



GROW CONFIDENTLY

**Leading Harvest
Farmland Management Standard 2020**



What the Leading Harvest Standard Does

The Leading Harvest Farmland Management Standard (*Leading Harvest Standard**) identifies sustainable farming practices based on 13 Principles, 13 *Objectives*, 33 *Performance Measures* and 71 *Indicators*. It addresses economic, environmental, social and governance issues and includes measures to efficiently use water, *agricultural chemicals* and energy to grow crops for useful *agricultural products*; *minimize waste*; and conserve soils, water resources and *biodiversity*. It also takes into consideration the well-being of *farmland tenants*, employees, *contract management company* employees, contract farm labor and local communities. Conformance to the *Leading Harvest Standard* requires awareness and *appropriate use of regional agricultural best management practices* to advance sustainable agriculture.

What is addressed by the Leading Harvest Standard?

The *Leading Harvest Standard* applies to any organization that owns or has management authority for *farmland (Standard user)* and the *farmland* that it chooses to enroll. It does not apply to animal agriculture operations. *Objectives* 1 and 7 through 13 apply to the *Standard user* and the management system it uses to manage enrolled *farmland*, except for *Indicators* 7.2.3, 7.3.1 and 9.4.1. *Objectives* 2 through 6 and *Indicators* 7.2.3, 7.3.1 and 9.4.1 apply to all *farmland* enrolled under the *Leading Harvest Standard*. The activities of *farmland tenants* may contribute to the performance of the *Standard user* for *Objectives* 2 through 6 and *Indicators* 7.2.3, 7.3.1 and 9.4.1, but the *Standard user* is responsible for conformance to these *Objectives*, *Performance Measures* and *Indicators*. *Indicator* 13.1.4 applies to all *farmland tenants* of leased *farmland* enrolled under the *Leading Harvest Standard*.

Geographic Application of the Leading Harvest Standard

The *Leading Harvest Standard* can be applied to farmland owned or managed by a *Standard user* in the United States. It may be adapted for use outside of the United States.

Leased Farmland under the Leading Harvest Standard

The *Standard user* can credibly conclude that *farmland tenant* operations are in conformance with the *Leading Harvest Standard* where inspection of leased *farmland* and other supporting evidence can demonstrate that lessor operations are within the scope of *Objectives* 2 through 6 and *Indicators* 7.2.3, 7.3.1 and 9.4.1 of the *Leading Harvest Standard*. Inspections, annual interviews and desk audits may be permissible for verifying whether *farmland tenant* operations are within the scope of the *Leading Harvest Standard* when used to the scope and scale of the lessor's operations. For *farmland* leased and operated by tenants, *Objectives* 1 and 8 through 13 (except for *Indicators* 7.2.3, 7.3.1 and 9.4.1) apply to the *Standard user* and the management system it uses to manage *farmland*.

Impact of Scope, Scale, and Size under the Leading Harvest Standard

The *Leading Harvest Standard* can be applied to farm or farm management units of any size. All *Standard users* are held to the same *Leading Harvest Standard*, but the expectation of evidence of conformance may vary with the scope and scale of the *Standard user* because scope and scale influence the risk of adverse impacts to society and the environment from agricultural operations. *Standard users* managing large acreages may need a greater level of conformance evidence than those managing modest acreages in order to demonstrate risk management sufficient to meet the requirements of the *Leading Harvest Standard*.

References

This standard incorporates, by dated or undated reference, provisions from other publications. For dated and undated references, the latest edition of the publication applies.

Normative References

[None for now]

Informative References

i. ISO 14001:2004 Environmental Management Systems—Specification with guidance for use.

*All terms in italics are defined in the glossary.



Leading Harvest Farmland Management Principles

Standard users believe farmland owners and producers have a vital stewardship responsibility and commitment to society and future generations. They recognize the importance of maintaining viable commercial and family *farmland* and supporting an agricultural system that renews its ability to provide food and other *agricultural products* and sustains rural communities and natural resources. They seek to appropriately apply and improve *regional agricultural best management practices* on the *farmland* that they manage and promote such practices on other *farmland* to advance sustainable agriculture. Consistent with these responsibilities, *Standard users* shall have a written *policy* (or policies) demonstrating their commitment to implement and achieve the following principles:

Principle 1. Sustainable Agriculture

To practice sustainable agriculture to meet the needs of the present without compromising the ability of future generations to meet their own needs. This means practicing a *farmland* stewardship ethic that integrates profitable agricultural production with efficient use of inputs; the *conservation* of natural resources, including *farmland*; attention to *climate change* and land rights; and consideration for tenants, employees, contract workers, *Indigenous Peoples* and local communities.

Principle 2. Soil Health and Conservation

To maintain or enhance long-term *soil* health and *soil productivity* and to protect soil from degradation.

Principle 3. Protection of Water Resources

To conserve and protect *groundwater* and *surface water* resources by managing impacts from water use and *runoff*.

Principle 4. Protection of Crops

To ensure long-term *crop productivity* by *appropriate* use of *crop protectants* while protecting the environment.

Principle 5. Energy Use, Air Quality and Climate Change

To increase use of energy-efficient *agricultural practices* and equipment and to *minimize* atmospheric emissions.

Principle 6. Waste and Material Management

To promote the efficient production of *agricultural products* and to minimize waste by seeking other uses of waste.

Principle 7. Conservation of Biodiversity

To manage *farmland* in a manner that maintains agricultural production while conserving biological diversity—including animal and plant species, *wildlife habitats* and natural or ecological community types—and avoids *habitat* conversion.

Principle 8. Protection of Special Sites

To manage *farmland* that is geologically or culturally important in a manner that considers its unique qualities.

Principle 9. Local Communities

To contribute to the economy and well-being of rural communities through jobs, local purchases, other contributions, efforts to maintain community health and safety, and by respecting land and resource rights of local communities and *Indigenous Peoples*.

Principle 10. Employees and Farm Labor

To provide a safe and respectful working environment, fair compensation and training for employees; *contract management company* employees; and farm labor necessary to improve the practice of sustainable agriculture.

Principle 11. Legal and Regulatory Compliance

To comply with applicable federal, state and local agricultural and related laws, statutes and regulations.

Principle 12. Management Review and Continual Improvement

To continually improve the practice of agricultural management and to monitor, measure and report performance in achieving the commitment to sustainable agriculture.

Principle 13. Tenant-Operated Operations

To promote the application of *regional agricultural best management practices* on tenant-operated *farmland*.



Leading Harvest Objectives

A summary of the *Leading Harvest Standard Objectives* follows:

Objective 1. Sustainable Agriculture Management

To practice sustainable agricultural stewardship to improve crop production and ensure long-term agricultural sustainability.

Objective 2. Soil Health and Conservation

To maintain or enhance *soil health* to optimize *crop yield* and protect long-term *soil productivity* on *agricultural lands*.

Objective 3. Water Resources

To protect water resources and manage water for efficient agricultural productivity.

Objective 4. Crop Protection

To achieve *crop* protection goals while protecting people and the environment.

Objective 5. Energy Use, Air Quality and Climate Change

To conserve energy used by agriculture operations and *minimize* adverse impacts to the atmosphere and the global climate.

Objective 6. Waste and Material Management

To manage food waste, *agricultural chemicals* and other materials from agricultural operations to *minimize* their adverse impacts to people and the environment.

Objective 7. Conservation of Biodiversity

To manage *farmland* in a manner that maintains agricultural production while conserving *biodiversity* where *appropriate* or legally required.

Objective 8. Protection of Special Sites

To manage *special sites* on *farmland* that are geologically or culturally important in a manner that recognizes and respects their unique qualities.

Objective 9. Local Communities

To operate safely and responsibly; contribute to the economic well-being, social networks and health of local communities; and recognize and respect the rights of local communities and *Indigenous Peoples* in regions of agricultural operations.

Objective 10. Employees and Farm Labor

To provide a safe and healthy working environment, fair compensation and training for *Standard user* personnel, *contract management company* employees and *contract farm labor* necessary to improve the practice of sustainable agriculture.

Objective 11. Legal and Regulatory Compliance

To comply with applicable federal, state and local laws, statutes and regulations.

Objective 12. Management Review and Continual Improvement

To promote continual improvement in the practice of sustainable agriculture by conducting management reviews and monitoring performance.

Objective 13. Tenant-Operated Operations

To promote the use of *regional agricultural best management practices* on *farmland* leased by *farmland tenants* to broaden the practice of sustainable agriculture and to promote the efficient use of agricultural inputs and the management of environmental impacts.



Objective 1. Sustainable Agriculture Management

To practice sustainable agricultural stewardship to improve crop production and ensure long-term agricultural sustainability.

Performance Measure 1.1 Sustainable Agricultural Stewardship: *Standard users* shall demonstrate their commitment to sustainable agricultural stewardship of *farmland*.

Indicator 1.1.1 *Farmland Stewardship Commitment:* A written commitment statement and list of goals that describes the sustainable agricultural stewardship of *farmland*.

Indicator 1.1.2 *Farmland Stewardship:* Demonstration of the management of major synergies and tradeoffs between the economic, social and environmental dimensions of sustainable agricultural stewardship of *farmland* while ensuring long-term profitability and sustainability.

Indicator 1.1.3 *Farmland Conservation:* *Conservation of prime farmland* to avoid its conversion to nonagricultural uses when conversion would adversely impact regional agriculture.

Performance Measure 1.2 Critical External Factors: *Standard users* shall manage for potential impacts of *critical external factors* to help ensure long-term profitability and sustainability of each farm or farm management unit by the *Standard user*.

Indicator 1.2.1 *Adapting to Critical External Factors:* A process for periodically identifying *critical external factors* and adapting to their impacts to ensure the long-term profitability and sustainability of agricultural production of a farm or farm management unit.

Objective 2. Soil Health and Conservation

To maintain or enhance *soil health* to optimize *crop yield* and protect long-term *soil productivity* on *agricultural lands*.

Performance Measure 2.1 Soil Health: *Standard users* manage nutrients and apply practices to achieve *crop yield* and maintain or enhance *soil health* of *cropland*.

Indicator 2.1.1 *Soil Quality:* Application of *regional agricultural best management practices* (e.g., tillage systems, *cover cropping*, addition of *soil amendments*) to maintain or enhance *soil fertility* and physical and biological characteristics of soil.

Indicator 2.1.2 *Soil Health Monitoring:* Monitoring of *soil health* characteristics, including nutrients from different sources necessary to maintain or enhance *appropriate* nutrient balance and *soil health*.

Indicator 2.1.3 *Nutrient Management Program:* An up-to-date *nutrient management program* that efficiently uses nutrient inputs and nutrients in the soil and *crops* to create optimum conditions for *crop* production and nutrient utilization and avoids nutrient loss to water and air.

Indicator 2.1.4 *Crop Residues:* Application of *regional agricultural best management practices* to use *crop residues* to maintain or improve *soil health* and long-term *soil productivity* where *appropriate*.

Performance Measure 2.2 Soil Conservation: *Standard users* shall implement *agricultural practices* to *minimize soil erosion* and avoid degradation of *agricultural lands*.

Indicator 2.2.1 *Cropland Soil Management:* Application of *regional agricultural best management practices* to *minimize soil erosion* and physical damage (e.g., compaction) of *cropland* and restore *soil health* where *appropriate*.

Indicator 2.2.2 *Degradation of Agricultural Lands:* A process to avoid the widespread loss of *agricultural lands* to *soil mismanagement* (e.g., failure to prevent extensive *soil erosion*, acidification, salinization and accumulation of other adverse compounds).



Objective 3. Water Resources

To protect water resources and manage water for efficient agricultural productivity.

Performance Measure 3.1. Water Use: *Standard users* shall conserve water resources and manage water use to avoid long-term depletion and maintain *crop productivity*.

Indicator 3.1.1. *Agricultural Water Withdrawal:* A *process* for avoiding the depletion of available *groundwater* resources beyond the recharge capacity of the watershed or catchment and by direct withdrawal where *groundwater depletion* is an issue as determined by a *groundwater regulatory agency*.

Indicator 3.1.2. *Regional Water Conservation:* Participation individually or collaboratively in regional *water conservation* programs where *appropriate* to help foster responsible use and conservation of *groundwater* and *surface water* used for agriculture.

Indicator 3.1.3. *Water Conservation:* A *water management program* that uses *appropriate* technology (including *crop/irrigation system design*) and applies *regional agricultural best management practices* to utilize water efficiently; to provide water tailored to *crop* needs; and to control *pests*, pathogens, salinization and accumulation of other adverse compounds.

Performance Measure 3.2. Water Quality: *Standard users* shall apply a *program* to properly manage the use of *fertilizers* and other *soil amendments*, *crop protectants*, and other inputs and avoid release of sediment and nutrients from *agricultural lands* into *groundwater* and *surface water*.

Indicator 3.2.1. *Input Application on Agricultural Lands:* Application of *regional agricultural best management practices* when applying *fertilizers* and other *soil amendments*, *crop protectants* and other agricultural inputs to avoid and control infiltration of nutrients, *crop protectants* and pathogens into *groundwater*.

Indicator 3.2.2. *Water Quality Protection:* Application of *regional agricultural best management practices* to manage *water runoff* from *cropland* into *surface water* and protect *wetlands*, *riparian areas* and *water quality* of *groundwater* and *surface water*.

Objective 4. Crop Protection

To achieve *crop* protection *objectives* while protecting people and the environment.

Performance Measure 4.1. Integrated Pest Management: *Standard users* shall protect *crops* against *pests* by implementing an *Integrated Pest Management program* that uses *regional agricultural best management practices* to achieve *crop* protection *objectives*.

Indicator 4.1.1 *Pest Monitoring:* Monitoring of *pests* to prevent excessive *crop* loss and economic injury to *crop* plants.

Indicator 4.1.2. *Crop Protection:* A *process* for preventing excessive *crop* loss from *pests*, *crop protectant* resistance and buildup and spread of *pests*.

Indicator 4.1.3. *Pest Control Practices:* Prioritization of the use of *lowest risk*, *most selective treatment options* to achieve *crop* protection goals whenever *appropriate*.

Performance Measure 4.2. Crop Protectant Management: *Standard users* shall select, use and store *crop protectants* in accordance with label instructions and regulatory requirements.

Indicator 4.2.1. *Application and Storage of Crop Protectants:* Application and storage of *crop protectants* according to label instructions and regulatory requirements and application of practices to protect employees, farm workers, public health, and the environment and avoid drift of *crop protectants* offsite.



Objective 5. Energy Use, Air Quality, and Climate Change

To conserve energy used by agricultural operations and minimize adverse impacts to the atmosphere and the global climate.

Performance Measure 5.1 Agricultural Energy Use and Conservation: *Standard users* shall conserve energy resources, especially fossil fuels, used by agricultural operations.

Indicator 5.1.1 Energy Conservation: Use of technologies and application of *regional agricultural best management practices* to conserve energy where *appropriate*.

Indicator 5.1.2 Renewable Energy: Use of *renewable energy* technologies and application of *regional agricultural best management practices* where *appropriate*.

Performance Measure 5.2 Air Quality:

Standard users shall minimize adverse impacts to air quality from agricultural operations.

Indicator 5.2.1 Air Emissions: Use of *low-emission technologies* when compatible with *regional agricultural best management practices*.

Indicator 5.2.2 Airborne Dust Control: Application of *regional agricultural best management practices* to minimize airborne dust where and when it adversely affects human health and/or the environment.

Performance Measure 5.3 Climate-Smart Agriculture:

Standard users shall apply the principles of *climate-smart agriculture* to reduce adverse impacts to the global climate and adapt to *climate change*.

Indicator 5.3.1 Greenhouse Gas Emissions: Application of climate-smart *regional agricultural best management practices* that minimize greenhouse gas emissions from agricultural operations and *farmland* and/or sequester *greenhouse gases* that contribute to *climate change* where *appropriate*. Examples could include, but are not limited to, application of *low-emission technologies* and practices that reduce use of agricultural inputs or their volatilization, increase carbon sequestration using *farmland*, and reduce volatilization of *greenhouse gases*.

Indicator 5.3.2 Climate Change Adaptation and Resilience: Application of *climate-smart regional agricultural best management practices* to adapt to *climate change* impacts and enhance farm or management unit resilience where *appropriate*. Examples could include, but are

not limited to, use of heat-resistant *crop* varieties, new *crop* species, practices that improve soil moisture retention and soil drainage, and training on management of new *crop pests*.

Objective 6. Waste and Material Management

To manage waste, *agricultural chemicals* and other materials from agricultural operations to minimize their adverse impacts to agriculture and the environment.

Performance Measure 6.1 Management of Waste and Other Materials: *Standard users* shall minimize solid waste and hazardous waste from agricultural operations and manage waste and *agricultural chemicals* in compliance with applicable laws, statutes and regulations.

Indicator 6.1.1 Waste Disposal: A process for properly handling and disposing of *universal, hazardous* and *solid waste*.

Indicator 6.1.2 Resource Recovery: A process for properly handling waste to be reused, repurposed or recycled, or converted to energy, where *appropriate*.

Indicator 6.1.3 Management of Agricultural Chemicals and Other Materials: Management, use and storage of *agricultural chemicals* and equipment gases, fluids and fuels according to regulatory requirements and application of practices to manage spills and protect employees, farm labor and the environment.

Performance Measure 6.2 Food and Agricultural Waste

Resource Recovery: *Standard users* shall ensure efficient handling and recovery of *agricultural products* and *agricultural waste*.

Indicator 6.2.1 Food and Agricultural Product Waste: Prevention of excessive loss of food *crops* and other *agricultural products* during harvest and on-farm storage.

Indicator 6.2.2 Resource Recovery of Agricultural Waste: Reuse, repurpose, and/or recycle product or *crop residues*, manure, other *agricultural wastes* and/or agricultural inputs (e.g., tailwater recovery) where *appropriate*.



Objective 7. Conservation of Biodiversity

To manage *farmland* in a manner that maintains agricultural production while conserving *biodiversity* where *appropriate* or legally required.

Performance Measure 7.1 Species Protection: *Standard users shall protect threatened and endangered species and viable occurrences of at-risk species.*

Indicator 7.1.1 *Threatened and Endangered Species:* *Protection of threatened and endangered species when they occur on enrolled farmland and management of agricultural operations with consideration of threatened and endangered species in the local watersheds and landscapes of operation.*

Indicator 7.1.2 *At-Risk Species:* *Program to locate and protect known viable occurrences of at-risk species on enrolled farmland. A protection program may be developed independently or collaboratively and may use easements, conservation land sales, exchanges or other conservation strategies.*

Performance Measure 7.2 Wildlife Habitat Conservation: *Standard users shall conserve native habitats, wildlife habitat, natural communities and Ecologically Important Sites on enrolled farmland.*

Indicator 7.2.1 *Native Habitats and Natural Communities:* *Maintenance or conservation of native habitats and natural communities in areas not used for agricultural production.*

Indicator 7.2.2 *Ecologically Important Sites:* *Participation individually or collaboratively in plans or programs that manage Ecologically Important Sites in a manner that takes into account their unique qualities.*

Indicator 7.2.3 *Cropland for Wildlife Habitat:* *Application of regional agricultural best management practices on cropland to create temporary wildlife habitat where appropriate. Examples could include, but are not limited to, no-till practices, cover cropping, adding soil amendments made up of organic matter, bird boxes, soil erosion control structures (e.g., grassed waterways), delayed mowing, intercropping, seeding areas with native grassland seed mixes, tailwater recovery ponds managed as wetlands, and water level management of rice fields for waterbirds.*

Performance Measure 7.3 Avoided Conversion:

Standard users shall avoid conversion of natural forests, other natural communities and Ecologically Important Sites.

Indicator 7.3.1 *Habitat Conversion:* *Demonstration of commitment to avoid the land use conversion and fragmentation of natural communities and Ecologically Important Sites on enrolled farmland.*

Indicator 7.3.2 *Deforestation:* *Demonstration of commitment to prevent deforestation of natural forest when farming where biome-specific or geography-specific deforestation protocol(s) are in place, by:*

(a) *A written policy to demonstrate the Standard user's commitment to a zero deforestation policy that identifies the regions of application, relevant natural forest types, appropriate deforestation cut-off date(s) in areas with biome-specific or geography-specific deforestation protocols, and*

(b) *Demonstration of due diligence to prevent the acquisition of farmland that was converted from natural forest after an appropriate deforestation cutoff date(s) identified by the Standard user in areas with biome-specific or geography-specific deforestation protocols.*

Performance Measure 7.4 Crop Diversity: *Support crop diversity on cropland.*

Indicator 7.4.1 *Crop and Genetic Diversity:* *Use of a variety of crop species, crop varieties, companion crops (e.g., cover crops, cross-pollination donors) and/or crop rotation where appropriate.*



Objective 8. Protection of Special Sites

To manage *Special Sites* on *farmland* that are geologically or culturally important in a manner that recognizes and respects their unique qualities.

Performance Measure 8.1 *Special Site Management*:

Standard users shall manage *Special Sites* in a manner *appropriate* for their unique qualities.

Indicator 8.1.1 *Special Site Identification*: Use of information such as existing natural heritage data or expert advice in identifying or selecting *Special Sites*.

Indicator 8.1.2 *Special Site Management*: *Appropriate* mapping, cataloging and management of identified *Special Sites* in a manner that recognizes their unique qualities.

Objective 9. Local Communities

To operate safely and responsibly; contribute to the economic well-being, social networks and health of local communities; and to recognize and respect the rights of local communities and *Indigenous Peoples* in regions of agricultural operations.

Performance Measure 9.1 *Economic Well-Being*:

Standard users shall foster the economic vitality of local communities through business practices that support sustainable agriculture and the local economy.

Indicator 9.1.1 *Economic Contributions*: Payment of federal, state and local taxes and, as *appropriate*, employment of staff from local communities and local procurement of supplies and services.

Performance Measure 9.2 *Community Relations*:

Standard users shall engage local communities to increase community awareness and support for the practice of sustainable agriculture and maintain or enhance *Standard user* reputation.

Indicator 9.2.1 *Community Engagement*: Engagement in positive relationships with neighbors and local communities thus raising the awareness of sustainable agriculture.

Performance Measure 9.3 *Local Communities and*

Indigenous Peoples: *Standard users* shall recognize and respect rights of local communities and the *treaty rights of Indigenous Peoples*.

Indicator 9.3.1 *Local Community and Indigenous Peoples Policy*: A written *policy* demonstrating a commitment to recognize and respect the rights of local communities and *treaty rights of Indigenous Peoples*.

Indicator 9.3.2 *Land Tenure Rights of Local Communities and Indigenous Peoples*: Demonstration of due diligence to prevent infringing on the land tenure rights of local communities and *Indigenous Peoples* when purchasing and managing land.

Indicator 9.3.3 *Local Communities' and Indigenous Peoples' Inquiries*: Demonstration of commitment to be receptive to local communities' and *Indigenous Peoples'* inquiries and concerns.

Performance Measure 9.4 *Public Health*: *Standard users* shall apply measures to protect public health from adverse impacts of *enrolled farmland*.

Indicator 9.4.1 *Public Health and Safety*: Application of health and safety *regional agricultural best management practices* that protect public health from adverse impacts of *agricultural chemicals*, excessive nutrients, equipment gases and fluids, fuels and air pollution and that train employees to operate equipment safely.



Objective 10. Personnel and Farm Labor

To provide a safe and healthy working environment, fair compensation and training for *Standard user* personnel, *contract management company* employees and *contract farm labor* necessary to improve the practice of sustainable agriculture.

Performance Measure 10.1 Safe and Respectful Working Environment: *Standard users* shall foster a culture of safety and respect among *Standard user* personnel and *contract management company* employees to *minimize* injuries, help establish safe routines and enhance employee productivity.

Indicator 10.1.1 *Equal Opportunity Employment:*
Provision for equal opportunity employee recruitment and occupations.

Indicator 10.1.2 *Respectful Work Environment:* Maintain a safe, *gender equitable* and *professional work environment*.

Performance Measure 10.2 Occupational Training:
Standard users shall provide training for *Standard user* personnel and ensure adequate training for *contract management company* employees necessary to improve the knowledge and practice of sustainable agriculture.

Indicator 10.2.1 *Personnel and Contract Worker Training:*
Health, safety and occupational education and training for *Standard user* personnel and *contract management company* employees.

Performance Measure 10.3 Supporting Capacity for Sustainability: *Standard users* shall require *appropriate* training of *Standard user* personnel and *contract management company* employees so that they are competent to fulfill their responsibilities under the *Leading Harvest Standard*.

Indicator 10.3.1 *Sustainability Policy Commitment:*
Standard users shall provide a written policy demonstrating commitment to the *Leading Harvest Standard* that is communicated throughout the organization, particularly to facility and farm managers.

Indicator 10.3.2 *Employee Roles and Responsibilities for Sustainability:* Assignment and understanding of roles and responsibilities for achieving the *objectives* of the *Leading Harvest Standard*.

Indicator 10.3.3 *Employee Sustainability Training:* Staff education and training for *Standard user* personnel and *contract management company* employees sufficient to fulfill their roles and responsibilities under the *Leading Harvest Standard*. Examples could include, but are not limited to, postsecondary degrees and professional

certificates, in-house training, continuing education programs for managing waste, recycling, *crop protectant* safety, professional development opportunities, and participation in agriculture-related professional organizations.

Performance Measure 10.4 Compensation:
Standard users shall ensure adequate livelihood for employees and *contract management company* employees to attract and retain a stable workforce.

Indicator 10.4.1 *Wages and Pay:* Compensation to ensure a living wage for *Standard user* personnel and *contract management company* employees.

Performance Measure 10.5 Farm Labor:
Standard users shall monitor *contract management companies* or *farm labor contractors* to help ensure farm labor working conditions consistent with the *Principles* and *Objectives of Leading Harvest Standard*.

Indicator 10.5.1 *Farm Labor Monitoring Program:*
A program to monitor *farm labor contractors* employed by *Standard users* or *Contract Management Companies* to ensure compliance with applicable federal, state, and local labor laws, statutes, and regulations by reviewing policies, practices, and training addressing workplace environment, equal opportunity, worker health, safety, and compensation, including *living wage* and, where *appropriate*, housing and transportation.



Objective 11. Legal and Regulatory Compliance

To comply with applicable federal, state and local laws, statutes, and regulations.

Performance Measure 11.1 Legal Compliance:

Standard users shall comply with applicable federal, state and local agricultural and related social and environmental laws, statutes, and regulations.

Indicator 11.1.1 Access to Compliance Information:

A *process* by which personnel have access to information of relevant laws, statutes, and regulations in *appropriate* locations.

Indicator 11.1.2 *Standard User* Compliance Program:

A *program* to achieve compliance with applicable federal, state or local laws, statutes, and regulations.

Indicator 11.1.3 Compliance Commitment: Demonstration of commitment to legal compliance through available *regulatory action information*.

Performance Measure 11.2 Legal Compliance Polices:

Standard user shall take *appropriate* steps to comply with all applicable social laws at the federal, state and local levels in the jurisdictions where the *Standard user* operates.

Indicator 11.2.1 Written Compliance Policy: A written *policy* demonstrating commitment to comply with social laws, such as those addressing civil rights, equal employment opportunities, anti-discrimination and anti-harassment measures, workers' compensation and *living wage*, *Indigenous Peoples'* rights, workers' and communities' right to know, prevailing wages, workers' right to organize, and occupational health and safety.

Indicator 11.2.2 Consistency with International Labor Organization (ILO) Conventions: Demonstration of commitment to respect the principles concerning fundamental rights set out in the ILO Declaration on Fundamental Principles and Rights at Work.

Indicator 11.2.3 Consistency with *Farmland Tenant* Law: Demonstration of commitment to respect the rights of *farmland tenants* of leased lands with respect to the *covenant of quiet enjoyment* as determined by national, state and/or local laws, statutes, and regulations.

Objective 12. Management Review and Continual Improvement

To promote *continual* improvement in the practice of sustainable agriculture by conducting management reviews and monitoring performance.

Performance Measure 12.1 Farm Review and Continual Improvement:

Standard users shall establish a management review system to examine findings and progress in implementing the *Leading Harvest Standard*, improve resource-use efficiency of agricultural production, make *appropriate* improvements in *programs*, and inform their employees of changes.

Indicator 12.1.1 Performance Review: A system to review commitments, *programs*, procedures and measures of progress; evaluate their effectiveness; and review progress toward achieving goals for employees, contractors, use of agricultural inputs, management of adverse and positive environmental impacts, and agricultural production, including greater resource-use efficiency.

Indicator 12.1.2 Monitoring Performance: A *program* for collecting, reviewing and reporting information to management regarding progress in achieving *Leading Harvest Standard objectives* and *performance measures*.

Indicator 12.1.3 Agricultural Innovation: A *process* for identifying and considering opportunities for achieving improved farming efficiency, deploying improved technologies, and using new markets for underutilized *agricultural products*, *new crops* and low-grade agricultural materials (e.g., bioenergy markets).

Indicator 12.1.4 Annual Review and Improvement: An annual review of progress by management and determination of changes and improvements necessary to continually improve agricultural efficiency and farm conformance to the *Leading Harvest Standard*.

Performance Measure 12.2 Support for Sustainable Agriculture:

Standard users shall individually and/or through cooperative efforts support science-based agricultural research programs or partnerships or other efforts by associations to improve *soil health*, agricultural productivity and sustainable agriculture.

Indicator 12.2.1 Support for Agricultural Research: Participation individually or collaboratively in agricultural research or other science-based programs that improve the knowledge and practice of sustainable agriculture.



Examples could include, but are not limited to, test plots for seed or *crop* trials or new practices; citizen science projects; demonstration days; research or partnerships to address agricultural productivity, *water quality*, community issues or similar topics that broaden the understanding of the benefits and impacts of sustainable agriculture.

Objective 13. Tenant-Operated Operations

To promote the use of *regional agricultural best management practices* on *farmland* leased by *farmland tenants* to broaden the practice of sustainable agriculture and to promote the efficient use of agricultural inputs and the management of adverse environmental impacts.

Performance Measure 13.1 Leased-Land Management:

Standard users shall clearly define and implement strategies to ensure that farmland tenant activities adhere to the principles of sustainable agriculture.

Indicator 13.1.1 *Leased-Land Program*: A program to help ensure that *farmland* management complies with the *regional agricultural best management practices* and the Principles and Objectives of the *Leading Harvest Standard* as determined by a *Standard user* and *farmland tenants*.

Indicator 13.1.2 *Farmland Tenant Agreements*: Written agreements with *farmland tenants* demonstrating their commitment to applying *agricultural practices* consistent with *regional agricultural best management practices*.

Indicator 13.1.3 *Communicating Leased-Land Objectives*: A written statement clearly defining sustainable agriculture goals of the *Standard user* for leased *farmland* that is shared with *farmland tenants* and made available to *appropriate* stakeholders upon request.

Indicator 13.1.4 *Farmland Tenant Social Responsibility Commitment*: A written statement by *farmland tenants* demonstrating their commitment to operate safely and responsibly; provide a safe working environment; and comply with applicable federal, state and local laws, statutes, and regulations.

Performance Measure 13.2 Leased-Land Monitoring:

Standard users shall monitor *agricultural practices* used by *farmland tenants* to ensure their consistency with *regional agricultural best management practices*.

Indicator 13.2.1 *Verifiable Monitoring System*: Use of a *verifiable monitoring system* with:

Indicator 13.2.1a A process for monitoring the *agricultural practices* used by *farmland tenants*; and

Indicator 13.2.1b A process for evaluating application of *agricultural practices* by *farmland tenants* and identifying and communicating areas where *farmland tenants* can improve their performance and achieve greater consistency with the *regional agricultural best management practices* and the Principles and Objectives of the *Leading Harvest Standard*.

Indicator 13.2.2 *Improvement of the Verifiable Monitoring System*: A process for using information from the *verifiable monitoring system* to identify areas of performance improvement for the *verifiable monitoring system*.



GLOSSARY



Agricultural chemicals: Substances such as *fertilizers*, liming and acidifying agents, road dust stabilizers, *crop protectants* (including insecticides, herbicides, fungicides and nematicides) and other agricultural inputs used to enhance or support agriculture production.

Agricultural land: Land that is used directly or indirectly in the production of *agricultural products* including *cropland*, *grassland*, *rangeland*, *pasture* and other land on which *agricultural products* or livestock are produced and resource concerns may be addressed. It may include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of land used for production of livestock (USDA NRCS).

Agricultural practices: Specific methods including tillage system, planting, application practices for *fertilizers* and *crop protectants*, harvesting and other cropping practices that are applied to grow and harvest annual or perennial *crops* for food, animal feed, forage, fiber, oilseed and other *agricultural products*.

Agricultural products: *Crops* for food, animal feed, forage, fiber, oilseed, medicine, cultural practices, fermentation products, or fuel, livestock and livestock products, including, but not limited to, field *crops*, fruits, vegetables, nuts, grains, horticultural specialties, cattle, sheep, hogs, goats, horses, poultry, furbearing animals, milk, eggs and furs (USDA).

Agricultural waste: Refers to *solid waste* that is generated by the rearing of animals or the production and harvest of *agricultural products*. This may include, but is not limited to, poultry and livestock manure and residual materials in liquid or solid form generated from the production and marketing of poultry, livestock, furbearing animals, other livestock products and *crop residues* from row *crops* and permanent *crops* (US EPA).

Appropriate: Suitable or proper in the circumstances for a particular purpose. Considerations may include whether an activity will achieve the goal of an *indicator* or *performance measure* in a specific setting, is practical and reasonable and contributes to achieving regulatory compliance or obtaining social license.

Appropriate deforestation cutoff date: A date (day, month and year) specified by the most relevant biome- or geography-specific *deforestation* protocol(s) after which farmed land cannot have been deforested. An example of a relevant *deforestation* protocol could include, but is not limited to, Canadian Boreal Forest Conservation Framework.

At-risk species: Species that have been highlighted by NatureServe as *critically imperiled* (G1) or *imperiled* (G2).

Biodiversity: The variety and abundance of life forms, processes, functions and structures of plants, animals and other living organisms, including the relative complexity of species, communities, gene pools and ecosystems at spatial scales that range from local to regional to global (SFI). This includes soil organisms, pollinators, beneficial organisms, agricultural and *grassland* plants and *wildlife*.

Certification body: An independent third party that is accredited and competent to conduct certifications to the *Leading Harvest Standard*.

Climate change: Change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It may be due to natural internal processes or external forcings or to persistent anthropogenic changes in the composition of the atmosphere or in land use (Intergovernmental Panel on Climate Change).

Climate-smart agriculture (practices): Practices and principles that promote sustainable increases in agricultural productivity (including sustainable intensification) while adapting to *climate change* and reducing *greenhouse gas* emissions (Food and Agriculture Organization of the United Nations).

Conservation: 1. *Protection* of plant and animal habitat. 2. Management of a renewable natural resource with the *objective* of sustaining its productivity in perpetuity while providing for human use compatible with sustainability of the resource.

Contract management company: A third-party company used by a *Standard user* to directly operate *enrolled farmland*.

Covenant of quiet enjoyment: A covenant that promises that the grantee or tenant of an estate in real property will be able to possess the premises in peace, without disturbance by hostile claimants. Quiet enjoyment is a right to the undisturbed use and enjoyment of real property by a tenant.

Cover cropping: Close-growing *crops* that provide soil *protection*, seeding *protection* and soil improvement between periods of normal crop production or between trees in orchards and vines in vineyards. This may include, but is not limited to, grasses, legumes and forbs for seasonal cover, soil improvement, and other *conservation* purposes (USDA).

Critically imperiled: A plant species, animal species or *natural community*, often referred to as G1, that is globally extremely rare or, because of some factor(s), especially vulnerable to extinction. Typically, five or fewer occurrences or populations remain, or very few individuals (less than 1,000), acres (less than 2,000 acres or 809 hectares) or linear miles (less than 10 miles or 16 kilometers) exist (NatureServe).



Critical external factor: Any off-farm attribute or factor that is materially and substantially relevant to the viability, long-term profitability, and sustainability of agricultural production of a management unit or farm. These may include economic factors (e.g., labor availability, regional market demand and opportunities, regulatory changes, *farmland tenant* availability, supplier availability and technological advancements), environmental factors (e.g., *climate change*, regional availability of water, and other inputs), and social factors (e.g., social license).

Crop: Plant species that are purposefully grown and/or harvested to satisfy human and livestock needs. They can include plants grown for food, feed, forage, fiber, decorative purposes, oilseed, medicine, cultural practices, fermentation products or fuel, including, but not limited to, field crops, hay or forage, fruits, vegetables, nuts, grains and horticultural specialties. *Cover crops* and companion *crops* may be considered *crops* if purposefully grown.

Cropland: Land used primarily for the direct production of *agricultural products* for harvest, including, but not limited to, land in row crops or close-grown *crops*, forage *crops* that are in a rotation with row or close-grown crops, permanent hay land, horticultural crops, orchards, vineyards, cropped woodland, marshes, cranberry bogs and other lands used to produce *crops* (USDA NRCS).

Crop productivity: The inherent capacity of a particular site to produce a *crop*, often measured in volume or weight.

Crop protectants: Substances used to control weeds and unwanted or harmful *pests*, such as insects and mites, or pathogens on *agricultural lands*. They are divided into categories according to the target organisms they are designed to control (NRCS USDA). This includes herbicides (to control weeds and other plants), insecticides (to control insects), fungicides (to control fungi or other plant pathogens), nematicides (to control parasitic worms) and rodenticides (to control rodents). They also encompass soil fumigants, plant growth regulators, defoliant and desiccants. They can be synthetic (developed in laboratories and manufactured) or natural.

Crop residues: Materials from growing *crops* left on the soil surface or partially incorporated into the surface layer of *cropland* to reduce soil erosion, conserve soil moisture and improve soil tilth (USDA). These materials may include, but are not limited to, stalks, stubble, leaves, chipped branches and vines, woody biomass from orchard and vineyard redevelopment and seed pods.

Crop genetic diversity: Variation in genetic and phenotypic characteristics of plants used in agriculture. Its two components are the genetic diversity within each *crop* (within-crop diversity, including different *crop* varieties or hybrids of the same species) and the number of *crop* species commonly grown (between-*crop* diversity).

Deforestation: The conversion of *forest* to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold. It includes areas of *forest* converted to agriculture, *pasture*, water reservoirs, residential and industrial areas, and urban areas (Food and Agriculture Organization of the United Nations).

Ecologically Important Sites: Sites of exceptional ecological importance including areas with *critically imperiled* or *imperiled* species or *natural communities* (species or *natural communities* with NatureServe global conservation status ranks of G1 or G2), rare *natural communities* or unique ecological landscape features.

Energy-efficient agricultural practices: Practices that deliver more services for the same energy input or the same services for less energy input (modified from International Energy Agency definition of energy efficiency).

Enrolled lands: Lands managed by the *Standard user* and enrolled under the *Leading Harvest Standard* and subject to third-party audit to the *Leading Harvest Standard*.

Equal Opportunity Employment: To provide employment where an employer agrees not to discriminate against any employee or job applicant because of race, color, religion, national origin, sex, physical or mental disability, or age.

Farmland: Land that includes *cropland*, *rangeland*, *grassland*, *pasture* land, incidental *forest* land and *wetlands* that are part of an agricultural operation (USDA NRCS).

Farmland tenant: A lessee of *farmland* where the lease is managed by a *Standard user*.

Farm labor contractor: A person or business who charges a fee to recruit, transport, supply or hire seasonal farmworkers to work for or under the direction, supervision or control of *Standard user* or a *contract management company* under the oversight of a *Standard user* (US DOL).

Fertilizer: Any organic or inorganic material of natural or synthetic origin (other than liming materials) that is added to a soil to supply one or more nutrients essential to the growth of plants (USDA NRCS).



Forest: Land with tree crown cover (or equivalent stocking level) of more than 10 percent and area of more than 1.2 acres (0.5 hectares) with tree species largely of indigenous origin. The trees should be able to reach a minimum height of 16.4 feet (5 meters) at maturity in situ. It may consist either of closed forest formations where trees of various heights and undergrowth cover a high proportion of the ground or open forest formations with a continuous vegetation cover in which tree crown cover exceeds 10 percent. It does not include land that is predominantly under agricultural or urban land use (Food and Agriculture Organization of the United Nations).

Gender equitable: The fair treatment for men and women according to their respective needs. This may include equal treatment or treatment that is different, but which is considered equivalent in terms of rights, benefits, obligations and opportunities (UNESCO). Equivalency between men and women does not mean that women and men have to become the same, but that their rights, responsibilities and opportunities will not depend on whether they were born male or female.

Grasslands: Natural or seminatural land defined by the following characteristics: (1) a non-wetland formation; (2) vascular vegetation has at least 10 percent cover; (3) graminoids have at least 25 percent cover (but if less than 25 percent cover, graminoids exceed that of other herbaceous and shrub cover); (4) broad-leaved herbs (forbs) may have variable levels of cover and dominance; (5) shrubs have less than 25 percent canopy cover; (6) and trees: (i) in temperate zones, typically have less than 10 percent canopy cover, are less than 5 meters tall and single-layered or (ii) in tropical regions, typically have less than 40 percent canopy cover, are less than 8 meters tall and are single layered (Dixon et al. 2014).

Greenhouse gases: Gases in the atmosphere that can absorb infrared radiation from the sun, trapping outgoing energy in the form of heat in the atmosphere. Key *greenhouse gases* include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) (U.S. EPA).

Groundwater: Water that exists underground in saturated zones beneath the land surface. The upper surface of the saturated zone is called the water table (USGS).

Groundwater depletion: A long-term decline in levels of *groundwater* caused by sustained *groundwater* pumping within a watershed or catchment (USGS).

Groundwater regulatory agency: A local, regional, state or federal public authority or government agency with statutory authority to exercise regulatory or supervisory oversight in the use and/or extraction of *groundwater*.

Habitat: A place, natural or otherwise (including climate, food, cover and water), where an individual or population of animal species or plant species naturally or normally lives and develops.

Hazardous waste: Waste that is dangerous or potentially harmful to human health or the environment, which can be liquid, solid, gas or sludge. It can be discarded commercial products, like leftover cleaning fluids or *crop protectants*, or the byproducts of manufacturing processes (U.S. EPA).

Imperiled: A plant species, animal species or *natural community*, often referred to as G2, that is globally rare or, because of some factor(s), is very vulnerable to extinction or elimination. Typically, six to 20 occurrences, or few remaining individuals (1,000 to 3,000), or acres (2,000 to 10,000 acres or 809 to 4,047 hectares), or linear miles (10 to 50 miles or 16 to 80.5 kilometers) exist.

Indicator: A specific metric that provides information about an organization's agricultural and environmental performance and that is integral to assessing conformance to the *Leading Harvest Standard*.

Indigenous Peoples: People defined in international or national legislation as having a set of specific rights based on their historical ties to a particular territory and their cultural or historical distinctiveness from other populations that are often politically dominant. More specifically, they are defined in the United States as members of federally recognized tribes and in Canada as those peoples that are defined by section 35(2) of the Constitution Act, 1982 (SFI).

Integrated Pest Management: The control of *pests*, including insects, at tolerable levels below economic thresholds, by the planned use of a variety of preventive, suppressive or regulatory tactics and strategies that are ecologically and economically efficient and socially acceptable (USDA, U.S. EPA). *Appropriate* techniques may include, but are not limited to, enhancement of natural enemies, planting pest-resistant crops, adaptation of cultural management and judicious use of *crop protectants*.

Land use conversion: A change in the extent or composition of an ecosystem or *habitat* where there is a shift from one land use to another that is considered significant or irreversible.

Living wage: The minimum income necessary for an employee or contract worker to meet their basic needs, which can include minimum food, child care, health insurance, housing, transportation and costs of other basic necessities (e.g., clothing, personal care items, etc.), such that public assistance is not necessary to meet basic needs. It does not address other needs such as entertainment, recreation or income for unpaid vacation (MIT).



Low-emission technologies: Advanced technologies used to significantly reduce *greenhouse gas* emissions levels, airborne pollutants and other adverse environmental impacts. This can include high-efficiency equipment and technology using renewable energy (e.g., hybrid vehicles, solar energy).

Lowest risk, most selective treatment options: A treatment used to control site-specific *pests* that *minimizes* impact to nontarget organisms and people and has the least overall impact while meeting management *objectives*. Considerations may include the target *pest*, the degree of control needed, cost, the season and timing of application, rates and methods, terrain, crop conditions and the presence or absence of water bodies.

Minimize: To do only that which is necessary and *appropriate* to accomplish the task or *objective* described.

Native habitats: Areas where a native species naturally occurs and that have the living and nonliving environmental conditions necessary for survival, including areas for feeding, shelter, *protection* and/or reproduction.

Natural communities: An assemblage of interacting plant species and animal species and their common environment, recurring across the landscape, in which the effects of human intervention are minimal. The vegetation is largely indigenous origin defined by a characteristic range of species composition, diagnostic species occurrence, *habitat* conditions and physiognomy. They reflect subregional to local topo-edaphic factors of substrates, hydrology, disturbance regimes and climate (NatureServe). Three characteristics distinguish *natural communities*: 1) plant species composition, 2) vegetation structure (e.g., *forest*, shrubland or marsh) and 3) a specific combination of physical conditions (e.g., water, light, nutrient levels and climate). *Grassland* and shrub areas that have been plowed or otherwise have had extensive soil disturbance and removal of the vegetation in the past are typically not *natural communities*. *Forests* on sites that have been converted to other land uses (e.g., agriculture) in the past and subsequently allowed to regrow trees are typically not *natural communities*. Human-made *wetlands* from wetland mitigation projects on sites that have been converted in the past from other land uses (e.g., agriculture) or cleared *forest* and graminoid and/or shrub *wetlands* occupying sites once plowed or having extensive soil disturbance in the past are typically not considered to be *natural wetlands*.

Natural forest: *Forest* composed of indigenous trees and not classified as a planted *forest*.

Nutrient management: To manage the amount, source, placement, form and timing of the application of nutrients and *soil amendments* to ensure adequate *soil fertility* for plant production and to *minimize* the potential for environmental degradation, particularly water *quality* impairment (USDA NRCS) and unnecessary air emissions.

Objective: A fundamental goal.

Pasture: (1) Grazing lands comprised of introduced or domesticated native forage species that are used primarily for the production of livestock. They receive periodic renovation and/or cultural treatments such as tillage, fertilization, mowing and weed control, and may be irrigated. They are not in rotation with *crops*. (2) A grazing area enclosed and separated from other areas by fencing or other barriers; the management unit for grazing land. (3) Forage plants used as food for grazing animals. (4) Any area devoted to the production of forage, native or introduced, and harvested by grazing (USDA).

Performance measure: A means of judging whether an *objective* has been fulfilled.

Pests: Organisms that interfere with the production and utilization of crops and livestock used for food, fiber and other *agricultural products*; these include insects, mites, nematodes, plant pathogens, weeds and vertebrates (USDA).

Policy: A written statement of commitment to meet an *objective* or to implement a defined *program* or plan to achieve an objective or outcome.

Prime farmland: Land that has the best combination of physical and chemical characteristics for producing *agricultural products* and is available for these uses. It could be *cropland*, *pasture*, *forest* or other land, but it is not urban or built-up land or water areas. The soil quality, growing season and moisture supply are those needed for the soil to economically produce sustained high yields of *crops* when proper management, including water management, and acceptable farming methods are applied. In general, *prime farmland* has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. *Prime farmland* is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent (USDA NRCS).

Process: A series of purposeful actions or operations that leads to a sought-after end or outcome. This can include a set or sequence of informal or formal practices, procedures or routines.



Professional work environment: A nondiscriminatory workplace environment free from harassment and composed of competent, respectful, mature and accountable employees working toward a common goal.

Program: An organized system, *process*, or set of activities to achieve an *objective*, *performance measure* or *indicator*.

Protection: Maintenance of the status or integrity, over the long term, of identified attributes or values including management where *appropriate*, giving consideration to past disturbance, land use, and *pest* risk when determining *appropriate* conservation strategies.

Rangeland: Land on which the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland. This would include areas where introduced hardy and persistent grasses, such as crested wheatgrass, are planted, and practices, such as deferred grazing, burning, chaining and rotational grazing are used with little or no chemicals or *fertilizer* being applied. It includes *grassland*, *savannas*, many *wetlands*, some deserts, tundra and certain low forb shrub communities, such as mesquite, chaparral, mountain shrub and pinyon-juniper. (NRCS USDA).

Regional agricultural best management practices: A practice or combination of practices developed by land grant agricultural universities in a region considered to be an effective means (including technological, financial, environmental, social and institutional considerations) of achieving a sustainable agriculture goal (modified from US EPA definition). A region is a homogenous area with respect to crops produced, soil type, climatic conditions, crop association and generally accepted farming practices.

Regulatory action information: Information related to compliance with government regulations such as permits, reports and corrective action documentation.

Renewable energy: Energy from sources that are naturally replenishing but flow-limited. It is virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time (US EIA), including wood, waste, geothermal, wind, photovoltaic, tidal and wave, hydropower and solar thermal energy.

Riparian area: A transition zone characterized by vegetation or geomorphology adjacent to rivers, streams, lakes, *wetlands* and other water bodies (USGS).

Runoff: Water from precipitation or irrigation on an area that does not infiltrate, but instead is discharged from the area. The water that flows off the surface of the land without sinking into the soil is called surface *runoff*. Water that enters the soil before reaching surface water is called *groundwater runoff* or seepage flow from groundwater (USDA).

Soil amendments: Materials that typically are added to soil, plants or the plant-growth environment to enhance plant growth. These include *fertilizers*, compost, sludge, manure, microbes, additives, materials improving soil condition (i.e., adjusting the pH of the soil, improving soil structure and texture, aeration adjustment and moisture conservation among others), materials controlling or suppressing *crop pests*, and others or combinations thereof. Inorganic *soil amendments* are composed of synthetic chemicals and/or minerals, while organic soil amendments are often composed of organic matter from plant/animal sources and/or microbes, and may include materials such as manure, earthworm castings, soil, sphagnum peat, grass clippings, straw, wood chips, various composts, seaweed, guano, or naturally occurring mineral deposits (e.g., saltpeter), and living microorganisms, among others (USDA).

Soil erosion: A *process* by which soil and rock are removed by water and wind and then transported and deposited in other locations (USDA).

Soil fertility: The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tillage and other growth factors are favorable.

Soil health: The capacity of soil to function as a vital living ecosystem that sustains *crops*, soil organisms and humans. Its maintenance includes consideration of the physical, chemical and biological characteristics of soil (USDA).

Soil loss: *Soil erosion* where the removal of topsoil occurs faster than the soil-forming processes can replace it due to natural, animal and human activity.

Soil mismanagement: Agricultural operations, practices and/or treatments that result in the decline of *soil health* and *soil productivity*, including soil loss.

Soil productivity: The capability of a soil for producing a specified plant or sequence of plants under specific management (USDA NRCS).

Solid waste: Any solid, semisolid, liquid or contained gaseous materials discarded from agricultural operations. It includes garbage, construction debris, commercial refuse, sludge from water supply or waste treatment plants and other discarded materials (RCRA US EPA).



Special sites: Sites that include *unique geological features* or *unique culturally important features* that are recognized regionally or nationally or by *Indigenous Peoples*.

Standard user: An organization certified or committed to being certified by an accredited *certification body* to be in conformance with the *Leading Harvest Standard*.

Surface water: Water that is on the Earth's surface, such as in a stream, river, lake or reservoir (USGS).

Treaty rights: Rights specified in treaties between *Indigenous Peoples* and the U.S. government. These rights are based on the legal foundations of tribal sovereignty, treaty provisions, and the "reserved rights" doctrine, which holds that *Indigenous Peoples* retain all rights not explicitly abrogated in treaties or other legislation (U.S. DOI). Typically this is expressed in terms of reserved rights aimed at permitted hunting, fishing and gathering in areas near *Indigenous Peoples* reservations.

Threatened and endangered species: Species listed under the U.S. Endangered Species Act or listed under applicable state laws requiring *protection*.

Unique culturally important features: Features having significance for or being representative of human activities or beliefs. Examples could include, but are not limited to, documented areas such as archaeological sites, unusual historical sites, cemeteries and sacred sites. Typically these sites have been documented in databases established by state governments or the federal government and have been significant historically.

Unique geological features: Naturally occurring physical features on Earth's surface, which are unique or locally rare, typically limited in extent (0.1 to 100 acres), often less than 10 acres. Examples could include, but are not limited to, exceptional waterfalls, stream or river gorges, canyons, arches, caves or mine entrances, outcrops of fossil beds or rare mineral deposits, bluffs, buttes and cliffs.

Universal waste: A category of waste materials designated as *hazardous waste* but containing materials that are very common. It includes batteries, *crop protectants*, mercury-containing equipment and lamps (U.S. EPA).

Verifiable monitoring system: A system capable of being audited by a third party that includes: 1. a means to characterize *farmland* under the authority of a *Standard user*, 2. a process to identify and use sources of available data regarding the use of regional *agricultural best management practices*, and 3. a method to assess *farmland tenant* performance.

Viable occurrences: Occurrences of species with good or excellent viability according to NatureServe, including occurrences that exhibit favorable characteristics with respect to population size and/or quality and quantity of occupied habitat, and, if current conditions prevail, the occurrence is likely to persist for the foreseeable future (i.e., at least 20-30 years) in its current condition or better (NatureServe).

Water quality: The chemical, physical and biological characteristics of water, with respect to its suitability for a particular purpose (e.g., drinking water for humans or livestock, commercial and industrial use, aquatic species *habitat* and crop irrigation [USGS]).

Wetlands: A transitional area between aquatic and terrestrial ecosystems that is inundated or saturated for periods long enough to produce hydric soils and support hydrophytic vegetation largely of native origin. Examples can include, but are not limited to, (1) seasonally or permanently water-logged areas characterized by vegetation adapted for life in saturated/flooded conditions; (2) areas that are forested, shrubby or open, including bogs, fens, swamps, marshes and shallow open water areas; and (3) stagnant systems (e.g., bogs), slow flowing (e.g., fens, swamps), or have fluctuating water levels (e.g., marshes, shallow open water; CWA U.S. EPA).

Wildlife: Aquatic (freshwater), marine and terrestrial fauna.