PROTOTYPE PROGRAMMATIC AGREEMENT BETWEEN THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE NEW YORK STATE OFFICE, AND THE NEW YORK STATE HISTORIC PRESERVATION OFFICER, REGARDING CONSERVATION ASSISTANCE

WHEREAS, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) administers numerous voluntary assistance programs, special initiatives, and grant and emergency response programs for soil, water, and related resource conservation activities available to eligible private producers, States, commonwealths, Federally Recognized Tribal governments, other government entities, and other applicants for conservation assistance, pursuant to the Agricultural Act of 2014 (2014 Farm Bill, Public Law 113-79); Soil Conservation and Domestic Allotment Act of 1935 (Public Law 74-46, 16 U.S.C. 590 a-f, as amended); the Flood Control Act of 1944 (Public Law 78-534, as amended); the Watershed Protection and Flood Prevention Act (Public Law 83-566, as amended, 16 U.S.C. 1001-1012); the Agricultural and Food Act of 1981 (Public Law 97-98, 95 Stat. 1213); the Agricultural Credit Act (Public Law 95-1, Title IV, Section 403); Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624); the Flood Control Act of 1936 (Public Law 74-738); the Food Security Act of 1 *985* (Public Law 99-198, as amended); the Federal Agricultural Improvement and Reform Act of 1996 (Public Law 104-127); and executive and secretarial orders, implementing regulations and related authorities; and

WHEREAS, NRCS, through its conservation assistance programs and initiatives, provides assistance for activities with the potential to affect historic properties eligible for or listed in the National Register of Historic Places (NRHP), including National Historic Landmarks (NHLs) and therefore constitute undertakings subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800, including the provisions of these regulations addressing NHLs at 36 CFR Part800.10; and

WHEREAS, NRCS has determined that the requirement to take into account the effects to historic properties of its undertakings may be more effectively and efficiently fulfilled through the use of a Prototype Programmatic Agreement (Prototype Agreement); and

WHEREAS, the NRCS New York State Office has consulted with the Cayuga Nation, Oneida Indian Nation, Onondaga Nation, Saint Regis Mohawk Tribe, Seneca Nation of Indians, Stockbridge-Munsee Community, Tonawanda Seneca Nation, Tuscarora Nation, and the New York State Historic Preservation Officer and followed the instructions in the ACHP letter that accompanied the Prototype Agreement, dated November 21, 2014; and

WHEREAS, NRCS also is responsible for fulfilling the requirements of the National Environmental Policy Act (NEPA), including the use of categorical exclusions, and coordinating NEPA and Section 106 reviews, as appropriate; and

WHEREAS, NRCS developed this Prototype Agreement in consultation with the National

Conference of State Historic Preservation Officers (NCSHPO) and its members, interested Indian Tribes, Native Hawaiian organizations, interested historic preservation organizations, (such as the National Trust for Historic Preservation), and the Advisory Council on Historic Preservation (ACHP); and

WHEREAS, in accordance with 36 CFR Part 800.14(b)(4), the ACHP has designated this agreement as a Prototype Agreement, which allows for the development and execution of subsequent prototype agreements by individual NRCS State office(s) (State-based Prototype Agreements) to evidence compliance with Section 106; and

WHEREAS, this State-based Prototype Agreement conforms to the NRCS Prototype Agreement as designated by the ACHP on November 21, 2014, and therefore, does not require the participation or signature of the ACHP when the NRCS State Office and the SHPO agree to the terms of the State-based Prototype Agreement; and

WHEREAS, this Prototype Agreement replaces the 2002 nationwide "Programmatic Agreement among the United States Department of Agriculture Natural Resources Conservation Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers relative to Conservation Assistance," as amended in 2011 and 2012, which expired on November 20, 2014; and

WHEREAS, the NRCS State Conservationist is the responsible federal agency official within the state for all provisions of Section 106, including consultation with the SHPO, NHOs, and government-to-government consultation with Indian Tribes to negotiate the State-based Prototype Agreement; and

WHEREAS, the State-based Prototype Agreement does not apply to undertakings occurring on or affecting historic properties on Tribal lands, as defined by 54 U.S.C. of the NHPA, without prior agreement and execution of a State-based Prototype Agreement with the concerned Indian tribe; and

WHEREAS, the NRCS has consulted with New York State Historic Preservation Office and has invited them to enter into this State-based Prototype Agreement as a signatory; and

WHEREAS, this Prototype Agreement does not modify the NRCS' responsibilities to consult with Indian Tribes and NHOs on all undertakings that might affect historic properties and properties of religious and cultural significance to them, regardless of where the undertaking is located, without prior agreement by the concerned Indian tribe or NHO, and recognizes that historic properties of religious and cultural significance to an Indian tribe or NHO may be located on ancestral homelands or on officially ceded lands near or far from current settlements; and

WHEREAS, when NRCS conducts individual Section 106 reviews for undertakings under this State-based Prototype Agreement, it shall identify and invite other agencies, organizations, and individuals to participate as consulting parties; and

NOW, THEREFORE, the NRCS New York State Office and the New York SHPO agree that undertakings in New York State shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

NRCS shall ensure that the following stipulations are met and carried out:

I. Applicability.

a. Once executed by the NRCS and the New York SHPO, this State-based Prototype Agreement sets forth the review process for all NRCS undertakings subject to Section 106 in the State of New York.

b. Execution of this State-based Prototype Agreement supersedes any existing State Level Agreement with New York SHPO executed under the previous NRCS nationwide Programmatic Agreement, but does not replace any existing project-specific Section 106 agreements (Memoranda of Agreement or Programmatic Agreements).

c. This State-based Prototype Agreement applies only when there is a Federal Preservation Officer (FPO) in the NRCS National Headquarters (NHQ) who meets the Secretary of the Interior's Professional Qualification Standards (48 FR 44716).

d. This State-based Prototype Agreement applies only where there is staffing or access to staffing (through contracted services or agreements with other agencies or Indian Tribes) who meet the Secretary of Interior's Professional Qualification Standards in the NRCS New York State Office.

II. Roles and Professional Qualifications.

a. The NRCS New York State Conservationist is responsible for oversight of its performance under this State-based Prototype Agreement.

b. NRCS New York shall ensure that all NRCS staff or individuals carrying out Section 106 historic preservation compliance work on its behalf, including the NRCS New York State senior historic preservation professional staff member (the Cultural Resources Specialist (CRS), or Archaeologist, or Historian), are appropriately qualified to coordinate the reviews of resources and historic properties as applicable to the resources and historic properties being addressed (site, building, structure, landscape, resources of significance to Indian Tribes, NHOs, and other concerned communities). Thus, these staff and consultants must meet the Secretary of the Interior's Professional Qualification Standards and have the knowledge to assess the resources within an undertaking's area of Potential Effects (APE).

c. The New York State Conservationist is responsible for consultation with the New York SHPO, and government to government consultation with Indian Tribes to develop consultation protocols. These responsibilities may not be delegated to any other staff, nor

carried out on behalf of NRCS by another federal agency.

d. The NRCS New York CRS/Archaeologist/Historian and/or professional consultants shall provide technical historic property and resource information to the State Conservationist for use in Section 106 findings and determinations, after appropriate consultations with the SHPO, Indian Tribes, NHOs, and discussions with the landowner. The CRS/Archaeologist/Historian shall monitor and oversee the work and reporting of all NRCS field office personnel and professional service consultants. The CRS/Archaeologist/Historian shall also assist the State Conservationist in determining whether an undertaking has the potential to affect historic properties, triggering Section 106 review, pursuant to 36 CFR Part 800.3(a).

e. NRCS field office personnel involved in implementing this State-based Prototype Agreement, after completion of NRCS' web, classroom, and field awareness training acquired through USDA's AgLearn training site, shall work with the CRS/Archaeologist/Historian, as feasible, in completing historic preservation compliance (Section 106) field records for the agricultural producer's (NRCS' client or voluntary applicant for assistance) files and for use in producing initial historic property identification records (as set forth and outlined in NRCS' operational guidance, the National Cultural Resources Procedures Handbook, Title 190, Part 601).

f. The CRS/Archaeologist/Historian in New York shall oversee development of the scopes of work for investigation of the APEs for identified undertakings (see 36 CFR Part 800.4). The NRCS may use professional service contractors or consultants or partners to assist with cultural resources compliance studies. NRCS shall ensure these contractors meet the Secretary of Interior's Professional Qualifications Standards.

g. NRCS remains responsible for all consultation with the SHPO, Indian Tribes and THPOs and NHOs, and all determinations of NRHP eligibility and effect. NRCS may not delegate consultation for findings and determinations to professional services consultants or producers/applicants for conservation assistance.

h. The New York SHPO, if provided sufficient data on a proposed undertaking and APE for the proposed undertaking by NRCS New York shall consult and provide a response to NRCS within thirty (30) calendar days. The definition of sufficient data is provided in 36 CFR Part 800.11.

i. The ACHP shall provide technical guidance, participate in dispute resolution, and monitor the effectiveness of this agreement, as appropriate.

III. Training.

a. NRCS shall require personnel conducting cultural resources identification and evaluation work to complete, at a minimum, the NRCS Web-based (in USDA AgLearn) and field Cultural Resources Training in modules 1-8 and the Section 106 Essentials class.

b. NRCS shall require CRS/Archaeologist/Historian and/or other NRCS personnel overseeing cultural resource work to take the NRCS Cultural Resources Training Modules (awareness

training) and the ACHP's Section 106 *Essentials* course, or a course with similar content, if approved by the NRCS FPO. Training must be completed within the first calendar year after execution of this State-based Prototype Agreement. NRCS personnel shall review and update training completion with their supervisors and include their training in their Individual Development Plans.

c. NRCS may invite the SHPO, Indian Tribes, or staff to participate in presentations at agency classroom or field trainings.

d. NRCS shall encourage all personnel conducting or overseeing cultural resources work to take additional appropriate specialized training as provided by the SHPO, Indian Tribes, NHOs, the ACHP, National Park Service, General Services Agency or other agencies, as feasible.

IV. Lead Federal agency.

a. For any undertaking for which the NRCS is the lead federal agency for Section 106 purposes per 36 CFR Part 800.2(a)(2), NRCS staff shall follow the terms of this State-based Prototype Agreement. NRCS shall notify the NY SHPO, interested Indian Tribes, and other consulting parties of its involvement in the undertaking and the involvement of the other federal agencies.

b. For any undertaking for which the NRCS is not the lead federal agency for Section 106 purposes, including those undertakings for which the NRCS provides technical assistance to other USDA or other federal agencies, the terms of this State-based Prototype Agreement shall not apply to that undertaking. If the lead federal agency agrees, NRCS may follow the approved alternative procedures in place for that agency.

V. Review Procedures.

a. In consultation with the New York SHPO, NRCS shall identify those undertakings with little to no potential to affect historic properties as well as undertakings with the potential to affect historic properties. The classification of undertakings is provided in Appendix A. NRCS undertakings classified as "No Effect" ("N") are not considered to have an effect and no further Section 106 consultation is required for the their implementation. NRCS undertakings categorized as "Potential Effect" ("P") are considered to have the Potential Effect except when non-intrusive or when implementation will not exceed the depth and extent of previous cultivation. NRCS undertakings marked "Effect" ("E") are considered to have an effect on cultural resources. Complete reviews are required prior to their implementation. NRCS undertakings not covered in this State-based Prototype Agreement will be presumed to have the potential to affect cultural resources. The descriptions of undertakings will be provided on the Ecological Science Cultural Resources Review Form (ECS-21) for projects. The NRCS procedures for submitting projects to the SHPO are described in Appendix B. In addition, the policy outlined in Appendix C regarding heavily disturbed barnyards will be followed when determining whether a practice should follow the complete cultural resources investigations.

b. The undertakings in Appendix A may be modified through consultation and written agreement between the NRCS New York State Conservationist and the SHPO without requiring an

amendment to this State-based Prototype Agreement. The NRCS New York State Office will maintain the master list and will provide an updated list to all consulting parties with an explanation of the rationale (metadata) for classifying the undertakings accordingly.

c. Undertakings not identified in Appendix A shall require further review as outlined in Stipulation V.c. The NRCS shall consult with the SHPO/Indian Tribes to define the undertaking's APE, identify and evaluate historic properties that may be affected by the undertaking, assess Potential Effects, and identify strategies for resolving adverse effects prior to approving the financial assistance for the undertaking.

1. NRCS may provide its proposed APE, identification of historic properties and/or scope of identification efforts, and assessment of effects in a single transmittal to the SHPO/Indian tribe/NHO, provided this documentation meets the substantive standards in 36 CFR Part 800.4-5 and 800.11.

2. The NRCS shall attempt to avoid adverse effects to historic properties whenever possible; where historic properties are located in the APE, NRCS shall describe how it proposes to modify, buffer, or move the undertaking to avoid adverse effects to historic properties.

3. Where the NRCS proposes a finding of "no historic properties affected" or "no adverse effect" to historic properties, the SHPO/Indian Tribes who shall have 30 calendar days from receipt of this documented description and information to review it and provide comments. The NRCS shall take into account all timely comments.

i. If the SHPO/Indian Tribes, or another consulting party, disagrees with NRCS' findings and/or determination, it shall notify the NRCS within the 30 calendar day time period. The NRCS shall consult with the SHPO or other consulting party to attempt to resolve the dis agreement. If the disagreement cannot be resolved through this consultation, NRCS shall follow the dispute resolution process in Stipulation VIII below.

ii. If the SHPO/Indian Tribes does not respond to the NRCS within the 30 calendar day period and/or the NRCS receives no objections from other consulting parties, or if the SHPO/Indian tribe/NHO concurs with the NRCS' determination and proposed actions to avoid adverse effects, the NRCS shall document the concurrence/lack of response within the review time noted above, and may move forward with the undertaking.

4.Where a proposed undertaking may adversely affect historic properties, NRCS shall describe proposed measures to minimize or mitigate the adverse effects, and follow the process in 36 CFR Part 800.6, including consultation with other consulting parties and notification to the ACHP, to develop a Memorandum of Agreement to resolve the adverse effects. Should the proposed undertaking have the potential to adversely affect a known NHL, the NRCS shall, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to the NHL in accordance with 54 U.S.C. of the NHPA and 36 CFR Part 800.6 and 800.10, including consultation with the ACHP and respective National Park Service, Regional National Historic Landmark Program Coordinator, to develop a Memorandum of Agreement.

VI. Emergency and Disaster Management Procedures (Response to Emergencies)

a. NRCS shall notify the SHPO/Indian Tribes immediately or within 48 hours of the emergency determination, following the NRCS' Emergency Watershed Program (EWP) final rule (see Section 216, P.L. 81-516 Final Rule, 7 CFR Part 624 (April 2005).

b. If the NRCS New York State Office has not developed specific procedures for responding to exigencies, the NRCS shall follow the recently approved guidelines for Unified Federal Review issued by the Department of Homeland Security, Federal Emergency Management Service (DHS, FEMA), the Council on Environmental Quality (CEQ), and the ACHP in July 2014, or the procedures in 36 CFR Part 800.12(b).

VII. Post-review discoveries of cultural resources or historic properties and unanticipated effects to historic properties.

a. Where construction has not yet begun and a cultural resource is discovered after Section106 review is complete, the NRCS shall consult to seek avoidance or minimization strategies in consultation with the SHPO, Indian Tribes, and other consulting parties to resolve adverse effects in accordance with 36 CFR Part 800.6.

b. The NRCS shall ensure that every contract for assistance includes provisions for halting work/construction in the area when potential historic properties are discovered or unanticipated effects to historic properties are found after implementation, installation, or construction has begun. When such a discovery occurs, the producer who is receiving financial assistance or their contractor shall immediately notify the NRCS State Conservationist's Office, CRS, supervisory NRCS personnel for the area, and the landowner/applicant.

1. NRCS CRS shall inspect the discovery within 24 hours, if weather permits, and in consultation with the local NRCS official (field office supervisor or District or Area Conservationist), concerned Indian Tribes, the SHPO, the NRCS State engineering or program supervisor, as appropriate), the landowner/producer (whomever NRCS is assisting), the CRS shall establish a protective buffer zone surrounding the discovery. This action may require inspection by tribal or NHO cultural resources experts in addition to the CRS.
2. All NRCS contact with the media shall occur only under the direction of the NRCS Public Affairs Officer, as appropriate and the State Conservationist.
3. Security shall be established to protect the resources/historic properties, workers, and private property. Local law enforcement authorities will be notified in accordance with applicable State law and NRCS policy in order to protect the resources. Construction and/or work may resume outside the buffer only when the State Conservationist determines it is appropriate and safe for the resources and workers.
4. NRCS CRS shall notify the SHPO, Indian Tribes, and the ACHP no later than 48 hours after the discovery and describe NRCS' assessment of the National Register eligibility of the property, as feasible and proposed actions to resolve any adverse effects to historic properties. The eligibility determination may require the assessment and advice of concerned Indian Tribes, the SHPO, and technical experts (such as historic landscape architects) not employed by NRCS.
5. The SHPO, Indian Tribes, and ACHP shall respond within 48 hours from receipt of the notification with any comments on the discovery and proposed actions.

6. NRCS shall take any comments provided into account and carry out appropriate actions to resolve any adverse effects.
7. NRCS shall provide a report to the SHPO, Indian Tribes, and the ACHP of the actions when they are completed.

c. When human remains are discovered, the NRCS shall follow all applicable federal, tribal, and state burial laws and ordinances, including the Native American Graves Protection and Repatriation Act, and implementing regulations, when on tribal or federal lands, and related human rights and health statutes, where appropriate. NRCS shall also refer to the ACHP's Policy Statement regarding *Treatment of Burial Sites, Human Remains and Funerary Objects* and the ACHP's Section 106 Archaeology Guidance. NRCS shall also follow USDA and NRCS policy on treatment of human remains and consultation.

d. The NRCS will ensure that artifacts acquired through cultural resources investigations are curated according to the NRCS's General Manual 401.33 Ownership and Curation of Artifacts and Collections in addition to 36 CFR 79. The curation of artifacts will be based on the property types as indicated below:

1. If the NRCS collects artifacts on federally owned property, the artifacts will be curated by a "Curation Facility".

2. If the NRCS receives written permission from the private landowner to collect artifacts as part of the cultural resources investigation and artifacts are collected from the property by a CRS, the NRCS will ensure that the artifacts are managed according to the policy cited above. If the private landowner chooses to keep the artifacts, they will be returned to the landowner upon completion of the cultural resources investigation. Prior to returning the artifacts to the landowner, the artifacts will be documented in a final report.

e. If the NRCS collects artifacts on State land or under State waters during cultural resources investigations, the NRCS will make sure that artifacts are curated at the New York State Museum in accordance with State Education Law Section 233.

VIII. Dispute resolution.

a. Should any consulting or signatory party to this State-based Prototype Agreement object to any actions proposed or the manner in which the terms of the agreement are implemented, the NRCS State Conservationist and CRS shall consult with such party to resolve the objection. If the State Conservationist determines that such objection cannot be resolved, he or she will:

1. Forward all documentation relevant to the dispute, including the State Conservationist's proposed resolution, to the NRCS FPO and Senior Policy Official (SPO) Deputy Chief for Science and Technology) and the ACHP. The ACHP shall provide the FPO, SPO, and State Conservationist with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, NRCS shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and any signatory or consulting parties, and provide them with a copy of this written response. NRCS will then proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, NRCS may make a final decision on the dispute and proceed. Prior to reaching such a final decision, NRCS shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and consulting parties, and provide them and the ACHP with a copy of the written response.

b. The NRCS New York State Office responsibility to carry out all other actions subject to the terms of this agreement that are not the subject of the dispute remains unchanged.

c. Any consulting party to State-based Prototype Agreement may request the ACHP provide its advisory opinion regarding the substance of any finding, determination, or decision regarding compliance with its terms.

d. At any time during the implementation of the State-base Prototype Agreement, a member of the public may submit an objection pertaining to this agreement to the NRCS State Conservationist, in writing. Upon receiving such an objection, the State Conservationist shall notify the NRCS SPO and FPO, and SHPO/Indian Tribes, take the objection into account, and consult with other consulting parties as appropriate to resolve the objection. The NRCS State Conservationist shall notify the SPO, FPO, and SHPO of the outcome of this process.

IX. Public Involvement

The NRCS State Conservationist will ensure the public is involved in the development of this State-based Prototype Agreement and participates in Section 106 review as set forth above in Section V (reference to other parties). The State Technical Committee will review and comment on this State-based Prototype Agreement.

X. Annual reporting and monitoring.

a. Every year following the execution of this agreement, commencing December 1, 2015, until it expires or is terminated, the NRCS New York State Conservationist shall provide all consulting parties (including those parties who participate in the consultation but do not sign the agreement) and the FPO a summary report detailing work undertaken pursuant to its terms, including a list of undertakings falling under Appendix A as well as undertakings that required further review; a summary of the nature and content of meetings held with SHPO/Indian Tribes/NHOs; and an assessment of the overall effectiveness of the State-based Prototype Agreement. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in NRCS' efforts to carry out the terms of this agreement.

1. The NRCS FPO shall use the state reports to provide, through the NRCS SPO, an annual report to the ACHP.
2. The State Conservationist shall use the state report to assess the need for annual meetings with the SHPO/Indian Tribes/NHO each fiscal year.

b. The State Conservationist will participate in an annual review with the NRCS Regional Conservationist regarding the effectiveness of the prototype agreement and submit a written (email) report following this review to the SPO (Deputy Chief for Science and

Technology).

c. The NRCS State Conservationist, SHPO, Indian Tribes, or NHO may request that the ACHP participate in any annual meeting or agreement review.

XI. Compliance with applicable State law and Tribal law (when on Tribal lands).

NRCS shall comply with relevant and applicable state law, including permit requirements on state land, and with relevant and applicable tribal law, when on tribal lands.

XII. Duration of Prototype Agreement.

This State-based Prototype Agreement will be in effect for 10 years from the date of execution unless amended or terminated pursuant to Stipulation XIII below.

XIII. Amendment and termination.

a. This State-based Prototype Agreement may be amended if agreed to in writing by all signatories. The amendment will be effective on the date a copy, signed by all of the signatories, and is filed with the NRCS FPO, SPO, and the ACHP.

b. If any signatory to this State-based Prototype Agreement, or the ACHP, determines that its provisions will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XII.A. If within 30 calendar days, or other time period agreed upon by the signatories, an amendment cannot be agreed upon, any signatory or the ACHP may terminate the agreement upon written notification to the other signatories.

c. If this State-based Prototype Agreement is terminated, or expires without being extended via the amendment process described above, and prior to continuing work on any undertaking, NRCS shall comply with 36 CFR Part 800 for all individual undertakings in New York State. NRCS will consider requests from other USDA agencies to become a signatory to the State-based Prototype Agreement following formal written requests and appropriate discussion with and approval by the NRCS FPO and SPO, and joint USDA Agency -NRCS State Office consultation with the ACHP, NCSHPO, and Indian Tribes/THPOs or NHOs, and other consulting parties, as appropriate. Such inclusion of the USDA agency may require amendment to this State-based Prototype Agreement.

Execution of this State-based Prototype Agreement by the NRCS and SHPO and implementation of its terms evidence that NRCS has taken into account the effects of its undertakings in New York on historic properties and afforded the ACHP a reasonable opportunity to comment.

Signatory Parties

Gregory A. Hunt 2-6-18

State Conservationist, Natural Resources Conservation Service New York Date

R. Daniel Mackay 2/1/2018

R. Daniel Mackay Date

Deputy Commissioner for Historic Preservation/Deputy SHPO

APPENDIX A

CLASSFICIATION OF UNDERTAKINGS

Pursuant to Stipulation V.a. above, in consultation with the SHPO, the NRCS, through the qualified CRS as described in Stipulation II.b., has determined that the following undertakings have No Effect, Potential Effect, or Effect to historic properties. The NRCS is not required to consult further with the SHPO under Section 106 for any undertakings that are classified as "No Effect" to historic properties or "N" in this appendix. Any undertakings not included in this appendix will be considered to potentially affect historic properties. Therefore, a cultural resources review is required for undertakings not listed below.

I. NRCS New York has determined that the following undertaking have no potential to affect historic properties and thus require no further consultation under Section 106.

a. Conservation Activity Plans (CAPs): NRCS New York funds development of CAPs for producers to ensure that the land's unique natural resources are managed in the best possible way, while maintaining sustainability and productivity. CAPs can be used to apply for financial assistance from the NRCS. The development of CAPs involves no ground disturbing undertakings that would necessitate a cultural resources review.

b. Conservation Technical Assistance (CTA): NRCS New York provides planning technical assistance and implementing natural resources solutions but no financial assistance to the producers. The technical assistance is completed in the office or in the field but involves no ground disturbing undertakings that would require a cultural resources review.

c. Soil Survey: NRCS New York soil scientists conduct soil surveys that may include minimal or no ground disturbance. Soil surveys provide a field-based scientific inventory of soil resources, including soil maps, data about the physical and chemical properties of soils, and information on the potentials and limitations of each soil. Small-scale soil field activities, such as auger holes, small shovel holes, or ground-penetrating radar, have insignificant impact to affect cultural resources and do not require a cultural resources review. Large-scale soil field activities such as backhoe trenches, have a potential to affect cultural resources and necessitate a cultural resources review as a ground disturbing undertaking.

d. Technical Determinations: NRCS New York makes highly erodible lands (HEL) and wetland determinations for producers to comply with the 1985 Food Security Act as amended. These determinations are mostly made in the office or at times in the field and involve no ground disturbing undertakings that would require a cultural resources review.

II. NRCS New York has determined that the undertakings listed in Table 1 have No Effect, Potential Effect, or Effect to historic properties.

Table 1. NRCS New York Individual Undertakings

Note: Any undertakings that do not appear in the following table should be considered as an effect.

	NRCS NY Individual Undertakings	
Code	**Name**	**Rating**
472	Access Control	P
560	Access Road	E
309	Agrichemical Handling Facility	E
710	Agricultural Secondary Containment Facility	P
311	Alley Cropping	N
591	Amendments for Treatment of Agricultural Waste	N
366	Anaerobic Digester, Controlled Temperature	E
316	Animal Mortality Facility	E
397	Aquaculture Ponds	E
396	Aquatic Organism Passage	E
310	Bedding	E
400	Bivalve Aquaculture Gear and Biofouling Control	N
314	Brush Management	P
672	Building Envelope Improvement	N
584	Channel Bed Stabilization	E
326	Clearing and Snagging	E
372	Combustion System Improvement	P
317	Composting Facility	P
327	Conservation Cover	N
328	Conservation Crop Rotation	N
332	Contour Buffer Strips	N
330	Contour Farming	N
331	Contour Orchard and Other Perennial Crops	P
334	Controlled Traffic Farming	N
340	Cover Crop	N
342	Critical Area Planting	P
588	Cross Wind Ridges	N
589C	Cross Wind Trap Strips	N
402	Dam	E
348	Dam, Diversion	E

324	Deep Tillage	E
605	Denitrifying Bioreactor	P
356	Dike	E
362	Diversion	E
554	Drainage Water Management	N
432	Dry Hydrant	P
375	Dust Control from Animal Activity on Open Lot Surfaces	N
373	Dust Control on Unpaved Roads and Surfaces	N
647	Early Successional Habitat Development/Management	N
201	Edge-of-Field Water Quality Management-Data Collection and Evaluation	N
202	Edge-of-Field Water Monitoring-System Installation	E
368	Emergency Animal Mortality Management	E
374	Farmstead Energy Improvement	N
592	Feed Management	N
382	Fence (Pounding and Digging)	N
386	Field Border	N
376	Field Operations Emissions Reduction	N
393	Filter Strip	N
394	Firebreak	P
399	Fish Pond Management	N
512	Forage and Biomass Planting	N
511	Forage Harvest Management	N
666	Forest Stand Improvement	N
655	Forest Trails & Landings	P
383	Fuel Break	P
410	Grade Stabilization Structure	E
412	Grassed Waterway	E
548	Grazing Land Mechanical Treatment	P
355	Groundwater Testing	N
561	Heavy Use Area Protection	E
422	Hedgerow Planting	P
315	Herbaceous Weed Treatment	N
603	Herbaceous Wind Barriers	N
325	High Tunnel System	P
595	Integrated Pest Management	N
430	Irrigation Pipeline	E
436	Irrigation Storage Reservoir	E
441	Irrigation System – Micro irrigation	E

443	Irrigation System – Surface & Subsurface	E
447	Irrigation System, Tail water Recovery	E
449	Irrigation Water Management	N
527	Karst Sinkhole Treatment	P
544	Land Reconstruction, Currently Mined Land	E
543	Land Reclamation, Abandoned Mined Land	E
453	Land Reclamation-Landslide Treatment	E
670	Lighting System Improvement	N
468	Lined Waterway or Outlet	E
516	Livestock Pipeline	P
482	Mole Drain	E
353	Monitoring Well	N
484	Mulching	N
379	Multi-Story Cropping	P
590	Nutrient Management	N
500	Obstruction Removal	E
319	On-Farm Secondary Containment Facility	P
582	Open Channel	E
783	Pathogen Management	N
782	Phosphorous Removal System	E
378	Pond	E
520	Pond Sealing or Lining-Compacted Soil Treatment	P
522	Pond Sealing or Lining-Concrete	P
521A	Pond Sealing or Lining – Flexible Membrane	P
338	Prescribed Burning	P
528	Prescribed Grazing	N
533	Pumping Plant	P
562	Recreation Area Improvement	P
566	Recreation Land Grading & Shaping	E
345	Residue and Tillage Management, Mulch till	N
329	Residue and Tillage Management, No-Till/Strip Till/Direct Seed	N
643	Restoration and Management of Declining Habitats	N
391	Riparian Forest Buffer	P
390	Riparian Herbaceous Cover	N
654	Road/Trail/Landing Closure and Treatment	P
558	Roof Runoff Structure	P
367	Roofs and Covers	P
604	Saturated Buffer	E

350	Sediment Basin	E
646	Shallow Water Management for Wildlife	E
572	Soil Spreading	E
574	Spring Development (No Effect if under a quarter acre in size)	P
442	Sprinkler System	P
570	Storm Runoff Control	P
578	Stream Crossing	E
395	Stream Habitat Improvement & Management	E
580	Streambank and Shoreline Protection	E
585	Stripcropping	N
587	Structure for Water Control	E
649	Structures for Wildlife	N
747	Subsurface Drain Bioreactor	E
606	Subsurface Drain	E
607	Surface Drainage, Field Ditch	E
608	Surface Drainage, Main or Lateral	E
600	Terrace	E
575	Trails and Walkways	P
612	Tree/Shrub Establishment	P
660	Tree/Shrub Pruning	N
490	Tree/Shrub Site Preparation	P
620	Underground Outlet	E
645	Upland Wildlife Habitat Management	N
635	Vegetated Treatment Area	E
630	Vertical Drain	E
360	Waste Facility Closure	P
633	Waste Recycling	N
632	Waste Separation Facility	E
313	Waste Storage Facility	E
634	Waste Transfer	E
629	Waste Treatment	E
638	Water & Sediment Control Basin	E
642	Water Well	E
614	Watering Facility	P
351	Well Decommissioning	P
658	Wetland Creation	E
659	Wetland Enhancement	E
657	Wetland Restoration	E
644	Wetland Wildlife Habitat Management	N

380	Windbreak/Shelterbelt Establishment	P
650	Windbreak/Shelterbelt Renovation	P
384	Woody Residue Treatment	N

Key: E = Effect; P = Potential Effect; N = No Effect

III. NRCS New York has determined that the undertakings listed in Table 2 have No Effect, Potential Effect, or Effect to historic properties.

Note: Any enhancements and bundles that do not appear in the following table should be considered as an effect.

Table 2. NRCS New York Conservation Stewardship Program (CSP) Enhancements

Enhancement Code	**Enhancement Name**	**Enhancement Description**	**Units**	**No Effect (N), Potential Effect (P), or Effect (E)**
E315132Z	Herbaceous weed control that helps create desired plant communities and habitats consistent with the ecological site.	Mechanical, chemical, or biological, herbaceous weed control will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	acre	N
E315133Z	Herbaceous weed control (for inadequate structure and composition) that helps create desired plant communities and habitats consistent with the ecological site.	Mechanical, chemical, or biological, herbaceous weed control will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.	acre	N
E315134Z	Herbaceous weed control for plant pest pressures that helps create desired plant communities and habitats consistent with	Mechanical, chemical, or biological, herbaceous weed control will be employed to control targeted, herbaceous weeds so as to create, release, or restore desired plant	acre	N

	the ecological site.	communities that are consistent with achievable, ecological site, steady state descriptions.		
E327136Z1	Conservation cover to provide food habitat for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	N
E327136Z2	Establish Monarch butterfly habitat	Seed or plug milkweed (Asclepias spp.), the Monarch butterfly larval hostplant, and high-value monarch butterfly nectar plants in non-cropped areas such as field borders, contour buffer strips, and associated grasslands.	acre	N
E327137Z	Conservation cover to provide cover and shelter habitat for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	N
E327139Z	Conservation cover to provide habitat continuity for pollinators and beneficial insects	Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.	acre	N
E328101I	Improved resource conserving crop rotation to reduce water erosion	Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N

E328101R	Resource conserving crop rotation to reduce water erosion	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328101Z	Conservation crop rotation on recently converted CRP grass/legume cover for water erosion	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. Crop rotation minimizes disturbance resulting in a Soil Tillage Intensity Rating (STIR) less than 10 and reduces soil erosion from water to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, soil erosion estimate, and STIR calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	N
E328102I	Improved resource conserving crop rotation to reduce wind erosion	Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N

E328102R	Resource conserving crop rotation to reduce wind erosion	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328102Z	Conservation crop rotation on recently converted CRP grass/legume cover for wind erosion	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. Crop rotation minimizes disturbance resulting in a Soil Tillage Intensity Rating (STIR) less than10 and reduces soil erosion from wind to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, soil erosion estimate, and STIR calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	N
E328106I	Improved resource conserving crop rotation for soil organic matter improvement	Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N

E328106R	Resource conserving crop rotation for soil organic matter improvement	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328106Z1	Soil health crop rotation	Implement a crop rotation which addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.	acre	N

E328106Z2	Modifications to improve soil health and increase soil organic matter	Use of soil health assessment to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion (primary assessment made in Year 1). Modifications to the crop rotation and/or crop management will be made as a result of the assessment results (adding a new crop and/or cover crop to the rotation; making changes to planting and/or tillage system, harvest timing of crops, or termination timing of cover crops). During Year 3 a follow up assessment will be completed to allow time for the modifications to show increased soil organic matter. Modified system must produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.	acre	N

E328106Z3	Conservation crop rotation on recently converted CRP grass/legume cover for soil organic matter improvement	Implement a crop rotation management system on crop land acres that have recently converted from CRP grass/legume conservation cover to annual planted crops. The crop rotation adds diversity to the system; keeps a living root growing; and is managed to minimize soil chemical, physical and biological disturbance and maintain residue cover on the surface. The rotation includes crops and/or cover crops representing 3 of the 4 crop types during the planned crop sequence: warm season grass (WSG), warm season broadleaf (WSB), cool season grass (CSG), or cool season broadleaf (CSB). The crop rotation will produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the SCI. Crop rotation minimizes disturbance and reduces soil erosion from wind to below soil tolerance (T) level. The current NRCS wind and water erosion prediction technologies must be used to document the rotation, STIR and SCI calculations. *This enhancement is limited to acres where the conversion event took place not more than 2 years prior. Enhancement not applicable on hayland.	acre	N
E328107I	Improved resource conserving crop rotation to improve soil compaction	Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N

E328107R	Resource conserving crop rotation to improve soil compaction	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328134I	Improved resource conserving crop rotation to relieve plant pest pressure	Improve an existing Resource Conserving Crop Rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328134R	Resource conserving crop rotation to relieve plant pest pressure	Establish a Resource Conserving Crop Rotation. Rotation must include AT LEAST one resource conserving crop as determined by the State Conservationist in a minimum three year crop rotation. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plan pest pressures.	acre	N
E328136Z	Leave standing grain crops unharvested to benefit wildlife food sources	Implement a crop rotation which allows a portion of grain crops to be left in fields un-harvested to provide food and cover for wildlife during winter months.	acre	N
E328137Z	Leave standing grain crops unharvested to benefit wildlife cover and shelter	Implement a crop rotation which allows a portion of grain crops to be left in fields un-harvested to provide food and cover for wildlife during winter months.	acre	N

E329101Z	No till to reduce water erosion	Establish no till system to reduce sheet and rill erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	N
E329102Z	No till system to reduce wind erosion	Establish no till system to reduce wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for wind erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	N
E329106Z	No till system to increase soil health and soil organic matter content	Establish a no till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.	acre	N

E329114Z	No till to increase plant-available moisture: irrigation water	Establish a no till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	N
E329115Z	No till to increase plant-available moisture: moisture management	Establish a no till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	N
E329128Z	No till to reduce tillage induced particulate matter	Establish no till system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.	acre	N

E329144Z	No till to reduce energy	Establish a no till system which reduces total energy consumption associated with field operations by at least 25% compared to current tillage system (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption.	acre	N
E334107Z	Controlled traffic farming to reduce compaction	Establish a controlled traffic system where no more than 25% of the surface is tracked with heavy axel loads to minimize soil compaction. For row crops (e.g. corn in 30-inch rows) no tire should run on a row except for flotation tires on combines and/or fertilizer and lime spreading trucks. If wide flotation tires are used, they must be big enough that the inflation pressure will be below 18 psi to minimize compaction on trafficked rows.	acre	N
E340101Z	Cover crop to reduce water erosion	Cover crop added to current crop rotation to reduce soil erosion from water to below soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to provide adequate erosion protection.	acre	N
E340102Z	Cover crop to reduce wind erosion	Cover crop added to current crop rotation to reduce soil erosion from wind to below the soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to	acre	N

		provide adequate erosion protection.		
E340106Z1	Intensive cover cropping to increase soil health and soil organic matter content	Implementation of cover crop mix to provide soil coverage during ALL non-crop production periods in an annual crop rotation. Cover crop shall not be harvested or burned. Planned crop rotation including cover crops and associated management activities must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document SCI calculations.	acre	N
E340106Z2	Use of multi-species cover crops to improve soil health and increase soil organic matter	Implement a multi-species cover crop to add diversity and increase biomass production to improve soil health and increased soil organic matter. Cover crop mix must include a minimum of 4 different species. The cover crop mix will increase diversity of the crop rotation by including crop types currently missing, e.g. Cool Season Grass (CSG), Cool Season Broadleaves (CSB), Warm Season Grasses (WSG), Warm Season Broadleaves (WSB).	acre	N
E340106Z3	Intensive cover cropping (orchard or vineyard floor) to increase soil health and soil organic matter content	Implementation of cover crops to provide orchard or vineyard floor coverage throughout the year. Cover crop shall not be harvested, grazed, or burned. Planned cover crop management activities must achieve a soil conditioning index (SCI) of zero or higher and produce a positive trend in the Organic Matter (OM) subfactor over the life of the crop rotation. The current	acre	N

		NRCS wind and water erosion prediction technologies must be used to document SCI calculations.		
E340106Z4	Use of soil health assessment to assist with development of cover crop mix to improve soil health and increase soil organic matter	Use of a soil health assessment to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion (primary assessment made in Year 1). Soil health assessment results and client's objectives will be utilized to determine a multi-species cover crop mix that will be added to the crop rotation. During Year 3 a follow up assessment will be completed to allow time for the addition of a cover crop to increased soil organic matter.	acre	N
E340107Z	Cover crop to minimize soil compaction	Establish a cover crop mix that includes plants with both fibrous root and deep rooted systems. Fibrous to treat and prevent both near surface (0-4") and deep (>4") soil compaction and deep rooted to break up deep compacted soils. Cover crop shall not be harvested, grazed, or burned.	acre	N
E340118Z	Cover crop to reduce water quality degradation by utilizing excess soil nutrients-surface water	Establish a cover crop mix to take up excess soil nutrients. Select cover crop species for their ability to effectively utilize nutrients. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake. Cover crop shall not be harvested, grazed, or burned.	acre	N
E340119Z	Cover crop to reduce water quality degradation by utilizing excess soil nutrients-ground water	Establish a cover crop mix to take up excess soil nutrients. Select cover crop species for their ability to effectively utilize nutrients. Terminate the cover crop as late as practical to	acre	N

		maximize plant biomass production and nutrient uptake. Cover crop shall not be harvested, grazed, or burned.		
E340134Z	Cover crop to suppress excessive weed pressures and break pest cycles	Establish a cover crop mix to suppress excessive weed pressures and break pest cycles. Select cover crop species for their life cycles, growth habits, and other biological, chemical and/or physical characteristics. Select cover crop species that do not harbor pests or diseases of subsequent crops in the rotation. Cover crop shall not be harvested, grazed, or burned.	acre	N
E345101Z	Reduced tillage to reduce water erosion	Establish a reduced tillage system to reduce sheet and rill erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	N
E345102Z	Reduced tillage to reduce wind erosion	Establish a reduced tillage system to reduce wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.	acre	N

E345106Z	Reduced tillage to increase soil health and soil organic matter content	Establish a reduced till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher and produce a positive trend in the Organic Matter (OM) subfactor over the life of the crop rotation. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.	acre	N
E345114Z	Reduced tillage to increase plant-available moisture: irrigation water	Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	N
E345115Z	Reduced tillage to increase plant-available moisture: moisture management	Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.	acre	N

E345128Z	Reduced tillage to reduce tillage induced particulate matter	Establish a reduced tillage system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.	acre	N
E345144Z	Reduced tillage to reduce energy use	Establish a reduced tillage system which reduces total energy consumption associated with field operations by at least 25% compared to conventional tillage systems (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption. <State lists will be prepared providing conventional system benchmark energy values and reduced tillage system values for those systems using at least 25% less energy>.	acre	N
E374144Z1	Install variable frequency drive(s) on pump(s)	Install Variable Frequency Drive(s) (CPS 533 Pumping Plant) with the correct sensors, on all pumps indicated in the energy audit.	no	N
E374144Z2	Switch fuel source for pump motor(s)	Switch fuel source for the pump motor(s) indicated in the audit to a renewable source (wind, solar, geothermal, etc). (CPS 533 Pumping Plant).	no	N

E382136Z	Incorporating "wildlife friendly" fencing for connectivity of wildlife food resources.	Retrofitting or constructing fences that provide a means to control movement of animals, people, and vehicles, but minimizes wildlife movement impacts.	ft	P
E386101Z	Enhanced field borders to reduce water induced erosion along the edge(s) of a field	Enhance existing field borders to a width of at least 30 feet in width and establish a single specie or mixture of species that provide a dense ground cover along the edge(s) of the field.	acre	P
E386102Z	Enhanced field borders to reduce wind induced erosion along the windward side(s) of a field	Enhance existing field borders to a width of at least 30 feet in width and establish a single specie or mixture of species that will have a height of at least 18 inches during the local critical wind erosion period along the windward side(s) of the field.	acre	N
E386106Z	Enhanced field borders to increase carbon storage along the edge(s) of the field	Enhance existing field borders to a width of at least 30 feet in width and establish a mixture of species that provide a dense rooting system and high above ground biomass cover along the edge(s) of the field.	acre	N
E386128Z	Enhanced field borders to decrease particulate emissions along the edge(s) of the field	Enhance existing field borders to a width of at least 30 feet in width and establish a mixture of species that provide a dense ground cover and a height of at least 2 feet along the edge(s) of the field.	acre	N
E386136Z	Enhanced field border to provide wildlife food for pollinators along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet in width and establish a mixture of species that provide pollinator food and cover along the edge(s) of the field.	acre	N
E386137Z	Enhanced field border to provide wildlife cover or shelter along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet in width and establish a mixture of species that provide wildlife food and cover along the edge(s) of the field.	acre	N

E386139Z	Enhanced field border to provide wildlife habitat continuity along the edge(s) of a field	Enhance existing field borders to a width of at least 40 feet in width and establish a mixture of species that provide wildlife food and cover along the edge(s) of the field to connect to adjacent wildlife habitat.	acre	N
E390118Z	Increase riparian herbaceous cover width for nutrient reduction	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of nutrient removal from surface and subsurface flows.	acre	P
E390126Z	Increase riparian herbaceous cover width to reduce sediment loading	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment removal from surface flows.	acre	P
E390136Z	Increase riparian herbaceous cover width to enhance wildlife habitat	Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock, and increase the width of the buffer.	acre	P
E391118Z	Increase riparian forest buffer width for nutrient reduction	Where an existing forested riparian area is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of nutrient removal from surface and subsurface flows.	acre	P
E391126Z	Increase riparian forest buffer width to reduce sediment loading	Where an existing forested riparian area is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of	acre	P

		sediment removal from surface flows.		
E391127Z	Increase stream shading for stream temperature reduction	Riparian area tree canopy cover density is increased and the extent of the forested riparian area is increased to provide greater stream shading.	acre	P
E391136Z	Increase riparian forest buffer width to enhance wildlife habitat	Where an existing riparian forest buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock to increase the functional width of the buffer.	acre	P
E393118Z	Extend existing filter strip to reduce excess nutrients in surface water	Extend existing filter strips for water quality protection (reduce excess nutrients in surface water). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.	acre	P
E393122Z	Extend existing filter strip to reduce excess pathogens and chemicals in surface water	Extend existing filter strips for water quality protection (reduce excess pathogens and chemicals from manure, bio-solids or compost applications in surface waters). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and	acre	P

		habitat where possible.		
E393126Z	Extend existing filter strip to reduce excess sediment in surface water	Extend existing filter strips for water quality protection (reduce excess sediment in surface waters). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.	acre	P
E395137X	Stream habitat improvement through placement of woody biomass	Flexible placement of wood (unanchored/unpinned) in small, 1st and 2nd order streams to improve stream habitat conditions for aquatic species and natural stream processes.	acre	E
E399137X	Fishpond management for native aquatic and terrestrial species	Pond rehabilitation, buffer, and watershed management actions are taken to improve habitat for native species of fish, amphibians, and shorebirds.	acre	E
E449114Z1	Advanced IWM--Soil moisture is monitored, recorded, and used in decision making	Advanced irrigation water management using soil moisture monitoring (one sensor per 40 acres or more) with data loggers. Record keeping is such that a daily water balance is calculated, and future irrigations forecast.	acre	N
E449114Z2	Advanced IWM--Weather is monitored, recorded and used in decision making. Actual evapotranspiration is calculated and used in forecasting future irrigation	Advanced irrigation water management using on-site weather measurements to calculate real-time evapotranspiration and forecast future water use by plants. Record keeping is such that a daily water balance is calculated and future irrigations forecast.	acre	N

E449114Z3	Complete pumping plant evaluation for all pumps on a farm to determine the potential to install a variable frequency drive.	On branching systems, or pumps that service multiple fields, or multiple pumps, install a Variable Frequency Drive motor controller(s) if recommended in the pump test and the simple payback in terms of energy savings is less than 10 years.	no	N
E449144Z	Complete pumping plant evaluation for all pumps on a farm.	Rehabilitate/replace/reconfigure all pumps that have the potential to perform 10% more efficiently as identified in the pump test.	no	P
E472118Z	Manage livestock access to streams, ditches, and other waterbodies to reduce nutrients in surface water	Installation of structures and implementation of grazing management actions that restrict livestock access to streams, ditches, and other waterbodies in order to reduce nutrient loading to surface waters.	ft	E
E472122Z	Manage livestock access to streams, ditches, and other waterbodies to reduce pathogens in surface water	Installation of structures and implementation of grazing management actions that restrict livestock access to streams, ditches, and other waterbodies in order to reduce the introduction of pathogens to surface waters.	ft	E
E484106Z	Mulching to improve soil health	Implement a crop rotation which utilizes mulch and addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. Plant-based mulching materials will be applied at least once during the rotation. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season	acre	N

		broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.		
E511137Z1	Harvest of crops (hay or small grains) using conservation measures that allow desired species to flush or escape. <For species list see State Wildlife Action Plan>	Harvest of crops (hay or small grains) using conservation measures that allow desired species to flush or escape. <For species list see State Wildlife Action Plan> Conservation measures include timing of harvest, idling land during the nesting or fawning period, and applying harvest techniques that reduce mortality to wildlife.	acre	N
E511137Z2	Forage harvest management that helps maintain or improve wildlife habitat (cover and shelter)	The timely cutting and removal of forages from the field as hay, green-chop, or ensilage in such as way and time frames so as optimize both forage yield/quality and wildlife cover and shelter.	acre	N
E511139Z1	Enhanced wildlife habitat on expired grass/legume covered CRP acres	Implement a forage management plan focused on wildlife habitat for the benefit of selected wildlife species on expired CRP grass/legume covered acres that have CRP conservation cover. Identify the target wildlife species or suite of species described in need of action within the State Wildlife Action Plan.	acre	N

E511139Z2	Forage harvest management that helps maintain wildlife habitat continuity (space)	The timely cutting and removal of forages from the field as hay, green-chop, or ensilage in such as way and time frames so as optimize both forage yield/quality and wildlife cover and shelter for habitat and/or continuity between otherwise disconnected habitats.	acre	N
E512101Z1	Cropland conversion to grass-based agriculture to reduce water erosion	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	P
E512101Z2	Forage and biomass planting for water erosion to improve soil health	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide for reduced soil erosion, improving soil health.	acre	P
E512102Z	Cropland conversion to grass-based agriculture to reduce wind erosion	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	P
E512106Z1	Cropland conversion to grass-based agriculture for soil organic matter improvement	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	P
E512106Z2	Forage plantings that can help increase organic matter in depleted soils	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can help improve soil quality of depleted sites through increase or conservation of the organic matter in the soil.	acre	P

E512126Z	Cropland conversion to grass-based agriculture to reduce sediment loading	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	P
E512132Z1	Cropland conversion to grass-based agriculture to improve plant condition	Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.	acre	P
E512132Z2	Native grasses or legumes in forage base to improve plant productivity and health	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512133Z1	Native grasses or legumes in forage base to improve plant community structure and composition	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512133Z2	Forage plantings that enhance bird habitat (structure and composition)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide cover and shelter components of bird habitat.	acre	P

E512136Z1	Establish pollinator and/or beneficial insect food habitat	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for pollinators and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512136Z2	Native grass or legumes in forage base to provide wildlife food	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512137Z	Forage plantings that enhance bird habitat (cover and shelter)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide cover and shelter components of bird habitat.	acre	P
E512138Z	Establish wildlife corridors to enhance access to water	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide cover needed for wildlife species of concern to move from food/cover/water sources to other food/cover/water sources as needed for their life cycles, and/or to enhance the utility of underused wildlife habitat areas.	acre	P

E512139Z1	Establish wildlife corridors to provide habitat continuity	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide cover needed for wildlife species of concern to move from food/cover/water sources to other food/cover/water sources as needed for their life cycles, and/or to enhance the utility of underused wildlife habitat areas.	acre	PG
E512139Z2	Establish pollinator and/or beneficial insect habitat continuity (space)	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for pollinators and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512139Z3	Establish Monarch butterfly habitat in pastures	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for Monarch butterflies and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.	acre	P
E512140Z	Native grasses or legumes in forage base	Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide the structure and composition needed to enhance livestock and wildlife habitat, particularly when targeted forage supply and quality, cover, and shelter are not available in other pastures.	acre	P

E528104Z	Grazing management that protects sensitive areas from gully erosion	Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.	acre	N
E528105Z	Prescribed grazing that improves or maintains riparian and watershed function-erosion	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	N
E528107Z1	Improved grazing management for soil compaction through monitoring activities	Managing the harvest of vegetation with grazing and/or browsing animals as adjusted when following recommendations of a Certified Forage and Grassland Professional, Certified Range Management Consultant, or Certified Professional in Range Management, generated through pasture condition scoring (PCS).	acre	N
E528118Z1	Prescribed grazing on pastureland that maintains/improves riparian and watershed function impairment from nutrients.	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	N
E528119Z	Grazing management that protects sensitive areas- ground water from nutrients	Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.	acre	N

E528122Z	Prescribed grazing on pastureland that maintains/improves riparian and watershed function impairment from pathogens/chemicals.	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	N
E528126Z	Prescribed grazing on pastureland that maintains/improves riparian and watershed function through minimizing sediment in surface water.	Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.	acre	N
E528132Z1	Improved grazing management for plant productivity and health through monitoring activities	Managing the harvest of vegetation with grazing and/or browsing animals as adjusted when following recommendations of a Certified Forage and Grassland Professional, Certified Range Management Consultant, or Certified Professional in Range Management, generated through pasture condition scoring (PCS).	acre	N
E528132Z2	Stockpiling cool season forage to improve plant productivity and health	Grazing management employed to stop grazing events of selected paddock(s) to allow pasture forages to grow to maximum vegetative biomass accumulation before the end of the growing season.	acre	N
E528133Z1	Stockpiling cool season forage to improve structure and composition.	Grazing management employed will stop grazing events of selected paddock(s) to allow pasture forages to grow to maximum vegetative biomass accumulation before the end of the growing season.	acre	N

E528133Z2	Grazing management for improving quantity and quality of plant structure and composition for wildlife	Managing the harvest of vegetation with grazing and/or browsing animals for the purpose of improving or maintaining the structure and composition of the plant community that is available for wildlife.	acre	N
E528136Z1	Grazing management for improving quantity and quality of food for wildlife	Grazing management employed will provide plant structure, density and diversity needed for the desired wildlife species of concern.	acre	N
E528137Z1	Grazing management for improving quantity and quality of cover and shelter for wildlife	Grazing management employed will provide plant structure, density and diversity needed for the desired wildlife species of concern.	acre	N
E528137Z2	Incorporating wildlife refuge areas in contingency plans for prescribed grazing where pastureland is the predominant land use, for wildlife cover and shelter.	A prescribed grazing plan that includes 18 month (or longer) deferment of a pasture that consists of native grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	N
E528138Z	Incorporating wildlife refuge areas in contingency plans for prescribed grazing where pastureland is the predominant land use, for wildlife access to water.	A prescribed grazing plan that includes 18 month (or longer) deferment of a pasture that consists of native grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat for a period of time.	acre	N
E528140Z1	Maintaining quantity and quality of forage for animal health and productivity	Managing the harvest of vegetation with grazing and/or browsing animals for the purposes of maintaining desired pasture composition/plant vigor and improving/maintaining quantity and quality of forage for the animals' health and productivity.	acre	N

E554118Z1	Installation of end of pipe or ditch treatment for phosphorus	Add end of pipe/ditch treatment. If dissolved Phosphorus is the pollutant of concern, use Interim CPS 782, Phosphorus Treatment Structure for each drainage outlet in a field.	acre	E
E554118Z2	Installation of a saturated vegetated drain outlet	Install Interim CPS 733, Vegetated Outlet for Subsurface Drainage so all of the drain outlets on a field are routed through an appropriate buffer.	acre	E
E554118Z3	Installation of end of pipe or ditch treatment for nitrogen	Add end of pipe/ditch treatment if Nitrogen is the pollutant of concern. Add CPS 605, Denitrifying Bioreactor for each drainage outlet in a field.	acre	E
E578139X	Stream crossing elimination	Existing stream crossings on an operation are consolidated into fewer crossings in order to reduce impacts to stream habitat.	no	P
E580105Z	Stream corridor bank stability improvement	Stream corridor bank vegetation components are established to provide additional streambank stability.	ft	P
E580137Z	Stream corridor bank vegetation improvement	Stream corridor bank vegetation components are established to improve ecosystem functioning and stability.	acre	P
E590118X	Reduce risks of nutrient losses to surface water by utilizing precision agriculture technologies to plan and apply nutrients	Utilize precision application technology and techniques to reduce risk of nutrients in surface water by reducing total amount of applied and reducing the potential for delivery of nutrients into water bodies. Precision agriculture technology is utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	N

E590118Z	Improving nutrient uptake efficiency and reducing risk of nutrient losses to surface water	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	N
E590119Z	Improving nutrient uptake efficiency and reducing risk of nutrient losses to groundwater	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses.	acre	N
E590130Z	Improving nutrient uptake efficiency and reducing risks to air quality – emissions of greenhouse gases (GHGs)	Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risks to air quality by reducing emissions of Greenhouse Gases (GHGs).	acre	N

E595116X	Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques	Utilize precision application techniques to reduce risk of pesticides in surface water by reducing total amount of chemical applied and reducing the potential for delivery of chemicals into water bodies.	acre	N
E595116Z	Reduce risk of pesticides in surface water by utilizing IPM PAMS techniques	Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce risk of pesticides in surface water and reducing the potential for delivery of chemicals into water bodies.	acre	N
E595129Z	Reduce ozone precursor emissions related to pesticides by utilizing IPM PAMS techniques.	Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce ozone precursor emissions related to pesticides.	acre	N
E612101Z	Cropland conversion to trees for long term water erosion control	Conversion of cropped land to trees for long term erosion control and improvement of water quality. Trees are established on cropland where annually-seeded cash crops have been grown.	acre	P
E612102Z	Cropland conversion to trees for long term wind erosion control	Conversion of cropped land to trees for long term erosion control and improvement of water quality. Trees are established on cropland where annually-seeded cash crops have been grown.	acre	P
E612126Z	Cropland conversion to trees for long term improvement of water quality	Conversion of cropped land to trees for long term erosion control and improvement of water quality. Trees are established on cropland where annually-seeded cash crops have been grown.	acre	P

E612130Z	Planting for high carbon sequestration rate	Plant tree species and use stocking levels for higher growth to increase the rate of carbon sequestration (capture). Use species with a longer life span as well as relatively fast growth, and species suitable for durable manufactured products. Increase stocking levels in forests that are not fully stocked. Implement afforestation on appropriate open lands.	acre	P
E612132Z	Establishing tree/shrub species to restore native plant communities.	Establish trees and/or shrubs to restore elements of plant diversity that have been lost through past diseases or improper management. For example, disease-resistant varieties of elm and chestnut can be established to restore the ecological functions of American elm and American chestnut. At the stand level, past forest management may have eliminated certain native tree species. Restoring stand-level diversity and function addresses a wide array of resource concerns and strengthens ongoing management activities. This enhancement improves a forest that is already in good condition by increasing plant diversity, and improving health and vigor through adding plants with resistance to disease, pests, or other local hazards. Additional benefits include contributing to carbon storage, and providing diversity in wildlife habitat and food sources.	acre	P
E612133X1	Adding food-producing trees and shrubs to existing plantings	Plant food-producing trees and shrubs for wildlife or human consumption within windbreaks, alley cropping,	acre	P

		multi-story cropping, silvopasture systems, and/or riparian forest buffers.		
E612133X2	Cultural plantings	Plant trees and shrubs that are of cultural significance, such as those species utilized by Tribes in traditional practices, medicinal plants, species used in basket-making, etc. (e.g., paper birch, slippery elm, witch hazel).	acre	P
E612133X3	Sugarbush management	Establish or maintain species diversity in a sugarbush to enhance pollinator and wildlife needs. Maintain at least 20% of basal area in species other than sugar maple (Acer saccharum) to provide species diversity. Half of the trees that are not sugar maples (10%) will be mast producing species (hard or soft mass). Use maple tree tapping guidelines that minimize tree damage.	acre	P
E612136Z	Tree/shrub planting for wildlife food	Tree or shrub planting to enhance habitat for native wildlife. A minimum of five tree or shrub species will be used; they will be species that provide food and/or cover for identified wildlife species.	acre	P
E612137Z	Tree/shrub planting for wildlife cover	Tree or shrub planting to enhance habitat for native wildlife. A minimum of five tree or shrub species will be used; they will be species that provide food and/or cover for identified wildlife species.	acre	P
E643132X	Restoration of sensitive coastal vegetative communities.	Enhance the level of restoration in unique and diminishing coastal ecosystems by establishing native herbaceous and woody plants. Protect established vegetation, and manage to maintain floristic quality and the provision of	acre	P

		environmental services.		
E643139X	Creating native plant refugia	Provide protection from adverse environmental conditions to create refugia for documented occurrences of sensitive plant communities.	acre	P
E645137Z	Reduction of attractants to human-subsidized predators in sensitive wildlife species habitat	Reduction of artificial perching sites, nest sites, food, and water available to subsidized predators in areas where human-subsidized predators are a threat to sensitive wildlife species. Human-subsidized predators may include ravens, crows, magpies, coyotes, foxes, skunks, raccoons, and other species. Activities under this enhancement may include removal of non- native or invasive trees; removal of unused power poles, corrals, windmills, buildings, and other vertical structures; and/or removal or management of watering facilities, dead livestock, road kill, garbage, animal feed, dumps, and other non-natural food sources.	acre	P
E646136Z1	Close structures to capture and retain rainfall to improve food sources for waterfowl and other wading birds during winter.	When flooded to shallow depths during fall and winter, agricultural fields provide ideal foraging habitat for myriad species of waterfowl and wading birds. In addition, flooded conditions promote establishment of aquatic invertebrate populations, thus providing protein-rich food sources for shorebirds as well as waterfowl and wading birds.	acre	N

E646136Z2	Extend retention of captured rainfall to provide enhanced food sources for late winter habitat for migratory waterfowl and shorebirds.	When flooded to shallow depths during fall and retention of the captured rainfall is extended into late winter, agricultural fields provide maximum foraging habitat for myriad species of waterfowl and wading birds. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide high quality food for wildlife during a time when it may otherwise be in low abundance.	acre	N
E646136Z3	Shorebird habitat, late season shallow water with manipulation to improve food sources.	Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding and providing shallow water and mud flat habitat will benefit a variety of shorebird species. Optimal conditions are created when water levels are slowly reduced through evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N

E646136Z4	Shorebird habitat, extended late season shallow water with manipulation to improve food sources.	When flooded to shallow depths during fall and retention of the captured rainfall is extended into late winter, the shallow water and mud flat habitat will benefit a variety of shorebird species. Optimal conditions are created when water levels are slowly reduced through evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide high quality food for wildlife during a time when it may otherwise be in low abundance. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N
E646137X	Renovate small, shallow pothole and playa sites which may seasonally hold water.	Renovate small, shallow pothole and playa sites which may seasonally hold water.	acre	P
E646137Z1	Close structures to capture and retain rainfall to improve cover and shelter for waterfowl and other wading birds during winter.	When flooded to shallow depths during fall and winter, agricultural fields provide ideal cover and shelter for myriad species of waterfowl and wading birds.	acre	N
E646137Z2	Extend retention of captured rainfall to provide enhanced cover and shelter for late winter habitat for migratory waterfowl and shorebirds.	When flooded to shallow depths during the fall and retained into late winter, agricultural fields provide maximum shelter and cover for myriad species of waterfowl and wading birds. Agriculture fields are typically drained in preparation of spring planting, but retention of water	acre	N

		into late winter will provide shelter and cover for waterfowl and shorebirds during a time when it may otherwise be in low abundance.		
E646137Z3	Shorebird habitat, late season shallow water with manipulation to improve cover and shelter.	Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water and mud flat habitat will benefit a variety of shorebird species. Improved conditions are created when water levels are slowly reduced through evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N
E646137Z4	Shorebird habitat, extended late season shallow water with manipulation to improve cover and shelter.	Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide shelter and cover for waterfowl and shorebirds during a time when it may otherwise be in low abundance. Optimal conditions are created when water levels are slowly reduced and manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N

E646138Z1	Close structures to capture and retain rainfall to provide water for waterfowl and other wading birds during winter.	When flooded to shallow depths during fall and winter, agricultural fields provide water essential for myriad species of waterfowl and wading birds.	acre	N
E646138Z2	Extend retention of captured rainfall to provide late winter water habitat for migratory waterfowl and shorebirds.	When flooded to shallow depths during fall and winter, agricultural fields provide water essential for myriad species of waterfowl and wading birds. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide water for shorebirds and waterfowl during a time when it may otherwise be in low abundance.	acre	N
E646138Z3	Shorebird habitat, late season shallow water with manipulation.	Suitable water is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water and mud flat habitat will benefit a variety of shorebird species. Improved conditions are created when water levels are slowly reduced through evaporation. Manipulation of vegetation, preferably through rolling, creates open water conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N

E646138Z4	Shorebird habitat, extended late season shallow water with manipulation.	Suitable water is limited during the summer and fall as birds migrate south post-breeding. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide habitat during a time when it may otherwise be in low abundance. Optimal conditions are created when water levels are slowly reduced and manipulation of vegetation, preferably through rolling, creates open water conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N
E646139Z1	Close structures to capture and retain rainfall for waterfowl and wading birds to improve habitat continuity.	When flooded to shallow depths during fall and winter, agricultural fields provide habitat for myriad species of migratory birds. Those flooded conditions promote a network or continuity of habitat that is available to migratory waterfowl, shorebirds, and wading birds.	acre	N
E646139Z2	Extend retention of captured rainfall to provide habitat continuity during late winter for migratory waterfowl and shorebirds.	When flooded to shallow depths during the fall and retained into late winter, agricultural fields provide habitat for myriad species of migratory birds. Agriculture fields are typically drained in preparation of spring planting, but retention of water into late winter will provide a network or continuity of habitat for waterfowl, wading birds, and shorebirds during a time when it may otherwise be in low abundance.	acre	N

E646139Z3	Shorebird habitat, late season shallow water with manipulation to enhance habitat continuity and space.	Suitable water is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water and mud flat habitat will benefit a variety of shorebird species. Improved conditions are created when water levels are slowly reduced through evaporation. Manipulation of vegetation, preferably through rolling, creates open water conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.	acre	N
E646139Z4	Shorebird habitat, extended late season shallow water with manipulation to enhance habitat continuity and space.	Suitable water is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water with manipulation of vegetation creates a network or continuity of habitat required by this suite of migratory birds during a time when it may otherwise be in low abundance.	acre	N
E647136Z1	Manipulate vegetation on fields where rainfall is to be captured and retained to provide enhanced food sources for wildlife.	Harvested and idled agricultural lands, notably those occurring within rice rotations, contain high densities of residual (i.e., waste) grain and natural seeds following harvest. Seed densities in harvested rice fields may rival those documented in intensively managed moist-soil units. When flooded to shallow depths during fall and winter, these agricultural fields provide ideal foraging habitat for myriad species of waterfowl and wading birds. In addition, flooded conditions promote establishment of aquatic invertebrate populations, thus providing protein-rich food sources for shorebirds as well as	acre	N

		waterfowl and wading birds. In many cases, light manipulation of dense vegetation is needed to improve the accessibility of food resources to waterfowl, wading birds, and shorebirds.		
E647136Z2	Provide early successional habitat between first rice crop and ratoon crop to support important wildlife food sources	This enhancement is to encourage the establishment of early successional, naturally occurring vegetation in ditches, side slope and bank borders to provide cover, critical nesting and brood rearing habitat as well as filtering overland flow and improving water quality. Ditches perform the critical function of removing water from agricultural lands. Allowing naturally occurring vegetation to develop along ditches, including side slopes, banks and borders, will help provide food and cover for wildlife while enhancing aquatic habitat and improving water quality. Ditches and ditch borders provide a foundation that supports a diverse wildlife community including Northern Bobwhite (Colinus virginianus) and other birds preferring early successional cover. Rabbits, furbearers, amphibians and many other species that inhabit agriculture areas will use this vegetative cover. These areas can also provide critical nesting habitat for the Mottled Duck (Anas fulvigula).	acre	N

E647136Z3	Establish and maintenance of moist soil vegetation on cropland edges to increase wildlife food sources and habitat diversity	The wetter or more water saturated portions of cropland fields such as areas adjacent to field drains, have the potential to produce a significant amount of moist soil plants which are a tremendously valuable source of forage and cover for many waterfowl, shorebird and wading bird species, especially during a period of time when such plants may be limited. Under normal cropland production, the native vegetation is restricted on these sites through mechanical and/or chemical control. These maintained moist soil plants also will provide filtering and improve water quality.	acre	N
E647137Z1	Manipulate vegetation on fields where rainfall is to be captured and retained to provide enhanced cover and shelter for wildlife.	This enhancement is to provide cover and shelter for wildlife by retaining some standing rice stubble and by encouraging the establishment of early successional, naturally occurring vegetation in fields post harvest. Allowing some standing rice stubble and naturally occurring vegetation to develop will help provide food and cover for wildlife while enhancing aquatic habitat and improving water quality.	acre	N
E647137Z2	Establish and maintenance of moist soil vegetation on cropland edges to increase wildlife cover, shelter and habitat diversity	The wetter or more water saturated portions of cropland fields such as areas adjacent to field drains, have the potential to produce a significant amount of moist soil plants which are a tremendously valuable source of forage and cover for many waterfowl, shorebird and wading bird species, especially during a period of time when such plants may be limited. Under normal cropland	acre	N

		production, the native vegetation is restricted on these sites through mechanical and/or chemical control. These maintained moist soil plants also will provide filtering and improve water quality.		
E647139Z1	Establish and maintain wildlife habitat continuity by providing early successional, naturally occurring vegetation in ditches and ditch bank borders	This enhancement is to encourage the establishment of early successional, naturally occurring vegetation in ditches, side slope and bank borders to provide cover, critical nesting and brood rearing habitat as well as filtering overland flow and improving water quality. Ditches perform the critical function of removing water from agricultural lands. Allowing naturally occurring vegetation to develop along ditches, including side slopes, banks and borders, will help provide food and cover for wildlife while enhancing aquatic habitat and improving water quality. Ditches and ditch borders provide a foundation that supports a diverse wildlife community including Northern Bobwhite (Colinus virginianus) and other birds preferring early successional cover. Rabbits, furbearers, amphibians and many other species that inhabit agriculture areas will use this vegetative cover. These areas can also provide critical nesting habitat for the Mottled Duck (Anas fulvigula).	acre	N

E647139Z2	Provide early successional habitat between first rice crop and ratoon crop to support space and continuity for wildlife	Many declining suites of wildlife species rely on early successional habitats for at least part of their life cycle needs. Migratory shorebird species in particular rely on open, moist soil or shallowly flooded conditions for foraging and security. Rice farms support many migratory and resident water bird species. The first rice crop harvest often coincides with the arrival of early migrating shorebirds. This time of year is also the highest rainfall months. If standing rice stubble from the first crop is rolled to push above-ground stalks level with the soil surface, the first component of this type of habitat is met. When moisture is added to this situation, short- term habitat is available until the ratoon crop initiates growth to a height beyond that which would provide benefit to the early successional species.	acre	N
E666106Z1	Implementing sustainable practices for pine straw raking	Adopts guidelines for sustaining soil quality and wildlife habitat on sites where pine straw raking is currently practiced. Raking and removal of pine needles (“pine straw”) provides valuable landscaping material but at a high cost to soil fertility, soil organic matter, wildlife habitat, and in some cases, soil compaction, soil erosion and water quality degradation. Straw removal also makes prescribed burning less feasible by removal of the fine fuels needed to carry frequent surface fires that maintain longleaf pine and its characteristic understory. This	acre	N

		enhancement is most applicable to longleaf pine forestland because: (1) longleaf-dominated ecosystems with their characteristic suite of flora and fauna historically predominated in most places where pines are currently grown in the Southeast, and (2) longleaf is the favored species for pine straw operations.		
E666106Z2	Maintaining and improving forest soil quality	Adopts guidelines for maintaining and improving soil quality on sites where forest management activities are practiced. These guidelines will increase soil organic matter content, improve nutrient cycling, and increase infiltration and retention of precipitation. Avoiding soil compaction will allow for greater root development and tree growth, limit windthrow, and reduce drought stress. Increasing carbon storage on site will maintain the soil microbial community and provide wildlife benefits.	acre	N
E666107Z	Maintaining and improving forest soil quality by limiting compaction	Adopts guidelines for maintaining and improving soil quality on sites where forest management activities are practiced. These guidelines will increase soil organic matter content, improve nutrient cycling, and increase infiltration and retention of precipitation. Avoiding soil compaction will allow for greater root development and tree growth, limit windthrow, and reduce drought stress. Increasing carbon storage on site will maintain the soil microbial community and provide wildlife	acre	N

		benefits.		
E666115Z1	Converting loblolly and slash pine plantations to longleaf pine to retain soil moisture	Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly has a higher rate of evapotranspiration than longleaf and can deplete soil moisture. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and visual quality, and moderating effects on soil temperature, soil moisture and understory plants.	acre	E
E666115Z2	Enhance development of the forest understory to improve site moisture.	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil. Managing the understory vegetation will increase available water to the plants, minimize run-off and erosion, and improve water quality.	acre	N

E666118Z	Enhance development of the forest understory to capture nutrients in surface water.	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil, thus minimizing nutrient movement in surface water. Managing the understory vegetation will increase available water to the plants, minimize run-off and erosion, and improve water quality.	acre	N
E666119Z	Enhance development of the forest understory to capture nutrients and limit their movement into ground water.	Forest stand improvement to manage the structure and composition of overstory and understory vegetation so that additional moisture is captured and filtered through the vegetation and soil, thus minimizing nutrient loss through ground water. Managing the understory vegetation will increase available water to the plants, minimize run-off and erosion, and improve water quality.	acre	N
E666130Z	Increase on-site carbon storage	Utilize forest management techniques to maintain and increase on-site carbon storage. These include, but are not limited to, applying uneven-aged management, using longer rotations, retaining cavity/den trees, snags, and down woody debris, and protecting or increasing soil organic material.	acre	N
E666132Z1	Crop tree management for mast production	Forest stand improvement using crop tree management techniques to increase mast production.	acre	N

E666132Z2	Reduce forest stand density to improve a degraded plant community.	Open pine or conifer management reduces the number of trees per acre while still maintaining the stand as forest land. It restores elements of stand structure that were formerly created by fire on sites where it is not currently feasible to conduct prescribed burning at the intensity needed to open the canopy. The open stand condition allows a significant amount of sunlight to reach the forest floor and stimulate understory vegetation. The initial treatment creates a stand structure that allows prescribed burning to be applied to limit redevelopment of the woody component of the understory and maintain open conditions. The vegetation management, and wide spacing between trees or clumps of trees, provides visual appeal, reduces the risk of wildfire, and provides wildlife habitat for many at-risk and listed wildlife species.	acre	N
E666133Z1	Creating structural diversity with patch openings	Forest stand improvement that creates patch openings. Size and shape of patches will be based on characteristic natural wind disturbances, which will vary geographically and by forest type.	acre	N

E666133Z2	Converting loblolly and slash pine plantations to longleaf pine with forest stand improvement and prescribed burning	Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and visual quality, and moderating effects on soil temperature, soil moisture and understory plants.	acre	N
E666133X	Forest Stand Improvement to restore structure and composition in degraded hardwood stands	Hardwood forestland has been subject to poor logging practices (“high-grading”) for decades. Without professional forestry assistance the best species and individual trees are removed, often before maturity (“diameter-limit cutting”), leaving the poorest species and individual trees to regenerate the stand. Reversing this process requires cutting or killing poor quality trees while retaining any desirable species that might still be present. A combination of 3 silvicultural methods are applied: crop tree release, group selection (all trees removed from an area 0.25 to 1.0 acre in size) and small	acre	N

		clear-cuts (all trees removed from an area 1-3 acres in size).		
E666134Z	Enhance development of the forest understory to create conditions resistant to pests.	Forest stand improvement that manages the structure and composition of overstory and understory vegetation to reduce vulnerability to damage by insects and diseases of forest trees. Managing the understory vegetation will also reduce the risk of wildfire, and promote development of herbaceous plants that benefit wildlife.	acre	N
E666135Z1	Reduce height of the forest understory to limit wildfire risk.	Forest stand improvement that manages forest structure to reduce the risk of wildfire, and creates conditions that facilitate prescribed burning. The fire risk reduction is accomplished by reducing the height of the woody understory and midstory, creating space between the ground cover and the tree canopy.	acre	N
E666135Z2	Reduce forest density and manage understory along roads to limit wildfire risk.	Opening the tree canopy along roads ("daylighting"), and providing space between ground vegetation and tree crowns, minimizes the spread of wildfires that often start along roads. Additionally, opening the canopy will allow more sunlight to reach the forest floor and promote flowering plants, and will reduce maintenance needs by allowing moisture to evaporate from roads.	acre	E
E666136Z1	Reduce forest density and manage understory along roads to improve wildlife food sources.	Opening the tree canopy along roads ("daylighting") allows more sunlight to reach the forest floor and promotes the growth of herbaceous plants. The resulting condition is more visually appealing for users of the roadway, and improves wildlife habitat and food	acre	E

		sources for many wildlife species.		
E666136Z2	Reduce forest stand density to improve wildlife food sources.	Open pine or conifer management reduces the number of trees per acre while still maintaining the stand as forest land. It restores elements of wildlife habitat that formerly resulted from fire, on sites where it is not currently feasible to conduct prescribed burning. The open stand condition allows a significant amount of sunlight to reach the forest floor and stimulate understory vegetation. The initial treatment creates a stand structure that allows prescribed burning to be applied, where feasible, to limit redevelopment of the woody component of the understory and maintain open conditions. The vegetation management, and wide spacing between trees or clumps of trees, provides visual appeal, reduces the risk of wildfire, and provides wildlife habitat for many at-risk and listed wildlife species.	acre	N
E666136Z3	Create patch openings to enhance wildlife food sources and availability.	Forest stand improvement that creates patch openings. Size, shape, and arrangement of patches will be based on natural features, and emulate patches that would result from natural disturbance regimes of wind or fire, varying geographically and by forest type. The treatment will create diversity in stand composition and structure, and enhance wildlife food availability.	acre	N

E666137Z1	Snags, den trees, and coarse woody debris for wildlife habitat	Improve wildlife habitat through creation and retention of snags, den trees, forest stand structural diversity, and coarse woody debris on the forest floor, to provide cover/shelter for native wildlife species.	acre	P
E666137Z2	Summer roosting habitat for native forest-dwelling bat species	Creates new potential roost trees within upland and riparian forests to achieve desired summer habitat for forest dwelling bat species.	acre	E
E666137Z3	Increase diversity in pine plantation monocultures	Creates small openings to provide diversity in pine plantations, which are typically monocultures and inhospitable to wildlife. Small openings are one-half (0.5) to three (3) acres in size. The cleared area will have the vegetation removed through harvesting, mulching, or other means compatible with the site.	acre	E
E666137Z4	Converting loblolly and slash pine plantations to longleaf pine to enhance wildlife habitat	Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and	acre	N

		visual quality, and moderating effects on soil temperature, soil moisture and understory plants.		
E666137Z5	Implementing sustainable practices for pine straw raking to enhance wildlife habitat	Adopts guidelines for sustaining soil quality and wildlife habitat on sites where pine straw raking is currently practiced. Raking and removal of pine needles ("pine straw") provides valuable landscaping material but at a high cost to soil fertility, soil organic matter, wildlife habitat, and in some cases, soil compaction, soil erosion and water quality degradation. Straw removal also makes prescribed burning less feasible by removal of the fine fuels needed to carry frequent surface fires that maintain longleaf pine and its characteristic understory. This enhancement is most applicable to longleaf pine forestland because: (1) longleaf-dominated ecosystems with their characteristic suite of flora and fauna historically predominated in most places where pines are currently grown in the Southeast, and (2) longleaf is the favored species for pine straw operations.	acre	N
E666137Z6	Create patch openings to enhance wildlife cover and shelter.	Forest stand improvement that creates patch openings. Size, shape, and arrangement of patches will be based on natural features, and emulate patches that would result from natural disturbance regimes of wind or fire, varying geographically and by forest type. The treatment will create diversity in stand composition and structure, and enhance the availability of wildlife food and cover.	acre	N

E666137Z7	Enhance development of the forest understory to provide wildlife cover and shelter.	Forest stand improvement that manages the structure and composition of overstory and understory vegetation to improve the quantity and quality of wildlife cover and shelter. Reducing the number of trees per acre provides canopy openings that allow sunlight to reach the forest floor and promote the growth of herbaceous plants, improving wildlife shelter and cover in the forest understory. The treatment also creates conditions that facilitate the use of prescribed burning as a follow-up practice to maintain wildlife shelter and cover.	acre	N
Bundle Code	**Bundle Name**	**Bundle Description**	**Units**	**No Effect (N), Potential Effect (P), or Effect (E)**
B000BFF1	Buffer Bundle#1	Extend existing Buffers to address water quality degredation, fish/wildlife inadequate habitat, and/or air quality impacts. Adopt E393118Z and E327136Z1 as well as one of the following enhancments: E612130Z, E612136Z.	acre	N
B000BFF2	Buffer Bundle#2	Extend existing Buffers to address water quality degredation, fish/wildlife inadequate habitat, and/or air quality impacts. Adopt E393126Z and E327137Z as well as one of the following: E612130Z, E612136Z.	acre	N

B000CPL1	Crop Bundle#1 - Precision Ag, No till	Address water quality degradation, air quality, and fish/wildlife inadequate habitat plus an option on soil erosion or soil quality degredation by adopting E595116X, E590118X, E329128Z, and E328137Z as well as one of the following; E340101Z, E340102Z, or E340107Z.	acre	N
B000CPL2	Crop Bundle#2 - Precision Ag, Reduced till	Address water quality degradation, air quality, and fish/wildlife inadequate habitat plus an option on soil erosion or soil quality degredation. Adopt E595116X, E590118X, E345128Z, and E328137Z as well as one of the following: E340101Z, E340102Z, or E340107Z.	acre	N
B000CPL3	Crop Bundle#3 - Soil health rotation, No till	Address soil quality degredation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z1, E329115Z, E595116X, E590118X, and E327136Z1.	acre	N
B000CPL4	Crop Bundle#4 - Soil health rotation, Reduced till	Address soil quality degredation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat, Adopt E328106Z1, E345115Z, E595116X, E590118X, and E327136Z1.	acre	N
B000CPL5	Crop Bundle#5 - Soil Health Assessment, No till	Address soil quality degredation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z2, E329115Z, E595116Z, E590118Z, and E327136Z1.	acre	N
B000CPL6	Crop Bundle#6 - Soil Health Assessment, Reduced till	Address soil quality degredation, insufficient water, water quality degradation, and fish/wildlife inadequate habitat. Adopt E328106Z2, E345115Z, E595116Z, E590118Z, and	acre	N

		E327136Z1.		
B000CPL7	Crop Bundle#7 - Soil Health -"Organic"	Address soil quality degredation, water quality degradation, and fish/wildlife inadequate habitat. Adopt E484106Z, E595116Z, E590118Z, E393126Z, and E612136Z.	acre	N
B000CPL8	Crop Bundle#8 - "Organic", Water erosion	Address soil erosion, soil quality degredation, and water quality degredation plus an option on fish/wildlife inadequate habitat. Adopt E340101Z, E328106Z2, E345106Z, and E590118Z as well as one of the following: E327136Z1, E327137Z, or E595116Z.	acre	N
B000CPL9	Crop Bundle#9 - "Organic", Wind erosion	Address soil erosion, soil quality degredation, and water quality degredation plus an option on fish/wildlife inadequate habitat. Adopt E340102Z, E328106Z2, E345106Z, and E590118Z as well as one of the following: E327136Z1, E327137Z, or E595116Z.	acre	N
B000FST1	Forest Bundle#1	Address forest management on sites that are not adapted to natural fire disturbances. Addresses resouce concerns air quality impacts, degraded plant condition and fish/wildlife inadequate habitat. Adopt E666130Z, E666132Z, E666137Z1, E666137Z2, E612137Z	acre	N
B000PST1	Pasture Bundle#1 - Organic	Address water quality degradation, degraded plant condition, and fish/wildlife inadequate habitat. Adopt E472118Z, E528132Z1, E512136Z1, and one of the following optional enhancements: E528118Z1 or E315134Z.	acre	E

B000PST2	Pasture Bundle#2	Address soil quality degredation, water quality degradation, and degraded plant condition plus an option on fish/wildlife inadequate habitat. Adopt E512106Z2, E528126Z, E528132Z1, E528132Z2, and one of the following optional enhancements: E315132Z, E512132Z2, or E381137Z.	acre	N
B000PST3	Pasture Bundle#3 -- Soil Health	Address soil quality degredation, water quality degradation, and degraded plant condition. Adopt E512106Z2, E314134Z, and one of the following optional enhancements: E528118Z1 or E472118Z and adopt enhancement E528132Z2 on all pastures with cool season grasses.	acre	P
B000PST4	Pasture Bundle#4 - Monarch butterfly	Address soil erosion, soil qualilty degredation, and fish/wildlife inadequate habitat. Adopt E512139Z3, E512138Z, E528105Z, E528107Z1, and E645137Z on all areas where applicable.	acre	N

Key: E = Effect; P = Potential Effect; N = No Effect

APPENDIX B

NRCS NEW YORK PROJECT REVIEW PROCEDURES

Procedures

1. The NRCS New York will screen all projects that contain undertakings classified in Appendix A using the "New York State Historic Preservation Office Cultural Resources Information System (CRIS)" website located at https://cris.parks.ny.gov/ .
2. The NRCS New York will determine whether or not projects are located within the archaeological sensitive area as indicated by the gray shading on the website.
3. If the projects are located within the archaeological sensitive area, the NRCS CRS will submit the cultural resources packets which consist of the ECS-21, 1:24000 scale topographical map, plan map, and soils map of the APE. Supplemental documents may include design plan(s) or photograph(s) of the APE. Projects will be reviewed within 30 calendar days of receipt.
4. Based on the recommendations for projects, the NRCS New York will either conduct cultural resources investigations, provide additional information as requested, or proceed with the undertakings if there are no identified concerns.
5. All sites discovered in projects during cultural resources investigations will be documented using the appropriate and current site inventory form(s).

APPENDIX C

BARNYARD POLICY

NRCS NEW YORK POLICY FOR CULTURAL RESOURCES REVIEW OF PREVIOUSLY DISTURBED BARNYARD AREAS

Introduction

The NRCS New York implements barnyard runoff undertakings on about 75 farms every year. In most cases, the cattle housed in and near the barn have heavily disturbed these areas. Furthermore, the barnyards are periodically scraped to remove manure and may receive fill from time to time. Under these conditions, any site integrity for archeological sites that may be present has likely been destroyed.

Therefore, given the likelihood that barnyard areas will seldom be sufficiently intact to allow for a systematic archeological investigation in concert with increasing workload issues for both the NRCS New York and the SHPO/Indian Tribes, the NRCS New York will make an independent determination of previous disturbance within the confines of the criteria outlined below.

Criteria

The following criteria must be met in order for NRCS New York to make a determination that a barnyard area has been previously disturbed.

1. Only projects that entail concrete pads and associated roof-runoff management are included under this exception. Filter strips that involve land grading and diversions uphill of barnyard areas must still be reviewed by the SHPO/Indian Tribes.
2. Concrete pads cannot exceed ½ acre in size. A larger pad requires submission of the cultural resources review form to the SHPO/Indian Tribes.
3. The barnyard area where the pad will be poured must be a heavy use area where cattle have caused significant disturbance to the soil through habitual use over a period of several years.
4. Removal of material in preparation for constructing the concrete pad will not extend substantially into intact subsoil but may include manure deposits and any recent fill. If construction of the pad involves changing the grade and thereby excavating intact subsoil, then the project must be submitted to the SHPO/Indian Tribes.

NRCS New York must clearly document the degree of disturbance by presenting a brief history of the barnyard area in terms of the number of animals using the barnyard and the approximate number of years that the area has been used as a barnyard. NRCS New York must also document that the ECS-21 was not submitted to the SHPO/Indian Tribes because of the disturbance.

APPENDIX D
GLOSSARY OF ACRONYMS USED IN THIS DOCUMENT

USDA	**United States Department of Agriculture**
NRCS	**Natural Resources Conservation Service**
ACHP	**Advisory Council on Historic Preservation**
NHL(s)	**National Historic Landmark(s)**
NRHP	**National Register of Historic Places**
SHPO	**State Historic Preservation Officer**
THPO	**Tribal Historic Preservation Officer**
NCSHPO	**National Conference of State Historic Preservation Officers**
NHO	**Native Hawaiian Organization**
NEPA	**National Environmental Policy Act**
CEQ	**Council on Environmental Quality**
DHS	**Department of Homeland Security**
FEMA	**Federal Emergency Management Agency**
NHPA	**National Historic Preservation Act**
FPO	**Federal Preservation Officer (Federal Preservation Officer)**
SPO	**Senior Policy Official (NRCS)**
NHQ	**National Headquarters (NHQ)**
APE	**Area of Potential Effect—from ACHP regulations 36 CFR Part 800**
CRS	**Cultural Resources Specialist (NRCS—meets Secretary of Interior's Professional Qualification Standards, generally an archaeologist or historian)**
EWP	**Emergency Watershed Program (NRCS program)**