



Guidance Natural Resources and Biodiversity Conservation

1. Purpose and Scope

The general natural resources and biodiversity conservation requirement of the U.S. Department of Agriculture (USDA) organic regulations at 7 CFR § 205.200 requires operations to “maintain or improve the natural resources of the operation, including soil and water quality.” Section 205.2 of the regulations defines “natural resources of the operation” as the “physical, hydrological, and biological features of a production operation, including *soil, water, wetlands, woodlands, and wildlife.*” [Emphasis added.] “Organic production” is defined as a “production system that is managed to respond to site-specific conditions by integrating cultural, biological and mechanical practices that foster cycling of resources, promote ecological balance, and *conserve biodiversity.*” [Emphasis added.]

The preamble to the final rule establishing the NOP explained, “[t]he use of ‘conserve’ [in the definition of organic production] establishes that the producer must initiate practices to support biodiversity and avoid, to the extent practicable, any activities that would diminish it. Compliance with the requirement to conserve biodiversity requires that a producer incorporate practices in his or her organic system plan that are beneficial to biodiversity on his or her operation.” (76 FR 80563)

Given the broad scope of these definitions, “maintain[ing] or improve[ing] natural resources in organic production” necessarily encompasses a range of conservation principles, including, but not limited to: protecting riparian areas; supporting native species and habitat; minimizing invasive species; maintaining air quality; promoting crop diversity and plant condition; and improving soil condition. This guidance provides examples of production practices that support these conservation principles and demonstrate compliance with 7 CFR § 205.200.

This guidance also clarifies: 1) the certified organic operator’s responsibility to select, carry out, and record production practices that “maintain or improve the natural resources of the operation;” 2) the accredited certifying agent’s (certifier) responsibility to verify operator compliance with this requirement; and 3) how domestic organic operations that participate in a USDA Natural Resources Conservation Service (NRCS) program and the National Organic Program (NOP) can reduce their paperwork burdens.

This guidance applies to all certifiers, certified organic operations, and new applicants for certification.



2. Background

The conservation of natural resources and biodiversity is a primary tenet of organic production. For instance, native vegetation interspersed throughout a certified organic operation provides food, cover, and corridors for beneficial organisms such as pollinators, slows water down for erosion control and groundwater recharge, and filters pollution. Using practices that attract or introduce beneficial insects, provide habitat for birds and mammals, and provide conditions that increase soil biotic diversity serve to supply vital ecological services to organic production systems. Advantages to certified organic operations that implement these types of production practices include: 1) decreased dependence on outside fertility inputs; 2) reduced pest management costs; 3) more reliable sources of clean water; and 4) better pollination.

The National Organic Standards Board (NOSB), a federal advisory committee that advises the USDA on organic issues, has made multiple recommendations related to natural resources conservation and biodiversity. The May 2009 NOSB recommendation asked the NOP to establish: 1) consistent discussion and review of biodiversity protection and enhancement in all certified operations' organic system plans; 2) increased education and information for certified operations, inspectors, and certifiers; 3) uniformity of inspection and certification procedures with regard to how certified operations implement the biodiversity standards; 4) incorporation of biodiversity standards into the procedures for accreditation and certifier audits; and 5) use of materials evaluation criteria that foster consideration of biodiversity conservation when adding or deleting materials from the National List of Allowed and Prohibited Substances.¹ This guidance addresses the first three components of the recommendation. Its purpose is to give operators and certifiers examples of activities that would fulfill natural resource and biodiversity conservation requirements.

3. Policy and Procedures

Role of Certified Organic Operations

- Certified organic operations and applicants for certification must develop and submit an organic system plan (OSP) to a certifier. (7 CFR § 205.201)
- In the OSP, the operation must describe or list activities (plans, practices and enhancements) that explain how it will comprehensively conserve biodiversity by maintaining or improving all natural resources, including soil, water, wetlands, woodlands, and wildlife, as required by § 205.200 of the regulations and per the § 205.2 definition of *Natural resources of the operation*. In many cases, the certifier will provide the operation with an OSP template with a designated section for the operation to describe its activities and its biodiversity monitoring approach (e.g., visual assessment of soil erosion, species counts for biodiversity, or testing for water quality).

¹ NOSB Recommendation on Biodiversity Conservation. May 2009. Available on the NOP Web site, <http://www.ams.usda.gov/sites/default/files/media/NOP%20Final%20Rec%20Biodiversity.pdf>.



- Certified operations may reference Appendix A to understand the types of production practices that could be used to support natural resources conservation and biodiversity.
- For certified operations that also participate in USDA Natural Resources Conservation Service (NRCS) activities (e.g., conservation planning, Conservation Stewardship Program (CSP), or the Environmental Quality Incentives Program (EQIP), etc.):
 - The operation can reference Appendix A to identify which practices may be supported through NRCS as part of its conservation programs.
 - The operation may refer to a current conservation plan and/or contract developed in conjunction with NRCS² or other conservation agency or non-governmental organization as part of their OSP, to meet the requirements of 7 CFR. § 205.200.
- For split operations or for operations that have non-certified portions of their property, the operation can also describe in its OSP the practices implemented to maintain or improve natural resources or biodiversity on a portion of their land that is not certified but is *adjacent* to the certified land, if this practice directly benefits the certified land.
 - For example, an operation may install grassed waterways or riparian strips at locations adjacent to its certified crops. When successfully implemented and maintained, these features would support the operation's overall water and soil quality. The operation could include a description of these activities in its OSP.
- The operation must implement and maintain the planned production practices as described in its OSP and maintain any records (e.g., activity logs for mowing, pest monitoring, limits on livestock access to waterways, reseeding areas, grazing rotations; water or soil testing results; visual observations; or conservation maps) that would support a certifier's ability to verify compliance.

Role of Certifiers

- Certifiers must ensure that an operation's OSP describes or lists practices that explain the operation's monitoring plan and practices to comprehensively support natural resources and biodiversity conservation, pursuant to § 205.200 of the regulations.
- Certifiers can refer to Appendix A for examples of activities (plans, practices, and enhancements) that may support compliance with 7 CFR § 205.200.
- A certified operation's monitoring plan could include the frequency of monitoring, the types of observations or testing the operation plans to conduct, and the method of documentation.
- Certifiers must verify compliance with 7 CFR § 205.200 by ensuring that certified organic operations are implementing their planned production practices to conserve natural resources and biodiversity. As part of the onsite inspection, certifiers should

² Organic crop and livestock producers who are located in the United States and its territories and who are planning to transition land to organic production may be eligible for technical and financial assistance through NRCS to develop and implement plans for addressing natural resource concerns. One option is to work with an NRCS's certified outside vendor or Technical Service Provider (TSP), to complete a Conservation Activity Plan (CAP) 138. To reduce paperwork, the National Organic Program (NOP) developed Resource Inventory Supplements as a companion to the CAP 138 Resource Inventory (Section 1). Instead of completing a full separate organic system plan (OSP) for their certifier, organic producers who are approved for and complete a CAP 138 may submit to their certifiers the CAP 138 Resource Inventory section together with the necessary Resource Inventory Supplement(s). When submitted together, these documents contain all the required components of a complete OSP. For more information visit: <http://www.ams.usda.gov/sites/default/files/media/2616.pdf>



ensure that inspectors observe the conservation practices implemented, or review records that support implementation of conservation practices.

- If a certified operation is implementing practices to conserve natural resources or biodiversity on a portion of its land that is not covered under its organic certification but is *adjacent* to the certified land, and this practice *directly benefits* the certified land, then the inspector and certifier may consider such practices in the assessment of whether a producer meets the requirements.
- Pursuant to 7 CFR § 205.504, certifiers should ensure that inspectors are sufficiently qualified to effectively assess compliance with the general natural resources conservation and biodiversity requirement at 7 CFR § 205.200. Qualifications may include, but are not limited to, the inspector's knowledge, training, and experience observing and assessing conservation activities and monitoring in organic production.

Role of Inspectors

- Inspectors must be qualified to assess compliance with 7 CFR § 205.200. More specifically, inspectors must be able to recognize and evaluate areas where: 1) natural resources and biodiversity are already conserved; 2) conservation projects are planned; and 3) improvement is needed.
- During the onsite inspection, inspectors must verify the accuracy and implementation of the operation's production activities (plans, activities and enhancements) and monitoring approach that support the general natural resources conservation and biodiversity requirement, as described by the operation in its OSP. Inspectors may also review implementation of the operation's production activities in relation to CAP 138 documentation submitted in place of a traditional OSP.
- During the onsite inspection, inspectors may note exceptions to the conservation requirement such as extreme climatic conditions, or damage to the ecosystem beyond the control of the operation. The inspector should communicate this information to the certifier for consideration as part of its review and certification decision.

4. References

USDA Organic Regulations ([7 C.F.R. Part 205](#))

7 C.F.R. § 205.2 Terms Defined.

Crop rotation. The practice of alternating the annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species or family are not grown repeatedly without interruption on the same field. Perennial cropping systems employ means such as alley cropping, intercropping, and hedgerows to introduce biological diversity in lieu of crop rotation.

Natural resources of the operation. The physical, hydrological, and biological features of a production operation, including soil, water, wetlands, woodlands, and wildlife.



Organic production. A production system that is managed to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.

Pasture. Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative sources.

Soil and water quality. Observable indicators of the physical, chemical, or biological condition of soil and water, including the presence of environmental contaminants.

- 7 C.F.R. § 205.200 General.
- 7 C.F.R. § 205.202 Land requirements.
- 7 C.F.R. § 205.203 Soil fertility and crop nutrient management practice standard.
- 7 C.F.R. § 205.205 Crop rotation practice standard.
- 7 C.F.R. § 205.206 Crop pest, weed, and disease management practice standard.
- 7 C.F.R. § 205.207 Wild-crop harvesting practice standard.
- 7 C.F.R. § 205.238 Livestock health care practice standard.
- 7 C.F.R. § 205.239 Livestock living conditions.
- 7 C.F.R. § 205.240 Pasture practice standard.

NOSB Recommendations

Joint Crops & Compliance, Accreditation, and Certification Committee, NOSB Recommendation, "Implementation of Biodiversity Conservation in Organic Agriculture Systems," May 2009.

Other Laws and Regulations

Endangered Species Act of 1973, 16 U.S.C. § 1531 et seq.

Approval

(Signature)

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Appendix A

Examples of Activities (Plans, Practices, and Enhancements) that May Maintain or Improve Natural Resources and Biodiversity

Throughout the U.S. and the world, topography, climate, soils, and biodiversity vary widely. The following examples outline beneficial activities within certain ecological contexts that organic operations may use to maintain or improve biodiversity in their operations. This is not an exhaustive list. There are many other activities in varied ecological settings that operations can use to reach the same compliance goal.

Topics	NRCS Assistance May Be Available ³	Examples of Activities ⁴
Examples Relevant to All Types of Organic Certification		
Soil Composition	<input checked="" type="checkbox"/>	Adding organic matter through the diversity of crops and inputs, to the soil to increase the diversity of soil organisms and to improve nutrient cycling, competitive exclusion of plant pathogens, long-term storage of soil carbon, and adaption to extreme climatic conditions and water holding capacity.
	<input checked="" type="checkbox"/>	Conserving and restoring forests, shrublands, woodlands, grasslands, riparian area ⁵ and wetland areas, which sequester carbon in soils and aid in cycling soil nutrients.
Soil Stability and Water Quality	<input checked="" type="checkbox"/>	Creating, conserving, and restoring vegetative covers (forests, shrublands, woodlands, grasslands, riparian areas, and wetland areas) that control erosion and filter nutrient, pesticide, and pathogen pollutants. Minimizing disturbances, maximizing diversity, living roots and cover.
	<input checked="" type="checkbox"/>	Using no-till or permanent cover, conservation tillage, terracing, contour farming, micro-irrigation, windbreaks, cover crops, grass waterways and soil health practices.

³ NRCS assistance options are listed at <http://1.usa.gov/1kwzgz0>. NRCS staff and technical service providers may reference this chart as part of conservation planning for organic producers.

⁴ While NRCS publishes national Conservation Practice Standards (<http://1.usa.gov/1n8fcHG>), each State has its own technical standards and specifications, which can be accessed electronically through the NRCS Field Office Technical Guide (<http://efotg.sc.egov.usda.gov/>) or by contacting your local USDA Service Center (<http://1.usa.gov/1kwzgz0>).

⁵ Riparian areas are plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic [moving and standing] water bodies (rivers, streams, lakes, or drainage ways). Riparian areas have one or both of the following characteristics: 1) distinctly different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between wetland and upland. *Definition from USFWS. A System for Mapping Riparian Areas In The Western United States. Nov 2009.*



	<input checked="" type="checkbox"/>	For lands coming into production for the first time or returning to production (e.g. Conservation Reserve Program (CRP) lands leaving the federal program and requesting organic certification), a new conservation plan can examine and implement a range of alternative practices to enhance the natural resources of the land.
Water Quantity	<input checked="" type="checkbox"/>	Using water conservation techniques that save water for crops, livestock, wildlife, and riparian ecosystems.
		Choosing crops and other plants that are appropriate for the climate and landscape with water conservation in mind.
	<input checked="" type="checkbox"/>	Using suitable irrigation systems and schedules and monitoring them for water conservation.
	<input checked="" type="checkbox"/>	Conserving or restoring forests, shrublands, woodlands, grasslands, riparian habitat, and wetland areas that absorb and hold water for long periods as part of a healthy water cycling process.
	<input checked="" type="checkbox"/>	Using managed systems to “bank” soil moisture if fields are drained using tiles.
Wildlife Benefits	<input checked="" type="checkbox"/>	Maintaining or improving diverse mixtures of plants to provide food, habitat, or shelter for pollinators, insects, spiders and other beneficial organisms such as arthropods, bats, and raptors.
Native Species and Natural Areas of the Operation	<input checked="" type="checkbox"/>	Conserving high conservation value ⁶ areas that have outstanding biodiversity ⁷ importance, or mitigating/restoring these areas elsewhere on the farm.
	<input checked="" type="checkbox"/>	Conserving and restoring wildlife and native plant communities specific to the site (forests, shrublands, woodlands, grasslands, riparian habitat, and wetland areas).
	<input checked="" type="checkbox"/>	Documenting rare, threatened, and endangered terrestrial and aquatic plants and animals ⁸ and ecologically at risk ecosystems ⁹ and taking steps to protect them.
	<input checked="" type="checkbox"/>	Conserving wildlife corridors and large blocks of habitat that reduce fragmentation.

⁶ High conservation value area has a biological, ecological, social or cultural value of outstanding significance or critical importance. *Definition from HCV Resource Network.* <https://www.hcvnetwork.org/>

⁷ Biodiversity, or biological diversity, is the diversity of life existing at three levels: genetic, species, and ecosystem. Therefore, biological diversity (biodiversity) includes variety in all forms of life, from bacteria and fungi to grasses, ferns, trees, insects, and mammals. It encompasses the diversity found at all levels of organization, from genetic differences between individuals and populations (groups of related individuals) to the types of natural communities (groups of interacting species) found in a particular area. Biodiversity also includes the full range of natural processes upon which life depends, such as nutrient cycling, carbon and nitrogen fixation, predation, symbiosis and natural succession. *Definition from the May 2009 NOSB recommendation.*

⁸ The NatureServe database (<http://explorer.natureserve.org/>) and the U.S. Fish and Wildlife Service database (<http://endangered.fws.gov/wildlife.html#Species>) provide information on the conservation status of area plants and animals in the U.S. and Canada, and the IUCN Red List of Threatened Species and Key Biodiversity Areas, as indicated in the IBAT for Business Tool (<https://portals.iucn.org/library/efiles/documents/2014-004.pdf>) provides information on the conservation status of plants, animals, and areas internationally.

⁹ The NatureServe webpages (<http://explorer.natureserve.org/servlet/NatureServe#>) and (<http://explorer.natureserve.org/granks.htm>) provide tools for defining “at risk” ecosystems, and learning about ecosystems in general (<http://explorer.natureserve.org/index.htm>), but do not have a function to track locations of “at risk” ecosystems. The best available conservation tracking tools are for those for tracking species.



	<input checked="" type="checkbox"/>	Making improvements to streams, lakes, and rivers, enhancing habitat for fish and other aquatic species.
		Allowing degraded riparian areas, prairies, and wetlands to be recolonized through natural processes.
	<input checked="" type="checkbox"/>	Actively restoring degraded land to its native habitat using species adapted to and historically present in the area. ¹⁰
Invasive Plants and Animals	<input checked="" type="checkbox"/>	Closely monitoring invasive plants ^{11 12} and animals threatening natural areas.
	<input checked="" type="checkbox"/>	Controlling invasive species before they spread.
		Avoiding seed, planting stock, soil amendments, and mulches that may import weed seeds and other pests.
Examples Specific to Crop Operations		
Soil Stability and Water Quality	<input checked="" type="checkbox"/>	Using nutrient budgets to protect water quality by managing crop nutrients.
	<input checked="" type="checkbox"/>	Designing grassed waterways, filter strips, terraces, and other non-crop vegetation, and managing them to help control erosion and filter pollutants before they reach water bodies.
	<input checked="" type="checkbox"/>	Using stream crossings, brush mattresses, and other engineered features to prevent erosion where year-round or intermittent water flows.
	<input checked="" type="checkbox"/>	Using sediment basins to capture eroded or disturbed soil before it leaves the farm.
Co-existing with Wildlife	<input checked="" type="checkbox"/>	Taking measures to minimize total habitat loss on adjacent land when wildlife is restricted from entering the production area.
		Designing and using management strategies as much as possible to repel, rather than destroy, intended and unintended species.
Supporting Wildlife	<input checked="" type="checkbox"/>	Using strategic mowing, tilling, and harvesting methods to preserve sites where wildlife raise their young.
Crop Diversity		Growing a variety of crop types, heirloom crops, or several genetic strains of the same crop.
		Growing locally-adapted seed varieties or those suited to site-specific conditions.
Examples Specific to Livestock Operations		
Soil Stability and Water Quality	<input checked="" type="checkbox"/>	Managing the frequency, intensity, and timing of grazing and forage harvests to protect soil and water quality. Manure management including storage and feedlot runoff.
	<input checked="" type="checkbox"/>	Controlling access to sensitive riparian areas and wetlands as much as possible.

¹⁰ The NRCS PLANTS database (<http://plants.usda.gov>) provides information on native plants in each county of the U.S.

¹¹ Invasive plants and animals are non-native (or alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions. *Definition from the National Invasive Species Information Center*
www.invasivespeciesinfo.gov/

¹² The National Invasive Species Information Center website (<http://www.invasivespeciesinfo.gov/>) provides information on invasive species in each state of the U.S., and the Global Invasive Species Database (www.issg.org/) provides information on invasive species internationally.



Wildlife	<input checked="" type="checkbox"/>	Composing pasture plantings of diverse species and managing them to support livestock and native species.
Co-existing with Wildlife		Using non-lethal predator control before lethal methods (e.g., guard animals, grazing large and small animals together, grazing when predation is low, wildlife escape ramps, or housing vulnerable animals overnight).
	<input checked="" type="checkbox"/>	Encouraging diverse native landscapes that support natural prey for carnivorous animals to reduce their predation of livestock.
	<input checked="" type="checkbox"/>	Using wildlife-friendly fencing.
Livestock Diversity		Raising a variety of livestock, including heirloom breeds, or different breeds of the same livestock.
		Preserving locally-adapted livestock breeds, or raising those well suited to site-specific conditions.
Examples Specific to Wild Harvest Operations		
Soil Stability and Water Quality		Using practices for wild harvest that maintain or improve soil stability.
		Using practices for wild harvest that maintain or improve water quality.
Native Species and Natural Areas of the Operation		Maintaining the sustainability of harvested native plants and animals and associated species when determining the quantity and timing of the wild harvest.