

FY2010 Agriculture Appropriations Requests Submitted by Senator Jeff Merkley

The following requests were submitted by Senator Jeff Merkley to the Appropriations Committee for consideration as part of the Fiscal Year 2010 Agriculture Appropriations Act.

Project Name: **Benton County Fairgrounds Waste Water Collection and Drainage Project**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Benton County Fairgrounds Waste Water Collection and Drainage Project.

Recipient: Benton County

Description: The purpose of the project is to intercept and manage animal waste to bring the site into compliance with Oregon Department of Environmental Quality (DEQ) regulations. Design for this system is a green technology solution to treat surface animal wastes through a manmade wetland. The end product will allow discharge into a fish bearing stream. Components include construction of a wastewater drainage collection, storage and field application system to properly manage runoff from animal wastes at the fairgrounds. Project will include underground drainage pipes directed to two collection sumps. The collection sumps will transfer wastewater into a large storage and supply tank, which will then be pumped onto constructed wetlands. The surface areas where animals are handled outside of the buildings will be resurfaced to direct wastewater runoff into the collection drains and sumps. The animal solid waste storage building will be relocated next to the wastewater collection and storage tank.

Project Name: **Canada Goose Agricultural Depredation Control Plan**

Amount Requested: \$2,000,000

Recipient: Oregon Department of Fish and Wildlife

Description: The funds will be spent implementing a Goose Depredation Control Plan including research at Oregon State University, personnel to provide assistance to landowners, purchasing hazing equipment, and enhancing alternative goose foraging areas to keep geese from damaging important croplands.

Project Name: **City of Condon Wastewater Improvement**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] City of Condon Wastewater Improvement.

Recipient: City of Condon

Description: The City of Condon is proposing to construct approximately 8,000 linear feet of Phase I & II of the city’s Water System Master Plan. The proposed construction project would replace undersized waterline, plus other pipe that is approximately 90 years-old. The project will increase the efficiency of the water distribution, and provide an increase in fire protection through the availability of water and new hydrants.

Project Name: **City of Eagle Point Reservoir Retrofit**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] City of Eagle Point Reservoir Retrofit.

Recipient: City of Eagle Point

Description: The City of Eagle Point is requesting funds to retrofit an existing 4.0 million gallon reservoir to expand the water system. All funds will be used directly for construction and construction engineering of the project. Design is 100% complete (funded by the City of Eagle Point), and the project is ready to advertise.

Project Name: **City of Sumpter Wastewater Facility**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] City of Sumpter Wastewater Facility.

Recipient: City of Sumpter

Description: The purpose of the project is to design and construct a wastewater facility in a rural Oregon community that lacks a population base to financially support waste treatment in a manner that meets Oregon standards and assures community safety. The current system is unable to meet community needs, and high snow pack or another weather event could overrun the system.

Project Name: Eastern Oregon Grasshopper Outbreak Suppression

Amount Requested: \$170,000

Recipient: Oregon Department of Agriculture

Description: Oregon Dept of Agriculture has seen an enormous buildup of grasshoppers, causing a huge economic impact on public and private rangeland and crops. The potential economic damage to crop and rangeland in Eastern Oregon can range from \$500,000 to \$1,500,000 and impacting more than 680,000 acres. The grasshopper densities reached highs of up to 200+ grasshoppers per square yard and without urgent suppression activities, the impact could be even greater. Funds will be used to assist landowners by providing regional surveys, technical advice, and organization of a regional cost-share suppression program. Reduced area treatment protocols will minimize costs and maximize the effect of reducing grasshoppers.

Project Name: Enhancing Barley Through Genomics

Amount Requested: \$800,000

Recipient: Oregon State University

Description: Barley is facing a crisis. Acreage has declined to historically low levels and the US is in danger of conceding domestic and world markets for barley, and its value-added products, to competitors from Australia, Canada, and Europe. This will have a substantial negative impact on federal, state, and local tax revenue. Throughout the US, climate change is resulting in increased abiotic (e.g., drought, cold) and biotic (e.g., disease, insect) stresses on all crops. Barley is among the most stress tolerant crops, and judicious investment in biotechnology will allow scientists to enhance this innate tolerance in order to maximize productivity, quality, and economic returns.

The Regional Barley Gene Mapping Project, which supported a directed competitive grant program, funded individual projects throughout the US that provided for significant advances in genomic science, but did not provide a coordinated approach to meet this crisis. Advances in genomic research provided

by the previous special grant, and other efforts, provide a unique opportunity to address this crisis through a new special grant.

Researchers in Minnesota, North Dakota, Oregon, Washington, and Wisconsin have developed a coordinated research plan to apply genomics tools to four research areas that have the greatest potential for success to increase barley production – winter hardiness; drought tolerance; disease resistance; and quality.

Barley is a cornerstone of American agriculture. It is the most stress tolerant of cereals, producing grain essential for the malting and brewing industries. Barley is a heart-healthy grain that will be a key ingredient in strategies to reduce obesity and Type II diabetes. Barley provides superior forage and feed for ruminant and non-ruminant animals. Barley provides farmers with an option to increase genetic diversity, use less irrigation water, and to be more profitable.

Genomics is an umbrella term defining the study of naturally occurring genetic variation using the latest tools of biotechnology. Barley is unique in that in addition to its economic importance as a crop, it is also a model genetic system. A vigorous public sector research community, in cooperation with the private sector, has developed a robust set of genomics and molecular breeding tools. These discoveries in basic biology can be extended to practical applications and to other crops.

This research will be supported by a tight and coordinated network of Land Grant University and ARS scientists with linkages to the private sector. These researchers are currently supported by Federal, State, and local government agencies, grower self-assessment, and industry grants. A recurring base of funds, over three years, is necessary to ensure the timely and effective application of currently available tools. There is not sufficient competitive grant funding for this type of applied molecular plant breeding and variety development. Grower and industry support is constrained by declining acreage.

Project Name: Grass Seed Cropping (OR, WA, ID)

Amount Requested: \$500,000

Recipient: Oregon State University

Description: Over 90% of the United States' cool-season forage and turfgrass seed is produced in the Pacific Northwest. Currently, the grass seed industry faces some critical environmental and economic challenges including public pressure to phase out open-field burning; alleviation of smoke, dust, and chemical trespass from crop production areas; lack of integrated cropping systems; protection of genetic diversity and identification of germplasm diversity and identification of germplasm resources for alternate production strategies; and better utilization of post seed harvest residues. Interest is also growing in using grasses in pasture-based livestock feeding systems, in developing additional knowledge about both the beneficial and harmful effects of endophytes in grasses and in exploring additional options for use of grasses in providing ecosystem services. The purpose of competitive program is to maintain a sustainable grass seed cropping industry. Cooperating in the effort

are research and extension faculty from Washington, Idaho, and Oregon, and scientists from the USDA-ARS National Forage Seed Production Research Center.

Funds are allocated through a competitive grant process hence budget allocations differ within each funded proposal. In general, two thirds of funding is used to pay for labor (faculty research assistants, graduate students, undergraduate students or temporary workers) with remaining funds used for services, supplies, travel and a limited amount of needed equipment. Oregon-based scientists typically receive more than half of available funds.

Project Name: **Hubbard Creek Impoundment Improvement Project**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Hubbard Creek Impoundment Improvement Project.

Recipient: City of Port Orford

Description: This project would fund construction to enlarge the Hubbard Creek Impoundment, to ensure that the City of Port Orford has sufficient water for the community's needs. At present, the impoundment is too small to meet the needs of the community during the dry summer months. The creek has almost dried up several different years. The community is presently using all of the stream flow to provide water to the City. This water comes from the impoundment and goes to the treatment plant for treatment before being delivered to the community water users. Port Orford is in an economically distressed area on the Oregon Coast and providing adequate water is a must if this community is to survive, grow and attract additional business to locate in the City.

Project Name: Meadowfoam Research (OR)

Amount Requested: \$275,000

Recipient: Oregon State University

Description: The goal of this research program is to increase the supply of renewable industrial oils for United States manufacturers through use of the crop plant meadowfoam. Meadowfoam is a newer crop in the Pacific Northwest (PNW) that produces oil with unique chemical properties that are utilized by manufacturers of personal care products and are being explored for use as a fuel additive, as a component of vehicle lubricants and in pharmaceutical products. Meadowfoam

meal, a by-product of oil extraction, also has unique properties and research into use of meal and meal extracts as biological pesticides and plant growth enhancing agents is underway. These materials may be of use in organic crop production systems. This project supports research in breeding and management practices for this alternative crop in the PNW as well as investigation into potential uses of meal. Presently, the United States is the sole supplier of this oil and meal. Industry and USDA-Agricultural Research Service are principal partners.

Project Name: Molluscan Shellfish (OR)

Amount Requested: \$600,000

Recipient: Oregon State University

Description: The oyster industry on the West coast, US, mainly focuses on production of the Pacific oyster, *Crassostrea gigas* and, to a lesser degree, the Kumamoto oyster *C. sikamea*. The industry was established over a century ago and provides income and jobs to many coastal communities, with an overall dock-side production valued at about \$70 million per year. In contrast to many other U.S. agricultural commodities, there has been no long-term, funded research program to select and manage Pacific oyster broodstock for enhanced production.

In response to this need, the Molluscan Broodstock Program (MBP) was established in 1995 at Oregon State University as a Special Project of USDA-CSREES in order to implement a selective breeding program to improve broodstock and increase commercial production of Pacific oysters on the West Coast. Since MBP's inception, about 1500 oyster families have been planted and evaluated at commercial grow-out sites from Alaska to California. Top performing families have been selected and used as broodstock for production of subsequent generations. In addition, modern molecular genetic techniques (microsatellite analyses) have been applied to ensure accurate pedigrees of families. A rotational breeding scheme has been implemented to reduce and control the rate of deleterious inbreeding effects.

After two generations of selection, the average yield of oyster families derived from selected MBP broodstock is about 40% greater than that of families from industry broodstock; furthermore, the five top-performing families (recommended for commercial hatcheries) have an average yield that is 77% greater than that of families from non-selected industry broodstock. MBP broodstock oysters are now used in commercial hatcheries for large-scale seed production. The West Coast industry is very supportive of the program.

MBP also plans to begin a breeding program for Kumamoto oysters. This species of oyster is highly prized by consumers but it is slow growing and commercial broodstock are likely inbred due to poor broodstock management practices. In fall 2006, new Kumamoto broodstock oysters were brought back from Japan and are being reared in quarantine conditions. Certified disease-free Kumamoto broodstock will be released to industry in 2009.

In 2007 and 2008, shellfish hatcheries on the West coast have been struggling to produce oyster larvae (seed) due to unknown factors that seem to be linked with a change in ocean conditions. This lack of sufficient amounts of seed is jeopardizing the whole West coast oyster industry and is the most serious challenge that the industry has faced since hatcheries were built in the mid-1970's

In FY 2010, funds are requested to 1) carry out research to address the problem(s) of rearing oyster larvae in West coast hatcheries; 2) continue the breeding program to improve yields and other desirable qualities of Pacific oysters, and 3) implement a new breeding program for Kumamoto oysters.

Project Name: Multi-Commodity Research (OR)

Amount Requested: \$400,000

Recipient: Oregon State University

Description: This project enhances competitiveness and expands the economic value-added component in Oregon agricultural products through research and outreach in food processing, product development, business strategy, marketing, and consumer testing. The State of Oregon has a high percentage of specialty crops that have been traditionally sold into commodity markets as undifferentiated product. Due to pressures from globalization, it is increasingly difficult to compete in commodity markets, because of increased production and energy costs. There is also a growing consumer demand for high quality, value-added products from the Pacific Northwest that can compete effectively in the marketplace. Value-added processing and marketing of agricultural-based products offer considerable potential for expansion, economic growth and job creation. The team will conduct research to support food processing and food product development, investigate consumer perceptions of product quality and value, and evaluate marketing and food industry strategies. These studies will improve the ability of new and existing food producers and processors to satisfy consumer and market demand and to achieve success through business and marketing strategies suitable to the small and medium sized firms of the Northwest. In conjunction with the Food Innovation Center the aim is to provide an integrated program of research, educational programs, and technical services designed to enhance regional capability for innovation in food processing and marketing.

Project Name: Northwest Center for Small Fruits Research, Small Fruits Initiative Plant Improvement

Amount Requested: \$1,100,000

Recipient: Center for Small Fruits Research (Corvallis, OR)

Description: 1) Small Fruit Pathology Program: The Pacific Northwest is a major producer of small fruit crops. These crops are susceptible to infection by fungal and bacterial diseases which significantly impact fruit quality of all crops. Eliminating fruit diseases requires a greater understanding of the biology of these pathogens. Funding will be used for a new ARS research post and pre harvest

plant pathology program including one ARS research scientist, one full time technician, greenhouse, office and laboratory space in Corvallis, Oregon. Funds will also be used for specific cooperative agreement with Washington State University for a technical support position in Mt. Vernon, Washington.

2) Site Feasibility Study and Phase I Design for Additional or New Research Facilities: Current facilities are over-crowded, with some needing replacement and others in need of an upgrade. The feasibility study is needed to determine the best approach - to either upgrade and expand existing facilities or to build a new research facility. This will include a full assessment, strategic evaluation and functional analysis of current facilities and infrastructure.

3) Competitive Research Grants. The competitive grants program funds peer reviewed research projects that help enhance profitability and sustainability of the small fruits industry. Funds will be used for the competitive grants program peer reviewed small fruits research projects.

Project Name: **Old Highway 62/Royal Avenue Water Main Replacement**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Old Highway 62/Royal Avenue Water Main Replacement.

Recipient: City of Eagle Point

Description: The purpose of the project is to replace an old and aging 6 inch asbestos cement waterline with a 12-inch waterline to provide additional capacity to the City's water system. All funds will be used directly for construction and construction engineering of the project. Design is 100% complete (funded by the City of Eagle Point), and the project is ready to advertise.

Project Name: **Organic Cropping Research (OR)**

Amount Requested: \$800,000

Recipient: Oregon State University

Description: Oregon's growing organic agriculture industry has developed strong links between producers and consumers and provides important economic benefits to the citizens of the

state. In 2006, Oregon's 357 certified organic farms generated more than \$52.1 million in organic products from approximately 59,200 certified acres. Certifiers issued 142 processor and 25 handler certificates, a significant increase from 65 in 2005, resulting in over \$76.3 million in trade. Certified organic acreage increased 41% to 83,280 acres in 2007. Oregon's strong agricultural infrastructure and unique climate make Oregon's agriculture uniquely positioned to continue to grow dramatically in its market share of organic dairy and meat, tree fruits, specialty seed, berry crops, wine grapes, and processed and fresh market vegetables.

For example, western Oregon organic dairy farmers have an increasingly strong competitive edge as cows graze nearly year-round, facilitating access to the outdoors and reducing the cost of providing 100% organic feed. Also, Oregon's location on the 45th parallel, mild winters, dry summers, access to irrigation water, and experienced organic farmers position Oregon to become a world leader in organic specialty seed production. Research directed at problems facing these commodities will enhance Oregon agriculture's competitiveness in the marketplace. Last year's research activities created a "Organic Fertilizer Calculator"; determined appropriate size and spatial distribution of beetle banks for pest suppression; assessed availability of, established selection criteria for, and evaluated vegetables for organic farming systems; developed weed management strategies for producing organic legume and grass hay; and began the development of an organic cereal production system.

Project Name: **Potato Research (several states)**

Amount Requested: \$1,800,000

Recipient: Oregon State University

Description: This multi-state project works to develop and commercialize new potato varieties that will directly benefit all segments of the Northwest potato industry and indirectly benefit all US producing regions. The funds are used to develop and identify varieties with high yield, improved processing quality, genetic resistance to major pests and diseases, higher levels of resistance to stresses, increased nutrient use efficiency, improved human nutritional value, and high tuber quality. An additional environmental benefit comes with reduced use of pesticides, water, and fertilizers, which are normal by-products of improved varieties.

Funds are allocated to individual cooperators to accomplish specific project tasks. Work assignments are made collectively with funds allocated based on ability to deliver end results of specific types. Funds are used for lab and field research with funds specifically being used to support research technicians, graduate research assistant salaries, student workers, field and laboratory expenses, other materials and supplies, and travel expenses.

Project Name: **Redmond Airport Infrastructure**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Redmond Airport Infrastructure.

Recipient: City of Redmond, OR

Description: Funds will be spent to design and construct water and sewer lines along the east side of Redmond Airport to open approximately 30 acres of airside property for lease and will go toward engineering design and construction.

Project Name: Relocating Seaside School District out of tsunami zone

Amount Requested: \$0. Only committee report language is requested

Report Language:

RURAL COMMUNITY PROGRAM ACCOUNT- The Committee has been made aware of and encourages the Department to give consideration to applications relating to essential community facilities for the following: [...] Seaside School Relocation.

Recipient: Seaside School District 10

Description: The Oregon Department of Geology and Mineral Industries (DOGAMI) recently conducted research assessing the seismic safety of Oregon's public schools, including their risk of tsunami inundation. The study concluded:

- Cannon Beach Elementary School, Gearhart Elementary School, Broadway Middle School, and Seaside High School (all in Seaside School District) are at the highest risk level of collapse during an earthquake.
- Cannon Beach Elementary School, Gearhart Elementary School, Broadway Middle School, and Seaside High School are at the highest risk level of being inundated by tsunamis. There were only seven public schools in Oregon that received this rating. Four of the seven schools are in Seaside School District.

In addition, DOGAMI paleoseismologist Dr. Rob Witter and tsunami geologist Dr. George Priest recently concluded a ground breaking two-year field investigation of past tsunami events for Seaside School District and the City of Cannon Beach applying the best available geological research techniques and state-of-the-art modeling. As a result of this study, the scientists strongly recommend that Seaside School District relocate the four schools that are below 20 feet in elevation to property that is at least 80 to 100 feet in elevation.

The recurrence interval for Cascadia Subduction Zone (CSZ) earthquakes along the Oregon Coast averages between 300 to 350 years. It has been 309 years since the last CSZ events. CSZ earthquakes are magnitude 8.5 and higher and they last from four to six minutes.

Current evacuation of these four buildings is impeded by several factors. All schools are located a significant distance from higher ground and, if students are able to evacuate, they must do so on foot. At three of the schools, students must hope the bridges are safe enough to cross. While at the fourth school, the maximum elevation accessible for evacuation is 40 feet. The purpose of the project would be to construction new facilities and relocate the schools and students to safer areas.

Project Name: **Small Fruit Research (OR, WA, ID)**

Amount Requested: \$500,000

Recipient: Oregon State University

Description: The Northwest Center for Small Fruits Research (NCSFR) provides competitive grants to enhance profitability and sustainability for a number of crops. This includes blueberries, strawberries, raspberries, blackberries, cranberries, table grapes, wine grapes, huckleberries, gooseberries, and black currants. The pacific Northwest is the largest blueberry production area in the world and demand has risen dramatically in recent years both in domestic and international markets. The importance of berry and grape production has long been recognized in the Pacific Northwest where these high value specialty crops now make up a large component of agricultural product sales.

Research priorities for each small fruit crop are established by the combined efforts of industry representatives and scientists. They are based on constraints on production and processing in the areas of breeding, integrated pest management, physiology, enology, small fruit horticulture, and genetics. The priority setting process ensures an effective means to respond to current challenges within the small fruits industries.

The highly integrated research is conducted by faculty at land grant universities, scientists at the USDA-Agricultural Research Service (ARS), and industry counterparts in the three Pacific Northwest states. There is no one facility, but rather a consortium of people, industries, programs and research stations working in unison to meet common goals. The Center is a partnership between the land grant institutions, the USDA (both ARS and CSREES) and over 13 different commodity commissions and organizations in the three states.

The paramount goal of the Center is the coordinated development of research program. All projects funded by the Center are reviewed for both scientific quality and relevance of research to industry needs. The Center provides a highly integrated and progressive approach to genetics research, plant breeding, pest management, decision-based marketing and packaging, processing methods to improve quality and production methods directed towards increased quality. The Center fosters the development of a national exchange network for small fruit research.

Funds are awarded through a competitive process with true peer and grower evaluation of submitted proposals. A small portion of the funds (15%) is used to run the competitive process and to support the national online information network (InfoNet). The bulk of the funds go to on-the-ground research and extension programmatic activities with funds specifically being used to support research technicians, graduate research assistant salaries, student workers, field and laboratory expenses, other materials and supplies, and project travel expenses. We estimate that about a half of the program funds are spent on supplies and services (field and laboratory), publications and travel; the balance goes into salaries.

Project Name: **Spalding Sewer Lift Station**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Spalding Sewer Lift Station.

Recipient: City of Grants Pass

Description: The City of Grants Pass lacks state certified industrial land to encourage the expansion of local companies and the ability to recruit new businesses to the area. There are certain needs for industrial land to be successful. These lands need to be close to an interstate, railway or other major transportation system. They also need to be flat or, at least, with very little slope. The City of Grants Pass is located in a mountainous region surrounded by state and national forests. As a result, the availability of lands suitable for industrial development is seriously limited. The lack of available, ready-to-use industrial properties impedes local economic development efforts.

The City has a sixty-five acre location currently zoned industrial land that meets most needs for industrial development. However, it does not have a sewer system to support business development.

The purpose of the project is to install a sewer system in the Spalding Industrial Park, located on the western side of Grants Pass. Installing a sewer system will enable the City to actively recruit larger industries to the area, helping to stimulate the local economy and create jobs.

Grants Pass is located a county identified by the State of Oregon as “severely distressed.” Unemployment has grown to nearly 17% with no signs of slowing. Funding the infrastructure needed to develop this industrial park will enable the City to provide large parcels of land (more than 10 acres) needed to attract larger industries. It would allow the City to actively recruit businesses requiring a larger workforce (300-500 employees) in addition to those smaller businesses (with an employee base in the 150-200 employee range) currently pursued by the City. Attracting larger industries to the area will provide a means for the City to help address area unemployment and improve cash-flow in the local economy that will further support other area businesses.

Project Name: STEEP III Water Quality in the NW (OR, WA, ID)

Amount Requested: \$1,000,000

Recipient: Oregon State University

Description: The Pacific Northwest (PNW) area of Washington, Oregon and Idaho produces 13% of the nation's wheat supply and some 80+% of its soft white wheat for export. The inland PNW is unlike any other agricultural area in the U.S. Seventy-five percent of the annual precipitation falls during the winter. Deep, loess-derived soils effectively store this moisture and allow the region to produce the highest dryland winter wheat yields in the U.S. The predominant dryland crop rotation in eastern Oregon and Washington and southern Idaho is winter wheat-summer fallow, though rotations with one year of fallow in every three years of cropping, or no fallow at all, are also practiced. The silt-based soils are subject to water and wind erosion during the fallow phase of the cropping cycle, particularly under conventional tillage, which leaves the soil surface bare. Eliminating or reducing tillage and leaving crop residue on the soil surface will reduce or eliminate soil erosion, but it also makes seeding and weed control more difficult, increases certain diseases, and affects nutrient management. The STEEP research grant has provided funds to develop cropping techniques such as direct-seeding, residue management, weed control, and disease and nutrient management, and the accompanying extension programs to facilitate the adoption of successful conservation farming techniques for the PNW.

There is also a significant acreage of irrigated land in the PNW used to produce high value crops such as potatoes, vegetables for processing, and seed. Cereal crops are often grown in rotation with these high-value crops to break pest cycles and diversify the economic base.

The use of conventional or intensive tillage has declined by more than 50% in the last twenty years with production shifting to reduced tillage and direct-seeding (no-till) systems. The increase in conservation farming systems has seen a corresponding 75% decrease in soil erosion and a 50% reduction in sediments in rivers. In this regard, the STEEP program has accomplished many of its initial objectives. However, Pacific Northwest agriculture continues to face many on-going challenges: rising input prices, increasing global competition, declining rural communities, and competing production and environmental goals. These come at a time when the U.S. is also facing new challenges related to global food and energy supply and price, national security, and economic stability. Agriculture can contribute solutions to many modern societal problems: increased energy and food security, reduced greenhouse gases, and improved international trade balance. However, developing sustaining solutions requires a long-term, integrative approach to research on a scale rarely implemented.

This request represents a significant departure from the previous STEEP special research grant. Using special grant funds we propose to establish a network of agricultural research sites from which to address long term agricultural, environmental, and agroecosystem problems. A long-term approach is necessary given the complexity of the biological, ecological, and economic systems involved. Further, we propose to aggressively pursue competitive funding for sustaining support of these efforts.

Funds are allocated through a competitive grant process hence budget allocations differ within each funded proposal. In general, two thirds of funding is used to pay for labor (faculty research assistants, graduate students, undergraduate students or temporary workers) with remaining funds used for services, supplies, travel and a limited amount of needed equipment. Oregon-based scientists typically receive a third or more of available funds.

Project Name: **The Medusahead Challenge**

Amount Requested: \$1,000,000

Recipient: USDA-Agriculture Research Service (Burns, OR)

Description: Medusahead, and other annual grasses, are destroying the agricultural sustainability, ecology, and fires regimes of the Great Basin and surrounding ecosystems. These weeds have invaded about 27 million acres, and are spreading across the region at an alarming rate in association with elevated atmospheric CO2 levels. These weeds displace native vegetation on which much of the rural economies depend. Annual grasses create serious fire conditions. Frequent fires pose major environmental and health risk and are very expensive to fight. Medusahead, and other grasses, also displace habitat for important wildlife, such as sage grouse. In response, land owners and managers, researchers, and educators throughout this region developed a consortium to address this serious problem. They, along with the Agriculture Research Service office in Burns, Oregon, have developed a Strategic Plan that outlines a three-component program to management this weed throughout the region. The components are research, education, and medusahead management. This outcome-based program outlines 14 separate large-scale management activities, 27 research projects, and 14 educational programs necessary to protect the Great Basin. This project aims to implement the Strategic Plan.

Project Name: **Water Treatment Plant Intake Replacement**

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Water Treatment Plant Intake Replacement.

Recipient: City of Oakland

Description: Water Treatment Plant Intake Replacement, Oakland, Oregon project will include salaries, planning, and construction. The City of Oakland water treatment facility has struggled

with sand and sedimentation clogging the raw water intake and damaging the raw water pumps as well as causing damage and maintenance problems throughout the water treatment plant.

The system's water source is Calapooya Creek which has heavy sediment load and high turbidity. Sedimentation is unusually heavy, possibly due to an upstream dam that was removed a few years ago, and should remain heavy for a number of years.

The primary raw water intake is located in a small excavated channel due to the low water level of approximately two to three feet in summer. This intake is rapidly covered with sand and sedimentation causing the capacity of the intake to drop dramatically. This intake is inaccessible during most of the year due to high water levels. An infiltration gallery style intake is utilized during high-water winter months to solve this problem, but is ineffective in the summer.

Equipment in the raw water pump station and water treatment plant has required extraordinary repair, replacement and rebuilding since it's installation in 2002. Both raw water pumps were refurbished in 2007 due entirely to heavy sand accumulation around the intake screen and the intake channel.

The City does not have access to sufficient land to construct a settling pond, which would be the ideal solution to the problem, but has identified a potential deep water location on the Calapooya approximately 800 feet from the existing raw water intake.

This project would involve engineering, planning and construction of the replacement raw water intake.

Project Name: Winston Water Reuse Project, Phase I

Amount Requested: \$0. Only committee report language is requested.

Report Language:

RURALWATER AND WASTE DISPOSAL PROGRAM ACCOUNT. The Committee has been made aware of and encourages the Department to consider applications for water and waste disposal loans and grants for the following projects: [...] Winston Water Reuse Project, Phase I.

Recipient: City of Winston

Description: The City of Winston's wastewater treatment plant discharges into the South Umpqua River. Meeting DEQ and other clean water standards has become increasingly difficult. Redirecting this water and pumping the treated effluent approximately 2 miles to the Game Reserve would decrease the South Umpqua River's temperature and particulate counts. This project would pump up to ten million gallons per day to the game reserve. This would allow the recharging of 3 local streams and will allow fertigation to 600 acres of the reserve.

The funds will be used for capital improvements such as a pipeline under the river and a pump station to send the wastewater to holding ponds prior to the water being naturally filtered through the reserves,

ponds lakes and streams. The water will be used to irrigate the reserve grasslands for endangered animals to graze on. The funds would hire contractors and workers to build this system and revitalize our job losses in this area, which has over 20% unemployment. The construction portion of this project will last over eighteen months after the plans are engineered. The educational prospects of eco building will and environmental enhancement will add jobs to the tourism and education sector of this community.