



AgSci Annual Report 2017-2018

Introduction

The College of Agricultural Sciences (AgSci) connects people and the environment, helping communities and industries thrive by finding real-world solutions that are both economically and ecologically sustainable. With over 2600 students, 250 professorial faculty, \$500,000 in scholarships, and \$90 million in total R&D expenditures, AgSci is integral to OSU's standing as a top-tier land-grant university and its ranking as 13th in the world for agriculture and forestry.

Performance Indicators

Student Success

First year retention numbers for the College returned to historic levels (82%), after having slipped to 74% last year. In contrast, six-year graduation rates returned to 66% after having jumped to 71% last year. A continuing frustration with these numbers is the realization that less than half of our entering cohort is tracked with these numbers. The majority of our students either come in with too many college credits (e.g. AP courses and Community College credits from high school) or are not full time. We tend to get many transfers from other colleges at OSU and from other institutions and these students do not get tracked. Our six-year junior transfer graduation rate has continued to slip (47%). We need to invest more time into understanding this trend, which is not unique to our college but more pronounced than for OSU at large. Our minority student population continued to increase, and is now at 18.9%. While the upward trend is positive, it is still below the percentage for OSU. Our percentage of international students remained stable, albeit well below the OSU level. We have not yet found a mechanism to tap into INTO for recruiting international students. High achieving students are at 40.7%, slightly below the OSU level.

Our number of undergraduate majors doubled from 2009 to 2014 but have been stable since then. Decreases on campus have been balanced by increases in Ecampus students. Graduate student numbers are also stable. Total student credit hours have declined about 10% since 2014. All of the decline is in upper division credits. This trend is at odds with all of OSU, which shows greater growth at the upper division level than at the lower division level. The CAS trend is surprising, given that our students take most of their prerequisites and bacc core courses in other colleges and then take most of their upper division courses in our college. More analysis is needed to understand this trend.

Faculty Success

Faculty numbers in all categories are largely unchanged. Our total R&D expenditures were down last year (\$900k, about 1%). Proposals awarded for 2018 were not yet available at the time of writing, but were about \$46M through May 2018 with June yet to be added to the total. Overall, the college continues to do well in an extremely competitive environment for awards. The total number of awards for this year is not yet available. However, the trend is towards fewer grants with larger average award sizes. This trend has a positive and negative side. The positive side is that our scientists are being competitive at attracting large, multi-investigator grants. The negative side is that fewer total scientists are able to attract awards. Last year, CAS averaged about 0.7 new awards per professorial FTE. Private giving was up in 2017. Some examples of the impacts of these awards and the research they support are captured in the rest of the annual report.

Teaching and Learning

AgSci provides a transformational educational experience for all learners by:

Enhancing teaching and advising in ways that raise and equalize student success:

- [Agricultural Education and General Agriculture](#) now offers the OSU Leadership Minor, which had 52 students from seven different colleges participate in leadership development internships.
- [Lesley Morris in Animal & Rangeland Sciences](#) received the Early Career Undergraduate Teaching Award provided by the Society for Range Management for excellence in teaching and advising.
- [Marc Curtis in Botany & Plant Pathology](#) received the Best University Instructor award for his ability to connect with students and his positive engagement with the material taught.
- [Fritzi Grevstad in Botany & Plant Pathology](#) published a 75-page technical transfer guidebook for the knotweed biocontrol program that is online and fully compliant for accessibility for people with disabilities.
- [12 students in Food Science & Technology](#) developed and introduced a new stronger-flavored Beaver Classic™ Provolone cheese (smoked and regular) which has a unique old-world sensory profile. Provolone is the first cheese being co-branded with Market of Choice to promote education in the OSU Creamery.

Promoting responsible citizenship and global awareness among students:

- [The third service learning trip to Puerto Rico](#) since 2016 gave students the opportunity to work on interdisciplinary projects while helping rural communities in Puerto Rico recover from Hurricane Maria.
- [The Global Experience Fund](#) provides resources in support of students and faculty gaining global experiences related to food and agriculture.
- [Academic Programs](#) initiated exchange programs with universities in [China](#) and [Italy](#), both of which have students registered to participate in 2018.
- [12 students have also committed](#) to a faculty-led trip “Ridge to Reef: Sustainable Resources Management in Palau.”
- [Agricultural Education completed its first faculty-led study abroad](#) trip called Farm, Fork, & Glass Innovation Tour in England.
- [The Range Club](#) initiated a seminar series to promote awareness and knowledge of emerging and relevant issues facing land and livestock managers.
- [John Antle and Kassahun Melesse in Applied Economics](#) designed a new course in Global Poverty and Sustainable Development, which covers the challenges of eradicating extreme poverty.
- [The Aquafish Innovation Lab](#) supported and mentored over 150 undergraduate and graduate students at 19 institutions in nine countries, and collaborated with key faculty at many international universities.

Advancing learning through course and program (re)design, program assessment, and faculty development (in degree programs as well as the Baccalaureate Core):

- [Agricultural Education developed](#) a new course focusing on Native American involvement in agriculture.

Online and hybrid-delivery education:

- [Yvette Gibson in Animal & Rangeland Sciences](#) continued strengthening the Online Rangeland Program by obtaining a grant to evaluate the efficacy of teaching field-based science online, developing an open textbook, and obtaining two Quality Matters Awards from OSU Ecampus.
- [Dustin Johnson and Vanessa Schroeder at the Eastern Oregon Agricultural Research Center](#) are collaborating on a hybrid course initiated by [Sergio Arispe in Malheur](#) to teach land owners, managers, and livestock producers how they can use technology to better manage their land and livestock to meet specific organizational objectives.
- [David Lewis in Applied Economics](#) implemented a hybridized version of his immensely popular [AEC 250](#), Introduction to Environmental Economics and Policy.
- [Luke Painter in Fisheries & Wildlife](#) continued to enhance the department’s outstanding online curriculum with Quality Matters Certification for FW 458/558 Mammal Conservation and Management.
- [Fisheries & Wildlife now offers](#) three experiential hybrid courses at the Hatfield Marine Science Center to promote experiences at the coast for on-campus and online students.

- [Bernadine Strik](#) and Emily Dixon in Horticulture developed an Ecampus credit course, Berry Crop Physiology and Production as an elective in new graduate and undergraduate organic certificate programs.
- [Andrew Millison in Horticulture](#) expanded credit and non-credit permaculture courses by delivering a Massive Open Online Course (MOOC), complimented by an open textbook, reaching nearly 35,000 students.
- [Horticulture expanded their offering](#) of a Bacc Core course (Plagues, Pests and Politics) through Ecampus, now serving about 600 students per year, improving access for both working and distance students.
- [Jerri Bartholomew in Microbiology](#) retooled her course “Fish Disease in Conservation Biology and Aquaculture” to a hybrid format to better serve working students.
- [Richard Roseberg at Southern Oregon Research & Extension Center](#) co-developed a new Ecampus, graduate level course (SOIL 511 – *Soil: A natural and societal resource*) aimed mainly at post-college professionals.
- [Statistics Department Senior Instructors](#) received support from Academic Programs and Learning Innovation to make significant improvements and incorporate adaptive courseware to both the on-campus and online versions of ST351 and ST352 statistical methods sequence.

Advancing the Marine Studies Initiative:

- [Scott Baker at the Marine Mammal Institute](#) offered online courses about marine conservation and whaling history.
- [Scott Heppell in Fisheries & Wildlife](#) developed a Contemporary Global Issues course, Food from the Sea, to link more undergraduates to the Marine Studies Initiative. It drew 68 students from 9 different Colleges in spring term.
- [The Microbiology undergraduate program added an option in Aquatic Microbiology](#), and revised its undergraduate minor to provide courses that will support the MSI.

Growing programs at OSU-Cascades, Newport and Portland:

- [The Central Oregon Agricultural Research Center](#) is working to expand Agricultural Education opportunities for local and regional K-12 schools by creating a lending library that includes teaching resources.

Recruiting diverse and high-achieving students (Corvallis, OSU-Cascades, Ecampus):

- [Two new scholarships in Biological & Ecological Engineering](#) were established: the Drew Mahedy Scholarship for Civic Engagement in Engineering and the Andrew & Merle Hashimoto Scholarship. Additionally, BEE has a new “Ron and Betty Miner Endowed Professorship in Water Quality”, thanks to a generous donation from Betty Miner.
- [Fisheries & Wildlife welcomed](#) three new NSF Graduate Fellows and a second Nancy Foster Fellow (NOAA) to its growing list of internationally recognized, high-achieving graduate students.
- [Six Fermentation Science students](#) in Food Science & Technology received Jack Joyce Scholarships totaling \$65,000, created by Columbia Distributing and Rogue Brewing as a tribute to Rogue founder Jack Joyce.
- [Javier Rojo in Statistics](#) coordinated a Research for Undergraduates Summer Institute of Statistics, Summer 2017 and 2018.
- [Environmental & Molecular Toxicology offers](#) a Summer Undergraduate Research Fellowship Program for URM students in STEM as a recruitment vehicle to bring these students to the EMT Toxicology Graduate Program.
- [The Coastal Oregon Marine Experiment Station continued participation](#) and leadership in NOAA-funded Living Marine Resources Cooperative Science Center (LMRCSC), which focuses on recruitment, retention, and professional development of marine science students from under-represented communities.

Other initiatives focused on teaching and learning:

- [Food Science & Technology had a new custom-built \\$1 million research brewery installed](#). The state-of-the-art brewery enables automated, precise control of the entire brewing process, and provides unique opportunities for research and outreach involving the Pacific Northwest craft brewing industry.
- [Academic Programs continued its effort](#) to expand undergraduate research opportunities through the Beginning & Continuing Researcher Funding Programs, which facilitates research under the guidance of a faculty researcher, and Branch Experiment Station Internships.

- [The E.R. Jackman Internship Support Program](#) provides financial assistance to students in low-paying or volunteer internships. Funds may be used to help offset a variety of expenses including transportation, living expenses, projects, and research.
- [Klamath Basin Research & Experiment Station](#) graduated five students with General Agricultural Science Degrees in 2017 through its degree partnership program, and currently has 35 students enrolled.
- [Alec Kowalewski in Horticulture](#) arranges internships for students in Turf Management at various golf courses around the country, assesses industry needs for research, and provide on-site Extension education.
- [Al Shay in Horticulture](#) manages the Oak Creek Center for Urban Horticulture, where Master Gardeners are trained, and students engage in hands-on learning activities.
- [The John L. Fryer Aquatic Animal Health Lab](#) supported training of undergraduate and graduate students across 7 departments.

Research and Creative Work

Advancing high impact research and creative work by:

Attracting and retaining exceptional faculty:

- [Klamath Basin Research & Extension Center](#) (KBREC) hired two Faculty Research Assistants tied to the Sage Grouse Initiative, as well as a Livestock/Irrigated Forages Faculty and a Horticulture Faculty.
- [Columbia Basin Agricultural Research Center](#) (CBARC) hired Extension Cereal Scientist Ryan Graebner to lead the OSU Statewide Cereal Variety Testing program from its new location just outside of Pendleton.
- [Horticulture hired four new](#) assistant professors, tenure track: Lloyd Nackley (nursery crops), Ashley Thompson, (Wasco and Hood River Counties, Extension tree fruits), Mateus Pasa (CBARC, research tree fruits), and Kristie Buckland, a former Air Force pilot turned researcher (NWREC, vegetables, specialty seed crops).
- [Sarah Runkel in Horticulture](#) serves in the area of community horticulture and small farms. She is located at the Extension office in Josephine County.
- [Environmental & Molecular Toxicology recruited](#) Susanne Brander, an aquatic toxicologist, and Melissa Haendel an international leader in Big Data Analysis and Bioinformatics.

Cultivating transdisciplinary research (on campus or through partnerships):

- [Monique Udell in Animal & Rangeland Sciences](#) is working on dog assisted intervention, or ‘DAID training’, to increase joint activity and social wellbeing for adolescents with developmental disabilities.
- [Jim McIver at the Eastern Oregon Agricultural Research Center](#) manages the SageSTEP program, working with four other universities to provide high quality information to land managers working across the Great Basin.
- [Bill Jaeger and Christian Langpap in Applied Economics](#) published an article in [PNAS](#) illustrating how climate change and socioeconomic growth will alter the availability and use of water in coming decades in the Willamette Valley.
- [Posy Busby in Botany & Plant Pathology](#) is a co-PI on a 5-year NSF RCN that was funded to support interdisciplinary research on [agricultural microbiomes](#).
- [William Deacy in Fisheries & Wildlife revealed](#) how climate change can restructure food webs by synchronizing the availability of food resources, which was covered by more than 40 media outlets.
- [Undergraduate students in Food Science & Technology](#) are the recipients of \$30,000 of BUILD dairy awards, which will support 8-10 undergraduate projects to build a broader network of technically trained student researchers.
- [The Whale Telemetry Group](#) at the Marine Mammal Institute created partnerships for transdisciplinary research with UC Santa Cruz on endangered whale issues with National Marine Fisheries Service on assessing risk of ship strikes to endangered species of whales.
- [Researchers at Southern Oregon Research & Extension Center](#) have written over \$447,000 in new grants and begun field research to address serious commercial winegrape issues, including the new disease “red blotch.”

- [Environmental & Molecular Toxicology created](#) a new program providing pilot project funding for EMT trainees to conduct interdisciplinary research with trainees at several other Regional Superfund Research Programs.
- [The Individualized Development Program \(IDP\)](#) requires graduate students in Environmental & Molecular Toxicology to establish a unique interdisciplinary training program of structured professional development.
- [Robert Tanguay](#) in Environmental & Molecular Toxicology is the Director of The Environmental Health Sciences Center (EHSC), an interdisciplinary unit of over 35 investigators from diverse departments and colleges across OSU, which was established in 1967 to discover how the environment affects people in order to promote healthier lives.

Increasing the quality, capacity and impact of graduate programs:

- [Juyun Lim in Food Science & Technology](#) discovered a sixth-sense starchy taste that has been widely publicized in the media and published in the *Journal of Chemical Senses*.
- [Bruce Mate facilitated donor gifts](#) to create two Marine Mammal Institute endowed graduate student fellowships, which will start being awarded in Fall 2018.
- [The Coastal Oregon Marine Experiment Station Seafood Lab](#) renovated an under-utilized office space into a new tissue culture laboratory to expand its research capability to conduct cell and molecular biological experiments.
- [Graduate student groups](#) are active in collaborative outreach and research, for example:
 - ◆ [Team-Tox](#), (Environmental & Molecular Toxicology) provides professional development beyond the EMT curriculum, including education outreach activities for K-12 schools with ER Jackman funding.
 - ◆ [Fisheries & Wildlife Graduate Student Association](#) actively engages online F&W students with campus-based colleagues in activities, symposia, and professional development opportunities.
 - ◆ [BUDS \(Bolstering Undergraduate Development and Success\)](#), Botany and Plant Pathology graduate students mentor undergraduates to strengthen academic excellence.

Growing external research funding:

- [Lesley Morris](#), EOARC Union, has received almost \$350,000 as PI or Co-PI in external funding in support of her research on invasive weeds and historical ecology.
- [David Bohnert at EOARC Union and Burns](#), has received over \$410,000 in external funding to support his research on grazing behavior, wildlife-livestock interactions, cattle reproductive management, and animal health.
- [Jonathan Armstrong in Fisheries & Wildlife](#) was awarded \$400,000 by the National Fish and Wildlife Foundation to study the survival of endangered suckers in Upper Klamath Lake.
- [Will White in Fisheries & Wildlife](#) at the Coastal Oregon Marine Experiment Station was awarded \$300,000 by the National Science Foundation to study the population dynamics of eastern oysters.
- [Brian Sidlauskas in Fisheries & Wildlife](#) was awarded \$200,000 from the National Science Foundation to study whether the elaborate spines that adorn the head of the world's more than 300 species of sculpin fishes evolved for competition for mates, defense, or both.
- [Hermiston Agricultural Research and Extension Center](#) completed the remodeling of several laboratories/facilities to increase capacity by our faculty (and their students) for our stakeholders.
- [The Marine Mammal Institute developed](#) a fifth year of Navy-funded blue and fin whale work for the purpose of writing up peer-reviewed journal articles from research conducted during the last four years.
- [Bruce Mate](#) raised approximately \$1.8 million in funds for the Marine Studies Building and Marine Mammal Institute research programs.
- [Kathleen O'Malley](#) at the Coastal Oregon Marine Experiment Station received \$285,000 from the National Marine Fisheries Service to study stock definitions and boundaries for North Pacific Albacore, and \$330,000 from the U.S. Army Corps of Engineers to study survival rates of juvenile spring chinook in the Upper Willamette Basin.

Supporting faculty entrepreneurship:

- [Ecampus revenue sharing in Horticulture](#) enables expansion and stability of research and extension programs, and allows graduate students to gain online teaching experience.
- [Kim Anderson](#) in Environmental & Molecular Toxicology formed a new company called MyExposome, which develops innovative technologies for monitoring individual environmental exposure.

Cultivating partnerships with industry and other external stakeholders:

- [Cecily Bishop](#) was hired in a joint appointment between Animal & Rangeland Sciences and Division of Reproduction and Developmental Sciences, Oregon National Primate Research Center, Oregon Health and Science University.
- [David Bohnert](#) and Bryan Endress at the Eastern Oregon Agricultural Research Center continue to collaborate with the Pacific Northwest Forest Research Lab and the Starkey Experimental Forest by researching wild and domestic ungulate grazing, salmonid habitat, and riparian vegetation response to disturbance and restoration.
- [The AgSci Leadership Academy](#) brought in over 15 industry speakers to provide leadership development training for AgSci students this year.
- [Agricultural Education & General Agriculture](#) organized and conducted statewide workshops engaging over 120 high school agriculture and STEM teachers.
- [Tracy Wilson](#) at the Central Oregon Agricultural Research Center is collaborating with ODA and local industry to conduct a nitrogen management study for carrot seed production, and with Central Oregon Hay Growers Association to conduct various nutrient management studies for hay and forage production in central Oregon.
- [Jeremiah Dung in Botany & Plant Pathology](#) at the Central Oregon Agricultural Research Center is leading a regional Integrated Pest Management program for ergot in grass seed crops, conducting research across the Pacific Northwest and providing disease forecasting alerts that reach over 400 growers and stakeholders.
- [New agreements between Hermiston](#) Agricultural Research Center and Pioneer Seed, Collins Ag, Syngenta Crop Protection and Rohlf's & Adkins brings new opportunities for engagement, new outcomes from research, and strengthen ties with these companies and OSU.
- [Microbiology](#) received a five-year, \$404,000 renewal of the Fish Health Graduate Research Fellowship from the Oregon Department of Fish and Wildlife to benefit fish health and sustainable economic growth in Oregon.
- [The Southern Oregon Research & Extension Center leads local](#) efforts of the Pesticide Stewardship Partnership, which provides recommendations to growers, ag industry, local jurisdictions to reduce pesticide pollution.
- [The Coastal Oregon Marine Experiment Station's Molluscan Broodstock Program](#), funded by the State of Oregon and the shellfish industry, has worked collaboratively with industry to select larvae that will help Oregon's oyster industry maintain production during summer upwellings when acidified seawater often occurs.

Other initiatives focused on research and creative work:

- [Brian Charlton](#) at Klamath Basin Research & Extension Center continues to serve as the lead researcher providing potato seed stock to the Tri State Consortium for Oregon, Washington, and Idaho.
- [Jennifer Alix-Garcia in Applied Economics published a paper](#) quantifying refugee impact on local communities in Kenya. She was interviewed on this topic by [the Economist](#) and [Voice of America](#).
- [David Kling in Applied Economics](#), along with CEAS faculty, was awarded \$673K in funding by NOAA's Ocean Acidification Program to study vulnerability and prospects for adaptation to ocean acidification (OA) in the Pacific Northwest shellfish industry.
- [Researchers at Columbia Basin Agricultural Research Center](#) are studying the critical issues facing Pacific Northwest wheat growers to address the alarming threat of increasing soil acidity relating to soil-borne pathogens, weed spectrum, herbicide activity, yield, and crop quality on dryland wheat production.
- [Bruce Dugger and Chris Janousek in Fisheries & Wildlife](#), together with colleagues at USGS and UCLA, studied the long-term response of tidal wetlands across the Pacific coast to projected rates of sea-level rise.
- [Ivan Arismendi](#) in Fisheries & Wildlife is co-author of an article about the extreme climate variability over the last century that was highlighted by [NSF News from the field](#) and featured in the [Western Farmer-Stockman](#).
- [Fisheries & Wildlife faculty and students contributed to articles](#) about an unexpected bloom of pickle-shaped creatures called pyrosomes that appeared on Oregon beaches.
- [Ryan Contreras](#) in Horticulture has two licensees from Oregon for distribution 'Oregon Snowflake' flowering currant (ribes genus; currant); one license granted for distribution in the European Union with estimates from the company of more than 25,000 units sold annually within five years.
- [Shawn Mehlenbacher in Horticulture released the PollyO](#) hazelnut variety with high quality for the kernel market and improved genetic diversity for disease resistance.

- [Jim Myers](#) and team in Horticulture has released our first OSU broccoli cultivar, Cascadia – an F1 hybrid – intended for processing and direct harvest in the Willamette Valley and other regions.
- [Bernadine Strik](#) and Chad Finn in Horticulture co-released improved fruit varieties: one raspberry, one strawberry, and two blackberry cultivars.
- [Journalists at Sea blog](#) chronicled Kim Halsey’s lab during their research in the North Atlantic on board the ATLANTIS.
- [Leigh Torres at the Marine Mammal Institute documented](#) a new blue whale population in New Zealand.
- [Nik Wiman](#) in the Tree Orchard Crop Extension program established the first experimental cider apple orchard at the North Willamette Research and Extension Center in during the past year.
- [The AquaFish Innovation Lab](#) developed strategic international partnerships with over 100 research partners at 38 universities and institutions across the world, and carried out 31 research investigations in 9 countries on topics ranging from human nutrition, to optimizing aquaculture design and feed technologies, to developing mobile platforms for marketing fish.
- [Hillary Egna at AquaFish](#) organized and chaired an all-day technical session at the Aquaculture America 2018 conference in Las Vegas, Nevada, which was attended by hundreds of scientists from around the world.

Outreach and Engagement

Strengthening OSU’s impact and reach throughout Oregon and beyond by:

Positioning OSU’s outreach and engagement programs as vehicles for facilitating high-impact learning and effectively utilizing university research and creative work:

- [Ricardo Mata-Gonzalez](#) in Animal & Rangeland Sciences was invited to Indonesia by the Indonesia Ministry of Agriculture. He visited and toured several coal and tin mining operations with the goal of initiating a mining reclamation program, in which Gufroni Arsjad, one of his doctoral students, is involved.
- [Matthew Kennedy](#) in Animal & Rangeland Sciences guided students to win first place in the Academic Quadrathlon of the Western Section of the American Society of Animal Science (WSASAS).
- [New hires for Horticulture and Livestock/Forages at Klamath](#) Basin Research and Extension Center have expanded the reach of educational opportunities for Klamath County Citizens.
- [The Central Oregon Agricultural Research Center](#) is partnering with the Jefferson County Seed Growers Association to put crop signs across the region that are linked to a webpage with additional information.
- [Tracy Wilson](#) at the Central Oregon Agricultural Research Center is collaborating with Small Farms Extension to teach small farm owners how to read and interpret soil tests and how to select fertilizer inputs for their farms.
- [The Food Innovation Center](#) partnered with the Oregon Health Authority on a project aimed to reduce sodium intake in Oregon schools and correctional facilities.
- [Lisa Ellsworth in Fisheries & Wildlife](#) had her outreach work on the Eagle Creek Fire in the Columbia Gorge featured in a short documentary picked up by Outside Magazine and the Oregonian.
- [Amy Garrett](#) in Horticulture initiated the Dry Farming Collaborative, which consists of farmers, extension educators, plant breeders, and others partnering to increase knowledge and awareness of dry farming.
- [Andony Melathopoulos](#) in Horticulture created an Extension course that teaches growers how to apply pesticides with minimal impact to pollinators, delivered to approximately 3,000 licensed pesticide applicators for Oregon Department of Agriculture recertification credits.
- [Vaughn Walton](#) in Horticulture is refining a new mating disruption product for filbert worm. This contributes to a 70% reduction in the use of pesticides for the control of filbert worm.
- [The OSU School Integrated Pest Management \(IPM\) Program](#) provides training and resources for all 197 Oregon school districts. There were eight training events for 353 people in 2017.
- [The Coastal Oregon Marine Experiment Station](#) provided four food safety trainings and three food processing workshops, delivering education and training to over 250 attendees total.
- [Jae Park](#) at the Coastal Oregon Marine Experiment Station runs the OSU Surimi School, which was featured on OPB’s popular “Think Out Loud” show.

Increasing study abroad opportunities and strategic international research partnerships:

- [Agricultural Education & General Agriculture](#) developed partnerships with faculty colleagues at the University of Nottingham to facilitate coursework and study abroad opportunities for both universities.
- [Stephen Good](#) in Biological & Ecological Engineering went to Nicaragua with Engineers Without Borders to help increase the capacity of their water system.
- [Dave Stone](#) at the Food Innovation Center joined the U.S. Foreign Agricultural Service mission to Colombia to help farmers grow cacao and manage pests, and gave a 2-day training in Bogota on risk assessment.
- [In May 2018, Dave Stone and Ann Colonna participated](#) in the Oregon Department of Agriculture's (ODA) Trade Mission to Shanghai, China, and gave a seminar at Shanghai Jiao Tong University on the future of food.
- [Fisheries & Wildlife hosted field courses in Borneo](#), Hawaii, and Slovenia to enhance experiential learning abroad for OSU students.
- [Brian Sidlauskas](#) in Fisheries & Wildlife hosted several visiting scientists from Gabon during summer and winter quarters for capacity building and joint research assessing the biodiversity of fishes in Gabon.
- [Guillermo Giannico](#) in Fisheries & Wildlife hosted the 2017 International Conference on Engineering & Ecohydrology for Fish Passage, drawing speakers and panelists from the hydropower industry.
- [The AquaFish Innovation Lab](#) increased strategic research partnerships by engaging in the development of MOUs with international universities for over-arching benefits to OSU; pursuant to discussion with Drs. Feser and Capalbo, and followed up with by Bangladesh Agricultural University's draft MOU under review by Dr. Sager.

Engaging alumni and other external partners:

- [Academic Programs continued invitations](#) to alumni to participate in E.R. Jackman Friends & Alumni internship support (reviewing student requests and interviewing students) and club funding selection processes.
- [Agricultural Education & General Agriculture](#) conducted 11 teacher professional development workshops in conjunction with the Oregon Agriculture Teachers Association.
- [Hillary Egna](#), Director of AquaFish Innovation Lab, was interviewed in the Terra OSU150 story, "Road to Plenty," on new ways to feed the world through technology and environmental stewardship.

Advancing economic and social progress in rural and urban areas in Oregon and beyond:

- [Mallory Rahe in Applied Economics documented](#) the economic trajectories of Oregon counties during the Great Recession, which was picked up by several media outlets.
- [Jeremiah Dung](#) in Botany & Plant Pathology leads an Integrated Pest Management program for ergot in grass seed crops and providing disease forecasting alerts for 400 growers and stakeholders.
- [Cindy Ocamb](#) in Botany & Plant Pathology continued participation in OSU Master Gardener Training on plant diseases and diagnosis.
- [The Food Innovation Center received a competitive grant](#) from the Oregon Innovation Council's High Impact Opportunity Project solicitation to look for value-added opportunities in wine, beer, cider and juice industries.
- [Amanda Gladics](#) in Fisheries & Wildlife led the Clatsop Commercial Fisheries Tour, which hosted 90 elected officials and business leaders to learn the economic impact of fisheries and seafood processing on the Oregon's North Coast.
- [Ramesh Sagili](#) in Horticulture leads the honey bee research and Extension program, which promotes sustainable apiculture and pollination in Oregon. New best management practices for bee health are benefiting the industry by about \$5 million per year.
- [Ryan Contreras](#) in Horticulture is developing sterile forms of invasive maples (triploids) to restore and further expand the current \$174 million national market for maple trees.
- [Alec Kowalewski](#) in Horticulture is developing less toxic and pesticide free alternatives for turf disease management. This provides an important contribution to preserving environmental quality and compliance to new regulations.
- [The Culinary Breeding Network Variety Showcase](#) is where plant breeders, chefs, and farmers work together in putting flavor and quality into new vegetable varieties.
- [Researchers at Malheur Experiment Station](#) are working with onion growers to ensure the highest food safety and quality during growing and harvesting, with a special emphasis on irrigation water quality, as well as several faculty in other OSU colleges and Smart Vineyards to monitor vineyards to optimize grape production.

- [Yu Dong at the Mid-Columbia Agricultural Research and Extension Center](#) is working on methods to maintain fruit quality and reduce shipping costs of fresh sweet cherries to distant export destinations.
- [Dalila Rendon](#) at the Mid-Columbia Agricultural Research and Extension Center is investigating integrated management programs for key pear and cherry insect pests.
- [Microbiology hosted the Hanby Middle School Girls STEM group](#), providing hands-on experience in Microbiology during a 2-day tour of campus.
- [Leigh Torres](#) at the Marine Mammal Institute and Oregon Sea Grant has outreach programs that include working with Oregon crab fishermen to suggest ways to reduce entanglements during the crabbing season.

Other initiatives focused on outreach and engagement:

- [Curators of special collections](#) (herbarium, arthropod, and fish/mammal/bird) in Botany & Plant Pathology and Fisheries & Wildlife are working with faculty from other colleges to produce a book highlighting OSU's natural history collections and how they support the mission of the university and interact with society at large.
- [Botany & Plant Pathology's OSU Plant Clinic](#) detected and confirmed 25 new diseases, at least three of which were new to the US, and many that affected specialty crops in Oregon. The Plant Clinic is a US-wide resource for diagnosing disease due to *Agrobacterium* and *Rhodococcus*, which causes growers losses of at least \$58 million.
- [Agricultural Education & General Agriculture hosted](#) the Oregon FFA Career Development Event days, which allowed over 900 high school students to engage in STEM related activities throughout CAS.
- [Patty Skinkis](#) in Horticulture has been conducting yield management research that has resulted in producers reporting increases in their yields by 0.5 to 1 ton per acre since this study began, which translates to a \$6.2 million reduction in vineyard production costs each year.
- [Bruce Mate at the Marine Mammal Institute taught](#) 150 volunteers this year for the Whale Watching Spoken Here program to inform the public about whales. Founded by Mate and Don Giles, this Oregon State Parks program engaged 47,000 tourists along the Oregon Coast this year alone during the two weeks in spring and winter.
- [Gray Whale License Plates](#) from the Marine Mammal Institute sold over 3,400 vouchers and will help support marine mammal research, graduate student education, and public outreach programs.
- [Bruce Mate](#) at the Marine Mammal Institute organized two natural history trips around whale fieldwork opportunities, which raised about \$70,000 to help fund endowed graduate student fellowships.
- [Leigh Torres at the Marine Mammal Institute ran an internship program](#) for high school students and OSU undergrads to participate in gray whale research.
- [Leigh Torres at the Marine Mammal Institute captured a blue whale surface lunge](#) feeding event by drone video, and worked with OSU media to produce a highly successful media splash.
- [The 2017 Harvest Dinner](#) at the North Willamette Research and Extension Center was a community showcase of OSU agricultural research, and the event attracted their largest crowd of community stakeholders—more than 220 attendees, including the Governor of Oregon.
- [Environmental & Molecular Toxicology](#) has several key programs that provide industry and the general public with critical information about toxins, including:
 - ◆ National Pesticide Information Center ([NPIC](#))
 - ◆ Integrated Plant Protection Center ([IPPC](#))
 - ◆ Food Safety and Environmental Stewardship Program ([FSES](#))
 - ◆ Pesticide Safety Education Program ([PSEP](#))
 - ◆ Pesticide Educational Resources Collaborative ([PERC](#))

Creating programs that support lifelong learning:

- [The Aquafish Innovation Lab has trained 10,000 participants](#) worldwide in the last decade, including 580 people over the last year during 22 short-term training events in six countries, covering a variety of topics related to sustainable aquaculture and fish farming.
- [Jen Holt](#) in Horticulture manages the Oregon Master Beekeeper Program in collaboration with the Oregon State Beekeepers Association. They have delivered accredited education to more than 1,400 beekeepers to date, and are the only program in the USA with a mentor/mentee formal training relationship.

- [Gail Langellotto](#) and statewide faculty deliver the Master Gardener Program, which serves the community and home horticulture interests across the state. Over 3,300 Master Gardeners completed 90,000 hours of training to provide service to over 160,000 Oregonians and donated 220,000 hours of their time, at a value of \$5.4M

Diversity and Inclusion

Advancing diversity and inclusion at OSU, especially related to increasing the diversity of faculty, staff and students:

- [The Food Innovation Center](#) offers consultation to under-represented entrepreneurs in the Portland area in collaboration with Prosper Portland.
- [Ricardo Mata-Gonzalez organized](#) a two-day Social Justice workshop for personnel of the Department of Animal & Rangeland Sciences. The workshop was delivered by OSU's Social Justice Education Initiative staff.
- [Agricultural Education & General Agriculture collaboratively](#) developed and conducted a college-wide research study exploring ways to enhance the recruitment and retention of URM students.
- [Cindy Ocamb in Botany & Plant Pathology participated](#) in OSU buildings name change sessions as a recorder.
- [Fisheries & Wildlife](#) created a new fellowship to combine department resources with Laurels tuition scholarships for incoming students from underrepresented backgrounds.
- [Guillermo Giannico and Ivan Arismendi in Fisheries & Wildlife received](#) a grant funded by the Meyer Memorial Trust to organize environmental leadership camps for high school students from minorities in the Willamette Valley.
- [Ivan Arismendi and Guillermo Giannico in Fisheries & Wildlife also served](#) at the Steering Committee that organized the Latinx Summit to help identify issues and opportunities for the Latinx community at OSU.
- [Fisheries & Wildlife helped convene a presentation and forum titled](#) "We have always been scientists: elders, youth, women, sovereignty and diverse ecosystems" at the Annual Oregon Indian Education Association Conference.
- [Lisbeth Goddik](#) in Food Science & Technology received the inaugural "OSU Breaking Barriers in Education Award" which recognized her teaching and mentoring accomplishments with female students.
- [Yanyun Zhao](#) in Food Science & Technology received the inaugural "OSU Breaking Barriers in Research Award" which recognized her innovative research accomplishments in development of edible food coatings that have challenged the status quo and opened the doors for fellow women.
- [Microbiology, with the help of a Diversity Scholar Recruitment award](#), recruited a member of the Confederated Tribes of the Yakama into its graduate program for fall 2018.
- [African American postdoctoral scholar Nicole Hams](#) joined the Bartholomew lab, bringing expertise on protein chemistry to help us understand fish parasites.
- [Daniel Palacios](#) at the Marine Mammal Institute was mentor for the Research Experiences for Undergraduates (REU) program at OSU, which seeks to increase access to marine sciences for traditionally under-represented students.
- [Scott Baker](#) at the Marine Mammal Institute undertook formal consultation with local tribes of Maori, the indigenous Polynesian people of New Zealand, to research critically endangered Maui dolphins in New Zealand.
- [Lan Xue, Yuan Jiang, Tom Sharpton, Duo Jiang and Yanming Di](#) of the Statistics Department hosted an REU program sponsored by the American Statistical Association and the National Science Foundation.
- [Javier Rojo](#) in Statistics presented seminars on "Research for Undergraduates Summer Institute of Statistics at Oregon State University" at five universities/colleges in Texas.
- [Environmental & Molecular Toxicology](#) created a new Departmental Diversity Committee in 2017. Committee members include faculty, graduate students, post docs and research staff (FRA).
- [The AquaFish Innovation Lab](#) partnered with and supported a culturally diverse and transdisciplinary network of international researchers, and in February 2018 hosted 30 visitors from 11 countries to OSU. To foster global connectedness at OSU, AquaFish invited OSU faculty and leadership to a networking luncheon, an informal "meet & greet" in cooperation with F&W, and field visits to HMSC and HRC with these research partners.
- [Hillary Egna](#) at AquaFish Innovation Lab served on the OSU NSF ADVANCE editorial board for STEM education. Equity sensitivity and programming permeates every aspect of AquaFish IL work, from education and training, to serving in key research and leadership positions, to conducting research aimed at improving the lives of women and children.

- [The Coastal Oregon Marine Experiment Station Seafood Lab in Astoria](#) recruited a Fulbright Scholar from the Philippines, hosted scholars from South Korea and Greece, and hired new lab technician who is a 2018 graduate from the Department of Fisheries & Wildlife and a member of the LBGT community.

Faculty and Staff Development and Support

Providing professional development opportunities for our employees; mentoring our tenured, tenure-track and non-tenure track faculty; and supporting the work-life balance of our employees.

- [Fisheries & Wildlife](#) hired Pete Loschl as Facilities and Safety Manager to assist faculty with safety compliance and facilities management, and created a flex space for faculty, staff and students in need of an isolated office space when they need to come to work with their children.
- [Microbiology](#) developed a mentorship plan for junior faculty to insure their success not only in the promotion and tenure process, but as members of our community
- [Marine Mammal Institute](#) provided some flexibility in workload and scheduling to allow our administrative assistant to pursue a graduate degree at OSU while maintaining her employment at MMI.
- [Sastry Pantula](#) in Statistics is participating in a NSF/Sloan workshop on Land-Grant Universities and Data Sciences in order to use Data Science as a strategy for ways to educate, develop jobs, and create economic opportunities that fit the specific needs of each community or region.
- [Environmental & Molecular Toxicology](#) provides matching departmental funds for faculty and trainee professional development activities and workshops; emergency equipment repairs; new equipment purchases for extramural grant applications; funding to hire professional grant writers in support of large, multi-investigator grants.
- [AquaFish](#) supported faculty and graduate students to attend the Aquaculture America 2018 conference in Las Vegas, NV, the American Fisheries Society meeting, and the Association for International Agriculture & Rural Development Conference in Washington D.C., as well as other professional meetings.

Resource Stewardship

Practicing wise stewardship of resources, enhancing support to faculty and students through effective administration, and growing resources through philanthropy.

- [Klamath Basin Research & Extension Center](#) (KBREC) addressed failing infrastructure, including upgrades of windows and lighting, and the beginning of replacing the station's entire irrigation system.
- [Fisheries & Wildlife launched a new website, 150 Species Sustained](#), to honor OSU150 and the department's 80+ year legacy of conservation and sustainability science in support of species and habitat management.
- [Clint Shock](#) at Malheur Experiment Station is working on native plant seed production, an integral part of the multi-institutional Great Basin Native Plant Project to provide plant materials for rangeland restoration.
- [Administrators at the Marine Mammal Institute](#) found opportunities to leverage donor gifts for two endowed graduate fellowships, and found naming opportunities for donors to the marine studies building at Hatfield. They are working with the Marine Studies Initiative to leverage mutual interests in new MMI faculty hires to provide larger and more stable faculty support while achieving MSI teaching objectives to mutual benefit.
- [Environmental & Molecular Toxicology](#) receives a portion of the F&A funds generated by its large portfolio of research grants and contracts back from CAS, and reinvests these funds for various faculty and student training, research and professional development activities.
- [Craig Marcus](#), department head of Environmental & Molecular Toxicology, has participated in all six of the OSUF sponsored philanthropy and development training workshops: "Optimizing our Philanthropic Opportunity."
- [Environmental & Molecular Toxicology](#) received an endowment of \$250,000 in 2015, from Dr. Sheng C. Chung Fang to fund Undergraduate Research experiences for the EMT Summer Internship Program for URM students in STEM. EMT will utilize funds generated from this endowment to support 4-5 undergraduate students each for an 8-week summer research internship for summer 2018.
- [The Coastal Oregon Marine Experiment Station](#) worked with the seafood industry to obtain over \$150,000 in gifts to support outreach efforts and research.

Several AgSci faculty received new grants of \$500,000 or more:

- [Pat Hayes](#) in Crop & Soil Sciences received nearly \$2M from the USDA for “Developing Multi-use Naked Barley for Organic Farming Systems.”
- [Chad Higgins](#) in Biological & Ecological engineering received \$1.75M from NSF for “Scarcity Amid Abundance: Understanding Trade-offs in the Food-Energy-Water Nexus in the Willamette River Basin.”
- [Kim Anderson](#) in Environmental & Molecular Toxicology received \$1.5M from FEMA for “A novel approach for measuring firefighters' occupationally-related chemical exposures.”
- [Chris Langdon](#) at the Coastal Oregon Marine Experiment Station received \$628,000 from NOAA for “Improved delivery of water-soluble nutrients to marine fish larvae to promote expansion of US commercial aquaculture.”
- [David Williams](#) in Environmental & Molecular Toxicology received \$580,000 from NIH for “Benzo[a]pyrene Microdosing of Humans: A New Tool for Exposure, Risk Assessment and Prevention.”
- [Clark Seavert](#) in Applied Economics received \$455,000 from the University of Idaho for “Inland Pacific Northwest Wheat-Based Systems: Landscapes in Transition.”
- [Staci Simonich](#) in Environmental & Molecular Toxicology received \$1.4M from DOD for “Development, Evaluation, and Technology Transfer of BMPs for Optimizing Removal of PAHs, PCBs, PFASs, and Metals from Stormwater at DoD Sites.”



Oregon State University
**College of Agricultural
Sciences**

Oregon State University
College of Agricultural Sciences
 Annual Planning Metrics 2017-18

PART 1

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Faculty FTE																
Professorial	229.4	200.9	195.8	206.8	211.6	204.1	222.1	204.6	201.7	224.3	225.6	236.8	241.1	242.2	248.4	249.2
Non-Professorial	301.5	321.0	301.3	305.1	296.7	306.4	298.4	301.8	319.6	333.1	344.8	345.1	346.7	342.0	351.3	350.0
Total Faculty FTE	530.9	521.9	497.1	511.9	508.3	510.5	520.5	506.4	521.3	557.4	570.4	581.9	587.8	584.2	599.7	599.2
E&G Tenured/Tenure Track	41.5	36.0	31.1	40.4	36.8	39.5	31.6	36.2	36.5	45.8	47.2	49.3	48.2	50.7	48.9	47.5
Faculty Headcount																
Professorial	242	218	214	224	233	222	251	225	222	249	253	274	271	273	286	278
Non-Professorial	335	365	336	338	331	339	329	347	366	379	386	382	379	378	383	383
Total Faculty Headcount	577	583	550	562	564	561	580	572	588	628	639	656	650	651	669	661
E&G Tenured/Tenure Track																
0% E&G Funded	57	54	55	52	63	61	64	61	50	47	33	34	34	39	38	40
1%-33% E&G Funded	86	70	63	60	66	62	63	62	64	67	81	79	76	75	68	72
34%-66% E&G Funded	29	28	21	30	24	25	23	27	29	30	33	31	30	35	45	43
67%-99% E&G Funded	13	12	13	14	12	15	9	11	9	13	12	15	17	16	18	14
100% E&G Funded	4	2	3	7	7	8	4	6	6	13	12	10	9	8	2	3
Total Tenured/Tenure Track	189	166	155	163	172	171	163	167	158	170	171	169	166	173	171	172

SCH (Academic Year)																*
Undergraduate	24607	25340	25246	25342	24529	23833	24741	27220	28479	33983	34677	37275	36943	35859	36047	34242
Lower Division	6362	6870	7735	7634	7731	7327	8659	8912	8596	11277	11460	12348	12534	11780	13489	13364
Upper Division	18245	18470	17511	17708	16798	16506	16082	18308	19883	22706	23217	24927	24409	24079	22558	20878
Graduate	10274	10277	10571	9907	9213	8685	9809	9599	10267	11404	12295	12359	11493	11511	10657	10469
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SCH	34881	35617	35817	35249	33742	32518	34550	36819	38746	45387	46972	49634	48436	47370	46704	44711

* 2017-18 SCH (Student Credit Hours) is an estimate based on actual end-of-term data for fall/ winter and week 10 data for spring 2018. Prior year data based on actual fall-winter-spring data.

All Majors Count (including secondary majors)																
Undergraduate	1158	1123	1140	1129	1141	1061	1104	1209	1496	1793	2019	2226	2266	2337	2241	2210
Graduate	331	328	339	320	289	280	266	251	253	328	352	366	415	417	413	414
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL Major Count	1489	1451	1479	1449	1430	1341	1370	1460	1749	2121	2371	2592	2681	2754	2654	2624

Oregon State University
College of Agricultural Sciences
 Strategic Plan Metrics 2017-18

PART 1

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Goal 1. Provide a Transformative Educational Experience for all Learners.																
Entering Fall Cohort	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1.3 One Year Retention Rate	85.8%	84.4%	84.4%	82.7%	81.7%	82.7%	83.6%	81.0%	82.1%	83.9%	83.1%	83.4%	81.9%	86.3%	74.4%	82.4%
Retained in original college	73.5%	71.4%	74.1%	76.3%	71.1%	72.4%	70.5%	71.4%	71.5%	73.2%	70.9%	71.4%	70.2%	73.9%	60.4%	72.0%
Retained to another college	12.3%	13.0%	10.3%	6.4%	10.6%	10.3%	13.1%	9.6%	10.6%	10.7%	12.2%	12.0%	11.7%	12.4%	14.0%	10.4%
Entering Fall Cohort	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.4 6-Year Graduation Rate	61.8%	70.7%	67.7%	62.6%	64.8%	73.5%	70.7%	68.9%	69.2%	59.2%	57.7%	67.8%	65.3%	66.2%	71.1%	66.2%
First bachelor's in original college	43.1%	51.3%	58.2%	46.2%	50.9%	53.1%	53.7%	57.0%	53.2%	43.7%	44.2%	51.4%	49.0%	53.0%	54.9%	53.1%
First bachelor's in another college	18.7%	19.4%	9.5%	16.4%	13.9%	20.4%	17.0%	11.9%	16.0%	15.5%	13.5%	16.4%	16.3%	13.2%	16.2%	13.1%
Entering Fall Cohort	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1.5 Junior Transfer 4-Year Graduation Rate	84.4%	84.8%	74.3%	73.8%	67.2%	72.2%	80.0%	67.6%	76.7%	69.1%	73.5%	62.5%	55.3%	57.8%	52.4%	47.5%
First bachelor's in original college	81.3%	79.3%	70.0%	72.3%	67.2%	62.0%	74.0%	61.8%	68.3%	69.1%	73.5%	61.1%	48.2%	53.2%	50.0%	43.9%
First bachelor's in another college	3.1%	5.5%	4.3%	1.5%	0.0%	10.2%	6.0%	5.8%	8.4%	0.0%	0.0%	1.4%	7.1%	4.6%	2.4%	3.6%
1.6 % US Minority Students	5.4%	5.8%	6.2%	6.5%	7.0%	7.2%	8.7%	9.4%	12.0%	14.2%	14.4%	14.3%	14.5%	16.4%	18.5%	18.9%
1.7 % International Students	9.0%	10.0%	8.0%	8.0%	7.0%	8.0%	7.0%	6.0%	5.0%	4.0%	4.0%	5.0%	5.0%	5.1%	4.9%	4.8%
1.8 % High Achieving Oregon High School Graduates (Weighted HS GPA)	-	36.7%	35.5%	40.0%	37.1%	28.6%	33.1%	31.5%	38.1%	35.4%	44.5%	43.4%	44.0%	39.2%	52.8%	-
1.8 % High Achieving Oregon High School Graduates (Unweighted HS GPA)¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.7%

1. OSU Admissions began using unweighted HS GPA beginning Fall 2016. Weighted HS GPA is no longer available for analysis.

Goal 3. Strengthen Oregon State's Impact and Reach throughout the state and beyond.																
3.2 Invention Disclosures	13	6	9	13	10	15	6	13	14	12	14	17	16	17	14	21*

* 2017-18 "Invention disclosures" is an estimate based on submissions up to June 14, 2018. Prior year values are actual fiscal year totals.

Oregon State University
College of Agricultural Sciences
 Annual Planning Metrics 2017-18

PART 2

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Resources (Fiscal Year)																
E&G - Ending Budget (\$)	7,087,597	7,759,353	9,636,296	10,263,244	10,676,052	11,911,205	12,846,972	13,196,406	17,322,152	20,122,981	23,842,697	26,887,872	27,311,988	28,101,168	29,114,299	33,710,659*
Total R&D Expenditures (\$)	62,647,329					70,084,034	81,050,466	81,687,349	89,526,889	92,423,017	89,955,398	88,675,532	87,712,386	95,790,661	94,917,035	FEB 2019
Awards from Grants and Contracts ¹ (#)	555	668	614	669	608	475	427	560	517	492	417	404	539	531	417	JUL 2018
Awards from Grants and Contracts (\$)	29,368,256	35,834,483	35,891,976	37,982,268	34,185,285	37,600,692	44,463,817	55,039,078	59,751,760	53,872,819	53,138,070	45,446,585	50,416,935	52,865,167	46,392,574	JUL 2018
Private Giving (\$)	1,168,796	1,827,412	2,246,571	5,618,015	8,630,223	9,460,980	4,399,905	10,466,936	5,311,623	11,443,406	9,080,308	10,157,419	11,461,399	7,826,682	8,362,630	JUL 2018

*2017-18 E&G-Ending Budget is estimate based on 3rd Quarter Unit Forecasts and prior year (FY 16, FY17) actual to 3rd Quarter Forecast ratios.

Strategic Plan Metrics 2017-18

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Goal 2. Demonstrate Leadership in Research, Scholarship and Creativity while enhancing preeminence in the three signature areas of distinction																
2.1 Total R&D Expenditures	see APR data above															
Goal 3. Strengthen Oregon State's Impact and Reach throughout the state and beyond.																
3.4 Dollars Leveraged per Appropriated Dollar for SWPS Research (AES)	1.29	1.41	1.51	1.51	1.45	1.30	1.54	1.63	2.50	2.50	2.30	2.10	2.16	1.9	1.79	1.99**
3.5 Annual Private Giving	see APR data above															

** 2017-18 Dollars Leveraged per Appropriated Dollar for SWPS Research (AES) is estimate based on value up to May 31st FY 18 and prior year (FY 16, FY 17) ratio of fiscal year total to May 31st value. Data provided by Agricultural Sciences.

1. From 2000-01 to 2007-08, the number of grant/contract awards is based on the accounting transactions from the College's award index, rather than the actual number of awards received by the college.
 Before 2005-06, awards affiliated with both a campus department and OSU Extension Service were reported under the department's college. Starting in 2005-06 these were considered part of Extension Service and are not reported in the department's college.
 College of Agricultural Sciences award metrics include Agriculture Experiment Station (AES)