



IMPROVING AND MAINTAINING NATURAL RESOURCES AND BIODIVERSITY

FACT SHEET



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IMPROVING AND MAINTAINING NATURAL RESOURCES AND BIODIVERSITY

The standards established by the National Organic Program require certified organic agricultural producers to “maintain or improve the natural resources of the operation, including soil and water quality.” (205.200) Natural resources are defined as “the physical, hydrological, and biological features of a production operation, including soil, water, wetlands, woodlands, and wildlife.” (205.2)

The preamble to the final rule 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)

All organic agricultural operations must take steps to meet these regulations, regardless of production system, scale, and location. Natural resources and biodiversity are expansive topics, and producers should consider the full range of categories to address. Many examples are given here, but this list is not exhaustive—considerations could also be made for air quality or energy use, for example. Many indicators and practices can overlap multiple categories of natural resource and biodiversity conservation.

Producers should also keep in mind site-specific opportunities, relative to many factors such as the production system, the surrounding environment, and climate. Consider regional priorities such as wildlife corridors or watershed issues—think beyond just soil and water to take a comprehensive approach to maintaining and improving natural resources and biodiversity.





To meet the natural resource and biodiversity requirements, producers should look at each category identified in the regulation (at a minimum, soil, water, wetlands, woodlands, and wildlife), identify concerns or issues, plan activities within each category, and maintain documentation.

Activities on non-certified organic land parcels and adjacent land can contribute to meeting this requirement if the practices directly benefit certified land. Because the regulation requires the maintenance or improvement of these categories, it is important to establish a baseline and compare results over time. The goal should be continuous improvement.

RECORDKEEPING

Producers need to establish a monitoring plan, which may include the frequency of monitoring, types of observations or testing that the operation plans to conduct, and method of documentation. There are a wide range of options for documentation, including NRCS or other agency conservation plans, soil or water lab tests, pictures or videos, planting records, and animal and insect count logs. Some of these records may already exist to show compliance for other organic regulations (for example, seed or planting records).



PLANS



LAB TEST



PICTURES



VIDEOS



COUNT LOGS









SOIL COMPOSITION AND STABILITY

ISSUES OF CONCERN

- Erosion of fields caused by overgrazing or during crop growth and/or in off-season, or erosion on field edges
- Soil is compact or does not crumble easily; a wire probe does not easily pass through
- Lack of soil organisms
- Ponding or crusting on soil surface
- Regular occurrence of bare ground in crop or non-crop areas



PRACTICES TO MAINTAIN OR IMPROVE

- Increase soil organic matter through diverse crop rotations and cover cropping
- Reduce soil disturbance
- Restore vegetative covers that control erosion and filter nutrients and/or pollutants
- Managing frequency and intensity of grazing
- Use of contour farming or terracing



DOCUMENTATION

- Soil tests showing increase in organic matter over time
- Results from soil lab tests showing quality indicators
- Visual observation records or photos of changes in soil life over time
- Planting and field management records showing increased use of cover crops, reduction in soil disturbance, or additions of organic matter
- Images of soil cover throughout the year





WATER QUALITY AND QUANTITY

ISSUES OF CONCERN



- Excessive runoff into adjacent water bodies
- Excessive livestock manure on land or in water
- Overuse of water or leaking pipes
- Dewatering of a naturally occurring water body

PRACTICES TO MAINTAIN OR IMPROVE



- Use of filter strips, vegetative covers, or other buffers to stop runoff from entering water
- Moisture monitoring and responsive irrigation management or the use of an efficient irrigation system
- Choosing crops with reduced water needs
- Conserving or restoring forests, riparian areas, and wetlands
- Use of nutrient budgets
- Use of sediment basins to capture eroded soil
- Implementing manure management systems
- Restricting livestock access to riparian areas

DOCUMENTATION

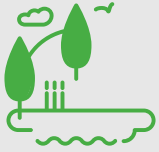


- Images of water clarity during irrigation or rain
- Written records of crop nutrient budgets
- Records of selecting crop varieties with reduced water needs
- Written records of soil moisture monitoring and irrigation management
- Images or records of buffer or sediment basin establishment
- Records of manure management and maps or images of livestock access areas









NATURAL AREAS AND WILDLIFE

ISSUES OF CONCERN



- Natural areas are degraded or destroyed
- Wildlife habitat is not present, or is only present for part of the year
- Intentional killing of wildlife
- Abundance of invasive plants and animals
- Dewatering of natural water bodies
- Operation interrupts migratory paths

PRACTICES TO MAINTAIN OR IMPROVE



- Installation of diverse buffers, hedgerows, field borders, and other natural areas to provide food, habitat, and shelter for wildlife
- Use of wildlife friendly fencing
- Taking steps to protect at-risk ecosystems and rare, threatened, or endangered species
- Conserving wildlife corridors
- Restoring riparian areas or degraded land to native habitat
- Installing bird or bat boxes or raptor perches

DOCUMENTATION



- Before and after photos of restored riparian areas or degraded natural areas
- Pictures or records of counts of wildlife species observed
- Images and/or maps showing field borders, natural areas, wildlife corridors, and/or bird or bat boxes
- Field records showing mowing or tillage locations and/or timing to protect ground-nesting birds or other wildlife
- Records of working with a conservation agency to conserve or restore natural areas





NATIVE AND INVASIVE SPECIES

ISSUES OF CONCERN



- Natural areas dominated by unmanaged invasive species
- Native plant and animal community is lacking
- Installation of invasive exotic plants on premises

PRACTICES TO MAINTAIN OR IMPROVE



- Planting native species, including native trees and shrubs in livestock operations for shade
- Removal or suppression efforts of invasive species
- Regular monitoring of invasive plants and animals
- Careful selection of seed and planting stock sources so as to avoid introduction of invasive species

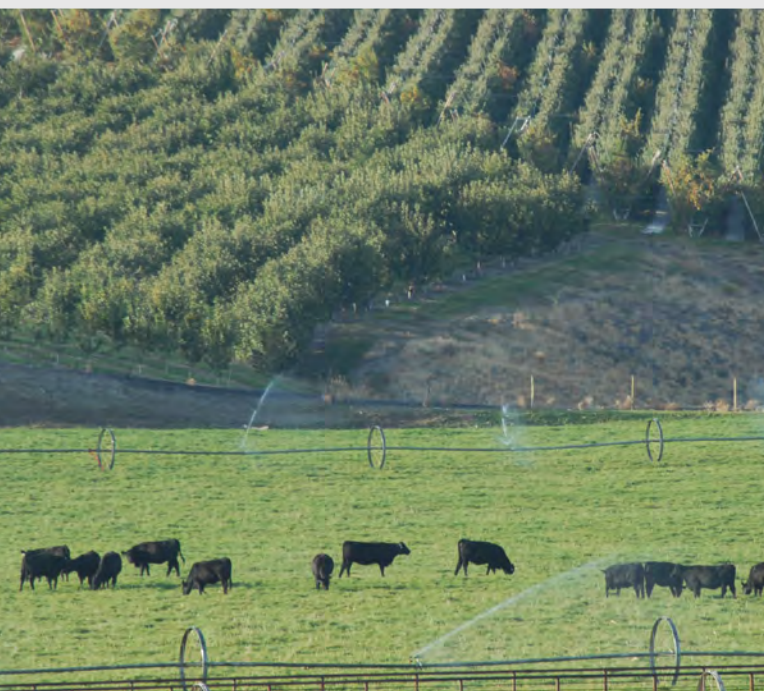
DOCUMENTATION



- Planting records of native species planted in pastures, hedgerows, or buffers, or before and after photos
- Records of regular monitoring of invasive species
- Documentation of seed or planting stock searches that demonstrates efforts to avoid introduction of weeds and invasive species
- Pictures or records of invasive species removal or suppression









BIODIVERSITY



ISSUES OF CONCERN

- Same crop species grown repeatedly without interruption on same land
- Crop rotation plan does not include any sod, cover crops, green manures, or catch crops, as appropriate
- Lack of non-crop habitat diversity
- Crop types and varieties planted are particularly susceptible to common pests and disease or unable to out-compete weeds
- Inappropriate selection and/or diversity of livestock types and species that are particularly susceptible to common parasites, disease, or other site-specific limitations
- Intentional killing of animals
- Lack of diverse soil animals



PRACTICES TO MAINTAIN OR IMPROVE

- Selection of crops and livestock that are suitable for site-specific conditions and/or resistant to common pests, disease, etc.
- Selection of genetically diverse crops and livestock
- Implementing diverse crop rotations, rotating mixed livestock through pasture



DOCUMENTATION

- Field records showing a mixed livestock rotation through pasture
- Records showing a wide variety of crops and species planted in fields and pastures
- Documentation of suitability of crops and livestock to site-specific conditions
- Records of working with a conservation agency to install pollinator habitat
- Maps that highlight biodiversity features



RESOURCES FOR FURTHER READING



- USDA National Organic Program (updated August 31, 2018):
NOP 5020: Natural Resources and Biodiversity Conservation
- Wild Farm Alliance: Biodiversity Conservation: An Organic Farmer's and Certifier's Guide
- Xerces Society: Pollinator Conservation
- NRCS and many local resource conservation districts, state departments of agriculture or natural resources, and non-governmental organizations can provide technical assistance and support to producers in implementing natural resource and biodiversity conservation practices.



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