

State of Oregon Agriculture

Industry Report from the State Board of Agriculture



20
January
17



At a Glance

Oregon's agriculture and food industries are healthy and growing. Farms, ranches, and food businesses provide food, feed, fiber, scenery, jobs, income, and natural resource benefits across rural and urban Oregon. They contribute to Oregon's economy and the wellbeing of Oregonians in every region of the state.

Many opportunities exist to make Oregon agriculture even more successful. This report describes the Board of Agriculture's key priorities for investment, both at the state level and in Oregon's seven agricultural regions.

We thank Oregon's leaders for their attention to these opportunities and praise Oregon's farmers, ranchers, and food businesses for their contributions to our state.

Published	January 2017
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ORS 561.378

State Board of Agriculture Report

The State Board of Agriculture shall report as provided in ORS 192.230 to 192.250 on a biennial basis to the Governor and the Legislative Assembly regarding the status of the agriculture industry in this state.

Photographs

Photographs used in this document were provided by employees of the Oregon Department of Agriculture, Oregon Food Bank, Oregon Metro, U.S. Bureau of Land Management, and Wikimedia Commons.

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Board members tour Threemile Canyon Farms in Boardman during the September 2015 board meeting.

Executive Summary

This report serves as an opportunity for the Oregon agricultural and food community, via the members of the State Board of Agriculture, to inform Oregon’s legislative body about the state of Oregon agriculture.

In this report, the Board of Agriculture chose to focus on five key issues for agriculture:

- Food safety and the Food Safety Modernization Act
- Market Access and Certification Programs
- Co-existence
- Water quantity and quality
- The agricultural workforce



Additional issues and stories about Oregon agriculture are woven throughout the regional geographic sections of the report. It is important to keep in mind that even though an issue might be highlighted in just one region, it is often important to agriculture in other parts of the state.

This report also includes recommendations for policy makers to consider during decision-making that will directly or indirectly affect the Oregon agricultural and food sector. A few of the key recommendations include:

- Recognize, support, and promote the diversity of Oregon’s agricultural, food, and beverage industries.
- Support and maintain robust local, domestic and international market opportunities for Oregon's agricultural and food sector.
- Continue to invest in water quality and quantity projects to support agriculture in all parts of the state.
- Support capacity building for ODA’s food safety program in order to ensure safe food for all Oregonians.
- Develop strong policies to maintain agriculture as a primary land use, especially in Exclusive Farm Use zones.
- Urge Congress to fully fund the Food Safety Modernization Act and advocate for comprehensive immigration reform.

While each member of the Board of Agriculture brings their own experiences and expertise to this document, much of the report is based on information and testimony provided by those directly connected to agriculture throughout the state. It is important for policy makers and others to listen to these voices and consider how the industry is impacted by the decisions that are made.

Cherry picker holds a bucket full of fresh dark sweet cherries.
• A tractor finishes work as the sun sets on another day.



Board members tour the North Willamette Research and Extension Center in Aurora during the November 2016 board meeting.

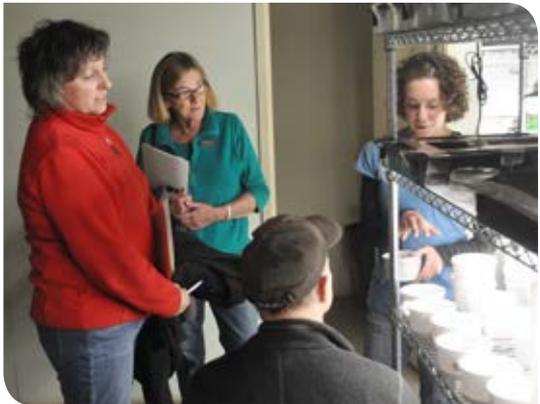
About the State Board of Agriculture

The State Board of Agriculture advises the Oregon Department of Agriculture (ODA) about programs, policies, and issues affecting Oregon agriculture. The board is comprised of 10 members, nine of which are appointed by the Governor. The tenth member is the chair of the Oregon Soil and Water Conservation Commission. Both the Director of ODA and the Dean of the College of Agriculture at Oregon State University serve as ex-officio members.

State law requires that seven of the appointed board members must be actively engaged in the production of agricultural commodities, and two are to be representative of consumer interests in the state. No two of the seven members actively engaged in the production of agricultural commodities shall have the same main commodity interest.

The term of each member is four years with the ability to be reappointed for a second four-year term.

The State Board of Agriculture meets quarterly across the state to discuss relevant issues. The State Board of Agriculture has also established four subcommittees. The subcommittees, and topics discussed in each subcommittee, are listed on the following pages.



Board members tour: Blueberry fields with farmer, and former Board of Agriculture member, Doug Kraemer. • A laboratory at the North Willamette Research and Extension Center where a biological control agent for the invasive brown marmorated stink bug is bred.

Oregon State Board of Agriculture



Barbara Boyer
McMinnville



Pete Brentano
St. Paul

Natural resources subcommittee Barbara Boyer, chair

- Water, air, and soil quality
- Water quantity, availability, irrigation efficiency
- Long-term water strategy
- Invasive species
- Pesticides: crop and animal protectants
- Global Warming Commission



Stephanie Hallock
Lake Oswego



Bryan Harper
Junction City

Government relations subcommittee Tracey Liskey, chair

- Biennial Report to the legislature
- Labor, immigration, and minimum wage
- Tax policies
- Farm bill program priorities
- Legislative contacts and federal issues
- Governor's office liaison
- Wildlife depredation
- Renewable energy issues
- Cannabis
- Co-existence



Tracey Liskey
Klamath Falls



Sharon Livingston
Long Creek

Land use subcommittee Laura Masterson, chair

- Land use policy for agriculture
- Urban growth management policies
- Agri-tourism use of agricultural lands
- Utility siting and aggregate mining issues for agricultural lands
- Right to farm laws
- Agriculture in urban environments
- The use of conservation easements to protect working lands



Laura Masterson
Portland



Marty Myers
Boardman

Marketing & food safety subcommittee Tyson Raymond, chair

- Agricultural product market development (local, regional, international)
- Transportation and infrastructure, freight movement strategy
- Food processing and agri-business development issues
- Farmers' markets, direct to consumer, and other local marketing ventures
- Farm-to-school program
- Phytosanitary issues and international trade barriers
- Food safety programs and federal and state food safety policy
- Small farm assistance
- Inspection and certification programs
- Animal health



Tyson Raymond
Helix



Luisa Santamaria
Canby

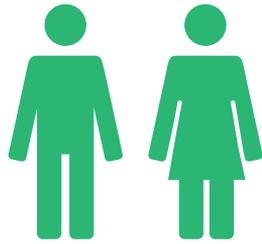


Dan Arp
Ex-Officio member
OSU Dean of
Agricultural Sciences



Alexis Taylor
Ex-Officio member
ODA Director

Oregon agriculture, food, and fiber



326,000
full & part-time
jobs

35,439
Oregon
farms &
ranches¹



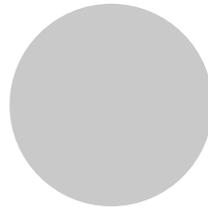
percent of farms
are family-owned



of all Oregon
exports

\$192 million
organic ag

\$16 billion
ag processing



Source: Sorte et al., 2015. ¹A farm is defined as any place from which \$1,000 of agricultural products were produced and sold or normally would have been sold.

INTRODUCTION

A quote from the 2002 book, *Oregon Harvest*, summarizes the uniqueness of Oregon agriculture:

Diversity and quality—two words that describe one of Oregon’s leading industries. Oregon would not be what it is today without agriculture. Some of the world’s most productive agricultural land can be found within Oregon’s borders. More than 225 commodities—a staggering array of crops—call Oregon home. Agriculture is not confined to just one area of the state, but is a prominent player in all four corners of Oregon. From that diversity comes the industry’s strength. Chances are if it is a bad year for one commodity, it is a good year for another. Things seem to balance out each year (Pokarney, B., 2002).

Fast forward to 2016, and the words diversity and quality still hold true, as does agriculture’s economic impact in the state; however, a third word could be added to define Oregon agriculture: resilient.

Oregon’s farmers, ranchers, fishermen, and food processors have faced many

challenges in recent years; familiar issues like adapting to changing commodity prices, securing a qualified workforce, and co-existing with rural and urban neighbors. But new challenges are on the horizon for the growing and processing community. Implementing the state’s new sick leave law, adjusting business practices to meet the new state minimum wage, and coping with the disruption caused by significant domestic and international transportation issues are just a few. Despite challenges in the agricultural and food sector, Oregonians continue to have access to diverse, abundant, affordable, and safe Oregon grown and processed food and goods. This could not be done without the resiliency of Oregon’s farmers, ranchers, and fishermen even when they are asked to do more with less and to rise to new challenges.

We hope that the information in this report will be used to inform and guide policy and regulatory discussions that allow the Oregon agricultural and food sector to thrive and continue a rich tradition of diversity, quality, and resiliency.



Photos: Produce at a farm stand table. • Oregon Brineworks showcases their fermented food products at FEAST Portland, 2016.

Food Safety

and the Food Safety Modernization Act



Overview by Tyson Raymond

Each time a food item is purchased, whether it is from a local source or a retail chain, the expectation of the customer is that the food they purchase is safe. Oregon's growers, processors and food manufacturing businesses rely on ODA to provide this food safety oversight.

There have been changes to food safety laws over the last few years. The state legislature has changed some of the state's food safety laws to reduce barriers for small-scale, low-risk food manufacturers, and the federal government passed the Food Safety Modernization Act (FSMA), which shifts how the Food and Drug Administration (FDA) addresses food safety by

moving away from simply responding to a contaminated food emergency to a more proactive, preventative approach.

Regardless of state and federal regulations, Oregon's growers, processors, and food manufacturing businesses have to satisfy the desires of their

customers and consumers in order to stay relevant. This could mean requirements over and above regulatory compliance to be competitive in crowded market space.



Photo: Apples are washed and dried in a state-of-the-art packing house.

Discussion

With almost 40 different food safety license types and just under 11,000 individual licensees across the state, the universe for ODA's Food Safety Program is vast and far-reaching. Oregon has seen steady growth in the food manufacturing industry. In fact, during the recent recession, food processing was a bright spot for the state's economy as Oregon's only manufacturing sector that did not lose jobs. (Mortenson, E., 2016).

Keeping up with a growing and trendy food and beverage industry requires constant and continued education for ODA's regulatory staff and its licensees. Regulations are only one element to ensuring food safety. Without an understanding of these regulations in conjunction with a strong knowledge of safe food manufacturing practices, a food safety risk will inevitably exist. The third-party regulatory oversight that ODA provides food producers and manufacturers is one way to facilitate this understanding of regulations and safe food manufacturing practices. And as Oregon's food manufacturing grows and changes, it is necessary for ODA's food safety staff to be able to adapt along with this industry.

The Food Safety Modernization Act (FSMA) is considered the largest overhaul to the country's food system in recent history. As a result, the world of regulated food producers is about to get bigger and, for Oregon, small and mid-sized fruit and vegetable growers and packing houses will likely see the greatest impact. According to the Census of Agriculture, Oregon has the eighth highest number of farms that will be affected by the produce safety rule, one of the seven FSMA rules, which impact approximately 4,000 fruit, nut and vegetable growers (USDA NASS, 2014). Roughly, 3,350 food businesses, including food processors, dairies, and bakeries, will be subject to at least one of the rules (ODA, 2014). Some businesses may be subjected to multiple FSMA rules.

Not all farms and food processors will have to comply with FSMA. FDA has created an exemption and modified requirements for eligible farms. However, the market place may dictate otherwise. Some retailers have stated that they will require all of their food suppliers and processors, whether or not they are exempt from FSMA, to meet these new federal guidelines. This could further increase the number of Oregon's farms, packing houses, and food businesses impacted by FSMA.

As the federal government moves forward in implementing this food safety mandate, it will be important for Congress to ensure that there are enough funds to support the state's role with this work. States should not be expected to absorb this cost. Growers, packers, and food businesses will be making investments in order to comply with FSMA. Capital investments, increased water monitoring, and additional employee training are just a few of the added costs. FDA estimates that the average cost of compliance for a produce farm will be \$15,992 (FDA, 2015). Compliance cost estimates by farm size range from \$5,872 for a very small farm to \$38,741 for a large farm. For a processor of food consumed by humans, the estimated average cost of compliance will be \$13,000 (FDA, 2013). Of course, this will vary depending on business size and which portions of the FSMA rules apply to each business. Incurring additional costs to support program implementation is something that the regulated community cannot afford. And work completed by ODA, on behalf of FSMA, should be funded by the federal government.

Successful implementation of any regulatory program requires effective education and outreach to the regulated community. ODA has received a federal grant to provide FSMA education and outreach. Unfortunately, this will most likely not be sufficient to meet the actual need. Partners like Oregon State University and industry trade groups will be helpful resources as



information about FSMA is disseminated. ODA will continue to seek federal funds to support education and outreach as it relates to FSMA. What role ODA will play for implementation remains to be seen. Oregon's future regulated community has not come to a consensus on this. In 2016, the State Board of Agriculture developed a resolution regarding the state's role for the implementation of FSMA. One of the elements of the resolution is for ODA to reconsider its inspection role after more information is learned.

Recommended actions and investments

- State policymakers should support capacity building for ODA's Food Safety Program to fulfill its mission of ensuring safe food for Oregonians.
- State policymakers should continue to urge Congress to fully fund the implementation of FSMA. The state should not absorb this expense.
- State policymakers should support ODA's role in compliance assistance and outreach to help Oregon's produce industry prepare for FSMA.

Market Access & Certification Programs



Overview by Pete Brentano & Sharon Livingston

Agricultural markets are much like a three-legged stool. The three market types—local, domestic and international—all need to be strong and work together in order to support Oregon’s agricultural and food processing sector. Since three-quarters of what Oregon’s farmers, ranchers, and fishermen produce leaves the state for various market channels, the markets need each other to be successful.



To help with market efforts, several agricultural commodities have organized into commodity commissions. With oversight from ODA, these producer-funded, state created entities allow for producers to work together to market and promote a particular commodity. To date, there are 23 commodity commissions in the state.

There are always more needs than there are funds for marketing efforts. The state uses federal funds to leverage investment from local companies in order to promote Oregon agriculture in export markets. The state also relies heavily on federal funds for local and domestic marketing projects and studies that benefit the marketability aspects of the industry.

At the industry level, local farmers and ranchers work together to create branded products as a means to gain new market opportunities. Farmers, ranchers and fishermen, individually and collectively, have also developed strategies, like certification programs, to distinguish their product in an effort to open a new market or maintain existing market place.

Oregon’s agricultural and food sector must be in tune with market needs in order to maintain and hopefully increase its presence in local, domestic, and international markets.

Discussion

Local marketing

There is no single definition for “local” agriculture, and, depending on where you are in the state, your definition of local might be different. If you live in the heart of the Willamette Valley where you are surrounded by diverse and numerous farms, local agriculture might mean purchasing carrots from the farmer down the street. But if you reside in a remote region of Lake County, those same Willamette Valley carrots might be considered local when defined as something produced in the state of Oregon.



Oregon has many opportunities to support the state’s farmers, ranchers, and fisherman. On almost any given day of the week, you can find a farmers’ market in Oregon. Today, there are 118 located across the state, a significant increase from the 12 farmers’ markets that started almost 30 years ago (Oregon Farmers Market Association, 2016). Farm stands, Community Supported Agriculture (CSA), and U-pick are also viable markets for many in the agricultural sector. Food hubs are emerging as a way to connect commercial buyers with local farmers and ranchers, and retail chain stores

Photo: Gales Meadow Farm sells produce as part of the summer Crop-Up Dinner Series and Market Showcase in Portland, 2016.

Market Access & Certification Programs

are taking steps to stock shelves with Oregon products. Institutions, such as schools and hospitals, are also purchasing more Oregon goods.

These opportunities were not always available to Oregon's agricultural and food sector. Investments by public and private entities helped get some of these concepts off the ground. With the USDA National Agricultural Statistic Service's first-ever local foods survey to be completed in late 2016, new data on locally grown and sold foods will be available to guide strategic investment opportunities that continue to support Oregon agriculture locally.

Domestic marketing

Oregon commodities can be found in the US from coast to coast. About one-half of what leaves the state's borders remains in the country so domestic market opportunities play an important role for Oregon's farmers, ranchers, and fishermen.

Marketing domestically creates opportunities for producers who rely on local markets. However, anything that is produced in Oregon might also be produced elsewhere, so for Oregon to maintain a place in domestic markets, there must be a market or competitive advantage over out-of-state counterparts.

Certification and branding may help maintain some of this market advantage. Value-added processing can also assist. Although Oregon has relatively few national branded products, Oregon commodities provide prominent ingredients in processed food products, both domestically and internationally. The connection between agriculture and value-added food processing is very important to Oregon's agricultural resiliency. It is important for Oregon to retain a reputation for high-quality product.

Oregon's cost of production can also be a significant driver as to what makes it into the market place. The vast majority in production agriculture are "price takers" not "price makers"—the end product price is often set without consideration to the

true cost of production. When the cost of business increases, Oregon farmers, ranchers, and fishermen must figure out how to adapt to this new expense, as their ability to pass it on to the next user is limited, or non-existent, in this competitive market space.



International marketing

Oregon agricultural goods can be found worldwide. From grass seed to hazelnuts, Oregon goods cover the globe. Oregon's exported commodities, food, and beverages contribute significantly to the state's economy.

International markets are an investment for Oregon's agricultural and food sector. Relationships with overseas buyers can take many years to develop. Once a relationship has been established and a commodity finds space in the international market place, it becomes easier for other Oregon commodities to access international markets because of Oregon's reputation for high quality products.

The international market also helps producers who sell products locally or domestically. In commodities such as hazelnuts, blueberries, and cherries, where international markets make up a significant portion of total sales, having international

Photo: A bartender in the PDX Taproom in Tokyo serves up cherry cider during Oregon Cider Week in Japan, 2016.

Market Access & Certification Programs

markets assists with keeping commodity prices higher for more growers.

When challenges arise that create a disruption in Oregon's ability to supply an overseas customer, relationships which took years to develop can be unraveled in a matter of months. This was the case for Oregon's agriculture and food sector in 2015 when there was a disruption in transportation. Perishable commodities rotted while waiting to be shipped, internationally-bound goods ended up in local or domestic markets, and in some cases when the commodity could be stored, sheds were filled to the brim as they waited for the next market opportunity. Lost opportunities for Oregon are gained opportunities for competitors.

Getting a product to an international marketplace may also require producers and processors to comply with standards that are different from Oregon's. Whether it is additional testing, or alternative packaging, not all of Oregon's agricultural and food businesses are able to, or capable of meeting these additional requirements.

Certification

In addition to ensuring a good reputation for Oregon agriculture, farmers, ranchers, fishermen, and food processors use third-party certification programs to meet market demands, to create new market opportunities, and to enhance consumer confidence. Compliance with third-party certification programs is above and beyond state and federal regulations that the agricultural and food sector must abide by.

There is no shortage of third party certification programs available to the agricultural community. Worldwide, there were 463 labels in 199 nations certifying that products, many relating to food, meet ecological standards (O'Connell, J., 2016). Certification programs can range from being "free-of" a specific ingredient to dictating a certain practice, to everything in between.



One of the best-known programs is organic certification. According to the Census of Agriculture, two percent of Oregon farms (about 525) are certified as organic (USDA NASS, 2016). Global Food Safety Initiative and Good Agricultural/Good Handling practices are certification programs commonly used by Oregon food producers and processors. These programs verify that fruits and vegetables are produced, packed, handled and stored as safely as possible to minimize the risk for microbial contamination. ODA provides these third party audits, as well as additional verification programs to private or market standards, to Oregon's agriculture and food producers.

Recommended actions and investments

- Provide opportunities that allow local communities to develop markets that support and invest in Oregon's agricultural and food sector.
- Continue to support and promote the diversity of Oregon's agriculture, food, and beverage industries.
- Continue to support ODA's ability to provide certification services to Oregon's producers, packing houses, and processors.

Photo: "Oregon Tastebud-Centric Extravaganza" banner by Travel Oregon showcases the diversity of Oregon agriculture at FEAST Portland, 2016.

Coexistence & Land Use



Overview by Laura Masterson & Marty Myers

It seems like the word of the decade for Oregon agriculture is “coexistence”—coexistence between non-agricultural and agricultural activities, and coexistence of different practices within Oregon’s agricultural community. Coexistence is often a land use issue and land use planning is something that affects all of us in agriculture.

Land is the most critical asset for agricultural operators; however, the amount of land in agricultural production in Oregon is on the decline. According to the latest Census of Agriculture (2012), there are 16.3 million acres of land in agricultural production. This is down one million acres from a decade earlier (USDA NASS, 2014). The loss of agricultural land and the ability to farm can decrease the critical landmass necessary to support local infrastructure and businesses related to and required by agriculture.

Protecting Oregon agricultural land is also an investment in protecting the natural resources of the state. Well-managed working lands provide habitat for wildlife, fish, as well as other natural resource needs of Oregon.

Agriculture is an important economic contributor to the state’s economy. The strength of the industry comes from its diversity and the availability of a consistent land and water base. Support of Oregon’s agricultural diversity and recognition for agriculture in land use planning is necessary for a productive and viable Oregon agricultural and food sector.

Discussion

Coexistence within the agricultural community is not new. Farmers and ranchers have been doing it for years. However, it seems to be an issue that has been discussed

more robustly and frequently over the last couple of years. Oregon produces more than 225 different agricultural commodities and the practices associated with production run the gamut from conventional to organic, intensive to extensive, and everything in between. Those behind the production system range from farmers and ranchers who are getting their start in agriculture, to those following in the footsteps of family members who worked the land and cared for animals before them. All of this diversity is important for Oregon’s 35,000 farms and ranches in order to meet the demands of consumers and customers.



With the diversity of Oregon agricultural commodities and the variety of systems used to produce these goods, conflict is bound to arise from time to time. Farmers and ranchers have worked hard individually, and collectively, to create solutions that are achievable for the parties involved. But when farmer's practices create a risk or harm to other farmers' livelihoods, it can create real conflicts. For example, specialty seed growers have created a voluntary system to identify field locations that ensure quality seed production while not harming other growers. This system has worked well for years, but recently litigation has erupted over

Photo: Tyson Raymond (right) grows wheat in Umatilla County. Carlos Montalvo manages a vineyard next to the wheat field. The two talk about the timing of pesticide applications on the young wheat to protect the grapes.

Coexistence & Land Use

the introduction of canola and genetically engineered seed crops. Wine grape growers and grass seed farmers have worked together to create a campaign that heightens the importance of prudent pesticide use. Still, cases of financial harm and crop damage from pesticide drift have also resulted in legal battles. While voluntary approaches to settle coexistence conflicts between farmers are preferable, additional tools may be needed in the future to manage challenging conflicts.

Conflict created at the intersection of urban and rural lands is another challenge for co-existence. Having a new housing development abut a farm field can create conflict between homeowners and farmers. Each use might be legal but at the edges where they connect, neighbors might not be accepting of the farming practices adjacent to their new home. Expansion of urban growth boundaries into agricultural land will increase this conflict.

Coexistence issues will continue to arise as non-farm uses are allowed within agricultural lands. Non-farm uses and associated land acquisitions such as those related to recreational development or energy infrastructure can impact the ability of remaining farms and ranches to operate efficiently and effectively. In addition to nuisance and trespass issues that may be dealt with under Oregon’s right to farm laws, farmers and ranchers often must deal with actions related to non-farm development that impacts common farm practices.

Increasing concern about the broader cumulative impact of agricultural land conversion on agricultural infrastructure, including the agricultural service community, is also an important issue. The loss of agricultural land and the ability to farm can decrease the critical landmass necessary to support local infrastructure and businesses related to and required by agriculture.

When it comes to land use policies, stronger consideration for agriculture as a “working” land use is needed. When land use decisions

that impact agricultural land are made, considerations for both direct loss of land and indirect loss due to the implications of surrounding non-farm development on adjacent farming operations, and cumulatively the loss of critical mass to minimize the erosion of local economy and infrastructure should be considered. Once land is removed from agricultural production, it is gone for good. Protection of this precious resource is an investment in the economy and the state’s natural resources in general.



Recommended actions and investments

- State policymakers should recognize, support, and promote the diversity of Oregon’s agriculture, food, and beverage industries.
- State policymakers should develop policies that have stronger protection for agriculture as a primary land use, especially in the Exclusive Farm Use zone.
- State policymakers should develop policies that provide stronger consideration of the impacts to agriculture before authorizing non-farm uses.

Photo: Urban growth boundary along Sunset Highway. (Courtesy of Metro)

Water: Quantity & Quality



Overview by Tracey Liskey & Barbara Boyer

For farmers and ranchers, water is the lifeblood of our existence. We live and work on the land we operate and understand the

importance of protecting natural resources, like water. We have a stake in following rules, regulations, and best management practices to protect the health of our families, our crops, our livestock, and our environment.

With new rules and regulations being put on water resources yearly, our way of life becomes more complicated daily. The agricultural sector is looking for new, innovative ways to use less water and return it to the ground in a better form than we received it. Most all of the players in our industry want what is best for the environment, but what is good one year may not be good ten years down the road.

The cost of doing most of these projects is very expensive, and with most agricultural enterprises being land rich and money poor, this can cause problems. Government can help by making more grants and low interest loans available for projects to help keep our water supply and quality ample for all users.

Discussion

Water, both quantity and quality, is always a topic of concern for Oregon agriculture. Over 40 percent of Oregon's 35,439 farms rely on some level of irrigation (USDA NASS, 2014). Without safe, adequate supplies of water, Oregon's agricultural sector would look very different than it does today, both in terms of what can be produced in the state and as an economic contributor.

Farmers try to anticipate how much water will be available for the next growing season, but it is difficult to predict what nature will provide because reservoirs rely on winter rains and snow pack to recharge. When time to make planting decisions comes in the fall, it becomes an educated guess as to

what to plant if there is no certainty on how much water will be available. Farmers may have enough water rights to supply a crop's need, but if reservoirs are not full there is no guarantee that those rights will be fully allotted when the growing season comes, leaving farmers with a gap in what is needed and what is available.

Farmers experienced extreme drought in 2015. Two-thirds of Oregon counties received drought declaration (Oregon Water Resources Department, 2015), with many of these counties having experienced drought conditions during prior years. Reservoirs were extremely low, causing irrigation to be curtailed early in the growing season, and normally productive acres were left fallow in an attempt to preserve water to get some crops to maturation. Fortunately, 2016 was a better water year for most, but farmers anxiously wait and see what water will be available for the next growing season.



For those that rely on water delivery via irrigation districts, the district operating and maintenance fee is still due and payable in full regardless of how much water is used or received. It is a challenge for a farmer to pay bills when water is not available to grow crops.

Photo: Pivot irrigation equipment rotates around a pivot and crops are watered with sprinklers.

Water: Quantity & Quality

Creating new water storage will benefit all Oregon water users, including agriculture. In 2013, the state made its first significant investment in water supply projects. Some of these funds have been used to renew agricultural water reservations in five basins—Grande Ronde, Hood, Malheur, Owyhee and Powder—that were set to expire in 2016 and 2020. Unappropriated water is reserved for multipurpose storage that can be used for future economic development. For agriculture, this means future irrigation opportunities.

Although state focus has been on developing water supplies, delivery of irrigation water is equally as important as storage.



Without an efficient way to move water from the source to farmland, stored water is basically unavailable.

Central and eastern parts of the state have developed irrigation infrastructure. Additional work needs to be done in the north central region and in many parts of the west side of the state.

Converting dry land acreage to irrigated agriculture can create more opportunities for Oregon agriculture and rural parts of the state. The Northeast Oregon Water Association studied this issue in 2014 and assessed how water access could influence cropping strategies. They calculated that in the north central part of the state, an acre of dry land wheat (40 bushel-fallow wheat) commonly produces \$100 per acre. With one-acre foot of available water applied to

the same ground, wheat yield would more than double (100 bushel wheat), with a potential income of \$500 per acre. With two-acre feet of water, alternative crops such as hay, grass seed and some vegetables can be produced. With these crops, potential revenue per acre could be \$1,500. With three-acre feet of water, high value root crops like carrots and potatoes can be grown as part of a rotation. With a cropping system like this, estimated revenue could be \$5,000 or more per acre.

Quantity is only one part of the water equation for agriculture. Water quality is the second part. Because clean water is important for livestock and crops, agricultural operators from all corners of the state care about water quality, especially when quantities are scarce. With the Agricultural Water Quality Program, administered by the Oregon Department of Agriculture (ODA), and the Confined Animal Feeding Operation Program, jointly administered by ODA and the Oregon Department of Environmental Quality (DEQ), farmers and ranchers continue to invest in their operations in an effort to maintain water quality and meet state water quality goals.

With over 16 million acres in agricultural production and limited state resources, it has been difficult to document on-farm water quality investments and water quality changes. Working with a diverse group of stakeholders, ODA developed a Strategic Initiative to be used by the Agricultural Water Quality Program to document agriculture’s efforts to achieve Oregon’s water quality goals.

The Strategic Initiative is a two-pronged approach comprised of Strategic Implementation Areas (SIAs) and Focus Areas throughout the state. Together, these targeted strategies will help with data gathering efforts in addition to documenting accomplishments to achieve Oregon’s water quality goals.

Photo: Lower Crooked River near Prineville.



SIA are chosen by ODA after discussions with partners and a review of the local information and water quality data when available. SIA receive outreach and education to address priority water quality concerns. Following an ODA-led Compliance Evaluation, ODA and its partners work with agricultural landowners to concentrate technical and financial help to change agricultural activities that may affect water quality. Following outreach and assistance, ODA may enforce regulations where problems persist.

With SIA, ODA and its partners can provide a focused, systematic delivery of outreach and technical assistance and, when necessary, engage in compliance activities, to gain water quality improvements. Today, 15 SIA have been identified across the state and more will be identified in the future.

In Focus Areas, local soil and water conservation districts (SWCDs) select an area within their watershed to offer voluntary assistance to agricultural landowners whose properties or activities may have impacts on water quality. This one-on-one outreach and focused assistance can be more effective in reaching landowners and achieving results in a short time frame. In most Focus Areas, SWCDs are working with landowners to improve streamside vegetation, which helps water quality by providing shade, stream bank stability, and filtration of potential pollutants. Several Focus Areas are

working with landowners to address other concerns, including livestock management and sediment. This is work being done by SWCDs in 45 areas across the state.

SWCDs are important partners to ODA and the Strategic Initiative. However, not all SWCDs are the same. Access to technical expertise, resources, and overall capacity differ across the state. If SWCDs are to continue to play this important role, additional assistance will be needed in some areas.

Legacy issues are another important water quality problem that agriculture is dealing with. Development of infrastructure, like dikes and floodgates, and rerouting streams decades ago do not always help achieve the state's current water quality goals. These legacy issues can be found across the landscape. In order to effectively impact water quality change, legacy issues must be addressed. However, individual landowners cannot make these changes alone, as significant and costly changes to infrastructure may be needed. The state can help by developing and encouraging incentive-based programs to assist landowners in addressing legacy issues to help meet Oregon's water quality goals.

Recommended actions and investments

- Continue to move forward with programs that support planning, analysis, and implementation of further water storage and delivery projects.
- Support and maintain resources for in-stream water quality monitoring.
- Support SWCDs' role with the implementation of the Strategic Initiative by providing capacity building and resources.
- Develop and encourage incentive-based programs to assist landowners with addressing legacy issues in order to meet Oregon's water quality goals.

Photo: Ryan Beyer, ODA water quality compliance specialist, collects a water sample.

Agricultural Workforce



Overview by Stephanie Hallock & Pete Brentano

For decades, farmers and ranchers have relied on a reliable, qualified, and legal workforce

to keep agriculture as a top economic driver for the state. Workers are needed to perform traditional jobs like pruning berry bushes, harvesting fruit and vegetables, and caring for nursery stock. Increasingly, many crop farmers need workers who are skilled in operating GPS-guided tractor steering systems, computers that monitor soil moisture, and pesticide application equipment.

Migrant workers provide the backbone of Oregon's agricultural workforce, and tighter immigration enforcement discourages some workers from coming to our region. There is not enough safe, sanitary, and supportive housing for the workforce needed, in part because of restrictive regulations, and in part because of the resources needed. In addition, as of July 1, 2016 agricultural employers must pay a minimum wage of \$9.75 per hour (standard and Portland Metro counties) or \$9.50 per hour (non-urban counties) to their employees. The minimum wage will increase to \$10.25 (standard), \$11.25 (Portland Metro), and \$10.00 (non-urban counties) in July, 2017. This will make Oregon's minimum wage on average more than 40 percent higher than the federal minimum wage. Add the 11 federal laws regulating agricultural employment to Oregon's farm labor laws, and agricultural employers are increasingly hard-pressed to maintain a skilled, stable, and legal workforce.

Maintaining a skilled, qualified workforce is not only a challenge with on-farm and ranch jobs, but through all stages of agricultural production and processing. Industries that provide services to Oregon's farmers and ranchers are having difficulty finding skilled workers as well.

Our employees are our greatest asset, and without them, there will be no agricultural industry in Oregon. We must ensure that federal and state laws help, not hinder, our ability to bring new people into the workforce and keep the skilled, experienced ones we have.



Discussion

Finding skilled, qualified agricultural labor is a growing challenge for Oregon's farmers and ranchers, and nationwide. Today, foreign-born workers make up a significant portion of the domestic agricultural workforce. From 2008 to 2012, foreign-born workers made up 72.9 percent of field and crop laborers in the country as a whole (New American Economy, 2016), and a significant portion of these workers are not legally authorized to work in the United States. The exact number of undocumented workers is unknown. The USDA Economic Research Service reported that of the crop workers surveyed from 2007 through 2009, forty-eight percent of crop workers indicated that they were not legally authorized to work in the United States (USDA ERS, 2016). This leaves the nation's food supply relying on an unstable situation and a workforce that feels vulnerable and fearful of deportation.

When domestic workers are not available, some agriculturalists have used H-2A, a guest farmworker program, but this option does not come without challenges. The cost and complexity of paperwork

Photo: Workers pack apples in a state-of-the-art facility.



required to recruit foreign workers is overwhelming. H-2A is not a viable option for some sectors of agriculture like dairy farms who need willing, able, and qualified labor year round. Some farmers who use H-2A have also reported that guest workers do not arrive in a timely manner, delaying the time sensitive work that needs to be done. The path forward to create a stable, qualified workforce will require Congress to take action and address immigration reform holistically.

As it becomes more difficult for agricultural producers and processors to secure a skilled agricultural workforce, agricultural operations are turning towards mechanization. For example, a labor-intensive job, such as milking cows, can now be done with robotic milking units. But mechanization does have limitations. Often, mechanization requires a large financial investment that not every farmer or rancher can afford. Mechanization also leads to a change in business and management practices and the need for new skills. Berries that were once hand picked for the fresh market are now harvested by machine for a processed market. Finally, some crop characteristics make them not suitable for mechanization such as orchard crops like pears and apples.

Unfortunately, agriculture is not considered a place of first employment. A national survey conducted by ORC International reports that there is a lack of young people planning to work in the agricultural industry. Only three percent of college grads and nine percent of millennials surveyed have or would have considered an agricultural career. Healthcare and technology fields had the highest career interest of survey respondents. In 2015, the United States Department of Agriculture's National

Institute of Food and Agriculture, together with Purdue University, completed an employment outlook report which reported that there are an average of 35,400 new US graduates with a bachelor's degree or higher in agriculture related fields; 22,500 short of the jobs available annually. Twenty-seven percent of these jobs are in the science, technology, engineering, and mathematics field (Goecker et al., 2016). As a subject, agriculture can easily meet science, technology, engineering, and math curriculum requirements. Offering agricultural education and vocational agricultural programs in the classroom may help students consider agriculture as a career.

Recruiting a qualified workforce is a challenge in itself. Affording this workforce is another challenge for agriculture. Oregon's farmers, ranchers, and processors are in competition with agricultural producers and processors across the country to sell their goods. States that have a lower minimum wage produce agricultural goods with a lower cost of labor than Oregon, reducing in-state and out-of-state market opportunities for Oregon businesses. As an industry that is predominately a 'price-taker' and not a 'price-setter', federal minimum wage parity would be one way to help Oregon agriculture be competitive with out-of-state counterparts. In 2015, The State Board of Agriculture passed a resolution regarding the importance of federal minimum wage parity.

Recommended actions and investments

- State policymakers should urge Congress for immigration reform.
- State policymakers should increase support of agricultural education and vocational agricultural programs in classrooms.
- Support federal minimum wage parity to enable Oregon's farmers, ranchers, and processors to be competitive with out-of-state counterparts in growing, processing, and harvesting agricultural goods for local, domestic, and international markets.

Oregon's top 20 commodities

#1	#2	#3	#4
 cattle & calves	 greenhouse & nursery	 hay	 milk
#5	#6	#7	#8
 grass seed	 wheat	 potatoes	 pears
#9	#10	#11	#12
 grapes for wine	 onions	 Christmas trees	 eggs
#13	#14	#15	#16
 blueberries	 hazelnuts	 cherries	 mint
#17	#18	#19	#20
 apples	 sweet corn	 blackberries	 crab

Based on data and estimates from National Agricultural Statistics Service, Oregon Department of Agriculture, Oregon State University, and the Oregon Department of Fish & Wildlife. See more stats online: bit.do/FactsFigures

The Coast



Introduction by Barbara Boyer

Oregon is famous for its coastline. Tourists from all over the world come to Oregon to see the Pacific Ocean, seaside cliffs, sandy beaches, and sand dunes. The products from this region are enjoyed not only locally, but admired for their superb quality across the globe.

When you think about the Oregon coast, you also think about Oregon's seafood industry. From Astoria to Brookings, this important industry spans the entire coastline. Pink shrimp, Dungeness crab, oysters, salmon, halibut, and much more are all harvested within Oregon's estuaries and off of Oregon's coastline for local, domestic, and international consumers and customers.

The coast is also home to a robust dairy industry. Dairy farmers are clustered in Tillamook, and Coos counties. These counties also offer processing opportunities to the state's fourth largest agricultural industry. Small niche processors and larger historic brands turn Oregon's quality milk into premium cheese craved across the world.

The Oregon coast is also synonymous with cranberries, the majority of which are grown in an area centering on Bandon. The climate in this region allows for a later cranberry harvest than growers' eastern counterparts, developing a darker, sweeter berry that consumers seek.

The mild coastal climate is conducive to lush green pastures for the region's grazing lambs and beef cattle for a vast majority of the year. The region is also home to several

vegetable crops that are commercially grown for direct sales or local farmers markets.

Discussion

The working land easements, noxious weed management, and expansion of a cultivated shellfish industry are key to supporting Oregon's agricultural sector along the coast and can provide opportunities to assist agriculture throughout the state.

Although Oregon land use laws provide protection of farm and ranch land, sometimes these laws cannot go far enough.



Loss of farmland can involve conversion to nonfarm land uses that may be authorized by the state's exclusive farm use zone. Land succession issues many times also lead to such conversion.

Along the coast and throughout the state, working land easements can compliment Oregon's land use laws. Farmers and ranchers on the southern coast have employed and are considering the greater use of working lands easements as an option for keeping family farms viable. A working land easement is a voluntary contractual agreement between a farmer and another



Photos: Oregon has nearly 3,000 acres of cranberries, producing more than any other state on the west coast. • Tillamook County is home to the most number of dairy farms per county in Oregon.

The Coast

party—such as a land trust or government entity—who purchases and permanently owns some of the rights to the farmland. This purchase can provide an infusion of capital to the farm and allow the farmer to continue to viably operate the farm. Since the land remains in production, taxes are still paid to the county, which is extremely important in rural parts of the state. A working land easement can protect the farm and help and make it viable for the next generation to operate. The ongoing work in the area of maintaining working lands through the use of easements on the southern coast may develop into an example for the rest of the state to emulate.

When thinking about water quantity and quality, the negative impacts that weeds can have is often overlooked. Riparian restoration efforts can be undone if landscapes are not actively managed for invasive noxious weeds. Noxious weeds are an issue across the state and on the coast. Scotch broom and Armenian blackberries, which are two of the worst weeds. Unmanaged landscapes also allow noxious weed seeds to spread to neighboring properties, creating additional problems and expense for landowners. An investment in noxious weed control is an investment in the state. The top 25 of 128 state-listed noxious weeds have an estimated negative impact of \$83.5 million to Oregon (The Research Group, LLC, 2014). This number more than doubles if these weeds are left unmanaged. Like invasive pests, early detection and rapid response is the best management strategy for invasive noxious weed control.



Cultivated shellfish operations can be found in several of Oregon's estuaries including Tillamook, Netarts, Yaquina, Umpqua, and Coos. There is great potential to expand this small but thriving industry, but many issues have limited its growth.

In 2015, recognizing the potential for growth, the Oregon Legislative Assembly passed House Bill 2209 which established state policy to enhance and expand cultivated shellfish production, conserve, protect and restore wild populations of native shellfish, and improve water quality and the health of aquatic and marine habitats. Subsequently, the Joint Interim Task Force on Oregon Shellfish was created to advance this policy by developing a framework and recommendations for an Oregon Shellfish Initiative. The Oregon Shellfish Task Force was composed of representative members with broad interests including shellfish, mariculture, commercial and sport harvests, seafood safety, tribal perspectives, resource conservation, and public education. Recommendations from the task force range from enhancing shellfish production to the restoration of native shellfish, and much in between. Many of the recommendations include actions that would have implications for the Oregon Department of Agriculture's Food Safety and Shellfish Leasing programs.



Photo: Armenian blackberry is the most widespread and economically disruptive of all the noxious weeds in western Oregon. It aggressively displaces native plant species, dominates most riparian habitats, and poses a significant economic impact on right-of-way maintenance, agriculture, park, and forest production. • ODA's land use specialist, Jim Johnson, visits an oyster bed on the Oregon coast.

Recommended actions and investments

Key recommendations for the coast, and the Oregon agricultural community, are:

- ODA should stay engaged in discussions about marine reserves and other activities that may impact Oregon's fishing industry, in order to ensure preservation of fishing grounds.
- State leaders should work with farmers and other stakeholders to protect working agricultural lands while identifying ways to restore habitats and achieve state water quality goals.
- ODA should continue to support development and expansion of an aquaculture industry in Oregon.

Key facts

- » Total land area: 4.0 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 1,692
- » Land in farms: 303,996 acres
- » Irrigated land: 22,698 acres
- » 2012 market value of agricultural products sold: \$206 million
Source: USDA NASS, 2014



Photo: Fishing vessels in Astoria, Oregon.

Willamette Valley



Introduction by Pete Brentano & Laura Masterson

The most populated area of the state is also home to the most diversified and one of the most intensively farmed agricultural regions. This diversity cannot be replicated across the state. The volcanic soils, availability of water, and mild climate make it a unique and productive place for Oregon agriculture. It is easier to discuss what agricultural products are not produced in the Willamette Valley than what is grown and raised in this region. From arugula greens to zucchini and everything in between, you will most likely be able to find it grown in the Willamette Valley.

Because of the diversity of what is produced, no matter where you are, it is easy to find something that was produced in this region. From your own fridge to across the globe, farmers and ranchers in this region, and in Oregon, are recognized for not only what they produce, but also the quality of the product.

Oregon is number one in the nation in production of hazelnuts, blackberries, black raspberries, boysenberries, several grass seed varieties, potted azaleas, sugar beet seed, peppermint, and Christmas trees,

much of which is grown in this region. The Willamette Valley was also named “Wine Region of the Year” by Wine Enthusiasts magazine in 2016. Nursery products raised in the Willamette Valley decorate landscapes along the US eastern seaboard. Grass seed, grown in the heart of the Willamette Valley, is featured on some of the world’s most prominent golf courses

as well as in Tiananmen Square in China. Willamette Valley strawberries are the specified ingredient for many domestic and international ice cream makers. Clearly, the Willamette Valley is a picture of diversity.

Discussion

Invasive species, the siting of energy generation and transmission facilities, and the development of trails through agricultural lands not only touch this region, but the entire Oregon agricultural community.

Oregon’s agricultural and natural resource community just completed the second largest eradication effort in the state’s history for the Asian gypsy moth. Allowing this invasive species to become established could have destroyed Oregon’s forests, impacted homeowners’ landscapes, and limited the ability for Oregon’s nursery industry to transport plants, shrubs, and trees out of state. Trapping and surveying conducted by the Oregon Department of Agriculture allow for the early detection of invasive species. In 2016, traps have informed agriculturalists and the natural



Photos: Oregon ranks #1 in the production of Christmas trees in the U.S. and in terms of commodity value for the state, Christmas trees are ranked #11. • Japanese beetle adults can cause serious damage, typically skeletonizing leaves, consuming flowers, and devouring fruits.

resource community of the presence of Japanese beetles, detected in northwest Portland, and the light brown apple moth, detected in Polk County. Early detection is only one part of the equation in eradicating invasive species. Rapid response is equally critical to ensure that these populations do not become established.



Siting of energy facilities, and associated transmission lines, is something the agricultural community has been cautious about. Some farmers have added energy facilities as a way to diversify and provide additional revenue to the operation's bottom line, but other farmers are worried about the loss of agricultural land and potential conflicts these facilities have on their existing and future agricultural operations. Currently, there is a lot of conversation about the siting of solar facilities on high-value farmland in the Willamette Valley. Unlike agriculture, energy facilities are land dependent, not soil dependent, meaning these facilities can be sited anywhere regardless of soil quality. However, commercial solar facilities are being sited on high-value farmland without adequate consideration of the individual and cumulative impacts to agriculture. Alternative locations for solar facilities that do not involve high-value farmland need more consideration. In 2016, the State Board of Agriculture alerted the Department of Land Conservation and Development of their concern about this issue. As energy facilities and transmission

lines are sited, it is important to consider the impacts on the agricultural land base and the ability for agriculture to operate.

It is not unusual for railroads to traverse rural lands, including working agricultural lands. Historically, railroad placement has allowed farmers to transfer goods to market or deliver farm inputs. As the historic use and needs of railroads have changed, some established routes have been discontinued and even abandoned. Some see these abandoned railroad tracts as an opportunity to create a trail for recreationalists to explore Oregon's rural landscape. Some also see it as a potential revenue opportunity for the local community, as trail users may grab lunch after their hike or a cup of coffee for the road. However, the "rails to trails" concept also brings concern to the farmer that operates land adjacent to this new trail.

This concept is popping up in the Willamette Valley and in other parts of the state, raising concerns about trespassing, vandalism, and conflicts with generally accepted farming practices. For example, plowing a field to prepare it for planting can create dust, which may not be appreciated by a trail user. Not all abandoned railroad tracks are candidates for public trails. When proposed to be located in Exclusive Farm Use zoned areas, the conditional use permit process helps a local community determine if the recreational use is appropriate in an area dominated by and planned for farm use.



Photos: Solar panels next to a vineyard in the Willamette Valley. • A trail runs parallel to a field. Some farmers are concerned about the reaction that urban trail users will have upon encountering common farming practices.



Recommended actions and investments

Key recommendations for the Willamette Valley, and the Oregon agricultural community, are:

- Protect the state from invasive species and support early detection and rapid response.
- Consider the individual and cumulative impacts to the loss of agricultural lands and to associated farm and ranch operations for proposed siting of energy facilities.
- Consider the implications to area agricultural operations through the conditional use permit process for non-farm uses in areas zoned as Exclusive Farm Use.

Key facts

- » Total land area: 9.0 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 18,114
- » Land in farms: 1.7 million acres
- » Irrigated land: 235,676 acres
- » 2012 market value of agricultural products sold: \$2.2 billion
Source: USDA NASS, 2014

Photo: Wine grapes growing in a Willamette Valley vineyard.

Columbia Gorge/Plateau



Introduction by Marty Myers & Tyson Raymond

Hood River County is famous for Mt. Hood, but for us agriculturalists,

Hood River is synonymous with the state fruit, the pear. The Columbia River Gorge, as a whole, is the nation's largest pear-growing region. This region also produces some of the world's most prized fresh cherries that find their way to premier Asian markets such as Hong Kong and Tokyo. The community embraces and celebrates its fruit growers so much that Hood River County created the Fruit Loop, a 35-mile self-guided tour that leads fruit enthusiasts to several of the county's orchards, farm stands, and vineyards.

As you head east and the landscape levels out, the sight of fruit trees is replaced by fields as far as the eye can see. Cereal grains, predominately wheat, dominate the dryland farming landscape, but peas and beans are also grown as part of crop rotation. Irrigated agriculture in this area includes alfalfa, several vegetable crops, such as carrots, onions and potatoes, and of course, world famous Hermiston watermelons. A significant amount of milk is also produced in this area.

In rural Oregon, agriculture accounts for many jobs and economic activity; not only what happens on the farm but the related businesses and services that support agriculture such as feed and fertilizer companies, farm implements, food processing equipment manufacturers, and processors. Morrow County had the fourth highest average weekly wage in the state in the fourth quarter of 2015 (US Department of Labor, 2016) and the agricultural community was a major contributor to the ranking. Starting with pears and ending with potatoes, the Columbia Gorge/Plateau offers a lot to the local communities and Oregonians passing through.



Discussion

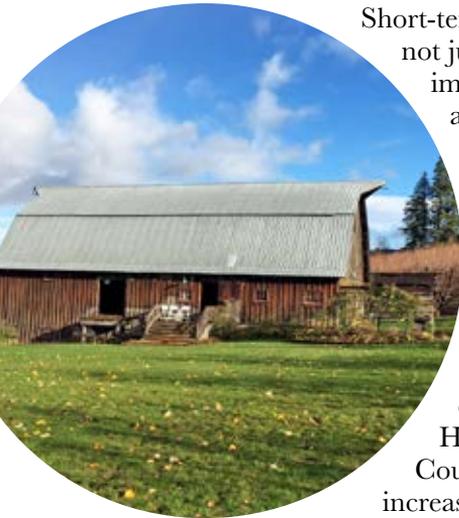
Digital agriculture, short-term rental property, and community support are subjects important to this region and the rest of the Oregon agricultural community.

Digital agriculture, although maybe a new term to agriculture, is not a new concept. Oregon's farmers and ranchers have always utilized technology in their operations. For example, not many farms still use horse drawn plows—today most horsepower is provided by tractors. However, in the last decade or so, agricultural technology has become more sophisticated, using GPS guided tractors, smart phone apps, and now unmanned aerial systems (UAS) to scout crops for pest damage or stress conditions. Pendleton is home to one of Oregon's three UAS test ranges. Nationally, it is the most agriculturally diverse test range as it encompasses 14,000 acres dominated by wheat, irrigated pivots, tree fruit, and viticulture. As applications for UAS in agriculture are studied, it will create an advantage for Oregon agriculture, as the testing will take place here. and can lead to future business opportunities for the state.



Photo: GPS tracking and digital technology in the cab of a tractor.

Columbia Gorge/Plateau



Short-term rentals are not just having an impact in urban areas, but have also become a very real issue in many agricultural areas around the state, especially in Hood River County. There is increased economic appeal to offering

lodging/farm stays to visitors in areas zoned for Exclusive Farm Use. Expansion of such use is of concern, especially in areas characterized by intensive farming operations and in areas with high-value farmland soils as they relate to compatibility with common and accepted practices associated with farming and ranching operations. Although the visitors seek to enjoy the beauty of the agricultural setting, they are not always tolerant of noises, dust, pesticide use, and issues related to hours of operation, cultivation, and harvest.

Eastern Oregon agriculture is also ground zero for Farmers Ending Hunger, an important program to end hunger in the state. Established in 2004, the program's mission is to eliminate hunger in Oregon by increasing the amount of high quality food available to hungry local communities through a partnership of farmers, food processors, Oregon Food Bank, and the public. Today, farmers and processors from around the state have joined this effort. From shelf stable items like pancake mix, to fresh fruits and vegetables, Oregon's farmers, ranchers, and processors donated 4.2 million pounds of food in 2015 through the program. This does not include individual farmer, rancher, and processor contributions made in private to local hunger relief efforts.

Recommended actions and investments

Recommendations for Columbia Gorge/Plateau, and the Oregon agricultural community are:

- Support UAS Legislative Work Group recommendations.
- Consider cumulative impact of land use decisions involving non-farm land uses on land zoned for exclusive farm use.
- Continue support for tools like the Crop Donation Credit that help offset harvest and transportation costs of charitable donations.

Key facts

- » Total land area: 6.6 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 3,584
- » Land in farms: 5.2 million acres
- » Irrigated land: 287,000 acres
- » 2012 market value of agricultural products sold: \$1.3 billion
Source: USDA NASS, 2014



Photos: Barn with social gathering space at an orchard in Hood River, Oregon. • Board of Ag members pack onions at the Oregon Food Bank. (Courtesy of Oregon Food Bank)

Northeast Oregon



Introduction by Sharon Livingston

Northeast Oregon is home to cattle that graze the vast private and public landscape. Hay, barley, and wheat are also grown here. Farmers have searched for alternative crops for this area but the climate, frequent cold snaps, and inconsistent yields make it difficult to diversify. The region is also very dependent on rainfall and mountain snow pack to meet irrigation needs. Water is the lifeblood for agriculture.

This region recently experienced one of the most destructive wildfires in the state's history. The Canyon Creek Complex fire near John Day in 2015 burned over 110,000 acres of public and private land. Several residents lost their homes, and cattle and wildlife perished in the flames. It will take several years for this land to recover from the fire, so the ranching community has lost this valuable grazing resource. Unfortunately, alternatives for ranchers that use this land are limited. Ranchers will be forced to move cattle further from home to find grazing land, purchase more feed, reduce the herd, or a combination of the three.

Agriculture is changing in the region. The average age of farmers and ranchers is climbing and the next generation is not coming back to the farm. It is hard to get young people into agriculture, as it is not something that you do eight hours a day, five days a week. Small farms and ranches are taking on debt to grow in order to stay in business. But one thing that has not changed is the culture of farmers and ranchers—neighbors helping neighbors, working together as a community to support the farming and ranching industry, and the community as a whole. Work never stops on the farm, but our farmers and ranchers make time to be involved in school boards, civic organizations, and community groups that make a difference to the place we are proud to call home.



Discussion

Interactions with wildlife and outside investments not only touch Northeast Oregon, but the entire Oregon agricultural community.

Oregon farmers and ranchers have played an important role in recovery efforts of the greater sage grouse. Wildfire, invasive weeds, and the spread of juniper are principal threats to sage grouse habitat. This makes properly managed grazing crucial by keeping fire

fuels to a minimum and preventing invasive species from establishing.

In nine counties, Oregon farmers and ranchers have joined with traditional and non-traditional partners to implement conservation

practices that support sage grouse habitat. In the fall of 2016, researchers estimated a 14 percent increase of sage grouse population across critical habitat in all nine counties with only one location, the Baker City unit, having a small decline (ODFW, 2016). Such results have kept the greater sage grouse from being listed as an endangered species.

Wolves are found in several parts of the state, including northeast Oregon, and their presence will always lead to conflict with livestock. Livestock owners have been trying to work within the Oregon Wolf



Photo: Sagebrush meadows in eastern Oregon provide the sage grouse with its year-round home and food source.

Northeast Oregon

Conservation and Management Plan for the last several years to help the state meet its goals on this issue. Livestock owners have also accessed the Wolf Depredation Compensation and Financial Assistance Grant Program to obtain compensation for injured or dead livestock and working dogs, or financial assistance to implement strategies designed to discourage wolves. Almost half of Oregon's counties (15) have established a wolf depredation compensation program in order to help their community's livestock operators on this issue. As the state moves forward, it is



important to maintain adequate tools to remove problem animals/packs when necessary to stop chronic losses, build livestock producer's confidence that problem animals will be dealt with, and maintain efforts to discourage wolf depredation while

compensating operators for livestock loss or injury.

As people discover the beauty of this part of the state, individuals outside of the area are purchasing farms and ranches to be a second or vacation home. Since farming and ranching is not the main reason for acquiring the property, the land is farmed less intensely or taken out of production entirely, both of which increase the value of the surrounding farmland. These new neighbors are also taking advantage of the ability to establish non-farm dwellings on their property and, as a result, change the entire agricultural landscape with construction of recreational homes in the middle of a historically rural agricultural setting.



Recommended actions and investments

Recommendations for Northeast Oregon, and the Oregon agricultural community, are:

- Encourage congressional delegation to maintain support of funding for sage grouse recovery.
- Continue support for the Wolf Depredation Compensation and Financial Assistance Grant Program.
- Better analysis and consideration of cumulative impact of nonfarm residential development on agricultural operations.

Key facts

- » **Total land area: 9.4 million acres**
Source: Oregon Secretary of State, 2014
- » **Number of farms: 2,547**
- » **Land in farms: 2.9 million acres**
- » **Irrigated land: 230,000 acres**
- » **2012 market value of agricultural products sold: \$248 million**
Source: USDA NASS, 2014

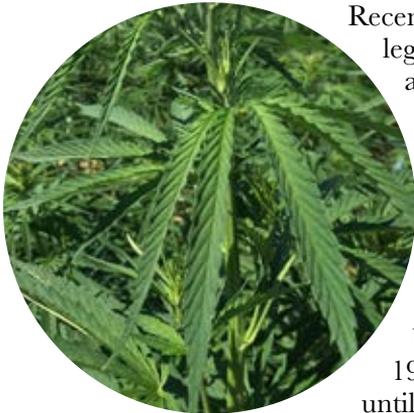
Southern Oregon



Introduction by Barbara Boyer

This region has a rich agricultural heritage known for livestock grazing, orchard fruits, and wine grapes. This heritage is enhanced by a growing demand for newer crops in the region such as cut flowers, herbs, small grains, cannabis, and organic fruits and vegetables.

Southern Oregon was named a “Top 10 Global Wine Destination” by Wine Enthusiast magazine in 2016. The region produces wines of superb quality that are enjoyed by locals, tourists, and across the country. This triple pronged approach to marketing is true for much of what is produced in the region. Locally grown products and nationally known specialty foods can be found in farmers' markets and food hubs. Fruits of all kinds and other processed food products are also produced in the region and sold both at home and abroad. Tourists flock to the region to enjoy all of it while taking in southern Oregon’s cultural and culinary experiences.



Recently, Oregon voters legalized marijuana and the legislature recognizes it as an agricultural crop. Growing marijuana in Oregon is not new. Oregon’s Medical Marijuana Program began in the late 1990s, but it was not until recently that this plant received recognition as a farm crop. Marijuana can be cultivated in most parts of the state, but southern Oregon has received a reputation for cultivation of sun-grown cannabis. Marijuana’s cannabis cousin, industrial hemp, was also legalized for production, with Oregon’s first industry

Photo: Nonpsychoactive, industrial hemp grown outdoors.



hemp license being issued to a southern Oregon grower.

Discussion

Meat processing, Oregon State University, and pollinators are just a few of the important issues for this region, and the entire Oregon agricultural community.

Many of the small, diverse farm operations in Southern Oregon include livestock. However, options to process livestock that can enter commercial distribution are limited. In order for beef, lamb, pork, or goat meat to be sold commercially, it must be processed at a USDA inspected facility. Existing meat processing facilities have worked with local producers to meet processing needs but existing regional options can be hundreds of miles of way. In this region, the closest option is Roseburg. Becoming a USDA inspected slaughterhouse is expensive. Part of the expense is that a USDA veterinarian must be on-site during operation. If the facility is not located in a livestock dense region, it is costly to process the animals. This is not a new issue nor is it confined to this region, but there is interest, especially from the smaller farms and ranches, to creating a viable solution that leads to affordable small-scale meat processing

Oregon’s land grant university, Oregon State University (OSU), and OSU’s statewide public service programs, Oregon Agricultural Experiment Stations, Extension Service, and Oregon Forest Research Laboratory, are important partners to Oregon’s farming, ranching, and fishing communities. The Southern Oregon Research and Extension Center in Central Point, like the rest of OSU’s statewide programs, provides important research and technical assistance to the region’s agricultural sectors. From small

Southern Oregon

farm assistance provided by the robust Small Farms Program to commodity specific research, OSU faculty and staff inform farming, ranching, and fishing decisions. OSU also houses the Oregon 4-H Youth Development Program, a program which provides life skills to young people through hands-on experiences. Having extension and research centers located across the state also makes agricultural information readily available to the local community.



Pollinators are an important part of the food security equation. Bees are responsible for pollinating the crops that provide people with an abundance and diversity of food crops. In an area like southern Oregon, with its vast fruit production, pollinators are necessary agricultural partners.



Unfortunately, pollinators have been declining at an alarming rate. There is no single factor responsible for the decline of pollinators world-wide; rather, a combination of several contributing factors act both independently and synergistically to negatively impact populations. The US Environmental Protection Agency has asked states to develop Pollinator Protection Plans. OSU extension and ODA will be engaging stakeholders to create a path forward to develop strategies to protect pollinators. Education and outreach will play a prominent role in pollinator protection.

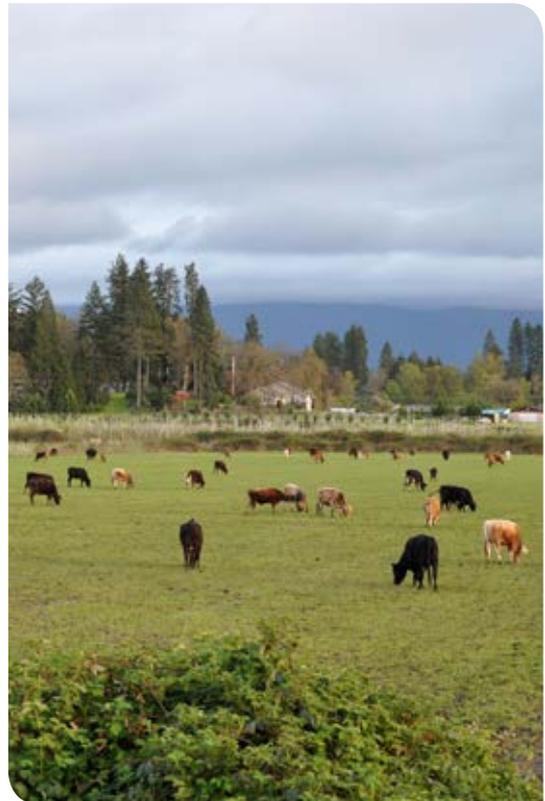
Recommended actions and investments

Recommendations for southern Oregon, and the Oregon agricultural community:

- Support efforts that provide affordable livestock processing options.
- Continue to support OSU statewide public service programs.
- Engage in discussions regarding the state’s pollinator protection plan.

Key facts

- » Total land area: 6.1 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 4,266
- » Land in farms: 624,721 acres
- » Irrigated land: 60,132 acres
- » 2012 market value of agricultural products sold: \$148 million
Source: USDA NASS, 2014



Photos: Kids from a 4-H Youth Program show off their biosecurity educational materials. • A pollinator visits a flower on a fruit tree. • Cattle graze in a field near Grants Pass. (Courtesy of Finetooth via Wikimedia Commons)

Southeast Oregon



Introduction by Tracey Liskey

This part of the state is home to several of Oregon’s top producing agricultural commodities. Cattle, hay, dairy cows, potatoes, and onions—five out of the top 10 Oregon agricultural commodities—are prominent in this region. Malheur County is ranked eighth in the country for number of beef cattle (USDA NASS, 2015). Sugar beets, strawberry plants, and garlic are also grown here. Success for the agricultural community, and the community as a whole, is hinged on the success of the industries that support farming and ranching. Onion and potato packing sheds, implement companies, and inspection and certification services, to name a few, are critical components to the region’s health and economy. For southeast Oregon agriculture is not just an industry, it is a lifestyle.

Not only is the southeastern part of Oregon a beautiful place to live; it is a beautiful place to visit. The area is mainly high desert with little annual rainfall, making the scenery more sagebrush and bare mountains than trees. The climate can make it a challenging place to earn a living, even with a lot of land. However, farmers and ranchers are finding themselves in competition for this invaluable resource as more and more of the ground becomes owned by the government.

As people learn of the beauty of this area, conflicts have also increased. Farmers and ranchers rely on this land to make a living for their families, their employees and the businesses that support them. But the public wants the land to vacation, hunt and play. As our agricultural community continues to be pressured with the ever-growing changing atmosphere of the public opinion, the western way of life in southeastern Oregon is threatened.



Discussion

Working partnerships, water predictability, and transportation not only touch Southeast Oregon but the entire Oregon agricultural community.



For an agricultural region that has more livestock than people, it has been the focus of some significant issues. Ranging from negotiations of the Klamath water agreement, to the Malheur National Wildlife Refuge occupation near Burns, to discussions of a national monument in the Owyhee and Siskiyou areas, this natural resource community has had, and continues to have, difficult conversations. As the world watches, farmers and ranchers in this rural part of the state must navigate traditional agricultural challenges under unique circumstances.

Farmers and ranchers are used to dealing with water issues in “the dry part of the state.” However, as drought conditions continue to linger for years instead of months, farmers and ranchers are increasingly anxious to find long-term solutions and stability. Uncertainty about water availability creates unpredictability for farmers. Crop rotation—a common

Photo: Steens Mountain in southeast Oregon’s high desert. (Courtesy of U.S. Bureau of Land Management)

Southeast Oregon

management practice used to ensure soil fertility, control pest pressures, and boost crop productivity—becomes a new challenge to deal with. Not knowing if, or what, water



will be available limits a farmer's choices as to what can be grown on the landscape. Some farmers are foregoing crop rotation altogether, hoping the perennial crop will have a productive yield one last time, or they are substituting other costly management practices that may not yield the same benefits as crop rotation.

Even regions farthest away from Portland have felt the impact of shipping issues experienced by the Port of Portland in recent years. As perishable commodities rotted in containers at the port, agricultural goods that have a longer shelf-life destined for an export market were displaced into the domestic and local markets, disrupting the supply chain. Affordable options for reliable domestic transportation are also needed. Nyssa onion growers have determined that it is cheaper for a New York buyer to ship onions from Peru than it is to purchase onions grown on the other side of the US. Agriculture is a high-value, low margin commodity. Affordable domestic and international transportation solutions are needed to keep Oregon agriculture competitive. There is not a single product that Oregon agriculture produces that cannot be produced elsewhere, so it is important that transportation remains competitive for Oregon agriculture to remain viable.



Recommended actions and investments

Key recommendations for southeast Oregon, and the Oregon agricultural community, are:

- The local agricultural community must be consulted and needs to be considered as decisions made by outside interests impact the farming and ranching community.
- State lawmakers should support plans that provide long-term solutions for water availability to provide stability to the agricultural community.
- State lawmakers should support solutions that address domestic and international transportation needs for Oregon agricultural goods.

Key facts

- » Total land area: 22.2 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 2,938
- » Land in farms: 3.9 million acres
- » Irrigated land: 657,400 acres
- » 2012 market value of agricultural products sold: \$715 million
Source: USDA NASS, 2014

Photos: The southeast corner of Oregon has been hit the hardest with a multi-year drought. • Governor Kate Brown cuts the ribbon to commemorate the Cathay Pacific Airways expansion of its freighter services to add a twice-weekly scheduled service to Portland.

Central Oregon



Introduction by Stephanie Hallock

Most people who come to Central Oregon to enjoy year round outdoor recreation, a festival almost every summer weekend, or a stay at a luxurious golfing resort probably don't think much about the agricultural history of the region. How many people know that before timber mills built the economy of now trendy Bend, sheep, cattle, wheat and potato farmers settled the area, or that the Deschutes County Fair was first known as the Annual Potato Show? I didn't until I visited the website for the Oregon Agricultural Research Center, located in Madras.

Even though I am a native Oregonian, have lived in Central Oregon, and still have family there, I, like many who live on the west side of the Cascades, paid little attention to the acres devoted to agriculture until I became a member of the state's Board of Agriculture. Now I am acutely aware of how irrigation has allowed this historically volcanic region to produce 60,000 acres of vegetable seed crops, wheat, garlic, mint and potatoes in Jefferson County. Cattle roam across public and private land throughout the region, with Crook County still a major beef producer, although huge server "farms" in the technology industry are changing the face of the landscape.

Hay is grown throughout the region and even in Deschutes County, where tourism now drives the economy, there are many small-acre horse and hay farms, several community supported agricultural farms, and thriving farmers markets. Next time you drive from Portland across Mt. Hood headed to the Bend Brewfest or Pole-Pedal-Paddle, pay attention to the acres of irrigated crops you are passing and take a look at the livestock auction yard in Madras. Or when you go to the Sisters Rodeo, think about the bull riders and the bronc riders and the barrel racers and their heritage. It is not just



a show for us city folk, the rodeo is a reminder of the farmers and ranchers who are still a vital part of Central Oregon.

Overview

Beginning farmers and ranchers (BFR), pesticide use, and climate change are important influences on the future of agriculture in Central Oregon, and the Oregon agricultural community as a whole.

Whether you are the next one in line to take over the farm, stepped away from a corporate career to spend time in the field, or got the farming bug after an internship, there is no age limit for a BFR. People from all walks of life are forming the next generation of Oregon farmers and ranchers.

However, owning and/or operating a farm is a significant investment and that in itself is a huge barrier for BFRs.

Access to affordable, productive land is one of the primary barriers to entry to farming and ranching. Increasing land values and rental rates make it difficult for a BRF to obtain a piece of property. For all intents and purposes, if land is not affordable, it is not available. An area like Central Oregon, where land is in demand for non-farming activities, is especially



Photo: A beginning farmer working the ground in a farmer training program. (Courtesy of Rogue Farm Corps)

Central Oregon

challenging for BFRs. Access to financing is another challenge. Lending institutions may not see BFRs as credit worthy, or funding to help cover gaps in operational costs may be hard to come by. Both the state and the federal government have made efforts to create new financing sources or tweak existing programs for the benefit of BFRs, but the usability of the programs could be improved.

No matter your production system, every farmer and rancher will be faced with at least one pest in his or her career. Pesticides are one tool, and sometimes the only tool,

farmers can rely on to protect their crops.

In an area increasingly dependent on tourism and resort life like Central Oregon, pesticide use and impacts on water quality are of concern to some. Rafters and

fishermen expect clean

and pristine rivers, and families boating and swimming on Lake Billy Chinook do not want to worry about pesticides. Golfers may not think about the chemicals needed to provide the region's many lush courses, but those chemicals are essential. The Pesticide Stewardship Program (PSP), a program jointly administered by ODA and DEQ, engages local pesticide users like farmers, ranchers, and other stakeholders throughout the state. The Partnership explores innovative pesticide management strategies to find ways to reduce pesticide levels while measuring improvements in water quality and crop management. One



such partnership was recently formed for the Middle Deschutes.

Farmers are also concerned that climatic conditions for crops are changing. As farmers see changes in weather patterns, traditional crops become stressed and subsequently more susceptible to pests. Changes in climate could also impact rainfall patterns, which would influence what can be grown in the region. In Central Oregon, water availability in terms of amount and timing influences what can and cannot be grown in this region. Without water, arid Central Oregon agriculture would be limited to dry land farming and cattle. New production practices or modifications in cropping systems may be required to adapt to changing climate patterns. While much remains unknown about the impacts of climate change, there is no doubt that the issue is incredibly important to agriculture, especially in the already arid parts of the state.



Photo: Carrot seed field with Mt. Jefferson in the background. • Hay bales in a field near Paulina, Oregon.

Recommended actions and investments

Recommendations for central Oregon, and the Oregon agricultural community:

- Evaluate and retool beginning farmer and rancher programs to increase effectiveness.
- Continued support of the Pesticide Stewardship Partnership Program.
- Support research efforts that will help the Oregon agricultural community respond to climate change.

Key facts

- » Total land area: 5 million acres
Source: Oregon Secretary of State, 2014
- » Number of farms: 2,308
- » Land in farms: 1.8 million acres
- » Irrigated land: 137,000 acres
- » 2012 market value of agricultural products sold: \$128 million
Source: USDA NASS, 2014

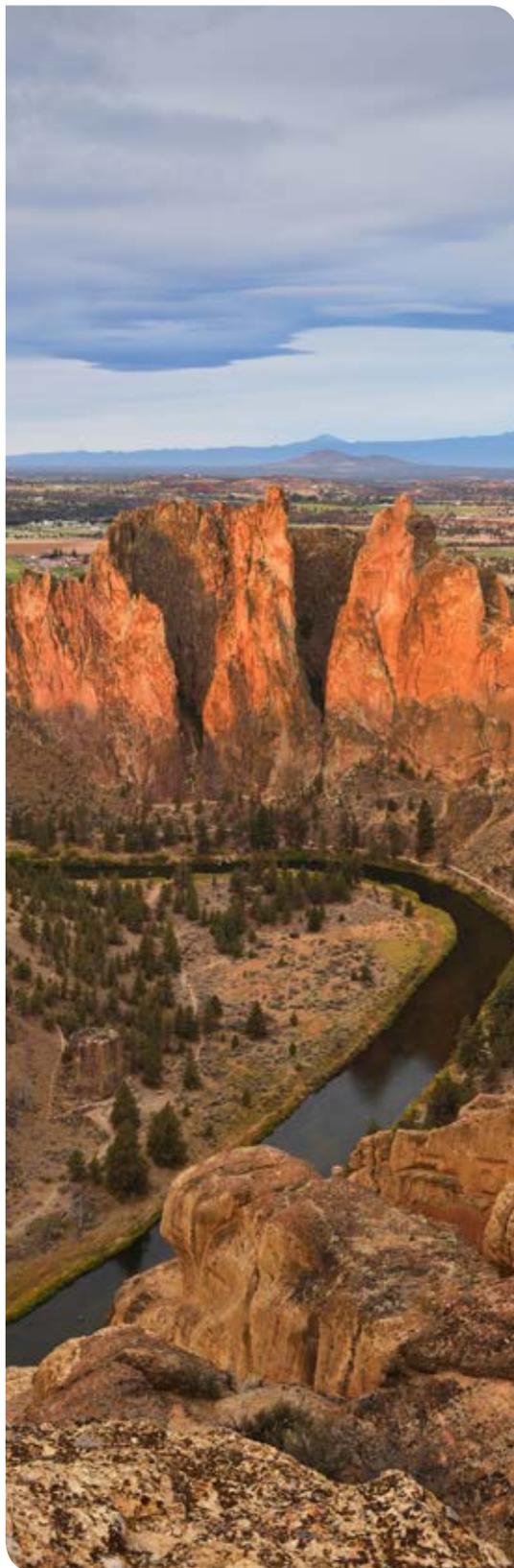


Photo: Smith Rock State Park in Terrebonne, Oregon.

PROGRESS REPORT

The State Board of Agriculture prepared a report to the Legislative Assembly in 2015. Agricultural issues reported on included: market access, transportation, entry into agriculture/farming, labor, Food Safety Modernization Act, and water. These issues continue to appear in this report, as they remain important topics to the agricultural and food sector.

Looking back to the 2015 Board Report and its recommendations, the Governor launched the Trade and Logistics Initiative, access to Oregon's beginning and expanding farmer loan program was improved, and ODA received the opportunity to pursue federal funding to support education and outreach efforts for the Food Safety Modernization Act. New investments were made in agricultural water quality, water infrastructure, and Oregon's Farm to School Program. Each of these actions related to recommendations in the 2015 Board Report.

Issues regarding agricultural labor remain, and investments in value-added opportunities for Oregon agriculture are still needed.

Some of the regions in Oregon also saw legislative actions that coincided with recommendations from the 2015 Board Report. These included investments in Sage-Grouse habitat protection/restoration, continued support for the Wolf Depredation Compensation and Financial Assistance Grant Program, and approval of the wetland pilot project to provide Tillamook County greater input during implementation of wetland projects next to EFU lands.

Although not in the 2015 report but a benefit to Oregon's agriculture and food sector, the legislature made investments in ODA and Oregon State University. These two entities provide important services and resources to fishermen, farmers, ranchers and food processors across the state.

Significant legislation such as minimum wage increase and new sick leave laws that passed last biennium have left many in agriculture concerned for the future of their



The Invasive Species Education Station provided examples of insect and noxious weed pests in front of the Oregon State Capitol.

operations. Since the industry is a “price taker” and not a “price maker,” farmers and ranchers are trying to figure out how to adapt to these increased businesses costs while remaining competitive in the market place.

It is not just these individual bills that have the agricultural community concerned, it is the cumulative impact of legislation. Legislation that impacts Oregon's agricultural and food sector needs to be looked at holistically, not individually.

In addition to giving consideration to the cumulative impact legislative actions have on the agricultural and food sector, individual recommendations for the 2017 board report appear after each section and are also available in an attachment that accompanies this report.

An investment in Oregon agriculture is an investment in the future of the state.

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ACKNOWLEDGEMENTS

We would like to thank the following individuals for providing insight and information into the regional sections of the report.

Bill Burhig, Crop Agent, OSU Malheur County Extension

John Burt, Executive Director, Farmers Ending Hunger

Nellie McAdams, Farm Preservation Program Director, Rogue Farm Corps

Mike McCarthy, Orchardist, Parkdale
Staff from the Oregon Department of Agriculture

