. The new Farm Bill changed the other Swampbuster provisions, including those associated with wetland determinations, mitigation (offsetting losses), "Minimal Effect" determinations, abandonment, and program eligibility.

#### **1.6.10 National Environmental Policy Act of 1969**

NEPA is intended to help Federal officials make decisions that are based on consideration of the environmental consequences of their actions, and to take actions that protect, restore, and enhance the environment. NEPA mandates that FSA consider and document the impacts that major projects and programs will have on the environment.

#### **1.6.11 National Historic Preservation Act of 1966**

The National Historic Preservation Act, as amended (16 USC 470, P.L. 95-515), Sections 101, 106, 110-112, 304, establishes as Federal policy the protection of historic properties or places and their values in cooperation with other nations and with State and local governments. It establishes a program of grants-in-aid to State governments for historic preservation activities. Subsequent amendments designated the State Historic Preservation Office (SHPO) or the Tribal Historic Preservation Office (THPO) as the party responsible for administering programs in the States or reservations.

The Act also creates the Advisory Council on Historic Preservation (ACHP). Federal agencies are required to consider the effects of their undertakings on historic resources, and to give the SHPO/THPO and, if necessary, the ACHP a reasonable opportunity to comment on those undertakings.

Section 101 prescribes how State, local, and Indian tribal governments participate in the national historic preservation program, establishes how the National Register of Historic Places is maintained and expanded, and directs the Department of the Interior to promulgate various standards and guidelines, including regulations requiring Federal agencies to place recovered artifacts and their records in institutions that have adequate long-term curatorial capabilities.

Section 106 requires Federal agencies to identify historic properties their actions could affect; determine whether there could be a harmful or adverse effect, and if so, try to avoid or reduce it. The Federal agency consults with the SHPO/THPO, and in many cases the ACHP, to accomplish the goal. This consultation process normally results in a legally binding agreement document that spells out how the historic property will be treated to avoid or reduce potential harm. Regulations implementing Section 106 (36 CFR Part 800) require that this be done through a process of identification, consultation with the SHPO/THPO and other concerned parties, and execution and

implementation of agreements about how adverse effects will be addressed. Before beginning any undertaking that might affect historic properties, the agency should consult the SHPO/THPO and, if necessary, the ACHP.

Section 110 requires Federal agencies to designate qualified Federal preservation officers, to document historic properties that must be damaged or destroyed, to give preference to the use of historic properties for mission purposes, and to establish and implement a historic preservation program that includes identification of historic properties, planned management of such properties, and specific procedures for compliance with Section 106.

Section 111 requires Federal agencies to “establish and implement alternatives for historic properties, including adaptive use” before leasing or exchanging historic property. The intent of this section is to “insure the preservation of the historic property.”

Section 112 requires a Federal agency’s employees or contractors who are responsible for historic resources to meet professional qualification standards to be developed by the Secretary of the Interior in the disciplines of archaeology, architecture, conservation, curation, history, landscape architecture, and planning. In addition, records and other data including that produced by research, surveys, and excavations, shall be maintained in permanent databases and made available to authorized users.

Section 304 allows Federal agencies, in consultation with the Secretary of the Interior, to withhold from disclosure to the public information relating to the location or character of historic resources when it is determined that such information would result in a significant violation of privacy, endanger the ability of an American Indian group to exercise its religion, or create a substantial risk of harm, theft, or destruction.

The NHPA regulation with the most impact on agency planning and operations is 36 CFR Part 800, Protection of Historic Properties. This regulation, governing compliance with Section 106, must be followed in planning any agency activity and in the ongoing management of agency resources. Another regulation of broad applicability is 36 CFR Part 79, Curation of Federally Owned and Administered Archeological Collections, which sets legally mandated standards for the maintenance of such collections.

Other applicable NHPA regulations are 36 CFR 60, National Register of Historic Places; 36 CFR 65, National Historic Landmarks; 36 CFR 79, Curation of Federally Owned and Administered Archeological Collections; 36 CFR 800, “Protection of Historic Properties” (Advisory Council on Historic Preservation); the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation; and Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities (53 FR 4727-46, Feb. 17, 1988).

### **1.6.12 Safe Drinking Water Act of 1974**

The Safe Drinking Water Act requires the EPA to set standards for drinking water quality and requirements for water treatment of public water systems while also requiring states to establish a wellhead protection program to protect public water system wells from contamination by chemicals, including pesticides, nutrients, and other agricultural chemicals.

### **1.6.13 Sustainable Fisheries Act of 1996**

Public Law 104-297 amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for “Essential Fish Habitat” (EFH) descriptions in federal fishery management plans and to require federal agencies to consult with National Marine Fisheries Service (NMFS) on activities that may adversely affect EFH. Under the Magnuson-Stevens Act, NMFS must be consulted by any federal agency undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location.

### **1.6.14 New York State Agriculture and Markets Law Section 16, Article 11-A**

Article 11-A establishes an agricultural environmental management program to assist farmers in maintaining the economic viability of farm operations while addressing environmental impacts.

### **1.6.15 New York State Agriculture and Markets Law Section 16, Article 25-AA**

Article 25-AA establishes a locally-initiated mechanism for the protection and enhancement of New York State’s agricultural land as a viable segment of the local and State economies and as an economic and environmental resource of major importance. Sections 303 and 304 discuss the creation of agricultural districts. The right to farm sections are included in 305 and 308-a.

### **1.6.16 New York State Agriculture and Markets Law Section 16, Article 25-AAA**

Article 25-AAA establishes a grant program to fund implementation of farmland protection plans, including the purchase of conservation easements on farms.

### **1.6.17 New York State Environmental Conservation Law Title 3, Article 49**

This article allows for the creation or conveyance of a conservation easement on real property. A conservation easement is a legal document written in the form of a deed, in which a landowner permanently restricts the future development of real property for the purpose of preserving or maintaining the scenic, open, historic, agricultural, or natural condition, character, significance or amenities of that property. Under the State’s Farmland Protection Program, agricultural conservation easements must be held, monitored and enforced, in perpetuity, by a public body and/or a qualified conservation organization, such as a land trust.

### **1.6.18 New York State Tax Law, Section 606**

Section 606 provides a State income tax credit for farms to offset school taxes. The credit is for 100percent of the school tax paid during the taxable year on “qualified agricultural property” not in excess of the base acreage (250 acres in 1998 and after), and for 50 percent of the school tax on acreage in excess of the base acreage. The base acreage may be increased by acres enrolled in Federal environmental conservation acreage reserve programs, including CRP. This tax credit accounts for a portion of the State contribution to CREP.

### **1.6.19 Soil and Water Conservation Districts Law, Sections 4 and 11-b**

Section 4 establishes the soil and water conservation committee and defines its responsibilities. Section 11-b establishes a matching grant program to fund agricultural nonpoint source abatement projects and to implement best management practices with priority given to projects located in areas affecting priority water bodies.

### **1.6.20 CRP Programmatic Environmental Impact Statement**

The Federal Register dated April 24, 2002 announced the Notice of Intent of the CCC to prepare a PEIS for the CRP and its counterpart the CREP. The Final PEIS was published in January 2003 and provides FSA decision makers with programmatic level analyses that provides context for State specific EAs. The Record of Decision (ROD) was published in the Federal Register on May 8, 2003 (68 FR 24847-24854).

### **1.6.21 Existing State Programs**

The State has many recently initiated and ongoing water quality improvement programs that would enhance and complement CREP implementation.

The 1996 Clean Water/Clean Air Bond Act, provides \$470 million for wastewater treatment improvements, nonpoint source abatement, pollution prevention and aquatic habitat restoration. The funding is specifically targeted to implement management plans that have been developed to address the water quality improvement priorities identified in the following geographic areas: Long Island Sound, New York-New Jersey Harbor Estuary, Peconic and South Shore Estuaries, Hudson River Estuary, Lake Champlain, Onondaga Lake, the Finger Lakes, the Great Lakes, and for municipal wastewater plant upgrades for small communities throughout the State. An additional \$150 million is funding for preservation of open space, \$355 million for safe drinking water, \$175 million for solid waste, \$200 million for brownfields restoration and \$230 million for air quality, all of which will benefit New York's waters.

The New York Environmental Protection Fund (EPF), a permanent state fund, provides more than \$100 million annually for environmental quality, open space and natural resource preservation. The EPF also provides significant resources to further protect New York's water quality and aquatic resources.

The Clean Water State Revolving Fund, managed by the New York State Environmental Facilities Corporation, provides low interest loans to municipalities to construct water quality protection projects to abate both point and nonpoint sources of pollution. The fund has loaned over \$4.1 billion for projects, including \$480 million for nonpoint source control projects.

In 1996, New York signed the Joint Dredging Plan for the Port of New York and New Jersey. For the first time ever, the parties are embarking on a program to track down the sources of contaminants flowing into New York Harbor and are developing strategies to eliminate them.

In 1996, New York, Vermont, and EPA signed a far-reaching management plan to protect and improve the water quality of Lake Champlain through phosphorus reduction, pollution prevention and control of nuisance species. The Bond Act provides \$15 million to implement the plan.

In 1997, Stage II Remedial Action Plans (RAPS) were completed for all six of the Great Lakes Areas of Concern in New York State. The plans direct actions to reduce habitat loss and abate pollutants from

both point and nonpoint sources. In 1998, Stage I (Problem Definition) of the Lake Ontario Lakewide Management Plan (LaMP) was completed. The LaMP is a bi-national planning effort that includes New York State. The Bond Act provides \$25 million for Great Lakes water quality improvement projects to implement the LaMP and RAPs.

In 1998, the draft Peconic Estuary Comprehensive Conservation Management Plan will be issued. In 1998, the interim report for the South Shore Estuary Reserve Comprehensive Management Plan was completed. These plans identify protection, preservation and restoration needs in the Peconic and South Shore estuaries. The Bond Act provides \$30 million to implement these plans.

Through State and Federal funding over the past 35 years, plus continuing partnerships with local governments and assistance to wastewater treatment plant operators, New York has achieved major water quality goals. More than 97 percent of permitted wastewater treatment facilities are in substantial compliance with the requirements of their discharge permits. The CWA Section 305(b) report shows that most of the State's remaining water quality impairments are caused by nonpoint sources of pollution.

## **1.7 Decisions that Must be Made**

FSA must determine if the selected alternative would or would not constitute a major Federal action significantly affecting the quality of the human environment. If FSA determines that it would not significantly affect the quality of the human environment, then a FONSI would be prepared and signed. Pending CREP applications would then go through the environmental evaluation as part of the approval process.

Additional analyses would be required to evaluate site specific impacts.

## **1.8 Scoping and Resource Issues**

### **1.8.1 Scoping**

CREP was initiated in 1997 and is a joint Federal and State land conservation program. CREP uses authorities of the CRP in combination with New York State resources to target specific conservation and environmental objectives of New York and the nation.

FSA personnel performed scoping internally. Consultation took place over a five year period between 1997 and 2001 between FSA, NRCS, U.S. Fish and Wildlife Service (FWS), NYS Department of Agriculture and Markets, NYSDEC, NYS Soil and Water Conservation Committee (SWCC), Cornell University Cooperative Extension, The Nature Conservancy, Environmental Defense, and other public interest groups to develop the existing proposal.

Consultation with FWS occurred during the development of the proposal and the PEA to comply with Section 7 of the Endangered Species Act. Due to the programmatic and therefore general nature of the PEA, FWS will not offer a biological opinion; however, future coordination will be required on all site specific actions implemented under the CREP when FSA determines that an action has the potential to affect a listed T&E species.

## **1.8.2 Relevant Resource Issues**

The following resources studied would be affected by the New York CREP: State water quality standards, wetlands, floodplains, groundwater, critical habitat or T&E species, marine resources, cultural/tribal resources, and socioeconomic issues. Chapter 3 discusses each of the issues in more detail. Affected resources issues are introduced below.

### **Issue #1: State Water Quality susceptibility to agricultural practices**

New York's 2002 section 303(d) list includes a prioritized list of impaired waterbodies requiring TMDL development. High priority water bodies are found in several of the watersheds enrolled in this CREP. A substantial portion (up to 60percent) of the impaired segments in at least one-third of the watersheds reported the primary source of pollution to be related to agricultural activities (NYSDEC, 1996). Current issues affecting State water quality are discussed in Section 3.6.1.

### **Issue #2: Wetland susceptibility to agricultural practices**

Wetlands remove excess nutrients and filters sediments from the water that flows through them. There was a gross gain of approximately 37,900 acres of freshwater wetlands. Most gains resulted from agricultural reversion and modified hydrologic systems that increased runoff. There was a gross loss of approximately 22,500 acres of wetlands. Most of these losses resulted from agricultural conversion and urbanization and its associated impacts, such as road construction. Current issues affecting wetlands are discussed in Section 3.7.1 (NYSDEC, 2003a).

### **Issue #3: Floodplain susceptibility to agricultural practices**

Floodplains are of concern to agricultural practices throughout the State. The prevention of flooding in sensitive areas or utilizing floodwater retention to mitigate nutrient and sediment inflows to watersheds should be addressed. Construction activities (e.g., constructed wetlands) have the potential to modify flowage and storage capacity and should be analyzed. Issues affecting floodplains are discussed in Section 3.8.1.

### **Issue #4: Groundwater susceptibility to agricultural practices**

Approximately six million people or about one-third of New York State residents use groundwater as a source of drinking water. Agricultural practices and other sources introduce pollutants to the watersheds. Contaminated water may seep into the aquifers. Section 3.9.1 discusses current issues affecting sole source aquifers and well head protection (EPA, 2003a).

### **Issue #5: Marine Resources susceptibility to agricultural practices**

New York has 2,625 miles of tidally influenced coastline (NOAA, 2003). Fourteen of the 54 counties included in the 12 CREP watersheds have marine resources, including coastal barriers, that may be impacted by agricultural nonpoint source pollution upstream. Current issues affecting State water quality are discussed in Section 3.10.1 (NYSDEC, 2003c).

### **Issue #6: Critical Habitat or Threatened and Endangered Species susceptibility to agricultural practices**

There are 34 Federal T&E species in the State of New York (FWS, 2003a, 2003b). Of these, eight occur in CREP watersheds. Habitat degradation from human population growth, habitat fragmentation,



invasive exotic species, and pollution continue to threaten species populations. Current trends and issues affecting critical habitat and T&E species are discussed in Section 3.11.1.

#### **Issue #7: Cultural / Tribal Resource susceptibility to agricultural practices**

New York's long history of American Indian culture and European settlement has endowed the State with a remarkably diverse collection of historic and cultural resources worthy of preservation (NYSPRHP, 2002). To analyze potential impacts at a statewide level is unrealistic for purposes of this PEA. However, site specific cultural reviews and tribal consultations will ensure protection of these vital resources. A discussion of State cultural resources is found in Section 3.12.1.

#### **Issue #8: Socioeconomic impacts from agricultural practices**

The New York CREP proposes the potential enrollment of up to 40,000 acres across the 12 watersheds. These 40,000 acres represent one percent of the total acres of cropland that are harvested each year (NASS, 2002). Current issues affecting socioeconomic concerns are discussed in Section 3.13.1.

### **1.8.3 Resources / Issues Eliminated from Detailed Study**

The New York CREP would not affect the following resources:

#### **Air Quality**

The CREP would have no discernable affect on New York's air quality. While the potential exists for minor localized improvements of air quality due some of the proposed conservation practices, the potential benefits would be so minor and unquantifiable that it would not be practicable to analyze them within this PEA. Since the implementation of the CREP program would not result in impacts to the attainment, non-attainment, or maintenance status of any of the State's airsheds, this issue has been eliminated from further study in this PEA.

#### **Noise**

There would be no perceptible impacts from noise as a result of CREP implementation. Following the short term construction noise, as the conservations practices are installed, there would be no continual impacts on the local soundscape. With the permanent easements and long term nature of the conservation practices, which will result in decreased agricultural activities on CREP lands, noise level can be expected to decrease slightly. As a result, FSA eliminated noise from further analysis as part of this PEA

#### **Wild and Scenic Rivers**

Designated as a Scenic and Recreational River, the Upper Delaware extends along the New York / Pennsylvania border for 73.4 miles. It borders Delaware, Orange, and Sullivan Counties in New York, but is not located adjacent to any qualifying hydrologic units in eligible CREP watersheds. While CREP implementation would only improve watershed integrity and the quality of contributing waters to the Upper Delaware, the FSA has determined that there would be no effects of consequence and, subsequently eliminated the issue from further analysis in this PEA.

#### **Wilderness**

There are no designated wilderness areas located within the targeted watersheds of the affected environment. Therefore, wilderness was eliminated from further analysis in this PEA.

Existing conditions and an evaluation of the effects of CREP are discussed in Sections 3.6 – 3.13.

## **Chapter 2.0 Alternatives Including the Proposed Action**

### **2.1 Introduction**

This chapter describes the actions proposed in the PEA, beginning with the No Action Alternative—Continue Current Agricultural Practices, and ending with the Action Alternative—Implement New York CREP. Alternatives will be compared in terms of their individual environmental impacts and their achievement of objectives.

### **2.2 Description of Alternatives**

#### **2.2.1 Alternative A (No Action)—Continue Current Agricultural Practices**

Alternative A would allow the continued degradation currently occurring within the 12 watersheds identified. Agricultural production in the watersheds utilizes 5,577,000 acres, which is approximately 18 percent of the 30,564,000 acres that comprise the region (NASS, 1999).

Nutrient contamination continues to impact water quality in the State. Nutrients alter natural water chemistry, increase water turbidity, stimulate the growth of exotic vegetation, promote eutrophication, and result in stagnant water conditions. Pastureland for dairy and beef cattle, and other livestock accounts for a significant portion (36 percent) of the land in farms statewide (NASS, 2002). Some cattle and other livestock have access to the streambanks and shorelines of many water bodies across the State creating potential for contamination and degradation of the water bodies. High levels of nutrients are transported from agricultural fields to surface water bodies and groundwater through runoff and contamination of recharge areas.

Current agricultural practices utilize pesticides and fertilizers, which have a negative impact on wetlands and surface waters. In addition, pesticides and fertilizers contribute to declines in native wildlife populations (FSA, 2003).

With the selection of the No Action Alternative, modes of agricultural production would remain as they have for decades. There would be no incentives to implement FSA approved CPs. The installation of filter strips, buffers, and other CPs that provide natural methods of water purification would not be funded. High levels of pesticides and nutrients would continue to accumulate and pollute watershed systems, furthering the degree of negative ecological impacts. The potential for negative economic impacts resulting from reduced water quality would remain and possibly increase.

**Table 1. Water Bodies Affected by Agricultural Pollutants Based on Current Agricultural Practices.**

<b>Watershed Area</b>	<b>Degraded Water Bodies (stream miles)</b>	<b>Degraded Water Bodies (acres)</b>
Allegheny River	163	14,111
Black River & St. Lawrence River	422	51,352
Chesapeake Bay & Susquehanna River	489	12,522
Delaware River	51	946
Genesee, Oswego, Oneida, Seneca Rivers	825	158,724
Lake Champlain	335	120,868
Lake Erie-Niagara River Direct Drainage	724	238
Lake Ontario Direct Drainage	804	3,219
Long Island Sound & Peconic Bay	15	1,919
Lower Hudson River Basin	300	93,949
Mohawk River	458	9,887
Upper Hudson River	12	5,722
<b>TOTALS</b>	<b>4,598</b>	<b>473,457</b>

Source: NYSDEC, 1996. The 1996 Priority Waterbodies List. Albany, New York.

### 2.2.2 Alternative B—Implement the New York CREP



Photo courtesy of USDA NRCS.

Alternative B targets up to 40,000 acres of land within the 12 watersheds for inclusion in CREP. Within these major watershed areas, CPs would focus on those stream segments or waterbodies identified on the most recent New York State’s Priority Waterbodies List, because one or more of its uses are designated as precluded, impaired, stressed or threatened. Only agricultural lands within eligible hydrologic unit codes (HUC) of designated watershed areas would be eligible for CREP enrollment.

CREP would provide the financial and technical assistance necessary to assist eligible New York farmers and ranchers in voluntarily establishing conservation practices to control water runoff and nonpoint source pollution including nutrient loading, soil erosion, and sedimentation. The landowners would be funded to install FSA approved CPs. The project would be jointly funded by the SDA/CCC and the State of New York. The total estimated cost is

**Figure 2. Riparian buffer strip.**

\$62.4 million, with the Federal share being up to \$52 million (84 percent) and the State share being \$10.4 million (16 percent). As a part of this contribution, New York State would provide a real property tax incentive for eligible lands meeting NYS requirements enrolled in Federal conservation programs.

Implementing the New York CREP would decrease the amount of nonpoint source pollution throughout the 12 watersheds. The decrease in watershed contaminants would improve water quality, enhance wildlife habitat, and provide cleaner water sources for drinking, recreation, and other uses to the growing New York population.

### **Conservation Practices**

FSA approved CPs proposed for New York have been selected as the best options to improve conditions in the watersheds. Available CPs are based on eligibility criteria and divided into three categories (Agreement, 2003).

Erosion: Lands qualifying on the basis of erosion must have at least 50 percent of the land within 1,000 feet of a surface water source and have an erodibility index of 15 or greater, as determined by NRCS. The conservation practices include:

- CP 1 (Establishment of Permanent Introduced Grasses and Legumes)
- CP 2 (Establishment of Permanent Native Grasses)
- CP 3 (Tree Planting)
- CP 3A (Hardwood Tree Planting)
- CP 4B (Permanent Wildlife Habitat Corridor, Non Easement)
- CP 4D (Permanent Wildlife Habitat, Non Easement)
- CP 9 (Shallow Water Areas for Wildlife)
- CP 10 (Vegetative Cover — Grass - Already Established)
- CP 11 (Vegetative Cover — Trees - Already Established)
- CP23 (Wetland Restoration)

Buffers: Lands that qualify for buffers have access to the following conservation practices:

- CP8A (Grass Waterways)
- CP 15A (Establishment of Permanent Vegetative Cover – Contour Grassed Strips)
- CP 21 (Filter Strips)
- CP 22 (Riparian Buffers)
- CP 29 (Marginal Pastureland Wildlife Habitat Buffer)
- CP 30 (Marginal Pastureland Wetland Buffer)

Wellhead Protection: Areas must be designated by the EPA to be eligible for the following conservation practices:

- CP 1 (Establishment of Permanent Introduced Grasses and Legumes)
- CP 2 (Establishment of Permanent Native Grasses)
- CP 3 (Tree Planting)
- CP 3A (Hardwood Tree Planting)
- CP 4B (Permanent Wildlife Habitat Corridor, Non Easement)
- CP 4D (Permanent Wildlife Habitat, Non Easement)
- CP 10 (Vegetative Cover — Grass - Already Established)
- CP 11 (Vegetative Cover — Trees - Already Established)

Out of the 30 possible FSA approved CPs, these were selected as the best methods for achieving the CREP objectives. Detailed rental and incentive payments, cost-share and maintenance payments and technical requirements and operating procedures for each practice are outlined in the FSA Handbook 2 CRP and are included in Appendix D of this PEA.

The coordinated effort of agencies from both the Federal and State governments would be required for successful implementation of the CREP. The implementation process would include the following steps:

### **Enrollment in CREP**

Eligible participants include individuals, associations, trusts, local and State governments, Indian tribes, corporations, joint stock companies and operations, estates, and other legal entities. Eligible producers enroll in 10- to 15-year CRP contracts with FSA. Producers may also extend the benefits of the program through separate contracts with New York. Applicants must be able to offer eligible acreage and satisfy the basic eligibility criteria for CRP. Currently, land must be cropland that has been cropped two out of the past five years and is physically and legally capable of being cropped. Marginal pastureland is also eligible for enrollment provided it is suitable for use as a riparian buffer planted to trees. In addition, applicants must have owned or operated the land for at least one year prior to enrollment. Persons who have an existing CRP contract or an approved offer with a contract pending are not eligible for CREP until the CRP contract expires.

### **Payments in CREP**

There are four types of FSA payments for which New York CREP participants will be eligible:

- Signing Incentive Payment (SIP) – is a one-time payment of \$100 to \$150 per acre for land enrolled in buffer or filter strip practices. This payment is made soon after the contract has been signed and approved.
- Practice Incentive Payment (PIP) – is an amount equal to about 40 percent of the total eligible costs for establishing filter strips, buffers, or practices on well head protection areas. This incentive payment is in addition to up to 50 percent cost share assistance that USDA will provide.

- Annual Base and Incentive Rental Payments – are comprised of an *initial* annual rental payment consistent with Handbook 2-CRP with a base rate equal to the weighted average soil rental rate for the land offered into CREP. An additional annual *incentive* payment of 145 percent of the initial annual rental rate is also paid. For example, if an initial annual rental rate of \$24.50 is multiplied by 145 percent (1.45), a total rental payment of \$35.53 per acre results.
- Cost share assistance – up to 50 percent for the installation of eligible conservation practices.

### **Role of Federal and State Agencies in Implementing CREP**

The October 29, 2003 Agreement between the State of New York and the USDA/CCC concerning the implementation of the New York CREP serves as the source for the following information.

USDA / CCC: The USDA/CCC, through FSA, is one of the financial partners of the New York CREP, and as such, has extensive responsibility in overseeing program compliance. The USDA/CCC bears the responsibility of determining farmer eligibility; paying incentive, bonus, and annual rental payments; and coordinating with the State of New York and other vendors to provide technical assistance to producers.

State of New York: The responsibilities of the State of New York, would include the overall administration of the program. Among the facets of the program provided by New York are the following:

- Provide several supplemental and cost share payments to eligible farmers and ranchers
- Supply at least 20 percent, but not exceeding \$10,400,000, of the total costs of implementing the New York CREP
- Coordinate funding and actions of the various State and local agencies providing services to the program
- Manage the New York CREP so that it is consistent with other Federal, State and local natural resource restoration and conservation programs
- Provide a report to FSA summarizing the status and progress of enrollments under the Agreement
- Monitor State water quality using methods developed by the State for CREP
- Develop an outreach plan for the CREP

NRCS: NRCS will play a technical role in the CREP implementation process by reviewing contracts, visiting each site, determining eligibility, and ultimately developing the conservation plan according to the minimum specifications.

FWS: FWS will be consulted and provide guidance if threatened or endangered species or critical habitat issues are revealed and the implemented CPs have the potential to affect the species or habitat.

## **2.3 Comparison of Alternatives**

The two alternatives both respond to project objectives in varying degrees. Implementing either alternative also has specific environmental implications for the State's watersheds. The following two

tables provide a summary comparison of the alternatives. To provide consistency, the following impact terminology will be used in the comparison table below and throughout the document.

- No Effect – A change to a resource’s condition, use, or value that is not measurable or perceptible.
- Beneficial Effect – An action that would improve the resource’s condition, use, or value compared to its current condition, use, or value.
- Minor Adverse Effect – A measurable or perceptible, minor, localized degradation of a resource’s condition, use, or value that is of little consequence.
- Moderate Adverse Effect – A localized degradation of a resource’s condition, use, or value that is measurable and of consequence.
- High Adverse Effect – A measurable degradation of a resource’s condition, use, or value that is large and/or widespread and could have permanent consequences for the resource.
- Short term Effect – An effect that would result in the change of a resource’s condition, use, or value lasting less than one year.
- Long term Effect – An effect that would result in the change of a resource’s condition, use, or value lasting more than one year and probably much longer.

**Table 2. Summary Comparison of Achievement of Project Objectives of Alternatives A and B.**

<b>Objectives</b>	<b>Indicators</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Implement CREP</b>
Objective #1: Reduce nutrient runoff from pasturelands and croplands from entering waterbodies.	Enrollment of up to 40,000 acres.  Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30.	Current agricultural practices would continue.  FSA CPs would not be implemented or funded. High levels of nutrients would continue to discharge into the watersheds.	Up to 40,000 acres would be enrolled as a part of CREP implementation.  FSA CPs would be implemented to reduce contaminants entering the watersheds. Water quality would be improved. Nitrogen loading would be reduced from 77,376 lbs. per year to 38,688 lbs. per year.  Phosphorus loading would be reduced from 145,284 lbs. per year to 72,642 lbs. per year.



<b>Objectives</b>	<b>Indicators</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Implement CREP</b>
<p>Objective #2: Reduce runoff of pesticides from entering waterbodies.</p>	<p>Enrollment of up to 40,000 acres.  Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30.</p>	<p>Current agricultural practices would continue.  FSA CPs would not be implemented or funded. High levels of toxins would continue to discharge into the watersheds.</p>	<p>FSA CPs would be implemented to reduce environmental toxins from entering the watersheds. Water quality would be improved. CREP implementation would help establish riparian buffers adjacent to 4,598 stream miles and 473,457 acres of surface water, protecting water quality.</p>
<p>Objective #3: Reduce the amount of waterborne pathogens in waterbodies.</p>	<p>Enrollment of up to 40,000 acres.  Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30.</p>	<p>Current agricultural practices would continue.  FSA CPs would not be implemented or funded. High levels of waterborne pathogens would continue to discharge into the watersheds.</p>	<p>FSA CPs would be implemented to reduce waterborne pathogens from entering the watersheds. Water quality would be improved. CREP implementation would help establish riparian buffers adjacent to 4,598 stream miles and 473,457 acres of surface water, protecting water quality.</p>
<p>Objective #4: Reduce sediment loading in waterbodies.</p>	<p>Enrollment of up to 40,000 acres.  Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30.</p>	<p>Current agricultural practices would continue.  FSA CPs would not be implemented or funded. Sediment loading would remain at current levels with increases likely over the long term.</p>	<p>CREP implementation would reduce sediment loading from 175,316 lbs. per year to 70,126 lbs per year.</p>
<p>Objective #5: Reduce livestock access to riparian corridors.</p>	<p>Enrollment of up to 40,000 acres.  Implementation of FSA CPs 8A, 15A, 21, 22, 29, and 30.</p>	<p>Current livestock management practices would continue. Riparian corridors would remain unprotected allowing increased</p>	<p>CREP implementation would help establish riparian buffers adjacent to 4,598 stream miles and 473,457 acres of surface water,</p>

Objectives	Indicators	Alternative A: No Action	Alternative B: Implement CREP
		contamination, turbidity, streambank erosion, and habitat destruction.	protecting water quality and sensitive riparian habitat.
<p>Objective #6: Establish conservation cover on EPA approved wellhead zones.</p>	<p>Enrollment of up to 40,000 acres. Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 10, and 11.</p>	<p>Current agricultural practices would continue. FSA CPs would not be implemented or funded. High levels of nutrients, chemicals, pathogens, and sediment would continue to discharge into wellhead zones.</p>	<p>FSA CPs would be implemented to reduce nutrients, chemical contaminants, waterborne pathogens, and sediment from entering and contaminating well head zones. Water quality would be improved. Nitrogen loading would be reduced from 77,376 lbs. per year to 38,688 lbs. per year. Phosphorus loading would be reduced from 145,284 lbs. per year to 72,642 lbs. per year. Sediment loading would be reduced from 175,316 lbs. per year to 70,126 lbs per year.</p>
<p>Objective #7: Improve wildlife habitat.</p>	<p>Enrollment of up to 40,000 acres. Implementation of FSA CPs 1, 2, 3, 3A, 4B, 4D, 8A, 9, 10, 11, 15A, 21, 22, 23, 29, and 30.</p>	<p>Current wildlife habitat would continue to degrade and fragment in response to ongoing environmental stressors.</p>	<p>CREP implementation would improve and create habitat for a variety of species. Protected riparian areas would improve aquatic habitat and provide corridors for terrestrial species.</p>

**Table 3. Summary Comparison of the Effects of Alternatives A and B on the Resources that are issues.**

Issues	Alternative A: No Action	Alternative B: Implement CREP
<b>Issue #1:</b> State Water Quality Standard susceptibility to agricultural practices.	Long term, moderate adverse effect – State water quality values would continue to decline. Any improvement in water quality would be dependant upon existing programs. However, because these programs do not directly address agricultural practices, runoff from farms would continue to introduce pollutants to the system.	Long term, moderate to high beneficial effect – Implementation of CREP would provide significant localized impacts on water quality and would help to achieve CREP's goals of reducing suspended solids, phosphorus, nitrogen, and all water-borne pollutants. These improvements would occur throughout the watersheds.
<b>Issue #2:</b> Wetland susceptibility to agricultural practices.	Long term, moderate adverse effect – Wetland values would continue to slowly decline as a result of existing and projected agricultural runoff. Total wetland acres will likely be stable or slightly reduced.	Long term, moderate beneficial effect – Wetland acreage would likely increase and help create new wildlife habitat for traditional species in the combined watersheds.
<b>Issue #3:</b> Floodplain susceptibility to agricultural practices.	No effect – Since floodplains are routinely used for agricultural production which normally has little adverse effect on flowage areas or floodways, these effects are considered to be negligible.	Minor long term improvements would be made to floodplains and stream values. CPs would assist in controlling flood events.
<b>Issue #4:</b> Groundwater susceptibility to agricultural practices.	Long term, minor adverse effect – Groundwater quality would continue to decline as a partial result of polluted agricultural runoff.	Long term, minor beneficial effect – Minor positive effects on sole source aquifers would occur. CPs would directly improve the quality of runoff. Well heads and recharge areas would be indirectly improved, benefiting the aquifers.
<b>Issue# 5:</b> Marine Resources susceptibility to agricultural practices.	Long term, minor adverse effect – Current agricultural practices will continue to contribute to the nonpoint source pollution (including pesticides and herbicides) of these marine resources.	Long term, minor beneficial effect – Filtering provided by all the CPs would contribute to cleaner water entering the sensitive estuaries, marshes, and tidal wetlands that support wildlife, shellfisheries, and other resources.

<b>Issues</b>	<b>Alternative A: No Action</b>	<b>Alternative B: Implement CREP</b>
<b>Issue #6:</b> Critical Habitat or Threatened and Endangered Species susceptibility to agricultural practices.	Long term, minor adverse effect – Wildlife and habitat values would not benefit from the leveraged effects of habitat restoration and watershed improvement CPs and may continue to decline.	Long term, moderate beneficial effect – CPs would improve habitat values. Improvements to water quality alone would have beneficial effects for all wildlife as well as potential increases in critical habitat.
<b>Issue #7:</b> Cultural / Tribal susceptibility to agricultural practices.	Without a mandated assessment process, minor to moderate adverse impacts would continue to occur on cultural resources. These include disturbance and destruction of prehistoric and historic sites and structures, either through ongoing land conversion for development or agricultural use.	Minimal to no impact would occur. If cultural resources are discovered on enrolled lands, coordination with the SHPO and/or THPO and tribes would occur to minimize impacts. Some CPs may serve to protect inappropriate access to cultural resources.
<b>Issue #9:</b> Socioeconomic impacts from agricultural practices.	Long term, minor adverse effect – No FSA actions are required or necessary to address existing or ongoing issues with environmental justice.	Long term, minor beneficial effect – By enrolling marginal, less productive agricultural lands, landowners should be able to reduce overall input costs for farming operations and maintain or increase production by being able to concentrate resources on the remaining farmland. Disproportionate effects on minority or underrepresented groups are unlikely.

## **Chapter 3.0 Affected Environment and Environmental Consequences**

### **3.1 Introduction**

The analyses of Affected Environment and Environmental Consequences have been combined in this section to simplify the document. Relevant resource issues related to the New York CREP are discussed below in Sections 3.4 through 3.11. This section will explore the environmental resources affected by the No Action Alternative and the Proposed Action Alternative (Implementation of the New York CREP).

This chapter discusses the resources most likely to receive impacts from the alternatives, and compares the impacts of the alternatives on the resource issue. Resources discussed in this chapter include: State water quality standard (3.5); wetlands (3.6); floodplains (3.7); groundwater (3.8); marine resources (3.9); critical habitat or threatened/endangered species (3.10); cultural/tribal resources (3.11); and socioeconomic issues (3.12).

The general nature of this PEA limits discussion of the resources to a wide scale. An in depth, site specific EE will be performed by FSA for each farm contract as part of the conservation plan. As impacts become clear at each site, the appropriate steps will be taken to ensure compliance with NEPA and related environmental and cultural resource laws and regulations.

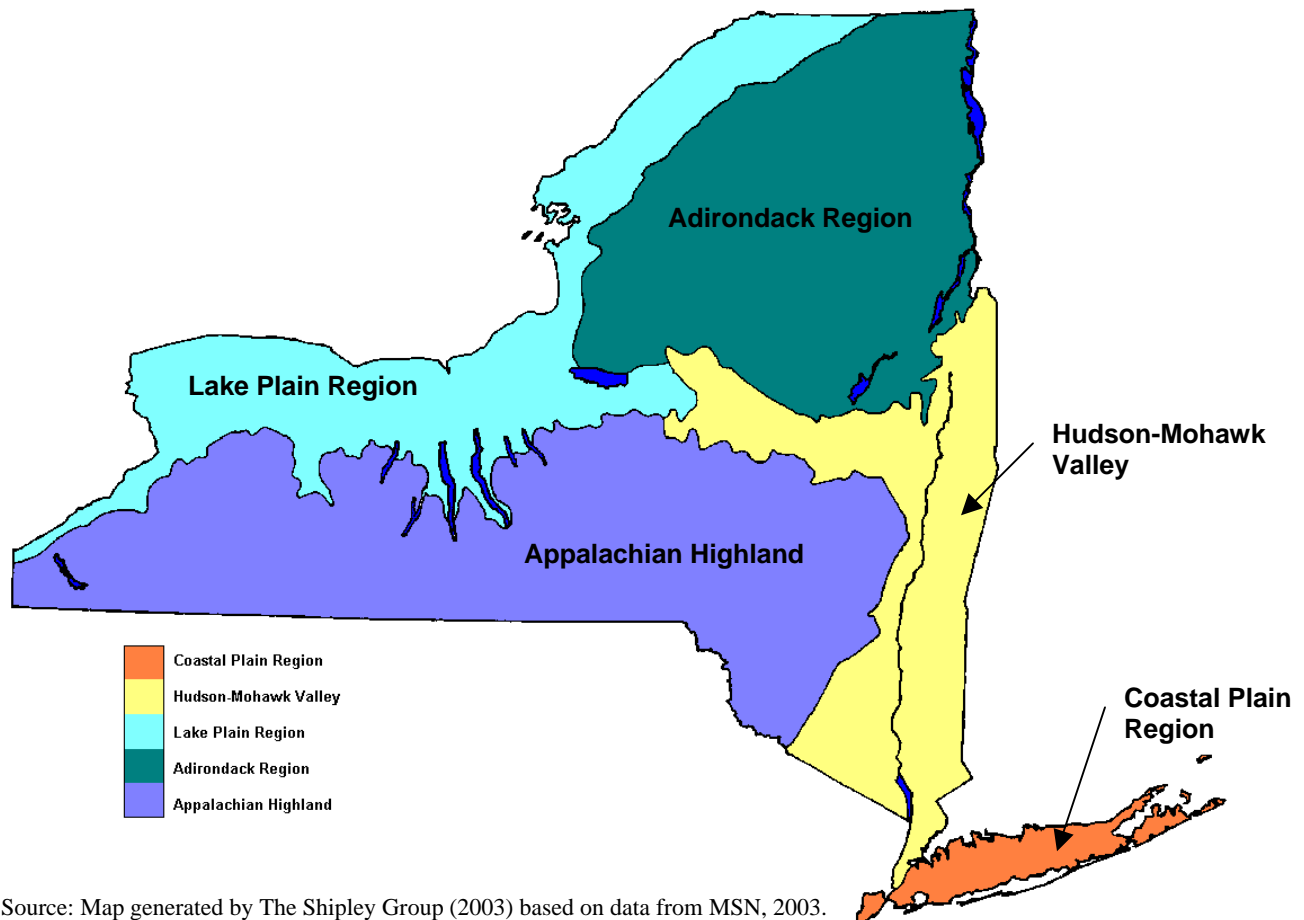
### **3.2 General Description**

For purposes of analysis and discussion, New York State can be divided into several ecological regions or provinces (see Figure 3).

The Coastal Plain Region is part of a long, low coastal band that stretches from Cape Cod, Massachusetts, to Mexico. It is seen chiefly in Long Island and Staten Island. These islands belong to the section of the plain that is indented with many bays and estuaries because of the partial submergence of the land. Both islands were built up by a glacier, which, as it melted and retreated, left deposits called moraine. Parts of Long Island are almost pure sand, supporting only scrub pines and oaks. Agricultural crops here are varied and include poultry, vegetables (tomatoes, onions, cabbage, potatoes), vineyards, and a thriving floriculture industry (MSN, 2003; NASS, 2003).

The Metropolitan region of the State includes the New York portion of the New York-Northeastern New Jersey urbanized area (MSN, 2003).

The Hudson-Mohawk Valleys are part of the Ridge and Valley region, which is more extensive in Pennsylvania and the Southern States, but is confined to a relatively narrow valley in New York. The Hudson Valley section begins north of the metropolitan region and extends from the eastern border of the State to the Appalachian highlands. The Mohawk Valley extends from the Appalachian highlands to the Adirondacks. The valley is underlain by soft limestone, but much of the surface materials are sands, clays, and loams deposited as a result of glacial action. The general appearance of the valley is rural, and only in the southern part of this region is there any evidence of the folded mountainous terrain that is so characteristic of the Ridge and Valley province elsewhere. Both valleys are important dairy regions developed on excellent lands for pasture and growing hay (MSN, 2003; NASS, 2003).

**Figure 3. New York State Ecological Zones.**

Source: Map generated by The Shipley Group (2003) based on data from MSN, 2003.

New York's Lake Plain Region is a single connected plain bordering Lake Erie; running south of Lake Ontario to the Appalachian highlands; east of Lake Ontario to the Adirondacks; and north of the Adirondacks to the St. Lawrence River or to the Canadian border. Along most of the Lake Erie shore the plain is narrow, but it widens as it approaches Buffalo. An interesting feature is the large number of drumlins between Syracuse and Rochester. Drumlins are elongated hills or ridges composed of glacial debris. This drumlin formation is one of the best known in the United States. Niagara Falls is, perhaps, this region's most distinctive feature. This part of the state is very productive and boasts crops that include wheat, oats, onions, potatoes, cabbage, sweet corn, apples, and grapes (MSN, 2003; NASS, 2003).

The Adirondack Region consists of a large highland area occupying 10,000 square miles in the northeastern quarter of the State. The region is dome-like in shape, with the higher elevations toward the east. The western Adirondack province is more a rugged hill region and not truly mountainous. Geologically, this area is related to the Canadian Shield which lies north of the St. Lawrence River, for it is composed of the same igneous rocks. The Adirondacks contain many of the higher peaks of the eastern

United States, including Mount Marcy (5,344 ft), the highest point in the State. This region is heavily forested, and its geologic structure has created wild and rugged scenery, with many waterfalls and spectacular vistas. Agriculture in this region is more limited than in some other places in the state. Dairy farms and orchards are the most common agricultural land uses (MSN, 2003; NASS, 2003).

The State's Appalachian Highland is a large natural region lying west of the Hudson lowlands and south of the Mohawk River valley and the Lake Plain region. Like the Lake Plain Region, this area supports a diverse agricultural base that includes wheat, oats, onions, potatoes, cabbage, sweet corn, apples, grapes, dairy, beef, and poultry (NASS, 2003). The plateau is underlain with nearly horizontal rock strata, and all of it was covered by a glacier as recently as 10,000 to 12,000 years ago. Ice and the force of rivers have dissected or cut into the bedrock, giving the whole region a rugged, hilly aspect. The plateau is highest in the eastern part of the State, where it forms the Catskill Mountains. The northeastern side of the Catskills near Albany is marked by a series of steep limestone escarpments called The Helderbergs. The average elevation of the hills in the Catskill region is 3,000 feet, but westward elevations are generally lower (MSN, 2003).

### 3.3 Profile of Agricultural Activities (Baseline Conditions)

Following is a chart of some of the products New York delivers and the national ranking of the production of the crop.

**Table 4. New York State Agricultural Products (FY 2002).**

<b>Crop</b>	<b>Nationwide Standing</b>	<b>Production</b>	<b>Dollar Amount Generated</b>
Apples	Second	680 million lbs.	\$102 Million
Cabbage	First	4.13 million cwt.	\$28.0 Million
Cauliflower	Third	90,000 cwt.	\$3.97 Million
Cherries, Tart	Third	12.7 million lbs.	\$6.42 Million
Corn, Grain	Twenty-first	43.7 million bushels	\$124 Million
Corn, Silage	Fourth	7.6 million tons.	\$194 Million
Corn, Sweet	Third	3.5 million cwt.	\$83.6 Million
Cucumbers	Fifth	828,000 cwt.	\$22.5 Million
Dairy Products – Milk	Third	12.2 billion lbs.	\$1.56 Billion
Poultry Production	Twentieth (egg producing)	1.1 billion eggs	\$63.6 Million
Grapes	Third	156,000 tons	\$43.3 Million
Green Peas	Fifth	22,270 tons	\$8.13 Million
Hay	Nineteenth	3.73 million tons	\$374 Million
Onions	Sixth	2.58 million cwt.	\$28.0 Million
Pear	Fourth	10,000 tons	\$3.68 Million
Potatoes	Twelfth	5.50 million cwt.	\$64.4 Million
Pumpkins	Fourth	1.07 million cwt.	\$23.8 Million
Snap Beans	Third	561,000 million cwt.	\$37.8 Million
Squash	Fifth	697,000 cwt.	\$18.8 Million
Strawberries	Seventh	6.3 million lbs.	\$8.82 Million
Tomatoes	Eleventh	378,000 cwt.	\$24.0 Million

Source: New York Agricultural Statistics Service. 2002. Annual Bulletin.



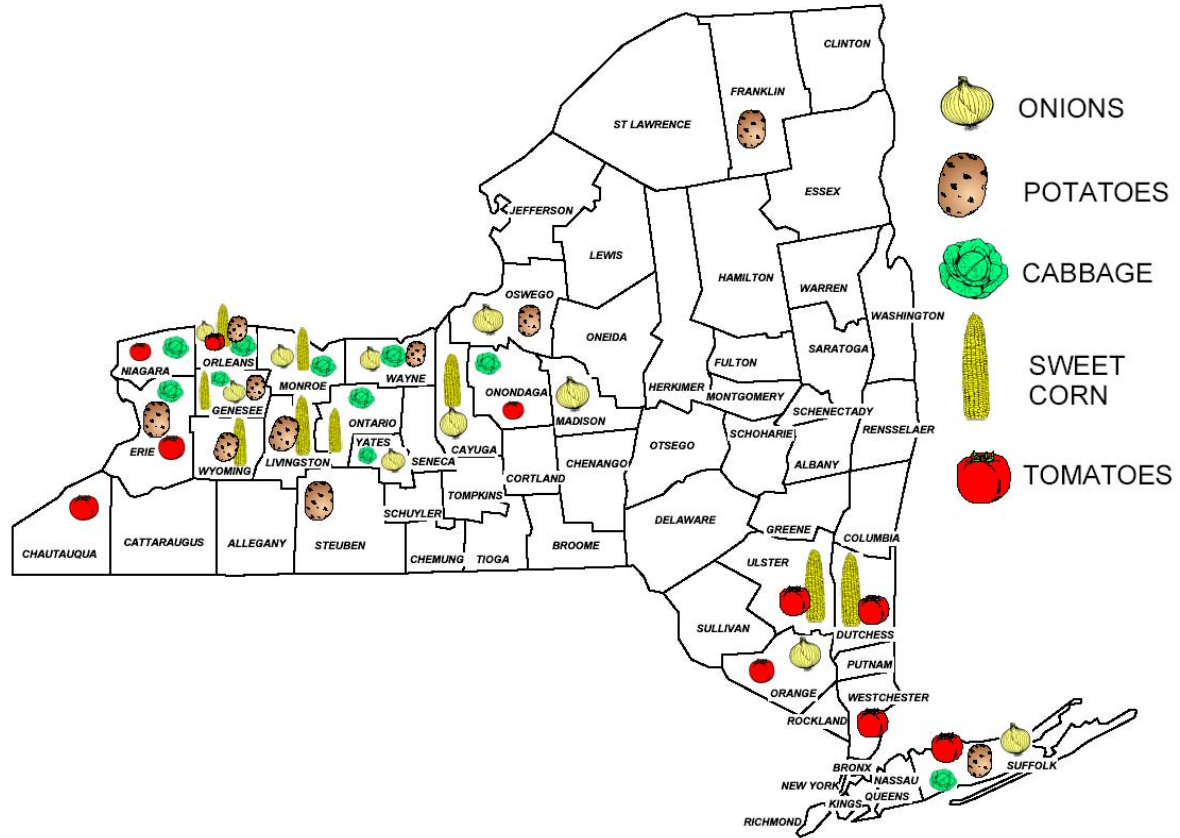
Specific to this analysis, the combined watersheds included in the proposed New York CREP cover 30.5 million acres. Cropland and pasture within those watersheds total 5,577,000 acres. Table 5 below, provides insight into the agricultural productivity of these watersheds.

**Table 5. Agricultural Data by Watershed.**

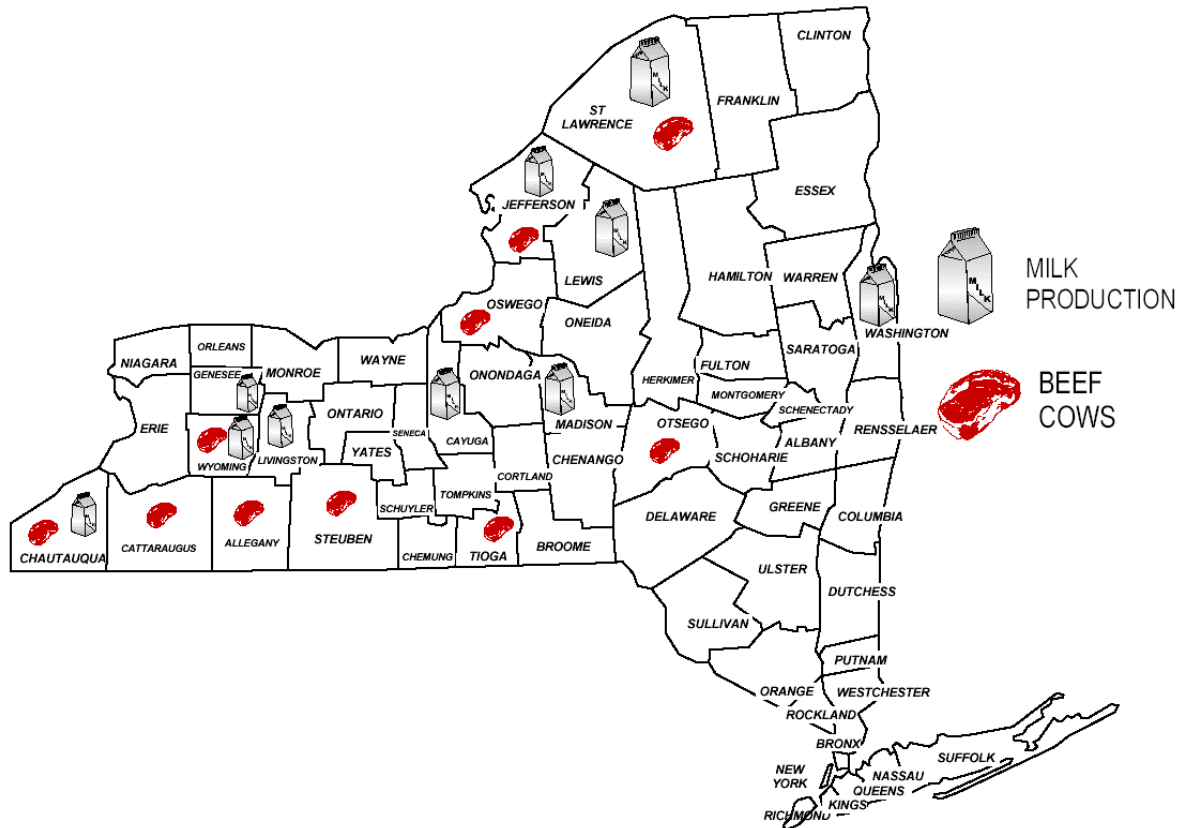
<b>Watershed Area</b>	<b>Number of Farms</b>	<b>Cropland and Pasture Acres</b>	<b>Value of Farm Products</b>	<b>Types of Farming Operations</b>
Allegheny River	2,500	250,700	\$140,850,000	Dairy, Vineyards, Orchards, Small Fruits, Vegetables
Black River & St. Lawrence River	5,320	1,030,100	\$474,750,000	Dairy
Chesapeake Bay & Susquehanna River	5,610	797,000	\$342,720,000	Dairy, Fruit, Vegetables, Poultry
Delaware River	1,070	139,190	\$68,400,000	Dairy
Genesee, Oswego, Oneida, Seneca Rivers	7,320	1,239,450	\$732,510,000	Dairy, Cash Crops, Orchards, Vineyards
Lake Champlain	1,000	150,330	\$101,790,000	Dairy, Orchards, Potatoes
Lake Erie-Niagara River Direct Drainage	1,900	203,560	\$147,600,000	Dairy, Vineyards, Orchards, Small Fruits, Vegetables
Lake Ontario Direct Drainage	3,520	587,200	\$385,740,000	Dairy, Cash Crops, Orchards, Vineyards
Long Island Sound & Peconic Bay	2,240	320,990	\$227,250,000	Fruits, Vegetables, Ducks, Poultry, Cut Flowers, Vineyards
Lower Hudson Basin	3,240	367,610	\$238,860,000	Dairy, Cash Crops, Orchards
Mohawk River	1,610	248,530	\$119,070,000	Dairy, Cash Crops
Upper Hudson River	1,910	242,300	\$112,050,000	Dairy, Orchards
<b>TOTALS</b>	<b>37,240</b>	<b>5,577,000</b>	<b>\$3,091,590,000</b>	

Source: New York State Agricultural Statistics Service 1998-1999.

**Figure 4. Top Ten Producing Counties in Onions, Potatoes, Cabbage, Sweet Corn, and Tomatoes.**



Source: New York Agricultural Statistics Service, 2003.

**Figure 5. Top Ten Producing Counties in Milk Production and Beef Cows.**

Source: New York Agricultural Statistics Service, 2003.

### 3.4 Leveraged Benefits

An understanding of the planned effect of the 40,000 acres proposed for the New York CREP is essential to the discussion of resource impacts. CREP implementation is designed to leverage and multiply effect. Adding one acre through CREP benefits more than that one acre in the watershed. Each acre enrolled in CREP could potentially benefit many acres outside of the CREP contract areas. For example, if 10 acres were enrolled in CREP and CP 23 (wetland restoration) was implemented, the new wetland could intercept agricultural runoff from a hundred or thousands of acres and reduce phosphorus and pesticide loads significantly. Wetlands can maintain good water quality and improve degraded water quality conditions by intercepting and treating surface runoff. Suspended sediments and contaminants in the water are trapped, retained, and/or transformed through a variety of biological and chemical processes before they reach downstream water bodies. Forested riparian wetland areas in predominantly agricultural watersheds have been shown to remove approximately 80 percent of the phosphorous and 90 percent of the nitrogen from water runoff (EPA, 1995). Streams in a Wisconsin basin, which was comprised of 40 percent wetlands, had sediment loads that were 90 percent lower than a comparable basin with no wetlands (USGS, 1997). Implementing such CPs allows the relatively small footprint of CREP acreage to leverage much greater benefits for the watershed downstream.

In another example, a producer can enroll three or four acres of agricultural land bordering a stream or wetland in CREP and provide restorative and retention properties that may filter discharges and regulate water flow from several hundred acres. Small enrollments in CREP can have large impacts on watersheds.

Specific impacts and the degree to which the CPs can be effective will depend on site specific analysis of each CREP contract. Acreage is limited for some of the CPs, yet the overall benefits are measured as impacts to larger acreage. Mitigation measures are in place and outlined steps would be followed to ensure compliance with NEPA and other Federal regulations for each implementation area.

### **3.5 State Water Quality Standards**

Agriculture is a leading industry in New York State and one of the largest users of New York land. Livestock operations continue to dominate. Since agricultural land is often managed intensively, runoff can cause water quality problems. Poor land management and intensive production activities on agricultural land can result in pollution of waters by sediment, nutrients and agricultural chemicals. Agricultural nonpoint sources of pollution can be classified into two groups: land use and management operations. The first group relates to the actual use of a parcel of land (e.g., row crops, pasture land, and truck farms). The second group relates to the intensity of agricultural operations (e.g., cultural techniques, pesticide and fertilizer applications, grazing techniques and manure utilization). Agricultural nonpoint sources of pollution are not a result of the land use or the operations themselves, but the inappropriate use of the land (e.g., growing row crops on land not suited for intensive cultivation), and improper management of the agricultural operation (e.g., over-fertilization or misapplication of pesticides), which increases the opportunity for contaminants from agricultural activities to reach either ground or surface waters (NYSDEC, 2000b).

Section 303(d) of the Clean Water Act requires a total maximum daily load (TMDL) for waters in each State that do not meet State water quality standards. TMDL is described as a "pollution budget" for a specific river, lake, or stream that provides a quantitative estimate of what it takes to achieve State water quality goals in polluted waters. New York's 2002 Section 303(d) List includes a prioritized list of impaired waterbodies requiring TMDL development. High priority waterbodies are found in the Susquehanna River, Saint Lawrence River Basin, Mohawk River Basin, and Lower Hudson River Basin Watersheds. A phosphorus TMDL plan has already been jointly developed by New York and Vermont for Lake Champlain. The causes of pollution vary but include: phosphorus, pathogens, and silt/sedimentation. Several new waterbodies and two new watersheds have been added to the list since 1998 (NYSDEC 2000; NYSDEC, 2002a). This reflects a consistent trend in impairment from 1996 where a substantial portion (up to 60 percent) of the impaired segments in at least one-third of the watersheds reported the primary source of pollution to be related to agricultural activities (NYSDEC, 1996).

NYSDEC, Division of Water is responsible for applying these Federal regulations, implementing State water policy, and monitoring water quality. To this end, the 2000 New York State Water Quality Report discusses water body use support and the impairment level, source category, and environmental stressors involved.

### 3.5.1 Existing Conditions

#### Rivers and Streams

The river segments cited in the Priority Waterbodies List are generally between five and 10 miles long. River segments that are rated as not supporting uses are generally shorter than those that fully support uses. For rivers and streams, the support of aquatic life and human fish consumption are the uses with the highest level of partial and non-support. The degree of threat to aquatic life and drinking water supply is also significant (NYSDEC, 2000a).

Nonpoint sources are cited as the major source of about 91 percent of the river and stream miles with use impairment. Among nonpoint sources, activities associated with agriculture are the most frequently cited cause, followed by streambank erosion, hydrologic/habitat modification and contaminated sediments. The most significant causes/pollutants associated with river and stream impairment are siltation, nutrients and priority organics. Pathogen indicators are also frequently noted as moderate/secondary causes (NYSDEC, 2000a).

#### Lakes and Reservoirs

A much larger percentage of lake/reservoir acres are listed as “not supporting” or only “partially supporting” uses (39 percent) than is the case with river stream miles (two percent) (NYSDEC, 2000a). One reason for this is because lakes serve as “sinks” for pollutants that are transported downstream within their watersheds. A sink in a hydrologic system refers to a waterbody that has a net retention of the nutrient, chemical, or organic material that is being transported—that is, if the input is greater than the output of the lake or reservoir. The impact that a few larger lakes have on the overall statistics is considerable.

Fish consumption and swimming are the uses with the highest level of partial and non-support in lakes and reservoirs. Again, a few large lakes, including Lake Champlain (fish consumption) and Oneida Lake (swimming), greatly affect these numbers. Nonpoint sources are cited as the major source of about 90 percent of the lake and reservoir acres with use impairment. The most significant source of major impairment is unknown sources; activities associated with agriculture are the next most frequently cited nonpoint source, followed by hydrologic/habitat modification, failing on site septic systems, contaminated sediments and urban runoff (NYSDEC, 2000a). According to the EPA’s 2000 National Water Quality Inventory, runoff from agricultural lands across the U.S. is a major source of nonpoint pollution and causes significant water quality degradation. Nonpoint source pollution associated with agriculture practices that has the greatest impact on water quality is runoff that contains sediment, nitrogen (N), phosphorus (P), and/or pesticides (FSA, 2003).

The EPA water quality inventory identifies agriculture runoff as the largest source of water quality degradation in the Nation. Agricultural activities have the potential to introduce siltation, nutrients, pesticides, and organic matter that deplete oxygen. These pollutants can have severe negative impacts on a wide range of aquatic ecosystems because of their potential to spoil habitat and remove the food base (EPA, 2000).

Agriculture, failing on-site septic systems, streambank/roadbank erosion and construction are the most significant moderate/secondary sources (NYSDEC, 2000a).

With agriculture and failing on-site septic systems being the most significant sources, it is not surprising that nutrients are the most frequently cited major/primary cause/pollutant. Siltation, pesticides and pathogen indicators are also frequently mentioned as moderate/secondary causes (NYSDEC, 2000a).

### **Estuary Waters**

About three-quarters (74 percent) of estuary waters in the State are considered to fully support their designated uses. Fifteen percent only “partially support” uses, while 11 percent are categorized as “not supporting” uses. Almost 97 percent of the waters “not supporting” uses are the result of shellfishing closures. Shellfishing, fish consumption and swimming are the most frequently noted uses that are “partially supported.”

Because the estuarine areas of the State tend to be in or near highly populated urban areas, contaminated sediments, urban runoff, and combined sewer overflows are the most frequently noted sources of major/primary impairment. Pathogen indicators are the most frequently noted major cause/pollutant for estuary water use impairment. Nonpoint sources may include agricultural land use up stream, but it is not considered a primary source (NYSDEC, 2000a).

### **Great Lakes Shoreline**

Only 15 percent of Great Lakes shoreline in New York State is considered to “fully support” uses. The use support statistics for this waterbody type are dominated by the fish consumption advisory in effect in Lake Ontario for several species. Nearly 90 percent of the use impairment for the shoreline is related to consumption of fish from the lake. The most significant primary source (contaminated sediment) and cause (priority organics) also reflect the impact of the fish consumption advisory for Lake Ontario. Siltation and organic enrichment/low dissolved oxygen (DO), along with priority organics, are listed as secondary causes/pollutants (NYSDEC, 2000a).

## **3.5.2 Effects of Alternative A (No Action) on State Water Quality Standards**

Agriculture accounts for 36 percent of the nonpoint primary contribution to river and stream impairment and 26 percent contribution to lake and reservoir impairment in New York State (NYSDEC, 2000a). Implementation of the No Action alternative would have a long term, moderate adverse effect on State water quality values. Any improvement in water quality would be dependant upon existing and proposed programs. However, because these programs do not directly address agricultural practices, runoff from farms would continue to introduce pollutants to the system.

Selection of Alternative A would not contribute to achieving CREP Objectives (Section 1.4).

## **3.5.3 Effects of Alternative B (CREP Agreement) on State Water Quality Standards**

Implementation of CREP would provide long term, moderate to high beneficial effects on water quality and would help to achieve goals of reducing suspended solids, phosphorus, nitrogen, and all water-borne pollutants. These improvements would occur throughout the watersheds.

The impact of one acre in CREP can have a positive impact on tens and hundreds of acres upstream (Section 3.4). CPs implemented on those limited acres can have a significant impact on downstream water quality by not only filtering runoff directly from acreage on land, but siphoning upstream flows into the filtering system to be returned downstream with reduced pollutants.

All of the CPs are designed to have a direct or indirect effect on water quality. For example, CP3A (hardwood tree planting) reduces soil erosion and helps reduce suspended solids in water flows. CP4D (permanent wildlife habitat—noneasement) reduces soil erosion by planting native vegetation to create

habitat for wildlife. CP9 (shallow water areas for wildlife) provides for large areas to be converted to wetland areas; continual water depths of 6 to 18 inches provides for long term and extensive filtering to improve water quality outflows from these areas. CP21 (filter strips) removes nutrients and sediment, and protects surface and subsurface water quality. CP22 (riparian buffer) provides for removal of nutrients and sediment in areas created for wildlife and aquatic organisms. CP23 (wetland restoration) would provide larger areas for retention of solids and removal of nutrients.

These practices would combine to enhance the quality of water throughout the State of New York, including high priority water bodies. In addition, the CPs will facilitate meeting current and future nutrient discharge limits under the TMDL and other State water quality programs.

The beneficial impacts of the CPs discussed above would provide cumulative benefits, assisting in achieving all of the CREP Objectives (Section 1.4).

## 3.6 Wetlands

Section (a) (16) of the Food Security Act, Public Law 99-198, December 23, 1985 defines a wetland as:

The term “wetland,” except when such term is part of the term “converted wetland,” means land that has a predominance of hydric soils and that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

Numerous laws exist that govern FSA program actions in relation to wetlands. Included are the following:

- Executive Order 11990, Protection of Wetlands
- Clean Water Act
- Food Security Act

### 3.6.1 Existing Conditions

Wetlands perform numerous functions, such as removing excess nutrients from the water that flows through them. These functions in turn provide benefits to the environment and the citizens of the State. For example, the benefit derived from nutrient removal is improved or maintained water quality. This in turn benefits society in a number of ways such as clean drinking water, safe recreation, and secure fish and wildlife habitat.

Following are some of the wetlands functions and benefits that are important in New York State (NYSDEC, 2003d):

#### Water Quality Maintenance

Wetlands have been shown to remove organic and inorganic nutrients and toxic materials from water (runoff) that flows across or through them. Through biogeochemical processes that are unique to wetlands, water outflow is frequently cleaner than water inflow. Wetlands are able to accomplish this through several ecological mechanisms:

- Reduced water velocity causes sediments and chemicals sorbed to sediments to drop out of the water column;

- Aerobic and anaerobic processes promote denitrification, chemical precipitation, and other chemical reaction that remove chemicals from water;
- High wetland productivity can lead to high rates of mineral and nutrient uptake by vegetation and subsequent burial in sediments when the plants die;
- Wetland sediments support a diversity of decomposers and decomposition processes; and
- Accumulation of organic peat in many wetland systems can cause the permanent burial of chemicals (Mitsch and Gosselink, 1993).

Wetlands also protect fresh groundwater supplies in coastal areas by preventing saltwater intrusion.

### **Flood Protection and Abatement**

During storms and periods of heavy rain or spring snow melt, wetlands serve as natural reservoirs or channels for conveying excess water, slowing the movement of water through the watershed. Filling in wetlands often results in increased flooding, both downstream, by speeding water along, and upstream, by blocking water flow (NYSDEC, 2003d).

### **Erosion and Sedimentation Control**

Wetlands vegetation helps to filter sediment by decreasing water velocity. Suspended particles settle in the wetland and do not enter navigational channels, lakes, and reservoirs. In much the same manner, wetlands also help prevent erosion of shorelines and valuable agricultural land by serving as buffers between wave or stream activity and adjacent lands (NYSDEC, 2003d).

### **Recharging Groundwater Supplies**

Certain types of wetlands may be helpful in recharging groundwater. If the wetland is perched (water level in the wetland is higher than the water table of its surroundings), water will flow into the groundwater system (Mitsch and Gosselink, 1993). This is called a recharge wetland. This function is especially important where groundwater is the sole-source of drinking water or constitutes the major source of usable water (NYSDEC, 2003d).

### **Maintaining Surface Flows**

When the surface water of a wetland is hydrologically lower than the water table of the surrounding land, wetlands may serve as groundwater discharge sites (discharge wetlands), thereby maintaining the quality and quantity of surface water supplies (Mitsch and Gosselink, 1993).

### **Fish and Wildlife Habitats**

Many species of fish and wildlife depend on wetlands for critical parts of their life cycle. By providing breeding, nesting, and feeding grounds and cover, wetlands are recognized as one of the most valuable habitats for wildlife. Young fish find food and shelter in the protective vegetation. Many species of endangered, threatened, or special concern fish and wildlife depend on wetlands. Tidal wetlands are vital to the continued health of vertebrate and invertebrate species of the waters of New York's marine district. Over two-thirds of the fish, shellfish and crustaceans harvested in New York (including both commercial and recreational harvest) are dependent on tidal wetlands for some portion of their life cycles. In addition, wetlands are habitat for thousands of species of the plants in New York. One-half of New York's protected native plants, many of which are endangered or threatened, are wetlands species (NYSDEC, 2003d).



**Recreation**

Hiking, bird watching, hunting, fishing, trapping, boating, photography, and camping are some of the recreational uses provided by wetlands. Over 12 million New Yorkers annually participate in these outdoor activities. In a 1991 report to the New York Legislature on the economic return from hunting, fishing and other uses of wildlife, it was estimated that these activities had a total annual worth of more than \$5 million (NYSDEC, 2003d).

**Open Space**

Wetlands are often the only undeveloped areas along crowded riverfronts and coastal regions or in urbanized areas. Because of the increased amount of hard surfaces in these developed areas, contaminated runoff (from streets, parking lots, etc.) becomes an issue. Functioning wetlands are able to filter some of the organic and inorganic pollutants before water is discharged downstream. Wetlands are often valued in more developed watersheds as “green oases” for aesthetic reasons. In some areas, real estate near these types of open space command significantly higher prices (NYSDEC, 2003d).

**Educational and Scientific Research**

Wetlands provide readily accessible outdoor biophysical laboratories, living classrooms, and vast training and education resources (NYSDEC, 2003d).

**Biological Diversity**

Society is becoming increasingly concerned about local, regional and global biological diversity. Wetlands are important components of the landscape and contribute significantly to the State's overall biological diversity. Wetlands are habitat for many rare and indigenous species of plants and animals and many in themselves represent unique natural communities (NYSDEC, 2003d).

**Freshwater Wetlands Status and Trends Study**

It is estimated that as of the mid-1990s, there are approximately 2.4 million acres of wetlands in New York. Some areas, like the Adirondacks and the Lake Plains of western New York contain more wetlands because there are larger expanses of flat topography. Other areas, like the Appalachian Highlands, the Hudson Valley, and Long Island, contain relatively fewer wetlands. NYSDEC began a study in the mid-1990s to assess the current status and trends in freshwater wetlands resource in New York (NYSDEC, 2003a). The study compared mid-1980s and mid-1990s aerial photography for a sample of quadrangles in five ecological zones of the State to determine the amount of wetlands; gains, losses or changes in cover type; and to what those changes could be attributed. Following are some of the highlights of that study (NYSDEC, 2003d).

**Table 6. Characteristics and Distribution of Wetlands in New York State.**

Statistic	Ecological Zone					State Total
	Lake Plains	Appalachian Highlands	Adirondack	Hudson Valley	Coastal Lowlands	
Estimated wetland acres	883,000	423,000	904,000	170,000	21,000	2,401,000
Percent of area in wetland	12.3	3.6	12.4	4.4	2.3	7.2
Percent of State's wetlands in this eco-region	36.8	17.6	37.6	7.1	0.9	---
Percent of wetlands that are forested cover type	75.4	57.5	72.0	61.9	65.3	69.9
Percent of wetlands that are shrub/scrub cover type	14.2	22.4	13.8	20.9	3.1	15.9
Percent of wetlands that are emergent cover type	7.9	11.8	9.4	11.6	8.3	9.1
Percent of wetlands that are open water cover type	3.3	8.3	4.7	5.6	23.3	5.1

Source: NYSDEC, Division of Fish, Wildlife, and Marine Resources. 2003. Freshwater Wetlands Status and Trends.

The wettest ecoregions are the Lake Plains and the Adirondacks. Together they encompass 74 percent of the State's wetlands.

The most common wetland cover type is forested (70 percent), followed by shrub/scrub (16 percent), emergent (9 percent), and wetland open water (5 percent). The State is gaining forested and wetland open water as cover types and losing shrub/scrub and emergent wetlands as cover types.

Between the mid-1980s and mid-1990s there was a net gain of approximately 15,500 acres of freshwater wetlands.

Net gains occurred mostly in the Lake Plains (+15,200 acres), with more minor gains in the Appalachian Highlands (+2,200 acres), and the Adirondacks (+900 acres). The Coastal Lowlands remained about the same (+70 acres). There was net loss of wetlands in the Hudson Valley (-2,900 acres).

There was a gross gain of approximately 37,900 acres of freshwater wetlands. Most gains occurred in the Lake Plains eco-zone (+26,300 acres). Most gains resulted from agricultural reversion (+28,800 acres) and from modified hydrology (increased runoff) (+8,600 acres).

There was a gross loss of approximately 22,500 acres of wetlands. Most losses occurred in the Lake Plains (-11,100 acres) and the Appalachian Highlands (-5,700 acres). Most losses resulted from agricultural conversion (-11,100 acres) and urbanization and its associated impacts, such as road construction (-11,300 acres) (NYSDEC, 2003a).

**Table 7. Changes in the Freshwater Wetlands Resource from the Mid-1980s to the Mid-1990s.**

Cause of Change	Estimated Acreage Based on Projections from Study Sample		
	Acres Gained	Acres Lost	Acres with Cover Type Change
Agriculture	28,800	11,100	2,100
Urbanization	0	8,200	200
Linear Development	30	900	500
Sand and Gravel Mining	250	2,200	20
Increased Runoff	8600	50	17,200
Beaver Activity	150	0	7,900
Plant Succession	80	0	119,900
Total	37,910	22,450	147,820

Source: NYSDEC, Division of Fish, Wildlife, and Marine Resources. 2003. Freshwater Wetlands Status and Trends

### 3.6.2 Effects of Alternative A (No Action) on Wetlands

With the selection of the No Action Alternative, wetland values (e.g., vegetation, water quality, and habitat) would continue their slow decline. As agriculture has been identified as a primary nonsource pollutant, existing and projected agricultural runoff would likely continue to affect wetland functions (NYSDEC, 2000a). Given ongoing Federal involvement, total wetland acres would likely be stable or slightly reduced under No Action because Section 404 of CWA and other Federal laws are very restrictive in allowing draining or conversion of existing wetlands for other uses. EO 11990, Protection of Wetlands, applies to private lands and would also promote the stability of wetland acreage.

Alternative A would result in long term, moderate adverse effects to State wetlands and would not achieve any of the CREP Objectives listed in Section 1.4.

### 3.6.3 Effects of Alternative B (CREP Agreement) on Wetlands

Wetlands acreage across the state would likely increase, if only a moderate amount. The amount of actual acreage that would be gained is undetermined at this time; however, to achieve the project objectives, it is expected that wetlands will be a significant part of the CREP enrolled lands.

Implementation of CP 23 (wetland restoration) and CP9 (shallow water areas for wildlife) in the affected New York counties could greatly improve water quality upstream of stormwater treatment areas. Marginal acres would be removed from agricultural production or converted from fallow land and wetlands constructed. The percent reductions stated above are achievable with wetlands used as water treatment areas.

Another direct effect of Alternative B would be the creation of new wildlife habitat for riparian species in the combined watersheds. CREP implementation would provide long term, moderate beneficial effects to wetlands across the State.

## **3.7 Floodplains**

### **3.7.1 Existing Conditions**

All Federal actions must meet the standards of EO 11988, Floodplain Management. The purpose of the EO is to avoid incompatible development in floodplain areas. It states, in part, that:

“Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.”

In accordance with the EO and prior to any action, Federal Emergency Management Agency (FEMA) floodplain maps will be reviewed to determine if the proposed action is located in or will affect a 100 or 500-year floodplain. Soil survey maps, aerial photography, and topographical maps should be used where no FEMA maps are available. FSA should complete surveys in areas where no flood hazard or flood elevation data are available and the amount of Federal investment in the proposed action is significant if the action could create a significant adverse effect on a floodplain. Most of the CPs allowed under CRP would have little to no effect on the functions and values of a floodplain. For example, CP 1 – Establishment of Permanent Introduced Grasses and Legumes, would not have any measurable effect on floodplain flowage, capacity, or other functions. CPs that involve construction activities, substantial earth movement, diking, or other means of altering the flowage area (i.e., CP 23 – Wetland Restoration; CP 9 – Shallow Water Areas for Wildlife) would need to be reviewed and appropriate public notice provided.

Applicable development permits must be obtained from local authorities prior to construction activities within a floodplain.

### **3.7.2 Effects of Alternative A (No Action) on Floodplains**

Floodplain areas would not change, and stream profiles (a major factor in the determination of floodplain areas) would not change based on Federal actions. Under the No Action Alternative, CREP funds would not be available to implement CPs that may have beneficial effects on floodplain conditions, especially the ability of floodplains to store floodwaters. Some construction may occur that would alter floodplain flowage, capacity, or other functions. Without FSA oversight, poor design of structures could affect flowage areas, shifting the floodplain, and impacting areas outside the 100-year floodplain.

Alternative A would not contribute to the achievement any of the objectives listed in Section 1.4 and would result in little change to the State's floodplains.

### **3.7.3 Effects of Alternative B (CREP Agreement) on Floodplains**

Minor improvements in floodplain areas and stream profiles would occur. CREP funds would be used to increase floodwater storage capacity through wetland restoration, stabilize floodplains and improve habitat through restorative plantings, and install structures within existing floodplains. Construction projects may be implemented that would alter floodplain flowage, capacity, or other functions.

Appropriate FSA oversight would help ensure the proper design and installation of structures, thus limiting adverse effects to flowage areas and minimizing indirect effects to areas outside the 100-year floodplain. Analysis of the impact on floodplains, per EO 11988, would require the structures to be able to withstand 100-year flood events and remain functioning. These practices would help control flood events and improve floodplain values.

Alternatives would be carefully considered by the FSA at the time that site specific EEs are developed for each CREP contract. The direct impacts of all CPs would be generally positive, result in no to minor, long term improvements to floodplains, and would contribute to achieving the CREP Objectives discussed in Section 1.4.

## **3.8 Groundwater**

### **3.8.1 Sole Source Aquifers**

An aquifer is a permeable geological formation that stores and/or transmits water, such as to wells and springs. Aquifers are used by human populations for drinking water. The EPA defines a sole source aquifer (SSA) as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. To be designated a SSA, the area must not have an alternative drinking water source, which could supply all who depend on the aquifer for drinking water

The SSA Protection Program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq). Proposed Federal financially assisted projects that have the potential to contaminate the designated sole source aquifer are subject to EPA review.

Guidelines of form FSA-850 or form NRCS-52 State that to qualify for CREP enrollment, the practice employed must not contaminate or contribute to the contamination of a sole source aquifer to the extent that a significant hazard to public health is created.

Approximately six million people or about one-third of New York State residents use groundwater as a source of drinking water. About half of these people live on Long Island and the remainder are in upstate New York. About half of the population of the Long Island counties of Nassau, Suffolk, Queens and the Borough of Brooklyn use groundwater. Within the counties of Nassau and Suffolk, nearly 100 percent of the population relies on groundwater. About one-third of the upstate population uses groundwater (NYSDEC, 2000b).

The following information (EPA, 2003a) describes each of the SSAs located within the CREP boundaries:

### **15 Basin Aquifer System**

The aquifer is the principal source of water for the Northern part of the State of New Jersey and is made up of 15 individual aquifer systems. The Pochuck Creek Basin Aquifer System and the Wallkill River Basin Aquifer System are two systems that are located within the counties designated for CREP. The aquifer was designated a SAA on June 23, 1988 (53 FR 23685), covers 1,735 square miles and services approximately 600,000 people.

### **Cattaraugus Creek Basin Aquifer System**

The aquifer is the principal source of water for parts of Wyoming, Erie, Cattaraugus, and Allegany Counties. The aquifer was designated a SAA in August 1987 (52 FR 36100), covers approximately 325 square miles and services approximately 20,000 people.

### **Clinton Street Ballpark Aquifer System**

The aquifer system, composed of glacial sediments covering bedrock valleys, underlies the confluence of the Susquehanna and Chenango Rivers, occupying approximately 41 square miles. The aquifer is the principal source of water for parts of Broome and Tioga Counties. The aquifer was designated a SAA in December 1984 (50 FR 2025) and services approximately 111,000 people.

### **Cortland-Homer-Preble Aquifer System**

The aquifer is the principal source of water for parts of Cortland and Onondaga Counties. The aquifer was designated a SAA in June 1988 (53 FR 22045), covers approximately 25 square miles and services approximately 29,000 people.

### **Highlands Aquifer System**

The aquifer is the principal source of water for the Northern part of the State of New Jersey and southeastern New York (Orange Co.). The aquifer was designated a SAA in September 1987 (52 FR 37213), covers 195 square miles and services approximately 105,000 people.

### **Nassau-Suffolk Aquifer System**

The aquifer system is located in Long Island. The island is 120 miles wide. Including the barrier beach and other outlying islands, its area is approximately 1,400 square miles. The aquifer is the principal source of water for parts of Nassau and Suffolk Counties. The aquifer was designated a SAA in May 1975 (43 FR 26611) and services approximately 2.5 million people.

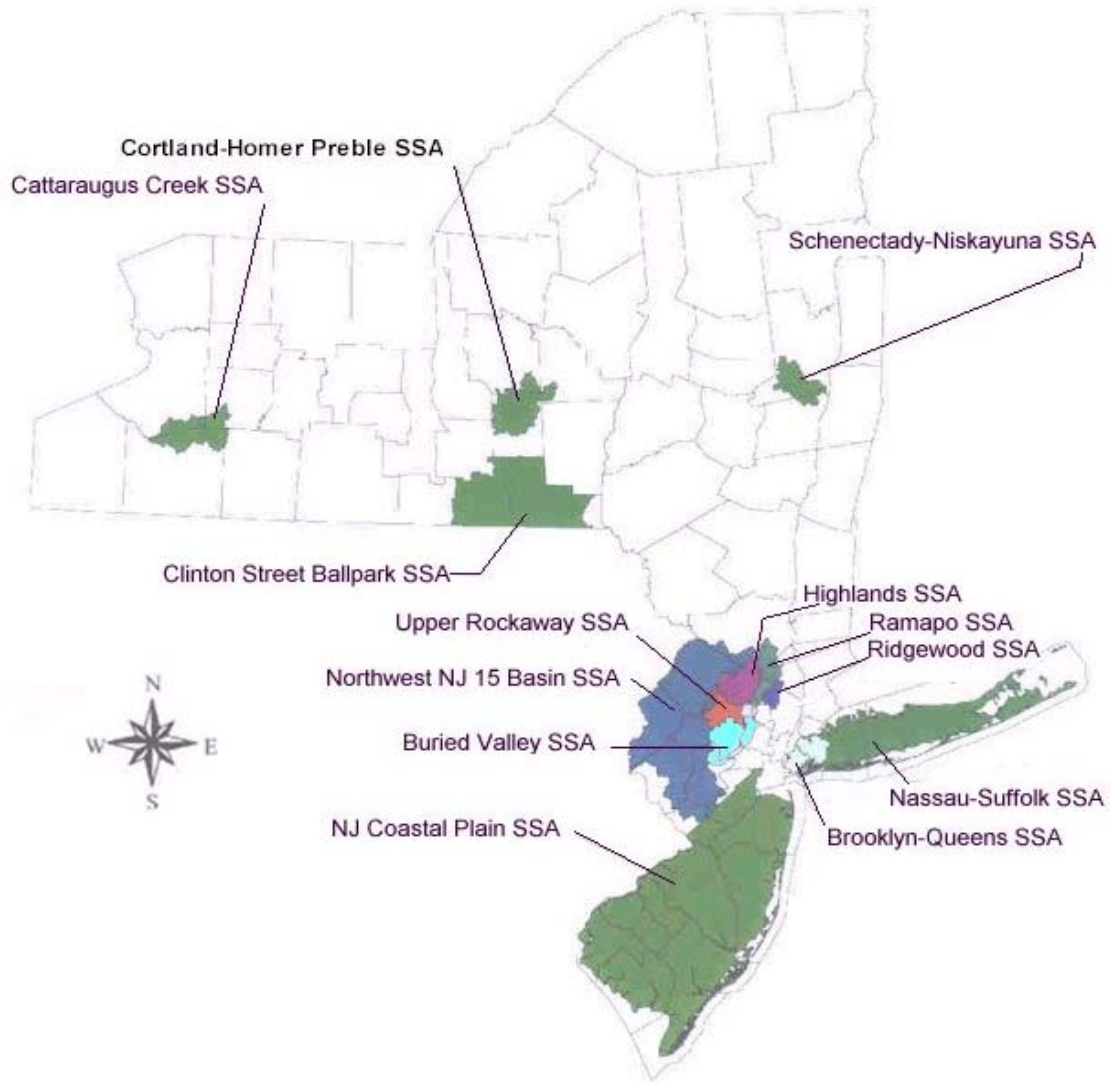
### **Ramapo River Basin Aquifer System**

The aquifer is the principal source of water for the Northern part of the State of New Jersey and southeastern New York (parts of Orange and Rockland Counties). The aquifer was designated a SAA in August 1992 (57 FR 39201), covers approximately 161 square miles and services approximately 322,000 people.

### **Schenectady-Niskayuna Aquifer System**

The aquifer is the principal source of water for parts of Schenectady, Saratoga, and Albany Counties. The aquifer was designated a SAA in December 1984 (50 FR 2022), covers approximately 100 square miles and services approximately 144,000 people.

**Figure 6. Sole Source Aquifers in New York and New Jersey.**



Source: EPA, Region II Sole Source Aquifers. (<http://www.epa.gov/region02/water/aquifer/>)

### 3.8.2 Well Heads

The Safe Drinking Water Act Amendments of 1986 requested States to establish a Wellhead Protection Program (WHP) for groundwater-based public water supplies. (The term "wellhead" is essentially synonymous with either a well or the column or "head" of water within a well.)

Each State was directed to develop, with public participation, a Wellhead Protection Program Plan that was to be reviewed and approved by EPA. The plan would describe how the State would accomplish the following three tasks:

- Determine a wellhead protection area based on groundwater flow and other hydrogeologic information;
- Develop an inventory of potential pollution sources within the wellhead protection area; and
- Manage and control the potential sources of pollution identified within the wellhead protection area. Anticipated management techniques would range from purely voluntary approaches such as outreach and education to regulatory approaches such as ordinances containing land use prohibitions. (EPA, 2003b)

New York State submitted its plan to the EPA in 1990 (NYSDEC, 1990). Since 1992, New York has received EPA funding to implement the various components of wellhead protection. The State submits a Biennial Wellhead Protection Report to the EPA, summarizing program accomplishments.

Wellhead area protection is an approach to protect groundwater supplying specific wells. Aquifer-level or aquifer segment targeting is a useful approach for wellhead protection in New York because the aquifers are typically not extensive or a pumped using a great number of wells (NYSDEC, 1990). These are critical resources because of the state's dependence on groundwater for drinking. These areas can be protected from nonpoint source pollution by planting grasses or other permanent vegetation to filter and reduce the sediment, nutrients, pesticides, and other contaminants from percolating into the soil profile and reaching groundwater sources. For example, Filter Strips (CP 21) can be located on cropland or degraded pastures immediately adjacent and parallel to streams, lakes, ponds, ditches, sinkholes, wetlands, or groundwater recharge areas. Filter strips intercept undesirable contaminants from runoff before they enter a waterbody or recharge area. Filter strips slow the velocity of water, allowing the settling out of suspended soil particles, infiltration of runoff and soluble pollutants, absorption of pollutants on soil and plant surfaces, and the uptake of soluble pollutants by plants.

### **3.8.3 Effects of Alternative A (No Action) on Groundwater Sources**

Agricultural practices have the potential to constitute a moderate impact on State groundwater resources through the nonpoint discharge of nutrients and pesticide residues. Pollutants and agricultural runoff would continue—with pesticides, excessive nutrients (nitrogen and phosphorus), and waterborne pathogens from animal waste being the primary concerns.

The No Action alternative would lose the cumulative effect for wellhead and recharge area protection afforded by implementation of CREP. Without the use of filter strips and other CPs, there would be minor, long term adverse effects on groundwater resources by allowing groundwater contaminants to continue to run into wellhead areas.

Selection of Alternative A would not contribute materially to the achievement of any of the CREP Objectives cited in Section 1.4.

### **3.8.4 Effects of Alternative B (CREP Agreement) on Groundwater Sources**

Some positive long term effects on groundwater sources would occur. These effects would be the result of several CREP-funded practices. For example CP 1 (Establishment of Permanent Introduced Grasses



and Legumes), CP 2 (Establishment of Permanent Native Grasses), CP 3 (Tree Planting), CP 3A (Hardwood Tree Planting), CP 4B (Permanent Wildlife Habitat Corridor, Non Easement), CP 4D (Permanent Wildlife Habitat, Non Easement), CP 10 (Vegetative Cover — Grass - Already Established), CP 11 (Vegetative Cover — Trees - Already Established), CP21 (filter strips), CP22 (riparian buffers), and CP23 (wetland restoration) would all offer long term beneficial effects to groundwater resource integrity. All the practices would directly improve water quality of surface water, thus indirectly improving water that would recharge aquifers. Wellhead areas and those that contribute to aquifer recharge may be enrolled in CREP, adding a small positive impact on preserving recharge areas.

The implementation of program CPs would be positive for groundwater and would contribute to achieving the CREP Objectives discussed in Section 1.4.

## **3.9 Marine Resources and Coastal Barriers**

### **3.9.1 Existing Conditions**

Marine resources, such as coastal barriers, are unique landforms that provide protection for diverse aquatic habitats and serve as the mainland's first line of defense against the impacts of coastal storms and erosion.

New York has 2,625 miles of tidally influenced coastline and has a coastal population of 15,026,340 (NOAA, 2003). Fourteen of the 54 counties included in the 12 CREP watersheds have marine resources. New York's marine habitats support a diverse array of fish, wildlife, and plant species. These productive areas include tidal wetlands; submerged aquatic vegetation like eelgrass; estuaries and open waters; mud and sandflats; and natural and artificial reefs. Habitats like these produce over 75 percent of the commercially and recreationally important finfish and shellfish species in the world. They also provide recreational opportunities for boating, hiking and birdwatching, and aesthetic value in the landscape.

An estuary is typically a bay, harbor, or sound where fresh water flowing from the land mixes with salt water from the ocean and creates a unique and special place for marine species to live, feed, and reproduce. Estuaries are transitional areas where the ocean tides bring in nutrients and animals, while freshwater runoff reduces the stress caused by saltwater and carries even more nutrients. Often, estuaries have a restriction across the mouth, like a barrier beach or sand bar which offers protection from the full force of ocean waves and storms. This provides a safe haven for juvenile fish and crabs, migrating ducks, and even the occasional sea turtle. An estuary contains many other habitats within it like tidal wetlands, mudflats, and eelgrass beds (NYSDEC, 2003c).

Estuaries are a critical part of the life cycle of many different species. They are the spawning and nursery area for thousands of animals who seek out the quieter waters of estuaries to provide a protected nursery for their offspring. Estuaries also provide a food rich resting area for migrating waterfowl such as black ducks, harlequin ducks, scoters, and scaup. Wading birds including the great blue heron, great egret, and glossy ibis, and snowy egret nest in colonies on islands found in New York Harbor, Long Island Sound and Gardiners Bay. Raptors such as osprey and northern harriers also nest and feed throughout the marine district of New York (NYSDEC, 2003c).

A typical tidal wetland is the salt marsh which occurs in the near shore areas all around Long Island, the Lower Hudson Basin, and along the Atlantic coastline. These areas are dominated by grasses and other marsh plants which are adapted to the rise and fall of the tide and the salty water it brings. The blades of marsh grass provide a hiding place for small fish and other animals as well as becoming part of the food

chain when they decay. The statutory definition of a tidal wetland can be found in New York's Environmental Conservation Law, Article 25, entitled "Tidal Wetlands Act" (NYSDEC, 2003c).

In a larger context, New York State's total coastal area encompasses marine and freshwater shorelines, and follows over 5,000 miles along the shorelines of Long Island; New York City; the Hudson, St. Lawrence, and Niagara Rivers; Lakes Erie and Ontario; and major inland waterways, including the Finger Lakes, Lake Champlain, and the Barge Canal System.

The Division of Coastal Resources, under the Department of State, is responsible for administering New York State's Coastal Management Program (NYSCMP). The NYSCMP was adopted in September 1982 under the Waterfront Revitalization of Coastal Area and Inland Waterways Act. The Department of State coordinates State activities and programs for the NYSCMP in five regions: Great Lakes, St. Lawrence River, Hudson River Estuary, New York City, and Long Island. In voluntary partnership with local governments, the NYSCMP seeks to meet the needs of coastal residents and visitors, while striving to advance economic development opportunities and protect natural coastal resources. Special programs associated with the NYSCMP include the Hudson River National Estuarine Research Reserve and the proposed St. Lawrence River Basin National Estuarine Research Reserve. Federal actions, like the CREP, are reviewed by the State for consistency with the NYSCMP.

### **3.9.2 Effects of Alternative A (No Action) on Marine Resources**

Sensitive estuarine and salt marshes can be damaged or destroyed by acute pollution caused by many sources, including agricultural runoff. Current agricultural practices would continue to contribute to the nonpoint source pollution of these marine resources. Agricultural runoff, including pesticides and herbicides, bioaccumulates in bird prey species and, subsequently, affects the reproductive processes of marine and coastal birds. Contaminated sediments enter nearshore waters when they are resuspended in the water column by dredging. Effects from chemical pollution include both acute and chronic toxicity to marsh vegetation and wildlife, and may cause indirect impacts across the coastal food chain.

Some agricultural practices in erosion sensitive areas contribute to the loss of topsoil and subsequent sedimentation. Stormwater discharges cause sedimentation in the marsh at rates far greater than those associated with natural marsh building processes. Excessive sediment loads delivered by large pulses of stormwater runoff disrupt the natural processes that maintain marsh structure and function. These sediment loads can result in significant changes to salt marsh elevations and in competitive exclusion of native salt marsh vegetation by invasive species. Habitat could potentially be impacted or destroyed, as a result of continued anthropogenic pollution in the salt marshes.

Organisms causing diseases in humans can be carried into the estuary where humans may be exposed by eating raw or partially cooked shellfish. Exposure to pathogens may also occur through direct contact with contaminated water or by swallowing it. The largest source of pathogens to the estuary is stormwater runoff which carries material from malfunctioning septic systems and animal waste (NYSDEC, 2003c).

The No Action alternative would not meet any of the objectives listed in Section 1.4 and would result in minor, long term effects to State marine resources.

### **3.9.3 Effects of Alternative B (CREP Agreement) on Marine Resources**

Positive indirect effects would occur within the 14 coastal counties eligible for CREP. The CPs are all designed to filter sediment and nutrients from the waters, thus reducing sediment and nutrient loading in

sensitive coastal areas. CP9 (shallow water areas for wildlife) provides for large areas to be converted to wetland areas, providing near year round water for wildlife; continual water depths of 6 to 18 inches provides for long term and extensive filtering to improve water quality and allow for the growth of aquatic organisms crucial to feeding grounds for waterbirds and other wildlife. CP21 (filter strips) removes nutrients and sediment, and contributes to overall health of waterbodies and habitat for species. CP22 (riparian buffer) provides for removal of nutrients and sediment in areas created for wildlife and aquatic organisms. The use of riparian buffers also limits access of livestock to flowing water and subsequent pathogenic contamination. CP23 (wetland restoration) would provide large areas for retention of solids and removal of nutrients, while also restoring habitat for species. Filtering provided by all the CPs would contribute to cleaner water entering the sensitive estuaries, marshes, and tidal wetlands that support wildlife, shellfisheries, and other resources.

Selection of Alternative B would meet all the CREP Objectives in Section 1.4, while providing long term, minor beneficial impacts on coastal marine resources.

### **3.10 Critical Habitat or Threatened / Endangered Species**

The Endangered Species Act was enacted to protect endangered and threatened species and to provide a means to conserve critical habitat. All Federal agencies were mandated to protect species and preserve their habitats by ensuring that Federal actions do not jeopardize the continued existence of listed species.

ESA defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future. T&E designations may be applied to all species of plants and animals except pest insects. A species may be threatened at the State level, but that same designation does not automatically apply nationwide, as species numbers may be greater in other States.

Critical habitat is defined by the ESA as areas that are essential to the conservation of listed species. Private, city, and State lands are generally not affected by critical habitat until the property owner needs a Federal permit or requests Federal funding. Because the New York CREP is partially funded by Federal dollars, consultation with FWS will be required when T&E species or critical habitat are encountered for CREP contracts. FWS has recently proposed rules that would help remove disincentives from private landowners that wish to manage their property for the benefit of listed species (64 FR 32706-32716). This would entail the development of Safe Harbor Agreements and Candidate Conservation Agreements with Assurances (CCAAs). These agreements would ensure agricultural landowners that traditional agricultural uses could continue alongside habitat improvements. They would also address the issue of "incidental take" with regard to activities such as habitat restoration.

Section 7 of the ESA, called "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species.

Under Section 7, consultation with FWS is initiated when any action the agency carries out, funds, or authorizes may affect a T&E species or critical habitat. This process usually begins as an informal consultation. In the early stages of project planning, a Federal agency approaches FWS and requests informal consultation. Discussions between the two agencies may include what types of listed species may occur in the proposed action area, and what effect the proposed action may have on those species. This process begins with the EE process completed jointly by FSA and NRCS for each contract.

If the Federal agency, after discussions with FWS, determines that the proposed action is not likely to affect any listed species in the project area, and if FWS concurs, the informal consultation is complete and the proposed project moves ahead. If it appears that the agency's action may affect a listed species, that agency may then prepare a biological assessment (BA) to assist in its determination of the project's effect on a species.

When a Federal agency determines, through a BA or other review, that its action is likely to adversely affect a listed species, the agency submits a request to FWS for formal consultation. During formal consultation, the Service and the agency share information about the proposed project and the species likely to be affected. Formal consultation may last up to 90 days, after which FWS will prepare a biological opinion on whether the proposed activity will jeopardize the continued existence of a listed species. The Service has 45 days after completion of formal consultation to write the opinion.

In making a determination on whether an action will result in jeopardy, FWS begins by looking at the current status of the species, or "baseline." Added to the baseline are the various effects – direct, indirect, interrelated, and interdependent – of the proposed Federal action. The Service also examines the cumulative effects of other non-Federal actions that may occur in the action area, including state, tribal, local, or private activities that are reasonably certain to occur in the project area. (FWS, 2003c)

### 3.10.1 Existing Conditions

There are 34 Federal T&E species in the State of New York (FWS, 2003a, 2003b). Of these, 28 are animals and six are plants. The NYSDEC identified 98 State T&E species, all of which are animals. A complete list of Federal and State listed species are included in Appendix D. Federally listed species that occur in the affected environment include the clubshell (*Pleurobema clava*), dwarf wedge mussel (*Alasmidonta heterodon*), shortnose sturgeon (*Acipenser brevirostrum*), Indiana bat (*Myotis sodalists*), bald eagle (*Haliaeetus leucocephalus*), bog turtle (*Clemmys muhlenbergii*), Houghton's golden rod (*Solidago houghtonii*), and northern wild monkshood (*Aconitum noveboracense*). The eastern massasauga (*Sistrurus catenatus catenatus*) is a candidate species being considered for future listing by FWS. Species distributions are listed in Table 8 below.

**Table 8. Threatened and Endangered Species that Occur in CREP Watersheds.**

<b>Watershed Area</b>	<b>Species</b>
Allegheny River	bald eagle, clubshell
Black River & St. Lawrence River	bald eagle, bog turtle
Chesapeake Bay & Susquehanna River	bald eagle, bog turtle
Delaware River	bald eagle
Genesee, Oswego, Oneida, Seneca Rivers	bald eagle, bog turtle, Indiana bat, Houghton's goldenrod (Bergen Swamp), eastern massasauga (Cicero & Bergen Swamps)
Lake Champlain	bald eagle
Lake Erie-Niagara River Direct Drainage	bald eagle
Lake Ontario Direct Drainage	bald eagle, bog turtle
Long Island Sound & Peconic Bay	none
Lower Hudson Basin	bald eagle, bog turtle, Indiana bat, shortnose sturgeon, northern wild monkshood (Ulster County)
Mohawk River	bald eagle
Upper Hudson River	bald eagle

Source: FWS letter to FSA, dated August 27, 2003.

For some aquatic T&E species, Essential Fish Habitat has been identified in the lower Hudson and around Long Island. Under section 305(b)(4) of the Magnuson-Stevens Act (see section 1.6.13), NMFS is required to provide EFH conservation and enhancement recommendations to Federal and state agencies for actions that adversely affect EFH. Wherever possible, NMFS uses existing interagency coordination processes to fulfill EFH consultations with federal agencies. This goal would be met by incorporating EFH consultation into the Endangered Species Act Section 7 consultation. FSA is in consultation with NMFS on potential impacts to EFH and, particularly, to the shortnose sturgeon which occurs in the lower Hudson and along the shores of Long Island (Rusanowski, 2003).

### **3.10.2 Effects of Alternative A (No Action) on Critical Habitat or Threatened/Endangered Species**

Under the No Action alternative, new T&E listings would continue as newly jeopardized species are identified. These new listings and the declining habitat conditions of the currently listed species suggest that overall impacts on T&E species reflect a slow decline as human actions conflict with and adversely affect both species and their habitat. Under Alternative A, the following negative impacts would occur:

- Habitat values would continue to degrade
- Population growth would continue to crowd natural ecosystems

- Pollution levels in agricultural runoff would remain high

Under the No Action alternative, long term, minor adverse effects would continue. Wildlife, terrestrial habitat, and EFH values in New York would not benefit from the leveraged effects of habitat restoration and watershed improvement CPs and may continue to decline.

### 3.10.3 Effects of Alternative B (CREP Agreement) on Critical Habitat or Threatened/Endangered Species

Many of the CREP CPs could potentially affect Federally listed species (See Table 9). Implementing Alternative B would result in strong, long term beneficial effects to wildlife habitat values in the CREP enrolled acreage across the 12 watersheds. Improvements to water quality alone would have beneficial effects for all wildlife as well as potential increases in critical habitat.

**Table 9. CREP Conservation Practices that have the Potential to Affect Federally Listed Species.**

Species/Status	Wildlife Habitat (CP 4B&D)	Grassed Water Way (CP 8A)	Shallow Water Areas (CP 9)	Filter Strip (CP21)	Riparian Buffer (CP22)	Wetland Restore (CP 23)	Water Facility Cross*	Sediment Control Strip*
clubshell (E)							X	
dwarf wedge mussel (E)							X	
shortnose sturgeon (E)	Any activity within a watershed that drains directly into the Lower Hudson River and increases water contaminants or impacts EFH.							
Indiana bat (E)	Any activity which will cause the removal of trees that could be used for roost or maturity habitat.							
bald eagle (T)	Any activity within ¼ mile of an eagle nest, concentration area, or wintering area.							
bog turtle (T)	X		X			X	X	
Houghton's goldenrod (T)	Any activity that occurs within one mile of Bergen Swamp.							
northern wild monkshood (T)							X	
eastern massasauga (candidate)	Any activity which occurs within one mile of either Bergen or Cicero Swamps.							

Source: FWS letter to FSA, dated August 27, 2003.

\*Practices are a component of CP 21, 22, 24.

Table 9 provides general guidance in determining the potential effects of implementing Alternative B. As part of the CREP enrollment process, a contract involving appropriate CPs would be developed for each individual site. Each contract would have a site specific evaluation completed by FSA to determine if any

threatened or endangered species are present and would be potentially affected by the proposed action. If so, consultation with the FWS would be initiated. In addition, any CREP activity that may result in the disturbance of non-cropped areas adjacent to a proposed project site, would be coordinated with FWS.

In general terms, direct benefits for wildlife would accrue by implementing any of the CPs. CP3A (hardwood tree planting) provides permanent cover and possible nesting areas for wildlife, and reduces soil erosion, thus supporting water quality for downstream habitat areas. CP4B and CP4D (permanent wildlife corridor – non-easement and permanent wildlife habitat – non-easement, respectively) creates permanent habitat and movement corridors – both critical in an increasingly fragmented landscape.

CP9 (shallow water areas for wildlife) would convert large areas to wetlands. The constant water depths of 6 to 18 inches would provide for long term filtering to improve water quality. CP21 (filter strips) would remove nutrients and sediment, and contribute to overall health of waterbodies and habitat for local species. CP22 (riparian buffer) would provide for removal of nutrients and sediment in areas created for wildlife and aquatic organisms. It would also enhance the potential for wildlife movement along the riparian corridor by buffering the connective habitat from adjacent land uses. CP23 (wetland restoration) would provide large areas for retention of solids and removal of nutrients, while also restoring habitat for species. Filtering provided by all the CPs would contribute to cleaner water entering the watersheds and various water bodies used by wildlife.

Each contract would be evaluated by FSA vendor to determine if the actions would affect the resources. Consultation with the FWS by FSA would occur when developing a treatment plan where critical habitat or T&E species may be encountered.

### **3.11 Cultural / Tribal Resources**

Cultural resources include prehistoric and historic archaeological sites, architectural structures and designs, and American Indian resources. Prehistoric archaeological resources include the physical remnants of human activity that predate written records. They include archaeological sites, structures, artifacts, and other evidence of prehistoric human activities.

Historic resources can include materials, properties, or locations that postdate written records. These resources can include archaeological sites, structures, artifacts, documents, and other evidence of human behavior. They can also include locations of events that were important in history or that are associated with the lives of historically significant persons. Resources must normally be greater than 50 years old to be considered as historic and eligible for the National Register of Historic Places. However, it is possible for a resource less than 50 years old to be eligible. Properties that are of exceptional importance to a community, State, tribe, region, or the nation may be eligible.

American Indian resources may include prehistoric sites and artifacts, areas of occupation and events, historic and contemporary sacred areas, materials used to produce tools and other objects, hunting and gathering areas, and other resources that may be of importance to contemporary American Indians. Traditional Cultural Properties (TCPs) that may be impacted by proposed actions may be referred to but not specifically identified in compliance documents in order to avoid unintended impacts on sacred or significant sites. Tribal consultation should be pursued to determine environmental impacts, if any, to TCPs.

### **3.11.1 Existing Conditions**

New York's long history of American Indian culture and European settlement has endowed the State with a remarkably diverse collection of historic and cultural resources worthy of preservation. Collectively, millions of cultural resources are believed to be associated with this rich legacy, including residences; houses of worship; barns and farm support structures; burial grounds and cemeteries; historic districts; landscapes; archeological sites; schools; civic buildings; and TCPs. As of 1998, over 75,000 properties have been listed on the New York State & National Registers of Historic Places in New York State (NYSPRHP, 2003).

Some concerns related to agricultural practice and rural lifestyle include alteration of the rural landscape and historic farm buildings due to a declining rural population, loss of agricultural income, and obsolescence of traditional farming practices. In response to this, the New York State Farmer's Protection and Farm Preservation Act of 1996 offers tax incentives to encourage the rehabilitation of historic barns and the preservation of farms. In 2001, New York State's Barn Restoration and Preservation Program broke new ground in providing direct grant assistance to individuals for the repair of historic farm buildings. Loss of historic open space is largely due to the process of suburbanization, construction of new roads, and residential and commercial development (NYSPRHP, 2002).

In New York State, two areas have been given the National Heritage Area designation - the Erie Canalway National Heritage Corridor and the Hudson River Valley National Heritage Area. New York State is working in partnership with the National Park Service, other State agencies and local government and organizations to implement the plans for these two areas (NYSDEC, 2002b).

### **3.11.2 The Effects of Alternative A (No Action) on Cultural / Tribal Resources**

Minor to moderate adverse impacts on cultural resources would continue to occur. These include disturbance and destruction of prehistoric and historic sites and structures, either through ongoing land conversion for development or agricultural use. Sites and structures, if discovered on private land, may often not be reported to anyone. In some instances, destruction of a site or structure may occur before a professional is able to assess its significance. On Federal land or for actions requiring a Federal permit, cultural resources reviews must be completed before the Federal agency can implement, fund, or permit a proposed action.

Without implementation of CREP, areas that could have been enrolled in CREP will not likely be evaluated for cultural resources.

### **3.11.3 The Effects of Alternative B (CREP Agreement) on Cultural / Tribal Resources**

There would be minimal to no adverse effects on cultural resources, with the implementation of CREP. In fact, CREP implementation would likely complement many tribal resource management and stewardship goals. FSA will assess potential impacts to cultural resources as the result of any CREP contract and take appropriate actions to ensure that any adverse impacts are properly mitigated. As part of this process, a cultural resource survey of the property may be required. The review must take into account that deeply buried sites may be present and that CREP CPs may affect them. In addition, tribal consultation may be required if TCPs are indicated.

Site specific cultural resource evaluations will be completed when the EE is completed for each contract.



## 3.12 Socioeconomic Issues

NEPA, and its implementing regulations and guidelines, require consideration of the socioeconomic impacts of Federal actions in preparation of environmental documents. Section 1508.8 of the CEQ's "Regulations for Implementing NEPA" states that:

Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect would be beneficial.

This PEA will present regional and local information on the socioeconomic conditions in New York that are relevant to the implementation of CREP, and the potential impacts of the proposed project on these conditions.

### 3.12.1 Existing Conditions

#### State Economy

In 1999, there were 39,000 New York farms which produced and sold about \$3.02 billion worth of farm products. The number of farms rose slightly in 1999 from previous years, but the total amount of land in agriculture remained steady at 7.8 million acres. Most of the active farms rent additional lands (NYSDAM, 2003). In fact, there were over 1,917,839 acres of leased or rented land in farms statewide. As discussed in Section 3.3, New York produces and exports numerous agricultural products. Within the counties that overlap or contain CREP watershed boundaries, there are about 4.7 million acres of cropland – 3.7 million harvested annually. Of this, 244,413 acres of cropland remained idle. Cropland on which all crops failed included 23,690 acres (NASS, 1999).

Commercial fertilizers were applied to 2,115,586 acres across the State at a cost to producers of over \$93 million. Expenditures for the application of agricultural chemicals accounted for an additional \$75.8 million (NASS, 1999).

Net farm income in 1999 fell 10 percent below the \$447 million recorded in 1998. Value added to the New York economy by crop outputs in 1999 were off slightly staying close to the \$1.0 billion level. Animal outputs were also off, dropping to around \$2.0 billion compared with \$2.08 billion in 1998. New York's Gross State Product, the value of all goods and services produced in the State during a given year, totals \$826,488,000,000. The total agricultural sector outputs in 1999 ended up around \$3.3 billion while 1998 was at \$3.4 billion (NYSDAM, 2003). In total number of jobs, agriculture in New York accounts for a small fraction of the overall economy.

Another important segment of New York's economy with the potential to be impacted by the New York CREP is the leisure and hospitality industry which has grown two percent from 2002 (0.3 percent change) (NYSDOL, 2003a). The State boasts an active outdoor recreation industry. The 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation revealed that 4.6 million New York residents and

nonresidents 16 years old and older fished, hunted, or wildlife watched in New York. Of the total number of participants, nearly 1.6 million fished, 714,000 hunted, and 3.9 million participated in wildlife watching activities, including observing, feeding, and photographing wildlife. The sum of anglers, hunters, and wildlife watchers exceeds the total number of participants in wildlife-related recreation because many individuals engaged in more than one wildlife activity (USCB, 2003).

In 2001, State residents and nonresidents spent \$3.5 billion on wildlife recreation in New York. Of that total, trip-related expenditures were \$808 million and equipment purchases totaled \$1.9 billion. The remaining \$807 million was spent on licenses, contributions, land ownership and leasing, and other items and services (USCB, 2003). Lands enrolled in CREP would certainly augment this industry as most of the CPs would enhance wildlife habitat quantity and quality as well as water-based recreation opportunities. Other resource-based recreation activities in the watersheds would similarly be affected by CREP implementation. For example, the New York State Snowmobile Association, in cooperation with State University of New York Potsdam, performed an economic impact study in 1998 that estimated the economic impact of snowmobiling in the State at \$476.2 million. Enhancing this recreational opportunity may contribute to increased local and regional jobs and the associated benefits of increased employment opportunities, tax revenues derived from snowmobile-related businesses, winter tourism spending which support local snowbelt economies, and increased local and provincial/state sales and gas tax revenues (ACSA, 2003).

### **Environmental Justice**

All Federal programs, including CREP, must comply with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Federal agencies are required to incorporate environmental justice as part of the overall agency mission.

The EO details that environmental justice ensures that all people, regardless of race, color, national origin, or income, receive the following treatment:

- Are provided with fair treatment and meaningful involvement with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies;
- Have the opportunity to express comments or concerns before decisions are rendered on the Federal programs, policies, procedures, or activities affecting them; and
- Share in the benefits of, are not excluded from, and are not adversely or disproportionately affected by Federal programs, procedures, policies, or activities.

Application for the New York CREP will require the completion of Form FSA-850, the Environmental Evaluation Checklist, or its equivalent used by NRCS (SCS-52). Environmental justice issues are addressed on the FSA-850 in question 9. If the proposed action is found to cause any adverse human health or environmental effects to minority or low-income communities, a discussion of the negative impacts must be attached.

State Minorities – New York is a racially diverse state. According the New York Department of Labor there are approximately 14,209,000 people in the State’s labor force. Of these, 2,532,149 (18 percent) are considered minorities. A small number of farms across the State are operated by minorities (see Table 10).

**Table 10. Minorities in the General Labor Force and Those Operating Farms.**

Minority Groups	NY Labor Force	Percent of Total Labor Force	Acres of Farms Operated by Minority Group	Percent of Total Farmland Operated by Minorities
African American	1,203,712	8.0	6,276	9.0
American Indian	23,587	0.0	6,185	9.0
Asian / Pacific Island	357,492	3.0	7,382	11.0
Latino / Hispanic	938,287	7.0	45,090	65.0
Other	9,071	0.0	4,611	6.0
<b>TOTAL</b>	<b>2,532,149</b>	<b>18.0</b>	<b>69,544</b>	<b>100.00</b>

Source: NASS, 1999; NYSDOL, 2003

Migrant Farm Workers – According to the state Department of Labor, there are approximately 11,500 migrant agricultural workers in New York State during the peak of the harvest season. That number varies from year to year according to the size of the State’s fruit and vegetable crop which is in large part determined by weather conditions throughout the growing season (NYFB, 2003). Because of the shorter growing season in parts of the State and the need to harvest quickly, migrant farm workers play a critical role in State agriculture.

Pay rates vary depending on whether the worker is paid an hourly wage or piece rate. Federal laws require that workers earn a minimum wage of \$5.15 per hour. Workers paid by piece rate can earn more money based on their individual productivity. On the whole, farm laborers in the New York region were paid close to the national averages. Farm operators paid their hired workers 31 cents more, on average, than a year earlier (USDA, 2003). According to the latest National Agricultural Statistical Services quarterly farm employment survey of the Northeast Region, which includes New York State, the average per hour wage rate of a field worker was \$10.02 and \$8.36 for livestock workers, with an average work week of 37.3 hours (NYFB, 2003).

### 3.12.2 The Effects of Alternative A (No Action) on Socioeconomic Issues

Under Alternative A, agricultural practices would continue as they have for years. The degradation of water quality that currently results from agricultural practices, which leads to ancillary impact to wetlands, wildlife, tourism, etc, would continue into the future. Alternative A would not result in any State water quality improvements, unless existing programs (see Section 1.6.21) are greatly expanded.

Implementation of Alternative A would likely have the following effects:

- The total amount of agricultural production in New York would continue to respond to market forces and the economy of the State.
- The rental rates and land values of New York acreage would continue to be affected by development values and population density.

- The total number of New York farms would continue to respond to market forces and the economy of the State.
- Because agriculture contributes a relatively small amount to the State's Gross State Product, the State's economy would continue to be affected by market forces. Agriculture would continue to contribute roughly the same value to the overall economy.
- Any trends or cycles evident in the labor market would continue and provide the same number of jobs, with fluctuations due to market conditions.
- Alternative A would not offer mechanisms to improve the water quality of New York. Because of the significant income provided by tourism, recreation, fishing, boating, and other water-related businesses, this continued degradation has the potential to negatively impact existing and future growth in the recreation and tourism sector.
- Alternative A offers no additional land preservation than the current programs offer. This may result in continued land use changes in the State (i.e., agricultural land conversion) and the socioeconomic impacts associated with these changes would continue.
- Environmental justice would be an ongoing compliance problem because American Indian tribes, migrant workers, and low income or ethnically distinct populations have historically experienced more environmental impacts than the general population. This condition is likely to continue under the No Action alternative. Under this alternative, there would be no CREP funds available for any producers (including minorities). No FSA actions are required or necessary under the No Action alternative to address existing or ongoing issues with environmental justice.

The No Action Alternative would not meet any of the CREP objectives outlined in Section 1.4.

### **3.12.3 The Effects of Alternative B (CREP Agreement) on Socioeconomic Issues**

Though ultimately beneficial, long term Statewide economic effects from CREP implementation would be minimal. The New York CREP proposes the potential enrollment of up to 40,000 acres across the 12 watersheds. These 40,000 acres are only one percent of the total acres of cropland that are harvested each year. Implementation of Alternative B would result in general improvement to the water quality of New York. The degradation of water quality that currently results from agricultural practices, which leads to ancillary impact to wetlands, wildlife, and tourism, would decline as a result of implementing CREP.

Implementation of Alternative B would likely have the following effects:

- If CREP was intensively implemented in a small geographic region, it could create a localized and artificial shift in rental rates and land values. CREP contains safeguards to prevent this from happening. For instance, there is a 25 percent acreage cap on CREP enrollments within a county, limiting the amount of cropland enrolled in CREP in a certain geographical region. In addition, the acres enrolled in CREP would likely be spread across the State, since participating landowners typically enroll partial farms or fields.

CREP could also create a situation where land enrolled in CREP has a greater value than surrounding lands. This is unlikely to happen in New York as income earned through CREP would remain less than the average development value of nearby land. CREP-enrolled lands are also lands that are marginally productive agricultural lands that are non-developable so there is no

opportunity cost to enrollees. All of these factors would limit the acres of cropland taken out of production in a given area and, consequently, the local economic impact due to implementation of CREP would be minimal to non-existent. These rental rates and land values of New York acreage would continue to be affected by development values and population density and would not be impacted by the Alternative B.

- Alternative B would not result in changes to total number of New York ranches/farms. The 25 percent acreage cap on CREP and the practice of participating landowners to enroll partial farms or fields means that entire ranches and farms would not be enrolled in CREP. This total would continue to respond to market forces and the economy of the State and not be impacted by Alternative B.
- CREP implementation would not substantially impact the State's economy. Agriculture would continue to contribute roughly the same value to the overall economy. CREP enrolled lands would provide residual income to enrollees, supporting the overall local economy although possibly at a slightly reduced rate. However, this slight reduction, spread across the entire state, would have an inconsequential effect on the total economy. New York's economy would continue to be affected by market forces and would not be impacted by Alternative B.
- Any trends or cycles evident in the labor market would continue and provide the same number of jobs, with fluctuations due to market conditions. CREP enrollments would be spread across the entire State and have only little to no effects to agricultural labor markets.
- Implementation of Alternative B has the potential to slightly reduce total agricultural acreage across the State because the CREP-enrolled land is removed from production. However, even at full enrollment, CREP would only affect one percent of the State's harvested cropland. Additionally, the lands (partial fields, strips, or buffers) enrolled in CREP would most likely be less productive areas of a given farm. As noted above, 244,413 acres of cropland remained idle during the year while cropland on which all crops failed was 23,690 acres (NASS, 1999). By enrolling these areas, the landowner may be able to reduce the overall input costs of farming operations, and in some cases, actually maintain or increase production by being able to concentrate resources on the remaining farmland. These two factors would likely result in minimal to no effects across the State. There would likely be no displacement of migrant farm workers. Agricultural production would continue to respond to market forces and the economy of the State and not be significantly impacted by Alternative B.
- There is a possibility for a slight beneficial effect to farm incomes from the steady and guaranteed receipt of CREP funds by enrolled producers. As discussed above, producers are more likely to enroll marginally productive lands and the residual income from CREP may result in slightly more or at least consistent income than the acreage was capable of producing as farmland. These values, if they occur, would not have a significant impact across the State.
- With the addition of filter strips, buffers, tree plantings, and shallow water areas and wetlands, wildlife habitat would be improved and expanded. This has the potential to increase opportunities for hunting and fishing in these areas and may lead to localized increases in the sale of hunting and fishing equipment and licenses. Similar effects may occur in other local resource-based recreation industries (e.g., snowmobiling).
- Alternative B offers an additional land preservation program to the State's producers, the benefits of which can be added to those provided by the current programs. This may slow the future rate of large scale land use changes in the State (i.e., agricultural land conversion) and the socioeconomic impacts associated with these changes.

Another potential effect is the financial incentive for producers to maintain open space which may help enhance the value and desirability of surrounding residential and commercial land.

- Disproportionate effects on minority or underrepresented groups are unlikely, because most CREP agreements are likely to be widely separated by intervening non-CREP land holdings.

Alternative B would assist the State in their efforts to meet the CREP objectives outlined in Section 1.4.

### **3.13 Cumulative Effects**

#### **3.13.1 Alternative A (No Action)**

Existing State programs (see Section 1.6.21) would strive to collectively have a positive impact on the State's resources. Without CREP, a powerful tool that would otherwise benefit New York's conservation efforts would remain unavailable. Observable current trends in nonpoint source pollution and resource degradation would continue.

#### **3.13.2 Alternative B (CREP Agreement)**

Working in conjunction with existing State programs (see Section 1.6.21), CREP implementation would contribute to the cumulative improvement of the State's water quality. Likewise, the enhancement of wildlife habitat across CREP watersheds would add to the State's resources and provide additional protection for listed State and Federal species. The same may be said for all of the CPs that would be implemented. Wetlands, groundwater, marine resources, wildlife, cultural resources, etc. would all benefit from the cumulative effects that CREP would bring to bear. CREP is designed to augment and enhance conservation of resources and to promote water quality improvement. It would work in conjunction with other conservation efforts being implemented at both the State and Federal level.

### **3.14 Unavoidable Adverse Impacts**

The following sections describe those effects which are adverse and cannot be avoided without mitigation.

#### **3.14.1 Alternative A (No Action)**

Nonpoint source pollution attributed to agriculture would increase over time. Continued agricultural practices would likely contribute to long term water quality degradation in watersheds across the state. There is the probability of increased seasonal erosion accompanied by increased sedimentation in regional streams immediately following harvests. Nutrient loading and waterborne pathogens would continue to impact downstream ecosystems and human populations.

#### **3.14.2 Alternative B (CREP Agreement)**

Alternative B would reduce the unavoidable adverse impacts listed under Alternative A by providing filter strips to reduce sedimentation; creating wetlands to help filter contaminants; and reducing the overall use of fertilizers and pesticides.

### **3.15 Relationship of Short Term Uses and Long Term Productivity**

#### **3.15.1 Alternative A (No Action)**

This alternative would maximize the short term uses of the environment, but would not enhance the long term productivity of eligible lands. Marginal croplands and pasturelands that might otherwise be enrolled in CREP would stay in production and would drain landowners' resources for continued use. Fertilizers and pesticides used on these lands would remain and contribute to watershed pollution.

#### **3.15.2 Alternative B (CREP Agreement)**

Under Alternative B, the short term uses of the human environment would be maximized and long term productivity would be simultaneously enhanced. Marginal croplands would be enrolled in CREP and would provide leveraged benefits to other lands and waterbodies in affected watersheds. Resources used to sustain the marginal lands would be diverted to help maximize the productivity of prime croplands. Potential overuse of fertilizers to increase productivity on marginal lands would be reduced.

### **3.16 Irreversible and Irretrievable Commitments of Resources**

#### **3.16.1 Alternative A (No Action)**

Irreversible and irretrievable commitments of resources include fuel and time spent conducting agricultural practices. The irreversible loss of soil resources from the State's agricultural lands would continue at the current or perhaps an accelerated rate due to splash, rill, and streambank erosion.

#### **3.16.2 Alternative B (CREP Agreement)**

As with Alternative A, the irreversible and irretrievable commitments of resources including fuel and time spent conducting agricultural practices would continue, though perhaps at a decreased rate. Agricultural soil loss would likely continue, but at a much reduced rate as appropriate CPs are implemented.

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## Appendix A: Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
BA	Biological Assessment
CCAA	Candidate Conservation Agreement with Assurances
CCC	Commodity Credit Corporation
CEQ	Council on Environmental Quality Regulations
CFR	Code of Federal Regulations
CP	Conservation Practice
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CSO	Combined Sewer Overflow
CWA	Clean Water Act
Cwt.	Hundredweight
DO	Dissolved Oxygen
EA	Environmental Assessment
EE	Environmental Evaluation
EFH	Essential Fish Habitat
EO	Executive Order
EPA	United States Environmental Protection Agency
EPF	Environmental Protection Fund
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FR	Federal Register
FSA	Farm Service Agency
FWS	United States Fish and Wildlife Service

HUC	Hydrologic Unit Code
LaMP	Lakewide Management Plan
Lbs.	Pounds
N	Nitrogen
NASS	National Agricultural Statistics Service
NEPA	National Environmental Policy Act
NGO	Non-government Organization
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NYS	New York State
NYSCMP	New York State Coastal Management Program
NYSDEC	New York State Department of Environmental Conservation
P	Phosphorus
PEA	Programmatic Environmental Assessment
PEIS	Programmatic Environmental Impact Statement
PIP	Practice Incentive Payment
RAPS	Remedial Action Plans
ROD	Record of Decision
SHPO	State Historic Preservation Office
SIP	Signing Incentive Payment
SSA	Sole Source Aquifer
SWCC	Soil and Water Conservation Committee
T&E	Threatened and Endangered
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Office
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
UWA	Unified Watershed Assessment

WHP            Wellhead Protection Program

## Appendix B: Glossary

**Airshed:** A geographic area or region defined by settlement patterns or topography that shares the same air mass and results in discrete atmospheric conditions.

**Aquifer:** A geologic formation that is water bearing. A geological formation or structure that stores and/or transmits water, such as to wells and springs. Use of the term is usually restricted to those water-bearing formations capable of yielding water in sufficient quantity to constitute a usable supply for people's uses.

**Categorical Exclusions:** An agency-defined category of actions that do not individually or cumulatively have a significant effect on the human environment and have been found to have no such effect in procedures adopted by the agency pursuant to NEPA. Projects qualifying for a "categorical exclusion" are not required to undergo additional NEPA analysis or documentation.

**Conservation Practices:** A series of NRCS approved agricultural practices and management techniques designed to control nonpoint pollution.

**Decomposers:** Organisms (e.g., bacteria, fungi) that break down dead plants and animals and release substances usable by consumers.

**Denitrification:** The process whereby bacteria reduce nitrate or nitrite to gaseous products such as nitrogen.

**Environmental Assessment:** A concise public document, prepared in compliance with NEPA, that briefly discusses the purpose and need for an action, alternatives to such action, and provides sufficient evidence and analysis of impacts to determine whether to prepare an environmental impact statement or finding of no significant impact (FONSI).

**Environmental Impact Statement:** A detailed written statement required by section 102(2)(C) of NEPA, analyzing the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short term uses of the environment versus the maintenance and enhancement of long term productivity, and any irreversible and irretrievable commitment of resources. A *programmatic* EIS or EA: covers general matters in broader terms and analyzes conceptual or planning alternatives. In such cases, at least one more level of site specific NEPA analysis is necessary before implementation can proceed.

**Erosion:** A geomorphic process that describes the wearing away of the land surface by wind, water, ice or other geologic agents. Erosion occurs naturally from weather or runoff but is often intensified by human land use practices.

**Eutrophication:** The natural and artificial addition of nitrogen and phosphorous (nutrients) to bodies of water, increasing algal growth. As the algae die, the decomposing microorganisms consume dissolved oxygen in the water, reducing the amount available to fish and other aquatic organisms. Ultimately, this can result in a dead lake or pond: a system where no larger aquatic organisms can survive.

**Exotic species:** A species occurring in an area outside of its historically known natural range as a result of intentional or accidental dispersal by human activities. Also known as an *introduced species*.

**Groundwater:** The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because ground water is a major source of drinking water, there is growing concern over contamination from leaching agricultural or industrial pollutants or leaking underground storage tanks.

**Hydric soils:** Soil that, in its undrained state, is flooded long enough during a growing season to develop anaerobic (lacking air – saturated) conditions that support the growth and regeneration of hydrophytic vegetation.

**Hydrophytic vegetation:** Plants specialized to grow in water or in soil too waterlogged for most plants to survive.

**Listed species:** Under the Endangered Species Act, or similar state statute, those species officially designated as threatened or endangered through all or a significant portion of their range. See also: *Threatened and endangered species*.

**Nonpoint source (pollution):** Cause of water pollution that is not associated with point (fixed) sources. Nonpoint sources include runoff from agricultural, urban, construction, and mining sites, as well as septic systems and landfills.

**Nutrients:** Chemical compounds in a usable form and have nutritive value for plants and/or animals.

**Recharging groundwater:** Refers to water entering and replenishing an underground aquifer through faults, fractures, or direct absorption.

**Riparian:** Refers to a stream and all the vegetation on its banks.

**Sediment loading:** Describes the excessive inputs of sediment into a waterbody.

**Siltation:** The deposition of finely divided soil and rock particles upon the bottom of stream and river beds and reservoirs.

**Soundscape:** The natural sound environment of a place. Also, the amalgam of natural ambient sounds created by more or less continuous processes in the natural environment.

**Stormwater runoff:** Water from precipitation that runs straight off the ground without first soaking into it. It does not infiltrate into the ground or evaporate due to impervious land surfaces, but instead flows onto adjacent land or water areas.

**Threatened and endangered species:** Under the Endangered Species Act, those species officially designated by the National Marine Fisheries Service or U.S. Fish and Wildlife Service as being in danger of extinction (i.e., endangered) or likely to become endangered (i.e., threatened) within the foreseeable future through all or a significant portion of their range. Threatened and endangered species are protected by law. See also: *Listed species*.

**Traditional Cultural Properties:** Places that are eligible for inclusion in the National Register of Historic Places because of their "association with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community."

**Watershed:** 1.) Describes a cohesive, hydrologically-linked landscape that is drained by a waterway leading to a lake or reservoir. 2.) A geographic area delineated by its peaks and ridgelines, which divide surface water flow into two or more directions.



## Appendix C: Listed Threatened and Endangered Species

Common Name	Scientific Name	Listing Status		
		Federal	NY State	Critical Habitat
<b>Mammals</b>				
Indiana Bat	<i>Myotis sodalis</i>	E	E	Yes
Allegheny Woodrat	<i>Neotoma magister</i>		E	
Sperm Whale	<i>Physeter catodon</i>	E	E	
Sei Whale	<i>Balaenoptera borealis</i>	E	E	
Blue Whale	<i>Balaenoptera musculus</i>	E	E	
Finback Whale	<i>Balaenoptera physalus</i>	E	E	
Humpback Whale	<i>Megaptera novaeangliae</i>	E	E	
Right Whale	<i>Eubalaena glacialis</i>	E	E	Yes
Gray Wolf	<i>Canis lupus</i>	T	E	Yes
Cougar	<i>Felis concolor</i>	E	E	
Canada Lynx	<i>Lynx canadensis</i>	T	T	
<b>Birds</b>				
Spruce Grouse	<i>Falcipennis canadensis</i>		E	
Golden Eagle	<i>Aquila chrysaetos</i>		E	
Peregrine Falcon	<i>Falco peregrinus</i>		E	
Black Rail	<i>Laterallus jamaicensis</i>		E	
**Piping Plover	<i>Charadrius melodus</i>	T/E	E	Yes
Eskimo Curlew	<i>Numenius borealis</i>	E	E	
Roseate Tern	<i>Sterna dougallii dougallii</i>	E	E	
Black Tern	<i>Chlidonias niger</i>		E	
Short-eared Owl	<i>Asio flammeus</i>		E	

Common Name	Scientific Name	Listing Status		
		Federal	NY State	Critical Habitat
Loggerhead Shrike	<i>Lanius ludovicianus</i>		E	
Pied-billed Grebe	<i>Podilymbus podiceps</i>		T	
Least Bittern	<i>Ixobrychus exilis</i>		T	
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	T	
Northern Harrier	<i>Circus cyaneus</i>		T	
King Rail	<i>Rallus elegans</i>		T	
Upland Sandpiper	<i>Bartramia longicauda</i>		T	
Common Tern	<i>Sterna hirundo</i>		T	
Least Tern	<i>Sterna antillarum</i>		T	
Sedge Wren	<i>Cistothorus platensis</i>		T	
Henslow's Sparrow	<i>Ammodramus henslowii</i>		T	
<b>Reptiles</b>				
Mud Turtle	<i>Kinosternon subrubrum</i>		E	
Bog Turtle	<i>Clemmys muhlenbergii</i>	T	E	
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	E	Yes
Atlantic Ridley Sea Turtle	<i>Lepidochelys kempii</i>	E	E	
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	E	Yes
Queen Snake	<i>Regina septemvittata</i>		E	
Massasauga	<i>Sistrurus catenatus</i>		E	
Blanding's Turtle	<i>Emydoidea blandingii</i>		T	
Green Sea Turtle	<i>Chelonia mydas</i>	T	T	Yes
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	T	
Fence Lizard	<i>Sceloporus undulatus</i>		T	
Timber Rattlesnake	<i>Crotalus horridus</i>		T	
<b>Amphibians</b>				
Tiger Salamander	<i>Ambystoma tigrinum</i>		E	

Common Name	Scientific Name	Listing Status		
		Federal	NY State	Critical Habitat
Northern Cricket Frog	<i>Acris crepitans</i>		E	
<b>Fishes</b>				
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	E	E	
Silver Chub	<i>Macrhybopsis storeriana</i>		E	
Pugnose Shiner	<i>Notropis anogenus</i>		E	
Round Whitefish	<i>Prosopium cylindraceum</i>		E	
Bluebreast Darter	<i>Etheostoma camurum</i>		E	
Gilt Darter	<i>Percina evides</i>		E	
Spoonhead Sculpin	<i>Cottus ricei</i>		E	
Deepwater Sculpin	<i>Myoxocephalus thompsoni</i>		E	
Lake Sturgeon	<i>Acipenser fulvescens</i>		T	
Mooneye	<i>Hiodon tergisus</i>		T	
Lake Chubsucker	<i>Erimyzon sucetta</i>		T	
Gravel Chub	<i>Erimystax x-punctata</i>		T	
Mud Sunfish	<i>Acantharchus pomotis</i>		T	
Banded Sunfish	<i>Enneacanthus obesus</i>		T	
Longear Sunfish	<i>Lepomis megalotis</i>		T	
Longhead Darter	<i>Percina macrocephala</i>		T	
Eastern Sand Darter	<i>Ammocrypta pellucida</i>		T	
Swamp Darter	<i>Etheostoma fusiforme</i>		T	
Spotted Darter	<i>Etheostoma maculatum</i>		T	
<b>Insects</b>				
Tomah Mayfly	<i>Siphonisca aerodromia</i>		E	
American Burying Beetle	<i>Nicrophorus americanus</i>	E	E	
Hessel's Hairstreak	<i>Callophrys hesseli</i>		E	
Karner Blue Butterfly	<i>Lycaeides melissa samuelis</i>	E	E	

Common Name	Scientific Name	Listing Status		
		Federal	NY State	Critical Habitat
Regal Fritillary	<i>Speyeria idalia</i>		E	
Persius Duskywing	<i>Erynnis persius</i>		E	
Grizzled Skipper	<i>Pyrgus centaureae wyandot</i>		E	
Arogos Skipper	<i>Atrytone arogos arogos</i>		E	
Bog Buckmoth	<i>Hemileuca species 1</i>		E	
Pine Pinion Moth	<i>Lithophane lepida lepida</i>		E	
Pine Barrens Bluet	<i>Enallagma recurvatum</i>		T	
Scarlet Bluet	<i>Enallagma pictum</i>		T	
Little Bluet	<i>Enallagma minisculum</i>		T	
Northeastern Beach Tiger Beetle	<i>Cicindela dorsalis dorsalis</i>	T	T	
Frosted Elfin	<i>Callophrys irus</i>		T	
<b>Mollusks</b>				
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>	E	E	
Pink mucket	<i>Lampsilis abrupta</i>	E	E	
Clubshell	<i>Pleurobema clava</i>	E	E	
Fat pocketbook	<i>Potamilus capax</i>	E	E	
Rayed Bean	<i>Villosa fabalis</i>		E	
Chittenango Ovate Amber Snail	<i>Novisuccinea chittenangoensis</i>	T	E	
Brook Floater	<i>Alasmidonta varicosa</i>		T	
Wavy-rayed Lampmussel	<i>Lampsilis fasciola</i>		T	
Green Floater	<i>Lasmigona subviridis</i>		T	
<b>Plants</b>				
Monkshood, northern wild	<i>Aconitum noveboracense</i>	T		
Gerardia, sandplain	<i>Agalinis acuta</i>	E		
Amaranth, seabeach	<i>Amaranthus pumilus</i>	T		

Common Name	Scientific Name	Listing Status		
		Federal	NY State	Critical Habitat
Fern, American hart's-tongue	<i>Asplenium scolopendrium</i> var. <i>americanum</i>	T		
Roseroot, Leedy's	<i>Sedum integrifolium</i> ssp. <i>leedy</i>	T		
Goldenrod, Houghton's	<i>Solidago houghtonii</i>	T		

\*\*Piping Plover is listed as Federally endangered in the Great Lakes Region and as Federally threatened in the Atlantic Coastal Region.

## **Appendix D: FSA Handbook Conservation Practices**