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## NOSB Meeting Recap

The National Organic Standards Board (NOSB) assembled in Denver, Colorado on April 19 – 21. NOSB Chair Tom Chapman noted that over 2,000 written public comments had been received and that 55 percent of the meeting was dedicated to the hearing of oral comments.

The National Organic Program (NOP) Update, given by Miles McEvoy, NOP Deputy Administrator, noted recent accomplishments such as the Organic Livestock and Poultry Practices (OLPP) rule and considerable growth in the organic sector nationally and around the world. In total, 82 NOP-accredited certifying agents operate worldwide.



Denver Skyline at Night

While NOP staffing is down to 36, industry growth continues to demonstrate the relevance of the NOP and the need for the services provided by the program. At the end of 2016, the count of certified organic operations in the United States was 24,650, with over 37,000 operations certified around the world. The full report includes details about NOP strategic goals, activities, and priorities and can be accessed [here](#).

Dr. Lisa Brines, NOP National List Manager, provided a Materials Update. In addition to an overview of material proposals and petitions, Dr. Brines gave a status update on Technical Reports in development and recently available. The complete Materials Update can be viewed at this [link](#).

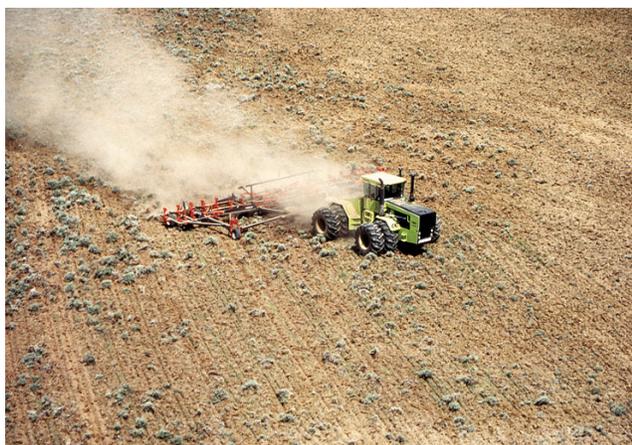
The National Organic Standards Board, after hearing approximately 150 public comments, discussed eight proposals, along with forty-three 2019 Sunset materials, and eight discussion documents. While eight proposals were on the agenda, most were referred back to subcommittee. There was a unanimous approval for the motion to add L-Methionine to §205.605(b) with the annotation, *“for use in nutritionally complete pediatric enteral formulas based on soy protein.”* In a separate conversation, the Board considered Short DNA Tracers to fall under the category of Excluded Methods. The motion to add this material to §205.605(b) failed in a unanimous vote.

## NOSB Meeting Recap (cont.)

The remaining proposals, all referred back to subcommittee, included Annotation Change for the Listing of Tocopherols, Marine Algae Listings on the National List (Handling), Ancillary Substances Permitted in Cellulose, Personnel Performance Evaluations of Inspectors, Strengthening the Organic Seed Guidance, and Marine Algae Listings on the National List (Crops).

The Board also gave attention to several Discussion Documents: Clarifying Emergency Use of Synthetic Parasiticides in Organic Livestock Production, Eliminating the Incentive to Convert Native Ecosystems to Organic Production, Aeroponics/Hydroponics/Aquaponics, and Bisphenol A in Packaging

While Board members expressed that conversion of native ecosystems should not be incentivized by the requirements of the organic regulations, pin-pointing regulatory changes poses a challenge. It was noted that, if native ecosystems are not converted to organic production, they may be converted to non-organic production instead. Additionally, defining and classifying various types of land comes with its own set of challenges. The Board intends to develop a Proposal related to this issue and requested feedback on the best way to eliminate the incentive.



Conversion of native sagebrush rangeland in Montana's prairie pothole region: NRCS.

A lengthy discussion regarding hydroponics and containerized production resulted in acknowledgment that more work needed to be done in terms of learning about and defining the various systems in question. Recognizing the gravity of the topic, Board members expressed commitment to a respectful exchange of ideas and continued learning about the subject.

The Board also discussed 43 materials up for Sunset in 2019 (13 Crop listing, eight Livestock listings, and 14 Handling listings). See [NOP 5611](#) for a complete listing of National List sunset dates.

At the end of the meeting, the NOSB also chose to discuss the importance of the Organic Livestock and Poultry Practices (OLPP) Rule, and by unanimous vote passed a resolution to urge the Secretary to allow the OLPP to become effective on May 19, 2017 without further delay.

The National Organic Program posts all NOSB meeting resources, including but not limited to meeting transcripts, presentation slides, NOSB Work Agendas, and a Voting Summary for

each meeting. Materials for the Spring 2017 Meeting in Denver are in the process of being made available at this [link](#).

The Fall 2017 Meeting of the National Organic Standards Board will occur October 31 – November 2 in Jacksonville, Florida.

## ACA Board Activities

The ACA Board activities from March and April included the orientation of new Board members, as well as election of officers. Kyla Smith of Pennsylvania Certified Organic (PCO) is the new Chair of the Board, Beth Rota of Quality Certification Services (QCS) is the new Vice Chair, Sam Welsch of OneCert is the new Treasurer, and Connie Karr of Oregon Tilth Certified Organic (OTCO) is the new Secretary. The Board has also been looking carefully at the organization's work plan for the coming year and determining Working Group priorities for the rest of 2017.

Other activities include assessment of the 2017 budget, along with educational goals and options for adjustments to the ACA fee schedule. The Board also sent a letter to the new Secretary of Agriculture, Sonny Perdue, in support of the Organic Livestock and Poultry Practices Rule and requesting it become effective without further delay.

## ACA Working Group Update

The ACA coordinates several working groups that seek to develop best practices, make comments to NOP or NOSB, or perform other tasks as determined by the group. The following working groups have been active recently:

- **GMO Sampling Working Group:** A Best Practices document has been drafted and is in the process of being finalized. Group members included April Crittenden of California Certified Organic Farmers (CCOF), Jackie DeMinter of Midwest Organic Services Association (MOSA), Jackie Sleeper and Zak Wiegand of OTCO, and Sam Schaefer-Joel of the Washington State Department of Agriculture (WSDA).
- **Changes in Ownership Working Group:** This group is in the last stages of drafting a Best Practices document related to various circumstances that arise related to changes in ownership. Group members include Lexy McManaway and Steve Walker of MOSA, Darin Jones of OTCO, Liz Figueredo of Quality Assurance International (QAI), and Devin Dowell of WSDA. Cindy Elder of Organic Crop Improvement Association (OCIA) has also contributed to the group.
- **Calculating Percentages for Organic Ingredients Working Group:** This group submitted comments to NOP regarding NOP 5037 on April 7. A big thank you to the group members who persisted in the development of these comments, many on a weekly basis throughout the extended comment period. Group members included Zak Wiegand

## ACA Working Group Update (cont.)

of OTCO, Jackie DeMinter and Erik Gundersen of MOSA, Colleen Scott and Kyla Smith of PCO, Stanley Edwards of QAI, Suzette Edwards of QCS, Sam Welsch of OneCert, and Elise George of the Ohio Ecological Food and Farm Association (OEFFA).

- **Organic Livestock and Poultry Production Practices:** This group meets weekly to develop Best Practices related to implementation of the new rules related to animal welfare. Group members include Jason Pentzer of WSDA, Jackie DeMinter of MOSA, Callyn Kircher of OTCO, Andy Hupp of OEFFA, Lisa Engelbert of the Northeast Organic Farming Association of New York (NOFA-NY), Elizabeth Tigan of Nature's International Certification Services (NICS), Val Davis of CCOF, and several OEFFA representatives: Marissa Pyle, Ashley Green, Emily Newman, and Justine Cook. Feedback was also received from a large number of participants at the 2017 ACA Training in Portland.

## ACA Meeting Recap

Members of the ACA met on April 19 in Denver, Colorado. In addition to updates related to Board and Working Group activities, a variety of topics were discussed. Richard Siegel discussed his work representing ETKO in their successful NOP appeal, the details of which have been made public through a Freedom of Information request. ETKO is an NOP-accredited Turkish certifier who had been issued a Notice of Proposed Suspension by NOP after an investigation into contaminated Ukrainian imports into Western Europe found ETKO responsible as the certifier of the source operations. Richard notes that the appeal file is available on the USDA-AMS website. He believes the case can be informative to certifiers.

Brexit was also discussed in the context of the United States' equivalency arrangement with the European Union (EU). After the United Kingdom (UK) departs from the EU, the UK will no longer be subject to the EU Equivalency Arrangement. It is unclear whether they will draft their own organic standard or simply adopt that of the EU. ACA members noted that timing will be critical



San Antonio Riverwalk: [visitsanantonio.com](http://visitsanantonio.com)

**SAVE THE DATE!**  
**2018 NOP/ACA Training**  
**February 6 – 8, 2018**  
**San Antonio, Texas**

## ACA Meeting Recap (cont.)

since imports and exports will be affected once the departure is complete.

The group also discussed the Organic Livestock and Poultry Practices (OLPP) Rule, noting that the original effective date of March 20, 2017 was delayed until May 19, 2017 and questioning whether the rule might not actually end up going into effect. It was suggested that the ACA draft a letter to the new Secretary of Agriculture voicing support for the OLPP and suggesting it be made effective without any further delay. Much support was expressed for the rule, noting that it will provide a level playing field for producers and consistency in enforcement among ACAs.

While the new Secretary of Agriculture had not yet been confirmed at the time of the meeting, he was confirmed by the Senate the following week. Sonny Perdue, the new USDA Secretary of Agriculture, can be contacted via email at [agsec@usda.gov](mailto:agsec@usda.gov). The ACA encourages like-minded organizations to issue similar statements of support for the OLPP.

The ACA will conduct a meeting on Tuesday, October 31 following the NOSB meeting. ACA Meetings are open to the public.

### ~ Thank You ~ To the Following New and Renewing Members

Independent Organic Services, Inc.

CERES – GmbH

International Organic Inspectors Association

Marin Organic Certified Agriculture

Organically Grown Company

Organic Services GmbH

Oregon Tilth

Pacific Agricultural Laboratory

Texas Department of Agriculture

Wolf, DiMatteo and Associates

Yolo Certified Organic Agriculture

# NOSB Work Plan

<p><b>Petitions and other projects</b></p>	
<p><b>Crops Subcommittee</b></p>	<ul style="list-style-type: none"> <li>• Proposal – Fatty alcohols (octanol/decanol mix) §205.601</li> <li>• Proposal – Anaerobic digestate §205.203</li> <li>• Proposal – Polyoxin D zinc salt §205.601</li> <li>• Proposal – Allyl Isothiocyanate (AITC) §205.601</li> <li>• Proposal – Sodium citrate §205.601</li> <li>• Proposal – Natamycin §205.601</li> <li>• Contamination Issues in Farm Inputs – On hold pending compost ruling</li> <li>• Anaerobic digestate – food waste §205.6019(j) and other manure issues</li> <li>• Discussion document – Biodegradable biobased mulch</li> <li>• Discussion document, on hold – Prohibition of NPEs in inerts, annotation change</li> <li>• Proposal – Newspaper, annotation change</li> <li>• Proposal - Aeroponics/Hydroponics/Aquaponics</li> <li>• Discussion document/Proposal – Container and greenhouse production</li> <li>• Proposal (Referred back to Subcommittee at April 2017 meeting) – Strengthening and clarifying the requirements for use of organic seed (NOP 5029)</li> <li>• Proposal (Referred back to Subcommittee at April 2017 meeting) – Marine materials (marine algae and extracts) on the National List</li> <li>• Sunset 2019</li> </ul>
<p><b>Materials/GMO Projects</b></p>	<ul style="list-style-type: none"> <li>• Proposal – 2017 Research Priorities</li> <li>• Ongoing – Petition and Technical Report tracking</li> <li>• Seed Purity and GMOs</li> <li>• Proposal – Excluded Methods Terminology</li> </ul>
<p><b>Livestock Subcommittee</b></p>	<ul style="list-style-type: none"> <li>• Proposal – Sulfur §205.603</li> <li>• Proposal – Glycolic acid §205.603</li> <li>• Proposal – Hypochlorous acid §205.603</li> <li>• Proposal – Thymol §205.603</li> <li>• Proposal, on hold pending aquaculture rule – Aquaculture - CO<sub>2</sub> for aquatic plants</li> <li>• Proposal, on hold pending aquaculture rule – Aquaculture - chlorine (for aquatic plants)</li> <li>• Proposal, on holding pending aquaculture rule – Aquaculture - micronutrients (for aquatic plants)</li> </ul>

	<ul style="list-style-type: none"> <li>• Proposal, on hold pending aquaculture rule – Aquaculture - Lignin sulfonate (chelating agent for aquatic plants)</li> <li>• Proposal, on hold pending aquaculture rule – Aquaculture - vitamins (B1, B12, H) for aquatic plants</li> <li>• Proposal – Defining emergency treatment for parasiticides</li> <li>• Organic Poultry Task Force</li> </ul>
<b>Handling Subcommittee</b>	<ul style="list-style-type: none"> <li>• Proposal – Sodium dodecylbenzene sulfonate (SDBS) §205.605(b)</li> <li>• Sodium chlorite for the generation of chlorine dioxide gas</li> <li>• Proposal – Silver dihydrogen citrate §205.605(b)</li> <li>• Proposal – Japones pepper</li> <li>• Proposal – Ethiopian pepper</li> <li>• Proposal – Tamarind seed</li> <li>• Packaging substances used in organic food handling, including BPA</li> <li>• Proposal (Referred back to Subcommittee at April 2017 meeting) – Marine materials (marine algae and extracts on the National List)</li> <li>• Proposal (Referred back to Subcommittee at April 2017 meeting) – Ancillary substances used in cellulose</li> <li>• Proposal – Magnesium chloride reclassification</li> <li>• Sunset 2019</li> </ul>
<b>Compliance, Accreditation &amp; Certification Subcommittee</b>	<ul style="list-style-type: none"> <li>• Proposal - Eliminating the Incentive to Convert Native Ecosystems into Organic Production</li> <li>• Proposal (Referred back to Subcommittee at April 2017 meeting) - In-field, annual evaluation of inspectors (NOP 2027)</li> </ul>
<b>Policy Development Subcommittee</b>	<ul style="list-style-type: none"> <li>• Ongoing updates to Policies and Procedures Manual</li> </ul>

## Wild Farm Alliance

[The Wild Farm Alliance](#) has put forth a number of resources as a part of its mission to “promote a healthy, viable agriculture that helps to protect and restore wild nature.” The organization’s efforts include working with ACAs to develop certification paperwork that helps demonstrate compliance with NOP’s Natural Resources and Biodiversity Conservation Guidance 5020. They have also provided tools that can assist and inform inspectors in their efforts to see the effects of on-farm efforts toward conservation of biodiversity. Jo Ann Baumgartner, Wild Farm Alliance Executive Director, has been involved in research and communication related to farming and conservation for many years. She presents the following article in an effort to continue the conversation about improvements in biodiversity assessment.

# Certifying for Biodiversity

By Jo Ann Baumgartner, Executive Director of Wild Farm Alliance

Certifiers have the opportunity and responsibility to identify biodiversity conservation elements as they inspect and verify an organic operation. By conserving biological diversity, the operation not only complies with the rule, but also functions optimally. The biodiversity and natural resources questions and checkboxes in a certifier's Organic System Plan (OSP) template help the farmer hone the farmscape to support healthy food production while nature sings its song.

The National Organic Program's [Natural Resources and Biodiversity Conservation Guidance 5020](#) has been out for more than a year now. It reflects on **§205.200** and its related definition of *natural resources*, the definition of organic production that includes *conserving biodiversity*, and the Preamble to the rule that explains what is meant by *conserve* (see Box 1). This is language has been in place since the inception of the NOP. The guidance explains what is expected of operators, certifiers, and inspectors, and gives a myriad of examples of how this plays out on the farm.

## **Box 1: NOP Regulations and Preamble That Have Been in Place from the Beginning: Natural Resources and Biodiversity Conservation**

**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*.” “**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*.”

The **preamble** to the final rule establishing the NOP explained, “the 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)

From NOP 5020 Guidance

*Continued on next page*

### More than Soil and Water

As part of the process for developing the Guidance, the NOP asked for public comments and when they published the final Guidance, they also published [NOP Response to Comments 5020-1](#). In this response, they make it clear that “Certified operations are required to implement measures that support natural resource conservation and biodiversity in addition to maintaining soil or water quality.”

To make natural resources and biodiversity concepts more understandable, the NOP’s Streamlined OSP for Crops spells out what may be encompassed in soil, water, wetlands, woodlands and wildlife (see Box 2).

#### **Box 2: Examples of What is Meant by Biodiversity and Natural Resources of the Operation, including Soil, Water, Wetlands, Woodland and Wildlife**

**Soil:** type or classification, slope, texture, structure, organic matter content, and/or other characteristics relevant to soil conservation and improvement

**Water:** groundwater, surface water, irrigation and wash water sources; comments or concerns regarding supply or water quality

**Woodlands:** forest, grassland, scrub or chaparral; species mixtures and proportion of area; production benefits such as windbreak, watershed, or habitat functions

**Wetlands:** watershed, riparian areas, water bodies or storage features that double as habitat

**Wildlife / Biodiversity:** common, threatened, endangered or invasive species; implications for predator-prey relationships, practical management strategies, challenges or benefits

From p. 4 of NOP Streamlined OSP for Crops

The NOP’s 5020 Guidance gives inspectors a good reason for getting to know the natural world better, which is something of a dream job for many. Granted most inspectors are contractors so are not paid to get up to speed as they must do (see Box 3), but WFA suggests they can and should count their time researching biodiversity in the surrounding area of a farm before arriving for an inspection. Using desk evaluation tools, they can become familiar with the watershed (using Google Earth), priority species and habitats (using NatureServe), nearby wildlands and protected areas (using Landscape America), soil properties (using Web Soil Survey) and invasive

#### **Box 3: Inspector Qualifications**

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.

From NOP 5020 Guidance

species (National Invasive Species Information Center) of the regions where their farm inspections occur (see Box 4).

**Box 4: Desk Evaluation Tools**

**Google Earth.** See aerial images of how the operation fits into the context of the larger landscape and how the farmscape changes over time through historical imagery.

<https://www.google.com/earth/>

**Landscape America.** Find location of the nearest wildlands, open spaces, waterways, and protected areas. <http://www.landscape.org/introduction/>

**National Invasive Species Information Center.** Get to know invasive species that might be on the farm. <https://www.invasivespeciesinfo.gov/index.shtml>

**NatureServe Explorer.** Learn about the conservation status of rare and endangered plants and animals in the watershed of the farm being inspected. <http://explorer.natureserve.org/>

**Web Soil Survey.** USDA NRCS. Check soil maps for information on highly erodible lands. <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

**Why Biodiversity Is So Important to the Farm**

Organic agriculture is on a trajectory of continual improvement. In the past century, many farmers learned the honorable profession of honeybee keeping. Currently, many more are improving their knowledge and stewardship of native bees. There are 400 species in North America that help with pollinating crops and the native plants on the farm and in natural ecosystems. Some of the smaller native bees such as sweat bees only travel 200', while the bigger ones such as bumble bees, move up to a mile or more.

The mantra of all living beings is food, water, cover and fostering the next generation- whether that be humans, bumblebees, songbirds or other wildlife on Earth.

Providing what bees need can pay in better pollination. So, every OSP should be asking about flowers that support the nectar of the gods, i.e. the food of bees. Okay, the farmer checks that off – good, great in fact. S/he's getting there. A couple more check boxes ask about where the bee youth (larvae for those scientifically minded) reside:  undisturbed areas as habitat refuges (for ground-nesting bees),  standing deadwood (for tunnel nesting bees). Whew! Those blueberries, tomatoes and squash never had pollination so good on this farm.



Flowers interspersed in the crop provides a supplemental food source of nectar and pollen and brings beneficial insects closer to any pests in the crop.

The concept of biological control on the farm is about using nature to curb pest outbreaks. It is about giving natural enemies what they need to thrive for their own sake while helping the farm. Thrive – that is setting the stage for riotous health where, for instance, numerous young lacewing larvae make quick work of the aphids, where red-tailed hawks devour rodents, and where songbird nestlings grow strong eating caterpillars from the farm crops and insects on nearby native plantings. This last point touches on continual improvement of our knowledge which is translating to on-the-ground practices. We’ve known that native plants provide food sources for natural enemy insects through their flowers and the plant-eating insects they support. What we are just learning these past few years, and farmers are starting to



Farms with native oak trees support alternate hosts for natural enemies when crop pests are not present. This tachinid fly parasitoid lays its eggs inside the pest willow oak sawfly when cabbage loopers are not around. Photo: Auburn University

implement, is that these plant-eating insects supported by native plants are a critical part of the above-ground foodweb. [Audubon’s Native Plant Database](#) helps farmers and others figure out which species to plant. Checkboxes that describe practices which support these organisms, such as— hedgerows,  raptor perches or trees at field edges, and  native habitats not converted to farmland—give farmers the opportunity to toot their horn on how they are farming with nature.

### Examples that Help to Clarify Issues Coming Up During Certification

*What it means to Maintain natural resources and biodiversity (example):*

Plants and animals continuously seek to fill niches through natural succession. Nature is not static, so even if it seemed that an operation did not have any biological diversity to maintain when it became certified, that was not true. The natural process of restoration from the soil seed bank and from seeds brought in by wildlife, wind and water is ongoing. By allowing this process to occur to the extent practicable, the native species and natural areas of the operation are maintained.

*What it means to maintain or improve All natural resources, including soil, water, wetlands, woodlands and wildlife Throughout the Production Season (example):*

An operator is maintaining soil and water quality by using a cover crop but it is only present part of the growing season and the rest of the time there is nothing in the field but the crop.

That farm is not supporting pollinators or beneficial insects, whereas another farm with habitat is providing resources throughout the season.

*Maintaining or improving natural resources and biodiversity On Each Physically Separate, Non-Adjacent Parcel of the Operation (example):*

If an operator has four parcels and three of them are protecting the natural resources, but the fourth parcel has an erosion problem, then that is an issue that needs to be fixed. Similarly, if the three parcels are in compliance, but the fourth is not maintaining or improving wildlife, then that is an issue. There should always be some habitat on the land that supports wildlife. It could be a cover crop, in-field habitat, or adjacent buffers.

*Produce buyers' misguided Food Safety Requirements Do Not Override Maintaining or Improving natural resources and biodiversity (example):*

A buyer mistakenly requires a farmer to only have the crop in the field because habitat might harbor wildlife. This buyer is not familiar with the Food Safety Modernization Act (FSMA) that does not allow food safety rules to conflict with NOP regulations, or FDA's rule that "does not require covered farms to take measures to exclude animals from outdoor growing areas, or to destroy animal habitat or otherwise clear farm borders around outdoor growing areas or drainages." The crop should be monitored for wildlife contamination, not the habitat. If the crop is becoming contaminated or damaged by wildlife, it is not to be harvested. A farmer can use a bare ground buffer to monitor wildlife movement, or erect electric or woven fencing while still supporting habitat on adjacent land.

### **Interpreting the Landscape**

Knowing what was originally there and what still exists gives insight into how much the farm is benefiting from nature. There's no getting around the fact that inspectors who can interpret the landscape well – who know a native plant from an invasive weed, or a chickadee from starling – will better see how the farm is benefiting from biodiversity (see Box 5). Just as it is important to recognize a wildlife corridor, it is also good to have an idea of what could be moving through that linkage. These inspectors are the ones that can share stories with operators of management strategies that support biodiversity they've seen on other farms. Inspectors can refer them to [Wild Farm Alliance's Biodiversity Continuum Chart](#) which gives a range of practices that support pollinators, natural enemy insects, reptiles, amphibians, birds, bats and other mammals.

### **Updating Organic System Plans and Educational Opportunities**

Some certifiers have updated their Organic System Plans with the 5020 Guidance in mind, and others are still in process of scheduling that to occur. WFA is offering assistance with those updates and is working with a university to track overall OSP updates by the 48 US organic certifiers. We will publish a report later this year with our findings. We are also providing educational materials and offering webinar trainings to certification staff about the NOP's 5020

Guidance and many of the other standards that are intertwined with it. From conserving natural resources and biodiversity (§205.200) and crop rotation in perennial systems (§205.205), through the whole gamut of practices to protecting natural wetlands and riparian areas (§205.240), [WFA's Biodiversity Conservation: An Organic Farmer's and Certifier's Guide](#) covers it all. We are happy to partner with the organic community together striving for continual improvement.

#### **Box 5: Cool Links for Naturalists Working in Organic Agriculture**

##### **Wild Farm Alliance Organic Agriculture and Biodiversity**

Biodiversity Conservation: An Organic Farmer's and Certifier's Guide:

[http://www.wildfarmalliance.org/biodiversity\\_guide](http://www.wildfarmalliance.org/biodiversity_guide)

Biodiversity Continuum Chart: [http://www.wildfarmalliance.org/biodiversity\\_continuum](http://www.wildfarmalliance.org/biodiversity_continuum)

Webinar-How to Implement and Verify Biodiversity Conservation Activities in Organic Agricultural Systems: <http://articles.extension.org/pages/73891/how-to-implement-and-verify-biodiversity-conservation-activities-in-organic-agricultural-systems>

Other WFA publications: <http://www.wildfarmalliance.org/biodiversity>

##### **Birds**

Free bird app: <http://merlin.allaboutbirds.org/>

Find which birds are present where ever you travel: <http://ebird.org/ebird/explore>

Nestwatch about cavity nesting birds: <http://nestwatch.org/learn/focal-species>

Nestwatch about bird boxes: <http://nestwatch.org/learn/all-about-birdhouses/>

Audubon: The Climate Report: <http://climate.audubon.org/all-species>

Bird Migration: <https://www.allaboutbirds.org/mesmerizing-migration-watch-118-bird-species-migrate-across-a-map-of-the-western-hemisphere/>

##### **Identifying Biodiversity**

iNaturalist.org Send a photo of a plant or animal so that it can be identified: <http://www.iNaturalist.org>

Map of Life. Learn about the world's biodiversity and report on species seen: <https://auth.mol.org/mobile>

##### **Native Plants**

Audubon's Native Plants Database: <https://www.audubon.org/native-plants/>

Michigan State University's Native Plants and Ecosystem Services: <http://www.canr.msu.edu/nativeplants/>

The Living Landscape (webinar by Doug Tallamy):

<https://www.youtube.com/watch?v=IMxq76yv5w0>

Xerces Pollinator-Friendly Plant Lists: <http://xerces.org/pollinator-conservation/plant-lists/>

Leafsnap: Electronic Field Guide of Trees: <http://leafsnap.com>

**Planning for and Mapping Biodiversity**

The Healthy Farm Index Online Calculator: <https://www.organic-center.org/>  
Habitat Network. Cornell Lab of Ornithology: [www.yardmap.org](http://www.yardmap.org)

**Pollinators and Natural Enemy Insects**

Xerces Society Pollinator Conservation: <http://xerces.org/pollinator-conservation/agriculture/>  
Xerces Society Conservation Biological Control: <http://www.xerces.org/cbc/>  
Michigan State IPM: <http://ipm.msu.edu/biocontrol>  
Monarch butterfly migration: <http://www.learner.org/jnorth/maps/monarch.html>  
[Insect Identification for the Casual Observer: Insectidentification.org](http://www.insectidentification.org)

**Government Assistance with Conservation Practices**

NRCS organic webpage: [nrcs.usda.gov/organic](http://nrcs.usda.gov/organic)  
FSA's CCRP Organic Buffer Initiative: <http://sustainableagriculture.net/blog/organic-field-border-buffers/>