A Strategic Plan

For

The Eastern Oregon Agriculture & Natural Resource Program

Oregon State University

Prepared by

The Faculty and Advisory Committee

Eastern Oregon Agriculture & Natural Resource Program

5th Draft; July 15th, 2011

Oregon State University Eastern Oregon Agriculture & Natural Resource Program

INTRODUCTION & OVERVIEW: The following strategic plan was prepared by the faculties of the OSU Agriculture Program at Eastern Oregon University and the faculty of the Eastern Oregon Agricultural Research Center (Burns and Union Stations). These units will be merged effective July 1, 2011 as part of an ongoing OSU College of Agricultural Sciences effort to improve efficiencies and maximize program delivery, while operating within a reduced budgetary environment. It is our sincere belief that the following plan provides the framework for teaching and research programs that will prosper and deliver a valuable commodity to Eastern Oregon and beyond. In fact, we intend to make the Eastern Oregon Agriculture and Natural Resource Program a center of excellence with national recognition for Rangeland Ecology and Management as well as Sustainable Rangeland Beef Production Systems.

Our strategic plan conforms well to the ideals set forth in Oregon State University's strategic plan and will clearly accommodate the *learning goals for graduates* (LGGs) of Oregon State University. Specifically, our plan will address two of the three *Signature Areas of Distinction* outlined in phase II of the OSU Strategic Plan. The integration of undergraduate students in ongoing research at the Branch Experiment Stations, added emphasis on experiential learning, and increased emphasis on knowledge of global beef production will make this program unique. In addition, our plan is built on maintaining and expanding the seamless cooperation with the USDA in Eastern Oregon which includes the Agricultural Research Service and the Pacific Northwest Research Station of the Forest Service. As a result, we will work well with the *USDA Roadmap for Agricultural Sciences*. It is our sincere belief that this strategic plan will be used as our blueprint for building a highly innovative and strategic future for OSU research and education program in Eastern Oregon.

Overview of OSU Agriculture Program: The OSU Agriculture Program was established in September 1984 following unanimous approval by the Oregon State Board of Higher Education. The program was created as a cooperative program between Oregon State University and Eastern Oregon University (formerly Eastern Oregon State College) and evolved following a 1980 memorandum of understanding between OSU and EOU. That agreement committed each

institution to cooperate and coordinate policy, programs, activities, and services in the ten eastern Oregon counties that form the primary service area of EOU.

State Board records (Meeting #513, May 1984) indicate that prior to the creation of the OSU Agriculture Program, EOU offered a degree (BS) in Agribusiness and Natural Resource Management (Granting Authority, 1976) and that OSU faculty stationed at the Union Experiment Station contributed agricultural coursework (EOU course numbers) to that degree program. The proposal to create the Agriculture Program ended the Agribusiness and Natural Resources degree program at EOU and transferred the authority to offer a replacement degree to OSU (Department of Agricultural and Resource Economics). In return, OSU established the Agriculture Program on the campus of EOU and permanently stationed faculty positions at the site to provide undergraduate agriculture instruction and offer OSU agriculture degree programs. The intent of the Agriculture Program, was to cooperatively extend the services of both institutions to '(1) agriculture and agriculture-related business in eastern Oregon, (2) young people of the eastern Oregon region who wish to remain in eastern Oregon and participate in the growing economy of the region either on family farms and ranches or as employees of agriculture-related enterprises, and (3) students in the technical agriculture programs of Blue Mountain and Treasure Valley Community Colleges who wished advanced training in business aspects of agriculture oriented to eastern Oregon industry' (State Board Meeting Notes, May 1984).

The need and cooperation described in the preceding paragraphs was captured in an OSU/EOU program memorandum of agreement signed in 1985. The agreement outlines areas of program cooperation, responsibilities, implementation and structure. The original agreement remains intact today and continues to guide program expansion, cooperation and assign institutional responsibility. Permanent funding for the Agriculture Program was established through line item approval during the 1985-1987 state legislative sessions (Oregon University System Biennial Funding Request).

The support and resilience of the Agriculture Program within the intended ten county service area of EOU is notable. The program began with 27 undergraduate students enrolled in the Agricultural Business Management degree program in fall 1984. Today the Agriculture Program student body represents the 5th largest (CAS Student Numbers Report, Fall 2010) concentration of OSU undergraduate students majoring in the College of Agricultural Sciences when compared to the departments based in Corvallis. Given the population size differences that exist between western Oregon and the EOU Service Area it is obvious that the Agriculture Program is providing a significant service to the agriculture community of Eastern Oregon.

Research conducted by faculties in the Ag program has been built on a foundation of cooperation with faculties in Corvallis, branch stations as well as federal scientists. Most notably research on rangeland weeds, watershed management and more recently livestock distribution and their interaction with wolves have been of regional, national and international interest.

Overview of the Eastern Oregon Agricultural Research Center (EOARC Burns and Union Stations). This Branch Experiment Station contains two separate fully functional rangeland livestock research stations. The Union Station is Oregon State University's first branch research station (established in 1901). The station's primary mission is to conduct research unique to beef production in the intermountain west. The Union Station contains the oldest "university owned" agroforestry research sites and is uniquely suited to address long-term sustainability questions relative to domestic livestock grazing and subsequent impacts on wildlife and vegetation diversity on forested rangelands. In recent years, threatened and endangered species (including Chinook salmon, bull trout and steelhead) and a rapid increase in predators (including mountain lion, bear and wolves) has created a significant research need to address the issues these changes create for agriculture in the region.

The Burns Station is similar to the Union Station in terms of facilities and resources, but, is located in an entirely different ecosystem. The "sagebrush steppe" or Great Basin region extends from Southeastern Oregon to southern Wyoming and extends south through most of Nevada and Utah. This region is often referred to as the "cold desert" and is dominated by high elevation rangelands (greater than 1000 meters) and annual precipitation that is highly variable and often less than 20 cm per year. As a result, this region is challenged by limited and variable forage resources. The region has substantial issues with invasive species that include native species such as Juniper and Sagebrush, as well as, non-natives such as cheatgrass, medusahead, knapweeds and perennial pepperweed .

Both research stations have a long history of providing research that is specific to their region but recognized on a national and international basis. These locations have demonstrated proactive research programs in multi-disciplinary, multi-agency research for the past 3 decades. In addition, the branch stations have a long history of conducting research that addressed the interface of domestic livestock grazing and biodiversity long before these became known as a challenging issue for public and private rangeland management throughout the western United States. Both stations have long-term cooperative relationships with the USDA. The Burns Station has a strong partnership with the USDA Agricultural Research Service with 8 USDA ARS research scientists stationed on-site that are conducting rangeland ecology research in the Great Basin. OSU faculties at the Burns Station provide the beef cattle research component to the rangeland ecology research. The Union Station, in turn, has a strong partnership with the USDA Forest Service Pacific Northwest Research Station in La Grande. This is particularly evident in the collaboration that has developed with the Starkey Project. That partnership with federal wildlife and forest ecologists has allowed Station faculty to craft a unique team that addresses difficult questions plaguing the long-term management of forested rangelands and the agriculture communities located in the mountain valleys throughout the western US.

CHALLENGES & OPPORTUNITIES: Funding for Land Grant Universities and associated agricultural research has been on the decline for several decades. As the stability of recurring base funds continue to decline, most disciplines in agricultural research have looked to

competitive grants and contracts (industry partnerships) to fill their budgetary needs. For the most part, Oregon State University has been successful in acquiring funds to augment funding for research programs. EOARC (Burns and Union Stations) has generated, on average, $250,000 in annual sales over the past decade and grants/contracts that range from $250,000 to $1,000,000 annually. With the recent economic downturn, and, as a result, dramatic decline in State revenues; the state of Oregon will continue the trend of reduced support to the Oregon University System. In turn, as each of the eight public universities in Oregon struggle with shrinking base funds, they will need to provide for basic fundamental needs and reduce other activities that are not considered fundamental to their mission. In regard to Oregon State University's College of Agricultural Sciences, the Statewide Programs (Agricultural Experiment Station, Forestry Research Station, and Extension) will likely continue to see dramatic reductions as the university continues to struggle to fulfill basic needs of a growing undergraduate population on the Corvallis campus (24,000 students; Fall 2010).

The OSU Agriculture Program at Eastern Oregon University has already transitioned from the original 6 faculty FTE (five, 12 mo.; one, 9 mo.) to 4+ FTE (two, 12 mo., two, 9 mo. & one 9 mo. instructor) in 2010 and will be reduced to 3 FTE in 2012 if faculty replacement is not authorized. Support staff (office coordinator) for the Ag program has remained at 1 FTE since program creation. These staffing constraints have and will continue to occur even though student numbers within the Ag Program have remained strong, shown significant growth in degree programs key to its mission and continue to make significant contributions to undergraduate education and research. EOARC (Burns and Union Stations) programs have seen similar reductions in staff. Transitioning from 7 research scientist to 5 and reducing research support staff by 4 FTE.

In response to the declining resources, the OSU College of Agricultural Sciences has suggested that EOARC and the OSU Agriculture Program be merged. While this is not a new concept, economic pressure and the turnover of faculty due to career decisions and pending retirements make this merger a necessity to maintain program delivery to the Eastern Oregon region.

ADMINISTRATIVE STRUCTURE:

The merged faculty will have an administrative structure similar to a branch research station (Figure 1). The combined faculties of the Union Station and OSU Agriculture Program will have one budget, centrally located, with the ability to participate as an independent CAS unit in priority staffing, budgets, and planning activities. While the Burns Station will be part of our faculty base and be included in staffing and program planning, this location will manage a separate budget specific to their location. This will allow both locations to respond to regional needs, set their own priorities and goals and be responsive to the site specific needs of program delivery for our students and stakeholders in Eastern Oregon and the rest of the region. The administrative structure of the new unit will not function like an academic department. Our

faculty will retain promotion & tenure in departmental academic homes on the Corvallis campus. Faculty responsible for delivering undergraduate programs will make every effort to cooperate and participate as members of departmental teaching and curriculum committees on campus. Course numbering and content will conform to University policy, individual degree curriculum and catalog content. If regional needs are identified that would support a specialized program or course, their development would conform to OSU policy for program and course development. Likewise, development of position descriptions will be conducted by our united faculty with the specific charge to meet the needs of our regional stakeholders and students. It will be critical that the Program Head coordinates these activities with the support and input from CAS administration and department heads to insure that the statewide needs are sufficiently addressed. Similar to a Branch Experiment Station, successful administration is often reflected in developing strong cooperative relationships with campus departments. However, departmental input will be advisory in recognition that departmental priorities may run counter to regional needs and long-term program planning.

The Head of the Eastern Oregon Agriculture and Natural Resource Program will answer to the Associate Dean responsible for the combined program. Dr. Cary Green will serve as the Associate Dean and primary CAS contact for the EOANRP. In turn, the OSU Agriculture and Natural Resource Education program coordinator and the Superintendent of the EOARC Burns Station will answer to the Head of the EOANRP.

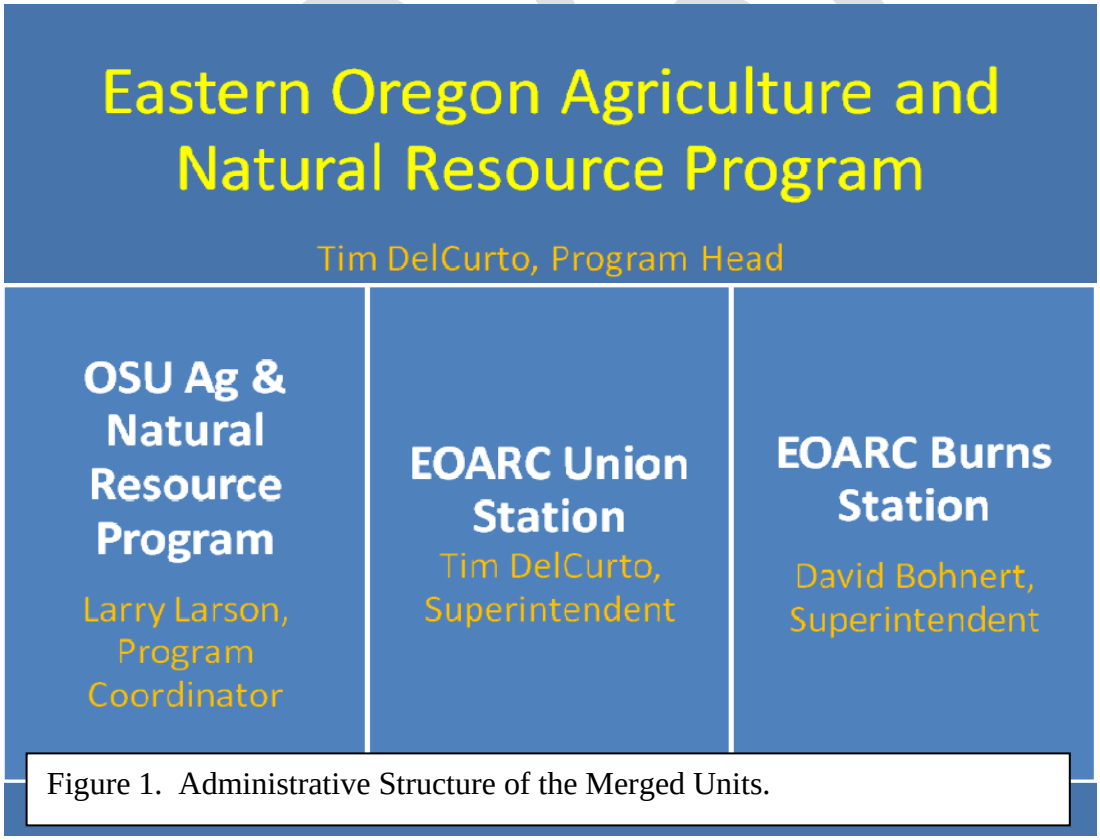


Figure 1. Administrative Structure of the Merged Units.

GUIDING PRINCIPALS: Currently, the OSU Agriculture Program at Eastern has the largest undergraduate program in Rangeland Ecology & Management in North America. This major has seen substantial growth in the past decade and provides a unique service to the Western US. Likewise, the EOARC has a long and productive history of providing research that addresses sustainable rangeland ecology and management of forage-base beef production systems. Our long term goal will be to maintain and improve our education and research programs.

Vision Statement

The Eastern Oregon Agriculture & Natural Resource Program will provide education, research and outreach that reflect the needs of Eastern Oregon while meeting the highest standards of our profession. To attain this level of excellence we will;

1. Recruit, develop and retain excellent faculty and staff
2. Maintain, and continuously invest in equipment and facilities to accommodate education and research
3. Continue to develop and maintain our strong multi-disciplinary, multi-agency, national, and international cooperative relationships that increase our capacity to conduct high impact research, educational, and outreach programs
4. Produce undergraduate and graduate students who excel in their contribution to the Agriculture and Natural Resource profession on a regional, national, and international level.

Mission Statement

Outstanding classroom instruction, high quality experiential training, regionally relevant research that is utilized and respected nationally/internationally, and easily accessible outreach are the foundation of our Mission. Our program emphasizes the integration of science, technology, and policy to improve the economic, ecological, and social sustainability of Eastern Oregon.

BENEFITS OF MERGER

Integration of EOARC Scientists into Program: Scientists at EOARC have demonstrated excellence in research with several programs that are nationally and internationally respected. In addition, these same scientists have a long history of cooperation in undergraduate and graduate instruction with the agriculture program and parent departments. Formalizing this relationship and having faculty interact more with students will only broaden student educational experience and understanding of ecology, rangeland management issues, and beef production systems in the Western US. Therefore a program priority for this merger will be to explore and develop opportunities that utilize this experience in modular classes and internships. The Ag

program is unique among the undergraduate degree delivery programs found in the College of Agriculture. Upper division coursework in the program are attended almost exclusively by agriculture students seeking a major or minor in the discipline. As a result, attention to advising and class sequencing can allow cohorts of students to attend off-site instruction. Preliminary discussions on this subject have been positive with a several opportunities being identified that would bring student education into ongoing projects as well as field instruction at both the Burns and Union Stations. Discussions have also revealed opportunities where this format could be extended to include cooperators of both research stations including the USDA Agricultural Research Service, the USDA Forest Service, Oregon Department of Fish and Wildlife, and The Nature Conservancy. The foundation of the modular concept is to establish cohorts of students that can attend an off-site class without encountering the scheduling difficulties that are present when uncoordinated class and student scheduling occurs. Depending on the situation the module may occur as a condensed September course, weekend course or an extended course (ie one week) in spring term with off-site housing being provided at the branch station or other location. Modular courses will involve providing curriculum in short all day scenarios with substantial opportunities for "hands on" experiences. An example class might be a one or two week modular course with an average of 4 lecture hours per day (ie. mornings) with afternoons spent in the field or seeing examples of the mornings lecture topics. This approach will provide a much stronger experiential component to the undergraduate curriculum and diversify the opportunities of the students to obtain information from a variety of skilled professionals. As a result, students will be strongly grounded in research approaches and the comprehensive nature of our Land Grant University. They will also be well versed on the latest research paradigms, familiar with the scientific method, scientific ethics, and the realities of applying science to policy development.

Integration of Students into EOARC: Another substantial benefit of the merger of these programs will be the integration of the students into the research and management programs to the two research stations. We will use individual students more in ongoing research programs and management of the two stations. Undergraduate student research opportunities will be used to optimize student interaction with current and future research programs and projects. This interaction currently occurs in an informal setting that will be formally coordinated following the planned merger. Research opportunities will include animal science projects, rangeland ecology and management projects, fisheries and wildlife projects, and agricultural business and management applications. The students will benefit from the "hands on" experience with research and the research will benefit from having a labor pool of willing and interested students. Additionally, many of the current state and federal funding programs emphasize the role of students in grant funded projects. Obviously, by training and developing young people to understand the value of science in society we will be making substantial contributions to our students and the generation that these students serve in the future.

We will also expand our usage of students in the labor management of the two rangeland livestock research stations. We will routinely have opportunities for students who want to gain experience in animal husbandry, irrigation, crops, and routine ranch maintenance. Particularly with students interested in land/ranch management opportunities, we will provide opportunities to work at the research stations and, when possible, involve them in discussions concerning the rationale and need for the specific management practices utilized at the research locations. It is our goal that each station will have progressive and innovative management systems that provide an example of optimal management for the ecosystem/region that the stations serve.

International Exchange and Internships: Our merged program will have a strong emphasis on experiential learning and international opportunities. Our agricultural industries will continue to be strongly affected by world markets in the future. Opportunities for greater export of agricultural commodities as well as competition from other countries will need to be understood and explored by our students. We will continue with the "Exploring World Ag" curriculum and travel experience, but, will request that it be more focused as it is applied to our OSU Curriculum at Eastern Oregon University. Specifically, we would request that our courses emphasize rangeland ecology and beef production, and, as a result, have travel opportunities confined to countries that demonstrate strong beef cattle production potential and/or have rangeland ecology and management similarities. One of the areas of international learning should include the country of Brazil. We have a faculty member (Reinaldo Cooke, Burns Station) that has experience with Brazilian agriculture and has proposed a student exchange opportunity for undergraduate students (see Brazil Internship Exchange Program; Appendix 1). On a world-wide basis, Brazil has emerged as a leader in beef cattle (approximately 180 million head) and a Brazilian company (JBS Global) is currently one of the world's largest meat processor and exporter. Understanding beef production systems in Brazil and having an exchange of students between the two countries is a substantial benefit to students.

Currently, EOARC has an agreement with four different institutions in Brazil (College of Veterinary Medicine and Animal Sciences, São Paulo State University; College of Veterinary Medicine and Animal Sciences, University of São Paulo; College of Animal Sciences and Food Engineering, University of São Paulo; School of Veterinary Medicine and Animal Sciences, Federal University of Goias) to provide potential internship opportunities for undergraduate students. As a requirement for their degree, senior undergraduate students from the aforementioned universities in Brazil must intern for approximately 6 months at research institutions, private industry, or consulting companies. At the EOARC, we offer these students a unique, international opportunity to experience research and extension endeavors. Since 2009, we have hosted 6 undergraduate students from Brazil. During their internship at the EOARC, students are exposed to several aspects of research and extension, including cattle husbandry, laboratory work, composition of scholarly articles and presentations, organization of workshops, and consulting with industry personnel and stakeholders. At the end of the internship period, we have helped prepare these students to effectively face the future challenges that may arise during

their professional careers. We hope to expand these collaborative efforts and, when possible, pursue grants to increase this capacity for the undergraduate and graduate research and extension programs of our faculty.

Internships will be emphasized for our undergraduate degree program. For the Agricultural Sciences degree program, internships will be required and will be tailored to fit the student's goals and career interest emphasis. Possibilities for internships will include but not be limited to:

Oregon State University:

- EOARC Burns and Union Stations (Animal & Rangeland Science)
- CBARC (Pendleton; Dry Land Wheat Production)
- HAREC (Hermiston; Irrigated Crops)
- MARC (Ontario; Irrigated Crops)
- OSU Extension Programs

State & Federal Agencies:

- USDA Agricultural Research Service
- USDA Forest Service
- NRCS
- SWCD
- ODF&W
- Idaho Fish & Game

Conservation Groups:

- The Nature Conservancy (TNC; Land Management & Conservation)

Area Ranches:

- The Parker Ranch (Enterprise; Innovative Beef Production Systems)
- The McClaren Ranch (Joseph; Innovative Range Beef Production System)
- Thomas Angus Ranch (Baker City; Innovative Purebred Angus Production)
- Harrell Hereford Ranch (Baker City; Innovative Purebred Hereford Production)
- Pine Valley Ranch (Halfway; Innovative & Extensive Cow/Calf Production System)

Silvies Valley Ranch (Seneca; Diverse with extensive emphasis on recreational opportunities)

Agricultural Businesses:

Agri-Beef (Beef cattle feedlot management)

Performix (Beef cattle nutrition and supplement sales)

Beef Northwest (Beef cattle feedlot management)

Pendleton Grain Growers (feeds, supplements, and commodity sales)

Cenex Harvest States (livestock feeds, supplements, and sales)

Northwest Farm Credit Services (agricultural credit and loans)

Others:

Eastern Oregon Livestock Show

Grande Ronde Model Watershed

ADVISORY COMMITTEE

The EOANRP will rely on and utilize an advisory committee. The success of experiential learning opportunities will be enhanced by close relationships and communication with the Natural Resource Management and the Range Livestock Industries. Likewise, the ability to meet College of Agricultural Sciences 25% industry contribution to funding AES research programs will be enhanced by stronger, programmatic support from stakeholders.

Our advisory committee has been expanded to reflect the diversity of stakeholders served by our teaching and research programs (Table 1). While the ranching industry is represented, we have also included key cooperators and other natural resource interest that are important to livestock and natural resource management in the Western US. Where possible, we have also included key industry representatives that are former OSU Students (at Eastern Oregon University).

The advisory committee will have multiple roles. First, this group will be used as a conduit to the agriculture and natural resource stakeholders in Eastern Oregon. Research and educational programming will be presented to the advisory committee during annual meetings and other outreach events. The advisory committee will also serve as a quasi “political action” support group for Oregon State University. The key to successfully using an advisory committee will be in responding to their advice, questions and queries in a manner that is responsive to their needs and the region as a whole. Communication between the Program head and the members of the advisory committee needs to be a priority for the unit administrator.

Table 1. Current Members of the Eastern Oregon Agriculture and Natural Resource Program Advisory Committee.

Last Name	First Name	Occupation	Email Address	Phone
Adkison	Steve	EOU Provost	sadkison@eou.edu	541-962-3544
Fields	Jeff	The Nature Conservancy	jfields@tnc.org	541-426-3458
Hughes	Kevin	Rancher	kajmhughes@hughes.net	541-676-9909
Johnson	Bruce	ODF&W	bruce.k.johnson@state.or.us	541-962-6556
McClaren	Scott	Cattle Rancher	mcclaren@eoni.net	541-432-0355
Mehren	Mike	PhD - Cattle Nutrition Conslt	mehrens@eotnet.net	541-567-8996
Miller	Scott	Union Cnty Cattlemen's Pres	scottmiller@uniondatasolutions.com	541-562-9142
Mills	Randy	OSU Extension	randy.mills@oregonstate.edu	541-278-5403
Murchison	Jim	Rancher	jaranch@uci.net	541-962-5181
Nichols	Markus	TVCC	mnichols@tvcc.cc	541-881-5968
Parsons	Cory	OSU Extension	cory.parsons@oregonstate.edu	541-523-6418
Seavert	Jake	PGG	jseavert@pggcountry.com	541-215-2342
Svejcar	Tony	USDA Burns	tony.svejcar@oregonstate.edu	541-573-8901
Thomas	Rob	Rancher	rob.thomas@thomasangusranch.com	541-403-0562
Toomey	Lisa	CBCC	ltoomey@columbiabasin.edu	509-521-0563
Vavra	Marty	USDA FS	mvavra@fs.fed.us	541-962-6561
Wells	Micah	Cenex Harvest State	micah.wells@chsinc.com	541-561-8177
Williams	John	Wallowa County Extension	john.williams.1@oregonstate.edu	541-426-3143
Martin	Curt	Rancher	vprchnp@eoni.com	541-898-2361

The above advisory board reviewed the strategic plan and had opportunity to provide feedback at our March Advisory Meeting at Eastern Oregon University's Hoke Center (Room 201; March 21, 2011). In general, the advisory group supports our strategic plan and understands the need to reduce curricular offerings due to reduced FTE. They strongly support the more focused nature of the teaching and research program in respect to supporting the center of excellence in Range Ecology and Management, as well as Range Beef Production Systems.

PROPOSED DEGREE PROGRAMS

The OSU Agriculture Program was designed with the goal of six faculty providing three academic majors (two faculty per discipline). Other degrees, such as Natural Resources and General Agriculture, were added when pre-existing curriculum could be organized to satisfy

degree requirement without significant inputs beyond additional advising. Our approach to future staffing reflects a number of goals and principles (see mission statement and vision):

1. The degrees offered would provide the most benefit to the students we serve
2. The degrees offered would be matched to the FTE that we expect to have in the future
3. Our education program would be unique and strive for excellence by stressing a focused program with emphasis on rangeland ecology and sustainable beef production systems.
4. Our new faculty have teaching expectations that match their FTE split and resources/time necessary for promotion and tenure.
5. Strive for curriculum efficiency and integrate EOU classes into OSU degree offerings where possible.

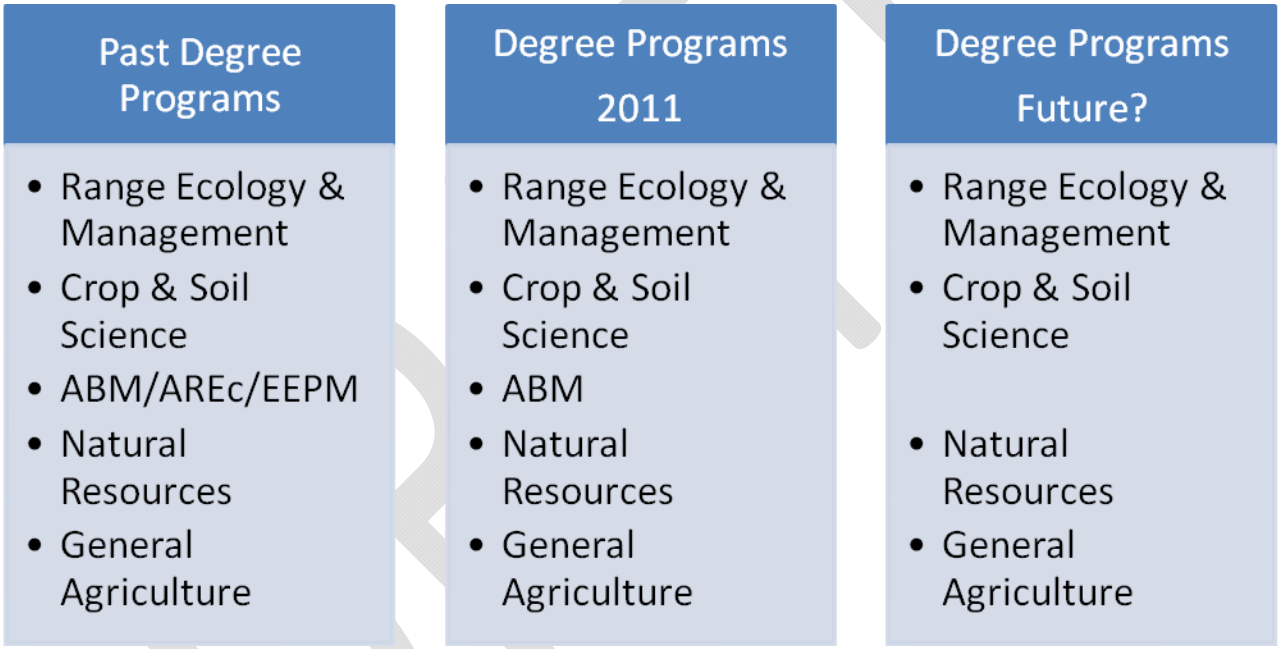


Figure 2. Current, Transitional and Future Major Degrees for the OSU Ag & Natural Resource Program at Eastern Oregon University.

The OSU Ag & Natural Resources Program faces a number of challenges adjusting to a transitioning faculty and changing program emphasis. The Agriculture Business Management Curriculum will be discontinued following the 2012 school year. This planned phase-out will allow students currently admitted to that portion of the program to complete their ABM program of study. Transitions in the Crops and Soil Science faculty present a second challenge for program delivery. Coursework delivered by CSS faculty are required within the curriculum of each major offered by the Ag program. In total these courses have allowed the program to offer a CSS degree and minor without requiring additional resources. A strategy was implemented

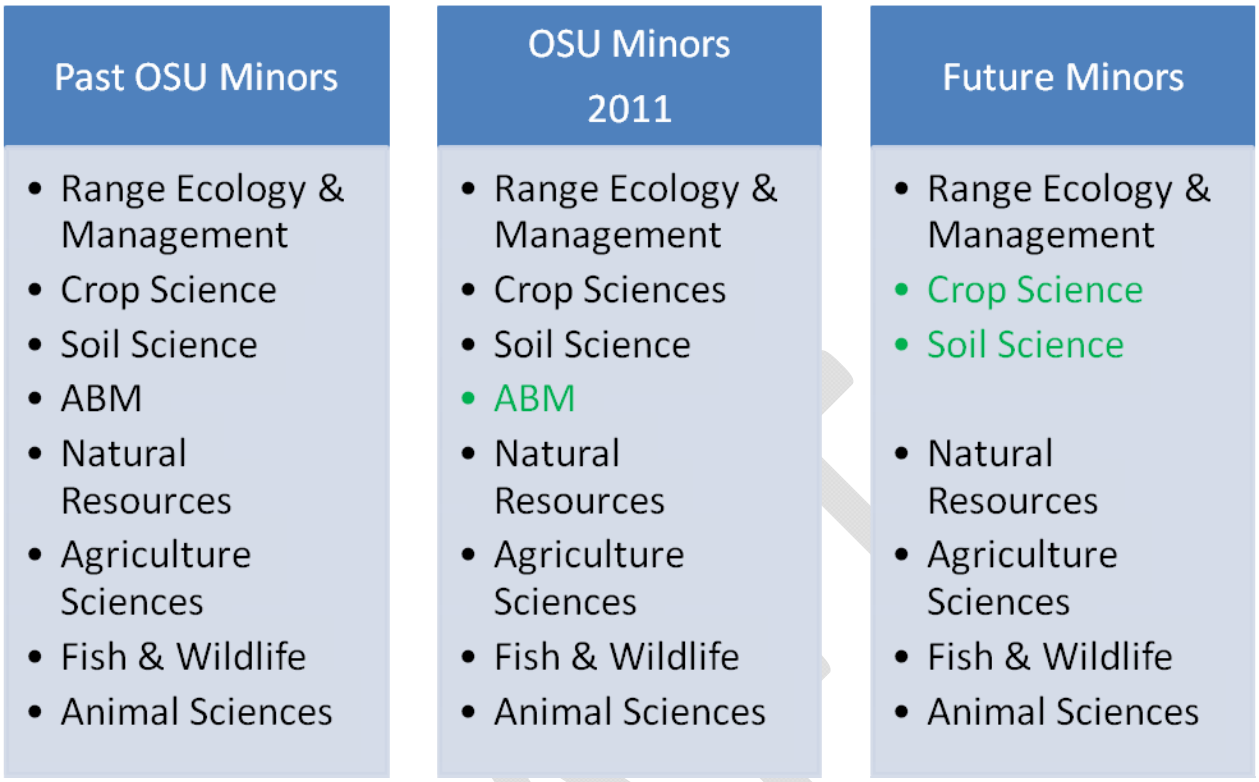


Figure 3. Current, Transitional and Future Minors for the OSU Ag & Natural Resource Program at Eastern Oregon University.

over the past 2 years to attract students from neighboring community colleges (2 yr Associate Degree Programs) to complete 4 year degree programs at Eastern. This effort has resulted in a 3-fold increase in CSS students and a 10 fold increase in General Agriculture students many of whom are seeking a crop and soil emphasis. We believe this recruitment activity shows every indication of making Crop and Soil Science a viable program that can fill a growing need for crop and soil science professionals in Eastern Oregon and Washington. As a result, it seems prudent to continue the current degree and minor into the future, recognizing that this decision will ultimately need to reflect main campus departmental and degree program mergers, our ability to gain authorization for faculty replacement, industry support, and student demand.

Our approach over numerous faculty meetings, retreats and conversations during the past year is to structure this program for success. In our opinion, success can only be accomplished by having a plan that fits your expectations for FTE. For teaching FTE, we propose that .25 teaching FTE is the equivalent of two courses per year (3 or 4 credit hour course). It is also critical to develop positions that optimize opportunities for success. Specific criteria include the research area of expertise, the ability to acquire grants and contracts, and the regional needs of stakeholders and agencies. Therefore, our plan will emphasize two primary degrees over the next five years; Rangeland Ecology and Management, and Agricultural Sciences (formerly

General Ag; Figure 2). These two degrees show the greatest potential for growth and courses required in their curriculum will allow us to retain 2 additional degree programs that will contribute a significant but lesser number of students to the program. We believe this combination of program delivery will result in the most efficient use of resources and will give us the best opportunity to provide the kinds of curriculum that our students need for future success. We will also conduct a detailed curriculum evaluation to reduce curricular redundancies and better integrate EOU curriculum in the EOANRP curriculum.

OTHER CONSIDERATIONS

Our strategic plan demonstrates our desire to reduce our degree offerings but become a center of excellence in Range Ecology and Management as well as Sustainable Beef Production Systems. We believe our more focused, experiential approach will actually attract a bigger, more focused, undergraduate student population. As typical of past practices, we routinely get students who express interest in degrees that are not offered on the Eastern Oregon University Campus. When that happens, we will advise and encourage students to consider transferring to the Corvallis campus after their first academic year.

I. Staffing Plan For the OSU Agriculture & Natural Resource Program at Eastern:

a. Range Ecology & Management

i. Two Faculty Positions:

1. 60:40:00 Teaching/Research/Extension 9 month Assistant Professor
    a. Ryan Limb, hired December 16, 2010
    b. Research component is placed with EOARC and will become an important part of USDA FS, Hall Ranch, & TNC research projects
    c. Research FTE will be traded with Dr. Chad Mueller who currently is 100% AES.
2. 60:40:00 9 month Assistant Professor
    a. Position will replace Larry Larson upon retirement
    - 60:40 teaching and research Assistant Professor. This position would be designed to provide Rangeland Riparian ecology expertise with the ability to work at the watershed level and have a hydrology background with the focus of the safe capture, storage and release of water in a watershed. Other areas would include and compliment ongoing wildlife, rangeland, and ungulate ecology research. Position would provide GIS and landscape

ecology expertise to our research programs and undergraduate education program

b. <u>Crop & Soil Sciences:</u>

i. One Faculty Position & One Instructor

1. 60:40 9 month Assist Professor
    a. Proposed position will replace Dr. Andy Huber who has indicated he will retire March, 2012.
    b. Research FTE will be exchanged for EOARC Union Station Faculty FTE with a Priority Staffing Request.
    c. Research focus would be on pasture and rangeland forages that support and enhance beef production systems for eastern Oregon. This research area is missing for the region and state. This position could easily be developed to partner with forage grass seed industries and/or land management agencies that require native seed production for rehabilitation work on federal lands. In addition, this position would work in sustainable forage production systems that optimize domestic livestock production and water conservation.
2. 9 month Instructor Position ($60,000 base salary on 1.00 FTE equivalent.

***Note:** We recognize that the number of Crop and Soil Science majors at Corvallis and La Grande do not meet university metrics for program graduation rates. However, student credit hour generation in this discipline has consistently been the highest for the Agriculture Program. Given that coursework offered in this discipline is integrated into the curriculum of our primary degrees, the need for Crop & Soil Science curriculum will remain the same or increase in the future. In addition, Crop & Soils Science faculty will be active in the Agricultural Sciences degree program and will advise students interested in Crops/Farm Management.

CSS Courses required for Rangeland and Gen. Ag degrees:

CSS 305	Principles of Soil Science (4)
CSS 306	Problem Solving: Soil Science Appl. (1)
CSS 310	Forage Production (4)
CSS 315	Nutrient Management & Cycling (4)
CSS 430	Plant Genetics (3)
CSS 440	Weed Management (4)
CSS 466	Soil Morphology & Classification (4)

CSS Courses offered that currently meet Baccalaureate Core

CSS 381	Ag/Pwr/Disc/Survival (3)
CSS 330	World Food Crops (3)
CSS 395	World Soils (3)
CSS 315	Nutrient Mgnt & Cycling (4)

c. Natural Resources:

i. This degree program will be managed by the Agriculture program faculty with specific faculty taking responsibility for the options.

ii. Currently two options will be in place for the upcoming academic year:

1. Arid Land Ecology (REM Faculty)
2. Fisheries & Wildlife (Pat Kennedy)

d. Agricultural Sciences:

i. This degree program will be more widely promoted to include/serve those student interested in agricultural-ranch-land management.

ii. We will staff this degree program with Faculty FTE associated with Tim DelCurto (.25), Chad Mueller (.40) & One Instructor:

1. 12 month Instructor Position ($60,000 base salary on 1.00 FTE equivalent.
   a. Position will teach curriculum that includes
      i. AREc 211 Agricultural Management
      ii. AG 421 Leadership Development
      iii. AEd 518 Summer Ag Institute Sesson II
      iv. EOU OSU Ambassador Program
   b. This position would be responsible for internship coordination for the Agricultural Sciences degree.
   c. This position will also assist the Program Head with student recruitment.

e. Agricultural Business Management:

Budget cuts and faculty career decisions will result in the termination of the Agricultural Business Management degree after June 2012. The following is the policy per AREc and CAS Dean's Office email dated November 8, 2010: ABM students who are admitted to OSU and will not be finished with all of their degree requirements by the end of 2012 may still complete their ABM degree:

1. If they have all of their AREC courses completed before the end of 2012 but still have some EOU or other available OSU Ag Program courses to complete (say for a minor) they can complete their graduation paperwork through OSU AG Program staff and advising by an AREC faculty member/staff.

2. If they still have AREC courses to take after June 2012 they may be able to complete those :
   a. by taking Ecampus/Distance courses if available and complete their graduation paperwork through OSU AG Program staff and advising by an AREC faculty member/staff.

   b. by transferring to Corvallis for the terms required to take those courses and complete their graduation paperwork and advising by a Corvallis AREC faculty member/staff.

The above outline illustrates that our staffing plan will consist of 3 tenure tract 9 month teaching and research appointments (60:40 teaching & research), and two instructors. Where possible, instructor positions will have faculty research assistant appointments to bring those positions to 12 month, fully funded positions. The specific research appointments will depend on seasonal needs of ongoing research appointments and the availability of funds.

Staffing in Response to Student Enrollment Growth. We anticipate that the EOANRP will grow in the near future. It is critical that the new MOU with Eastern Oregon University is balanced and fair in terms of distribution of funds among the cooperative universities and, most importantly, can accommodate and channel funds with respect to potential growth of the program. As a result, we strongly support a funding model that is driven by student credit hours, as well as, total student numbers. In the future, we would propose that when we reach 200 students in the program additional faculty and support staff would be added. The exact faculty position would depend on the specific area of program growth. Support staff additions would focus on a .5 FTE Office Specialist position. Likewise, if enrollment reaches 250 students we would propose to increase the support staff by another .5 FTE and look at the possibility of adding another faculty position. Obviously, we would proceed through “priority staffing” protocols and will look to garner industry/stakeholder fiscal support throughout the process.

II. Staffing Plan for EOARC Union Station:

- ***Current Staff***
  - OSU Unclassified
    - Rangeland Animal Scientist/Superintendent/Program Head (1.0 FTE; 0.50 Admin:0.25 AES: 0.25 UG) – Tim DelCurto
    - Beef Production Animal Scientist (1.0 FTE; 0.60 AES: 0.25 UG) – Chad Mueller
      Note: This position is currently 100% AES but will be converted to a 60:40 Research:Teaching appointment
    - Wildlife Ecologist/Ornithologist: 1.0 FTE; .75 AES: .25 UG
    - Herdsman/Ranch Manager (1.0 FTE) – Ken Fite
    - Office Manager (1.0 FTE) – Kimberly McKague
  - OSU Classified
    - Office Specialist II (1.0 FTE) – Jana Dick
    - Trades/Maintenance Worker II (1.0 FTE) – Bruce Parks
    - BioScience Research Technician II (1.0 FTE) – Mark Fite

- ***Future EOARC-Union Priority Staffing Request (not anticipated)***
  - Note: With the addition of Ryan Limb and his disturbance ecology research background, the research program for the Union Station and region is well positioned for future research. In addition, with the pending retirements and associated staffing plan for the OSU Agriculture and Natural Resource Program, we anticipate adding faculty research expertise in range and pasture forages and (possibly) landscape ecology/riparian ecology. This should provide a dynamic and diverse research team to address issues that are relevant to Eastern Oregon and the Intermountain West.
  - We are currently working with our local watershed (Grande Ronde Model Watershed) about the possibility of developing an aquifer recharge system that would be installed on the OSU Hall Ranch. The primary goal of this program would be to provide late season "in-stream" flow (10 cubic feet per second for August through October stream flow) for the Catherine Creek portion of the Grand Ronde watershed. This would be beneficial in providing adequate late season flows for fisheries and lessen pressure on agriculture to dedicate water/water rights for this purpose. This system would cost approximately 4 million to install and would provide an opportunity to develop long-term research support funding to look at stream hydrology and sustainable watershed management in addition to maintenance and monitoring of the aquifer recharge system. This potential cooperative partnership could be a component of a future

Rangeland Ecology and Management Faculty position that would be part of the proposed staffing plan. In addition, a future "Forages Research Program" could be focused on livestock systems that rely on forages that utilize less irrigation water. These would both be "high needs" research areas that would add to the diversity of academic/research expertise.

Existing Collaboration:

USDA Forest Service Pacific Northwest Research Station Starkey Experimental Forest:

The EOARC Union Station has a long history of collaborative relationships with the USDA FS Starkey Experimental Forest and Range. For the past 20 years, EOARC Union Station has provided the research cattle for the main allotment studies. Currently, we provide 100 pair of cattle for the main allotment research platform. A portion of these cows have GPS collars (25 to 50 hd) that track their movements throughout the 4 month grazing system. EOARC and EOANRP Researchers have access to this data set, and in collaboration with USDA PNW scientist and Oregon Department of Fish & Wildlife researchers have substantial opportunities for research because of this collaborative relationship. We also routinely use the Meadow Creek Study area as a replica of riparian research projects conducted at the Hall Ranch or TNC's Zumwalt Prairie Preserve (ZPP). The research staffing for our merged programs will be likely be designed to identify expertise needs our the combined research group.

The Nature Conservancy (TNC):

The Nature Conservancy, NE Oregon office in Enterprise, OR and EOARC, Union Station entered into a formal collaborative relationship in 2003 when EOARC faculty, students and staff were granted access to TNC's Zumwalt Prairie Preserve (ZPP) to conduct 2 research projects: 1) Effects of native and non-native plant communities on breeding grassland birds; and 2) Trends in site occupancy, productivity and habitat use by three species of prairie hawks. These studies were supported by the USDA Forest Service, Pacific Northwest Research Station and Natural Resources Conservation Service, Wildlife Habitat Management Institute, respectively. Both studies were conducted throughout the Zumwalt Prairie (privately managed rangelands of which TNC owns approximately ¼ of the acreage). In addition to granting access to their property for field measurements, TNC provided on-site lodging at their Summer Camp facility and they also provided office support in their Enterprise, OR office.

In 2005, our collaboration with TNC expanded when they sponsored an EOARC Post-doctoral Research Associate to conduct a Landscape Analysis of the Zumwalt Prairie to

support TNC's operations, the EOARC research projects and the local landowners. In 2005, TNC helped write a successful USDA National Research Initiative Proposal with EOARC faculty to conduct a livestock grazing experiment on the ZPP to investigate the effect of stocking rate on the grassland food web. During late summer through fall of 2006 TNC fenced the experimental pastures which required removing old fences and installing approximately 30,500 m of fencing. During the 4 years of the research project they also expanded their summer camp facility to provide seasonal housing for the large research crews and their staff ecologist, Dr. Rob Taylor, was a Co-PI on the project in charge of the soils analyses. His time and expenses and the time and expenses of his technicians were covered by TNC for all 4 years. We are currently co-authoring papers and proposals for new experiments.

III. Staffing Plan for EOARC Burns Station:

- ***Current Staff***
  - <u>OSU Unclassified</u>
    - Rangeland Animal Scientist/Superintendent (1.0 FTE; 0.25 Admin:0.30 AgExt: 0.45 AES) – David Bohnert
    - State Beef Cattle Extension Specialist (1.0 FTE; 0.25 AES: 0.75 AgExt) – Reinaldo Cooke
    - Herdsman/Ranch Manager (1.0 FTE) – Skip Nyman
    - Faculty Research Assistant (0.49 FTE) – Flavia Cooke
  - <u>OSU Classified</u>
    - Grants & Contracts Technician (1.0 FTE) – Arthel Ambrose
    - Office Specialist II (1.0 FTE) - Dawnetta Hauth
    - Trades/Maintenance Worker II (1.0 FTE) – Lyle Black
    - BioScience Research Technician I (1.0 FTE) – Lynn Carlon
    - Publications Editor (1.0 FTE) – Ryan Steineckert
    - Bio Science Research Worker (0.02 FTE) – Kristen Munday
  - <u>USDA-ARS</u>
    - Currently there are 7 Category 1 scientists, 1 support scientist, and 1 post-doctorial scientist on staff. Please see Appendix 3 for a full administrative flow chart of ARS staff.
    - The ARS program has been developed around rangeland ecology, invasive weeds, and juniper management. This

compliments, and doesn't duplicate, OSU's livestock nutrition and management program at EOARC-Burns.

- ***Future EOARC-Burns Priority Staffing Request***
  - Wildlife/Livestock/Rangeland Ecologist (0.75 FTE)
    - This position will add a missing component, wildlife management, to the ARS and OSU programs at EOARC-Burns; thereby strengthening the overall integration of programs at EOARC. More importantly, this is a needed position for Oregon rangeland and beef cattle management and will increase the ability of our faculty to procure grant funds.

Existing Collaboration

USDA-ARS

The Oregon State University component of EOARC-Burns and the USDA-ARS Range & Meadow Forage Research Unit located at EOARC-Burns have an annual Research Support Agreement (RSA; **currently greater than $500,000 annually**) that has allowed OSU and the ARS to jointly manage and fund the EOARC for over 60 years. This is a mutually beneficial arrangement in that Oregon State University owns the buildings and all the property at EOARC-Burns (approximately 640 acres) while the USDA-ARS manages the Northern Great Basin Experimental Range (NGBER; approximately 16,000 acres of sagebrush steppe and associated research facilities). Neither organization would be able to function alone as well as we do together by sharing resources, facilities, and equipment. Some examples of the support from ARS for EOARC-Burns include: 1) recently the USDA-ARS paid over $500,000 for office expansion and construction of a bunkhouse with ownership reverted to OSU; 2) the USDA-ARS currently provides funding, through the RSA, that supports 3.15 of the total 5.02 (63%) classified FTE at EOARC-Burns (0.35 FTE of an Office Specialist II, 0.80 FTE of a Trades/Maintenance Worker II, and 1.0 FTE of a Biological Science Technician I, 1.0 FTE of a Publications Editor; and 67% of a custodial contract); and 3) OSU is allowed to graze cattle on the approximately 16,000 acres of the NGBER without having to pay grazing fees ($23,000 to $45,000 per year). In return, some examples of the support that OSU provides the USDA-ARS include: 1) cattle to the conduct grazing research and rangeland management; 2) office space and infrastructure; and 3) a shop and maintenance facilities. The bottom line is that the relationship between the USDA-ARS and OSU at EOARC-Burns is unique in that we operate as a single organization with a common mission to provide scientific information concerning the management of beef cattle and rangeland ecology in Oregon and the Intermountain West. We work together for the overall success of EOARC-Burns, which has been substantial based on scientific

productivity, scientist awards, development of working groups, and clientele and stakeholder support.

The Nature Conservancy (TNC)

EOARC-Burns provides office space for Southeast Region Project Manager. This increases our ability to collaborate with TNC which benefits both organizations by incorporating diverse concepts and considerations into sagebrush steppe management plans and management recommendations. In addition, TNC is a member of the EOARC-Burns advisory committee and partners with EOARC and other groups on the Sagebrush Cooperative (http://sagebrushcooperative.org/) which is a collaborative effort in the High Desert of Oregon, Idaho and Nevada working towards effective management and conservation of sagebrush steppe ecosystems. This group identifies strategies and priorities for successful conservation of sagebrush steppe at a regional scale. These partners, both public and private, have identified the sagebrush steppe as a degraded landscape and a priority habitat for conservation. The establishment of the Cooperative is part of a new era of cooperation where communication and transparency are vital to promoting restoration and appropriate management of degraded sagebrush steppe habitat. The goals of the Sagebrush Cooperative are being accomplished through sharing of wildlife and habitat monitoring data and monitoring methods, distributing analytical tools and scientific developments, utilizing best management practices, identifying information gaps and acquiring funding to address critical needs. The Cooperative puts projects in larger context to be more regionally effective and coordinates efforts of multiple organizations. These collaborative approaches to multifaceted, landscape scale problems are more effective at gathering information, garnering funds and implementing changes that affect a diverse array of landowners and managers, than any singular approach. Partners in the Sagebrush Cooperative include EOARC, TNC, Natural Resources Conservation Service, Oregon Department of Fish and Wildlife, Oregon Habitat Joint Venture, Oregon Sage Grouse Conservation Planning Team, Oregon Watershed Enhancement Board, PRBO Conservation Science, United States Fish and Wildlife Service, United States Forest Service, Oregon Cooperative Weed Management Areas, Soil and Water Conservation Districts, and Watershed Councils.

Potential Future Collaboration

Malheur National Wildlife Refuge

EOARC-Burns and the Malheur National Wildlife Refuge are evaluating the possibility of a joint position (Assistant Professor or Faculty Research Assistant) that will focus on vegetation monitoring, wildlife habitat, and grazing/forage management

with the charge to evaluate and develop various management practices that can be incorporated into sustainable, long term management plans of private and public land managers. This position would benefit the refuge, OSU, EOARC, and natural resource managers. This position would have substantial support from natural resource groups and cattle producers. Partial funding of the proposed position would come from grazing fees paid to the Malheur National Wildlife Refuge by local cow/calf producers and the resulting improvement in wildlife habitat should increase wildlife habitat and viewing opportunities.

EOANRP Strategic Plan: APPENDIX

Appendix 1: **Brazil Internship Exchange Program**

Objectives: Provide international experience to undergraduate students with interest in beef cattle production.

Participating Institutions

- Eastern Oregon Agricultural Research Center (EOARC) and the Eastern Oregon Agricultural & Natural Resource Program (La Grande), Oregon State University
- College of Veterinary Medicine and Animal Sciences (CVMAS) – São Paulo State University, Brazil

Importance of the program: Brazil and USA are the main producers of beef in the world. In 2009, the USA was the world leader in beef production, with more than 12 million metric tons produced that year, followed by Brazil, with nearly 9 million metric tons. Although highly productive, these beef production systems are very dissimilar. As an example, the predominant breed type in Brazil, a tropical country, is *Bos indicus*, and animals are usually maintained on extensive forage-based scenarios from birth to slaughter. In the USA, a temperate country, the predominant breed type is *B. taurus*, and animals are commonly finished on grain-based diets. Despite these and many other differences, both Brazilian and American beef industries are key components to each respective economy and, more importantly, vital to supply the animal protein demand of the world, which is expected to increase up to 75 % by 2050.

Therefore, the aim of this program is to provide an opportunity for USA undergraduate students to become familiar with the Brazilian beef industry, and vice-versa, which will afford a unique academic and practical experience that will impact positively their future professional endeavors.

Overview of the program: Each year, we propose that 3 senior-level students from each aforementioned institutions will be offered a 4-month international internship, which will be available in two periods within the academic year: 1) March to June, or 2) August to November. Internships will be administered through EOARC or CVMAS, but available at commercial beef operations, consulting companies, private industry, or the academic institution itself. Selection for awarded students will be based on academic merit. A panel constituted by faculty members from both institutions (EOARC or CVMAS) will be responsible for recommendation and selection of awardees. Only senior-level students will be considered during the selection process. An application package containing detailed information about the program, minimum requirements, deadlines, participating locations, and application documents will be developed.

At the beginning of the internship period, students will be offered 1 week course at the host institution (EOARC or CVMAS). The main goal of this introductory course is to familiarize students with the country and local beef industry. During this period, all immigration documentation will be regularized by the host institution, and each student will be assigned to a local advisor (EOARC or CVMAS faculty). After the introductory period, students will be allocated to their chosen site(s) of internship. Students will be required to report monthly to the advisor. At the end of the internship period, students will need to write a report, which will serve as basis for final grading. Reports will be published and by the EOARC and CVMAS to promote the internship program and strengthen the relationship between institutions.

Financial requirements

The **estimated** total cost of each internship will be of approximately $ 10,500 based on the following items:

Item		**Cost (U$)**
Airfare	*Roundtrip from Portland, OR to São Paulo, Brazil*	$ 1,500.00
Immigration	*All costs associated with obtaining a visa*	$ 500.00
Health Insurance	*According to international requirements*	$ 500.00
Stipend	*Housing and living expenses*	$ 6,000.00
Administrative fees	*Cover all institutional costs associated with internship, including internal student transportation, initial housing, processing fees.*	$ 2,000.00
TOTAL		**$ 10,500.00**

Appendix 2: **Range Ecology and Management Degree Checksheet**

OSU AGRICULTURE PROGRAM at EOU
RANGELAND ECOLOGY & MANAGEMENT
CHECKSHEET 2010/11

Name: _____ EOU ID#: _____

Minor: _____ OSU ID #: _____

*Credits Used to satisfy Baccalaureate Core **Some courses are offered ONLY on alternate years**

SKILLS		Credits	Term	Grade
Expository Prose Writing	WR 121*	(4)		C- or above
Science Writing	WR 217*	(3)		
or Report Writing	BA 225	(4)		
or Prof. Writing	WR 320	(3)		
Interpersonal Communications	SPCH 111*	(3)		
or Fund of Public Speaking	SPCH 112*	(3)		
College Algebra	MATH 111*	(4)		C- or above
Survey Calculus	MATH 241	(4)		
Health/Fitness for Life	HWS 298*	(3)		
PERSPECTIVES (Only 2 courses allowed in same dept.)				
Biological Science:				
Intro to Biology	BIOL 101*	(3)		
Plant Biol II	BOT 202*	(5)		
Physical Science:				
Intro to Chem	CHEM 101*	(4)		
Intro to Chem (Organic)	CHEM 102*	(4)		
Intro to Chem (Biochem)	CHEM 103*	(4)		
Western Culture:		( )		
Cultural Diversity:		( )		
Literature & the Arts:		( )		
Social Processes: Microeconomics	ECON 201*	(5)		
Diff., Power & Discrim.:		( )		
SYNTHESIS (6) (Must be in different departments)				
Contemporary Global Issues:				
Natural Resource Economic and Policy	AREC 351*	(3)		
Science, Tech & Society				
World Soils Resources	CSS 395*	(3)		
or Cont. Soc. Iss. Animal Ag. **or**	ANS 315*	(3)		
Writing Intensive Course:				
Nutrient Management & Cycling	CSS 315*	(4)		
RANGELAND RESOURCES CORE				
Animal Nutrition	ANS 311	(3)		
Beef Production Systems: Cow/Calf	ANS 443	(3)		
Ornithology	BIOL 320	(2)		
or Prin. of Fish & Wildlife Conserv.	FW 251	(3)		
Plant Taxonomy	BIOL 334	(5)		
General Ecology	BIOL 357	(4)		
or Soil Fertility Management	CSS 415	(3)		
Agrostology	BIOL 421	(4)		
Plant Physiology	BIOL 433	(5)		

Principles of Soil Science	CSS 305	(4)	_____	_____
Problem Solving: Soil Science Appl.	CSS 306	(1)	_____	_____
Forage Production	CSS 310	(4)	_____	_____
Soil Morphology & Classification	CSS 466	(4)	_____	_____
Intro to Forestry	FOR 111	(3)	_____	_____
Physical Geology	GEOL 201*	(5)	_____	_____
Orient. To Careers in REM	RNG 101	(1)	_____	_____
Rangeland Ecology and Management	RNG 341	(3)	_____	_____
Rangeland Ecology I: Grassland	RNG 351	(3)	_____	_____
Rangeland Ecology II: Shrubland	RNG 352	(3)	_____	_____
Wildland Plant Identification	RNG 353	(4)	_____	_____
Desert Watershed Management	RNG 355	(3)	_____	_____
Wildland Restoration Ecology	RNG 421	(4)	_____	_____
Rangeland Analysis	RNG 441	(4)	_____	_____
Rangeland Animal Relations	RNG 442	(4)	_____	_____
Rangeland Management Planning	RNG 490	(4)	_____	_____
Elementary Statistics	STAT 243	(4)	_____	_____

OPTIONS (27 hours)

Options course work must include a minimum of 15 upper division credits. Student must choose one option.

Range Science

Plant Genetics	CSS 430	(3)	_____	_____
Physics	PHYS 201	(4)	_____	_____
Physics	PHYS 202	(4)	_____	_____
Science & Natural Resource Electives (16)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Range Management

Cartography	GEOG 201	(3)	_____	_____
or Intro to GIS	GEOL 310	(5)	_____	_____
Plant Genetics	CSS 430	(3)	_____	_____
Weed Management	CSS 440	(4)	_____	_____
Management in Agriculture	AREC 211	(4)	_____	_____
Nutrient Management & Cycling (WIC Bac core req)	CSS 315	(4)	_____	_____
Science & Natural Resource Electives (7 or 9)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

General Rangeland Resources (Business)

Nutrient Management & Cycling (WIC Bac core req)	CSS 315	(4)	_____	_____
Weed Management	CSS 440	(4)	_____	_____
Financial Accounting	BA 211	(4)	_____	_____
Management in Agriculture	AREC 211	(4)	_____	_____
Microeconomic Theory	AREC 311	(4)	_____	_____
Agricultural Financial Management	AREC 441	(4)	_____	_____
Agricultural Business Management	AREC 442	(4)	_____	_____

	Baccalaureate Core	_____	
	Rangeland Resources Core	_____	
	Option	_____	at least 27
revised: 09/09/09	Total Credits	_____	at least 180

Appendix 3: **Agricultural Sciences (General Ag) Degree Checksheet**

OSU AGRICULTURE PROGRAM at EOU
GENERAL AGRICULTURE
CHECKSHEET (2010)

Name: _____ EOU ID#: _____

Minor: _____ OSU ID #: _____

Some courses are offered ONLY on alternate years

SKILLS		Credits	Term	Grade	
WRI: Expository Prose Writing	WR 121	(4)			C- or above
WRII: Science Writing	WR 217	(3)			
or Report Writing	BA 225	(4)			
WRIII: Interpersonal Communications	SPCH 111	(3)			
or Fund of Public Speaking	SPCH 112	(3)			
COMM/WR Elec: Prof. Writing	WR 320	(3)			
WIC: Leadership Development	AG 421	(3)			OSU Distance Course
Health/Fitness for Life	HWS 298	(3)			
College Algebra	MATH 111	(4)			C- or above
Biological Science:					
Intro to Biology	BIOL 101	(3)			MATH 070
Intro to Biology	BIOL 102	(3)			
Intro to Biology	BIOL 103	(3)			
Intro to Biology - Lab	BIOL 104	(1)			
Physical Science:					
Intro to Chem	CHEM 101	(4)			MATH 095
Intro to Chem (Organic)	CHEM 102	(4)			CHEM 101
PERSPECTIVES (Only 2 courses allowed in same dept.)					
Western Culture: _____	_____	( )			
Cultural Diversity: _____	_____	( )			
Literature & the Arts: _____	_____	( )			
Social Processes: Microeconomics	ECON 201	(5)			MATH 095
Diff., Power & Discrim.: _____	_____	( )			
SYNTHESIS (6) (Must be in different departments)					
Contemporary Global Issues:					
Natural Resource Economic and Policy	AREC 351	(3)			ECON 201
or World Food Crops	CSS 330	(3)			
Science, Tech & Society					
World Soils Resources	CSS 395	(3)			
or Cont. Soc. Iss. Animal Ag. **or**	ANS 315	(3)			
BUSINESS					
Financial Accounting I	BA 211	(4)			MATH 070
Business Law	BA 254	(4)			
or Agricultural Law	AREC 388	(4)			OSU Distance Course
Data Processing (sub for OSU AG111)	BA 131	(3)			

AGRICULTURE (total of 60 ag credits, 24 must be upper division)

					Pre-reqs:
Orientation	RNG 101/CSS 100/AREC 121	(1)			
Management in Agriculture	AREC 211	(4)			BA 211
Principles of Soil Science	CSS 305	(4)			CHEM 101/102
WIC: Leadership Development	AG 421	(3)			OSU Distance Course

Lower Division Ag Electives:

Upper Division Ag Electives: (must have a minimum of 24 total upper division ag credits)

Upper Division Electives: (must have a minimum of 60 total upper division credits)

Foreign Language met		
Lower div. ag credits		
Upper div. ag credits		at least 24
Total ag credits		at least 60
Total Upper div. credits		at least 60
Total of all credits completed		at least 180

Appendix 4: **Crop & Soil Science Degree Checksheet**

OSU AGRICULTURE PROGRAM at EOU
CROP & SOIL SCIENCE - CROP MANAGEMENT OPTION
CHECKSHEET 2010-11

Name: _____ EOU ID#: _____

Minor: _____ OSU ID #: _____

*Credits Used to satisfy Baccalaureate Core Some courses are offered ONLY on alternate years

SKILLS		Credits	Term	Grade	
Expository Prose Writing	WR 121*	(4)			C- or above
Science Writing	WR 217*	(3)			
or Report Writing	BA 225	(4)			
Interpersonal Communications	SPCH 111*	(3)			
or Fund of Public Speaking	SPCH 112*	(3)			
College Algebra	MATH 111*	(4)			C- or above
Survey Calculus	MATH 241	(4)			
Elementary Statistics	STAT 243	(4)			
Health/Fitness for Life	HWS 298*	(3)			
PERSPECTIVES (Only 2 courses allowed in same dept.)					
Biological Science:					
Intro to Biology	BIOL 101*	(3)			
Intro to Biology	BIOL 102	(3)			
Intro to Biology	BIOL 103	(3)			
Plant Biol II	BOT 202*	(5)			
Physical Science:					
Intro to Chem	CHEM 101*	(4)			
Intro to Chem (Organic)	CHEM 102	(4)			
Intro to Chem (Biochem)	CHEM 103	(4)			
Western Culture:		( )			
Cultural Diversity:		( )			
Literature & the Arts:		( )			
Social Processes:		( )			
Diff., Power & Discrim.:		( )			
Writing Intensive Course:					
Nutrient Management & Cycling**	CSS 315*	(4)			
SYNTHESIS (6) (Must be in different departments)					
Contemporary Global Issues:					
Natural Resource Economic and Policy	AREC 351*	(3)			
Science, Tech & Society					
World Soils Resources	CSS 395*	(3)			
CROP & SOIL SCIENCE CORE					
Orientation/Career Planning	CSS 100	(1)			
Principles of Soil Science **	CSS 305	(4)			
Problem Solving: Soil Sci Appl	CSS 306	(1)			
Nutrient Management & Cycling**	CSS 315	(4)			
Crop & Soil Seminar **	CSS 407	(1)			
CROPS CORE					
Intro to Crop Production	CSS 300	(4)			
Soil Fertility Management**	CSS 415	(3)			
Plant Genetics**	CSS 430	(3)			

Case Studies In Cropping Systems Mgmt	CSS 480	(4)	_____	_____

Appendix 5: **Natural Resources Degree Checksheet**

OSU AGRICULTURE PROGRAM at EOU
NATURAL RESOURCES
CHECK SHEET 2010-11

Name: _____ EOU ID#: _____

Minor: _____ OSU ID #: _____

*Credits Used to satisfy Baccalaureate Core — Some courses are offered ONLY on alternate years

SKILLS		Credits	Term	Grade	
Expository Prose Writing	WR 121	(3)			C- or above
Writing II: See Bacc Core List					
_____	_____	( )			
Interpersonal Communications	SPCH 111	(3)			
or Fund of Public Speaking	SPCH 112*	(3)			
College Algebra	MATH 111*	(4)			C- or above
Health/Fitness for Life	HWS 298*	(3)			
PERSPECTIVES (Only 2 courses allowed in same dept.)					
Biological Science:	See N.R. Core section				
Physical Science:	CHEM 101	(4)			
	CHEM 102	(4)			
Western Culture: _____	_____	(5)			
Cultural Diversity: _____	_____	( )			
Literature & the Arts: _____	_____	( )			
Social Processes: _____	ECON 201	(5)			
Diff., Power & Discrim.: _____	_____	( )			
Writing Intensive Course: See Bacc Core list					
_____	_____	_____			
or Wildlife in Agricultural Ecosystems	FW 435	(3)			OSU Distance
SYNTHESIS (6) (Must be in different departments)					
Contemporary Global Issues:					
Natural Resource Economic and Policy	AREC 351*	(3)			
or World Food Crops	CSS 330*	(3)			
Science, Tech & Society					
World Soils Resources	CSS 395*	(3)			
or Cont. Soc. Iss. Animal Ag. **or**	ANS 315*	(3)			
NATURAL RESOURCES CORE (46) A grade of C- or better is required in all upper division courses.					
Biology: BIOL 101 (3), BIOL 102 (3), BIOL 103/104 (4)		(10)			
or BIOL 211, 212, 213 (5 each)		(15)			
General Ecology	BIOL 357	(4)			
Earth Science: Physical Geology	GEOL 201	(5)			
Atmospheric Science: Physical Geography	GEOG 106	(5)			
or Climatology	GEO 323	(4)			OSU Distance

Desert Watershed Management	RNG 355	(3)			
Pre-calculus	MATH 112	(4)			
or Survey of Calculus	MATH 241	(4)			
Elementary Statistics	STAT 243	(4)			
Natural Resources Econ. and Policy	AREC 351*	(3)			
or Environmental Economics and Policy	AREC 352	(3)			OSU Distance
Rangeland Mngt. Planning	RNG 490	(4)			
NR Decision Making	NR 455	(3)			OSU Distance
Natural Resources Seminars:					
Orientation to Careers in Rangeland Ecol. & Mgt	RNG 101	(1)			
Crop & Soils Seminar	CSS 407	(1)			
or Managing Nat. Resources for the Future	NR 201	(3)			OSU Distance
		~ (47)			

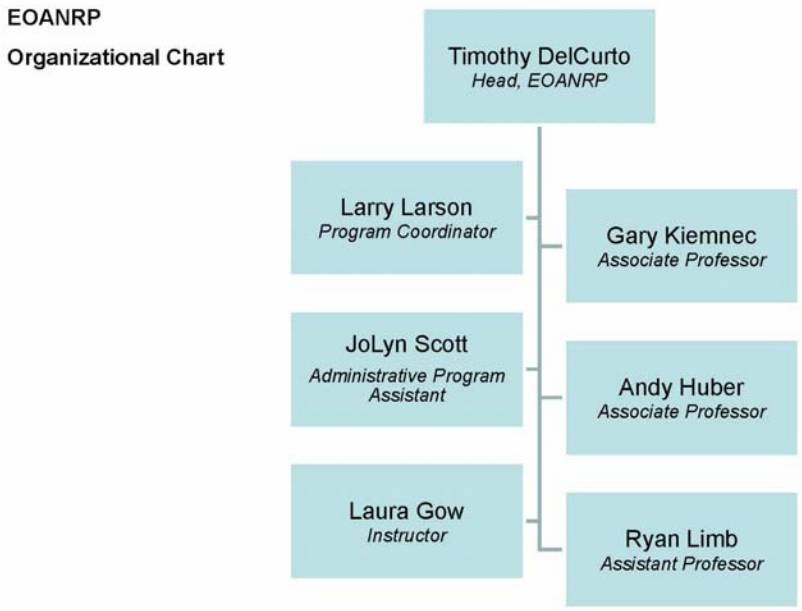
NATURAL RESOURCES BREADTH (27) A grade of C- or better is required in all upper division

CHOOSE ONE COURSE FROM EACH GROUP

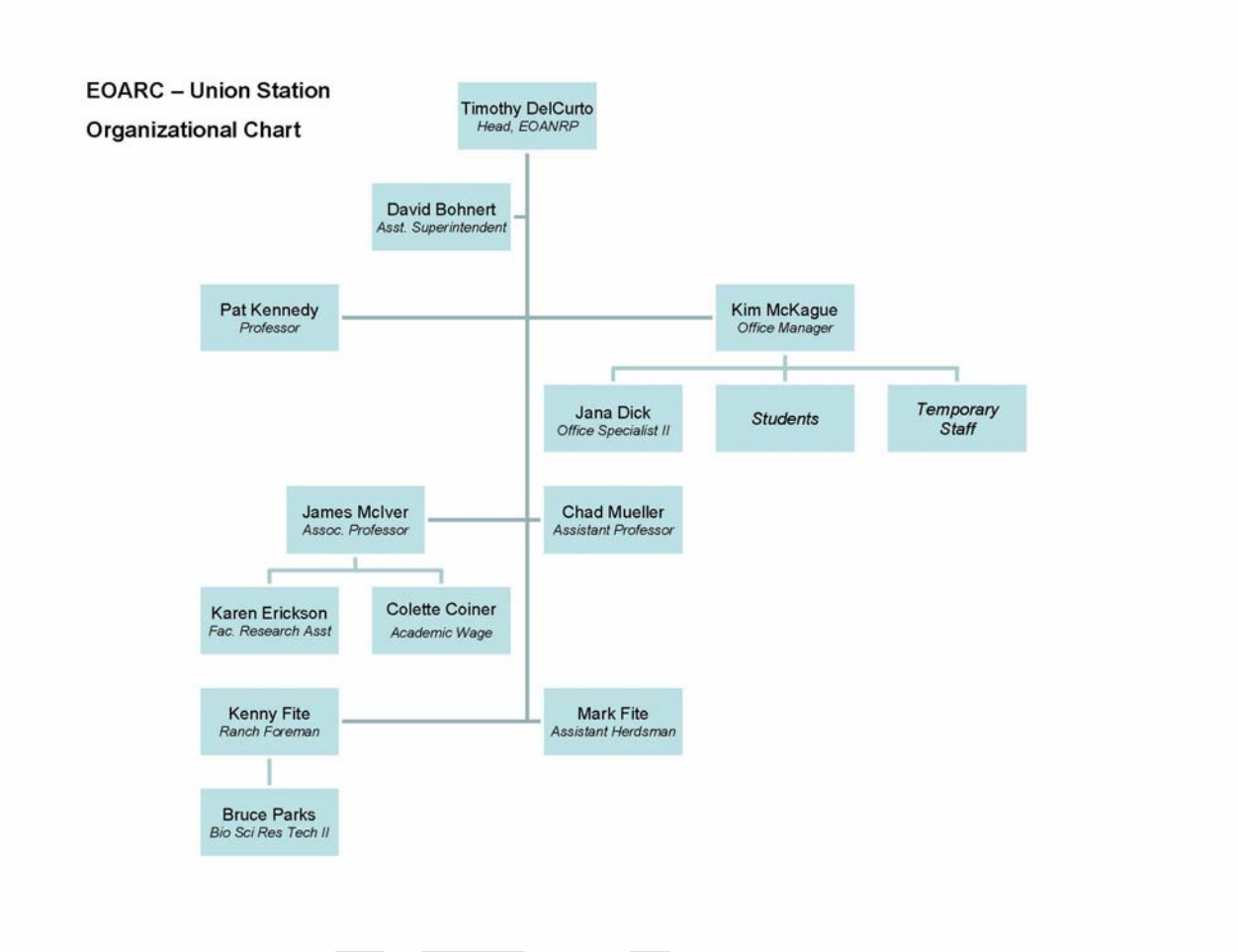
Amenity Uses of Natural Resources					
Wilderness Management	FOR 352	(3)			OSU Distance
Fisheries and Wildlife					
Management Prin. of Pacific Salmon	FW 323	(3)			OSU Distance
Wildlife in Agricultural Ecosystems (WIC)	FW 435	(3)			OSU Distance
Wildlife Ecology	FW 481	(4)			OSU Distance
Forestry					
Forest Ecology	FOR 341	(3)			OSU Distance
Issues in Natural Resource Conservation	FOR 365	(3)			OSU Distance
Land and Water					
World Soil Resources	CSS 395*	(3)			
Riparian Ecology and Management	RNG 455	(3)			OSU Distance
Environmental Conservation and Sustainability	GEO 300	(3)			OSU Distance
Minerals, Energy, Water and The Environment	GEO 306	(3)			OSU Distance
Wetland and Riparian Ecology	FW 479	(3)			OSU Distance
Range					
Topics in Wildland Fire	RNG 346	(3)			OSU Distance
or RNG course not used in option:	_____				
Resource Values/Philosophy					
Environmental History	HIST 465/345	(5)			
Environmental History of U.S.	HST 481	(4)			OSU Distance
Multicultural Perspectives in Natural Resources	FW 340	(3)			OSU Distance
World Views and Environmental Values	PHL 443	(3)			OSU Distance
Social and Political					
Human Ecology	ANTH 325	(3)			
Environment/Society	ANTH 370	(5)			
Land Use and the Environment	GEOG 317	(3)			
Environmental Law	AREC 432	(3)			OSU Distance
Environmental Politics and Policy	PS 475	(4)			OSU Distance
Environmental Sociology	SOC 480	(4)			OSU Distance
Society and Natural Resources	SOC 481	(4)			OSU Distance

TOTAL BREADTH CREDITS _____

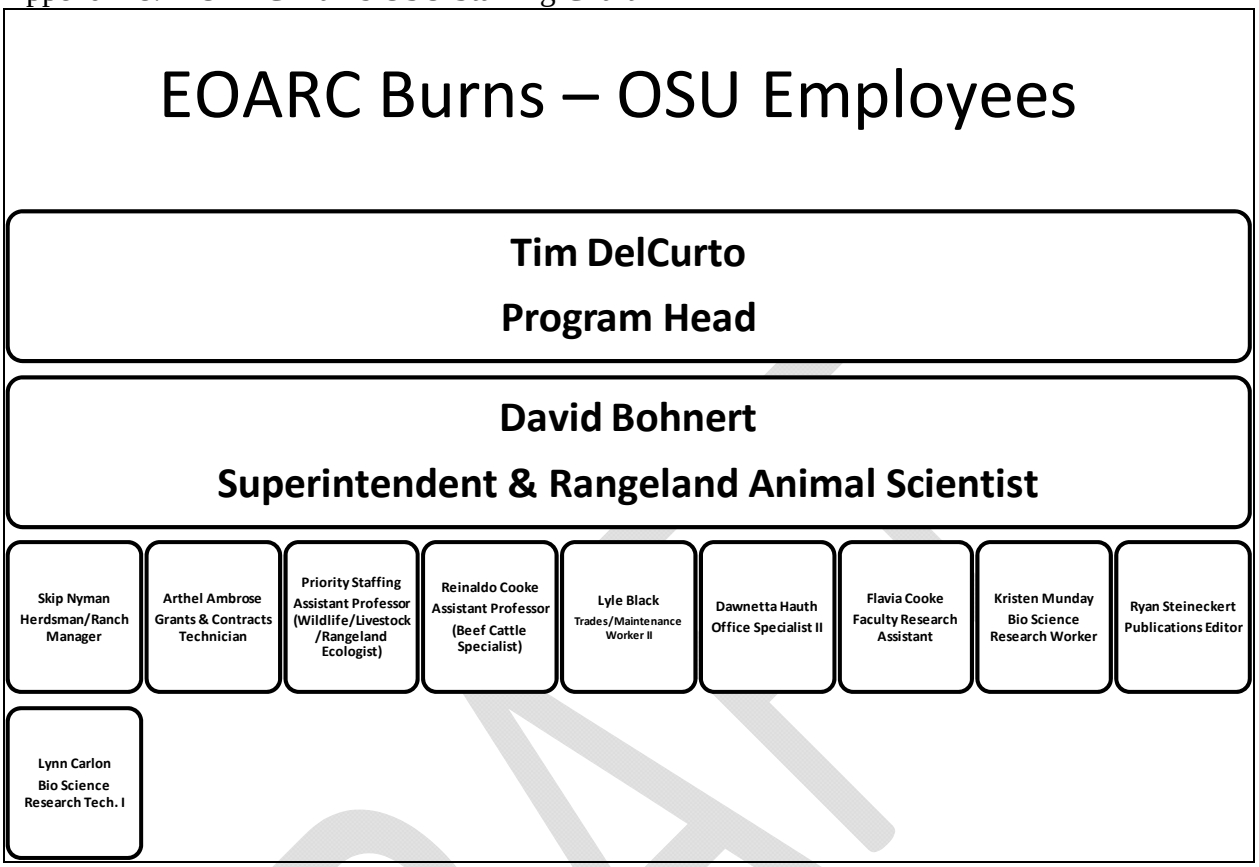
Appendix 6: **EOANRP Staffing Chart**



Appendix 7: **EOARC-Union Staffing Chart**



Appendix 8. EOARC-Burns OSU Staffing Chart



Appendix 9: **EOARC-Burns USDA ARS Staffing Chart**