

Research & Technology Transfer Report

Board of Regents Meeting, January 2012

Under Policy 401 of the Board of Regents, The University of Montana – Missoula and Montana State University – Bozeman are required to meet the following reporting elements:

Federal Initiatives Report. Targeted federal initiative funds (commonly referred to as “earmarks”) are funds included in federal appropriations requested by members of Congress to fund specific projects or programs. To keep the regents informed of these funding requests, UM-Missoula and MSU-Bozeman, as representatives of the affiliated campuses, shall coordinate requests for federal initiatives for their affiliated campuses and shall each submit to the Commissioner of Higher Education a report of the requests for any non-competitive federal funds which the units anticipate submitting to Montana’s congressional delegation for inclusion in the federal budget. The report will be submitted before the January board meeting unless otherwise scheduled by the board.

Reports. Annually, at the September regents’ meeting, UM-Missoula and MSU-Bozeman, as representatives of the affiliated campuses, shall submit to the Commissioner of Higher Education a report summarizing the research and technology transfer activities for the previous fiscal year. The report shall contain, at a minimum, the following data for the previous fiscal year:

1. All expenditures from grants and contracts managed by the respective research administrative offices;
2. Number of new invention disclosures filed;
3. Number of new start-up companies which have licensed or commercialized university-developed intellectual property;
4. Number of new intellectual property licenses issued;
5. Total intellectual property licenses in effect at the close of the fiscal year;
6. Total gross revenues from intellectual property licenses; and
7. Assessment of progress toward meeting the goals pertaining to technology transfer outlined in the campus strategic plans.

FY 2013 Federal Initiatives Report

CONTINUING AREAS OF INTEREST

- McIntire Stennis Cooperative Forest Research Program
- Wildland Fire Science Partnership
- USGS Cooperative Research Unit (CRU)
- Forest Products/Wood Utilization
- Defense Critical Languages and Cultures Program
- NIH IDeA
- Montana Safe Schools Center
- Living Well with a Disability
- Pell Grants
- Re-authorization of the Rehabilitation Act of 1973 / Workforce Investment Act

McIntire Stennis Cooperative Forest Research Program

The McIntire Stennis program provides support to state- certified Schools of Forestry across the U.S. The program is funded under the USDA's National Institute for Food and Agriculture (NIFA). Funds are formula-based and must be matched on a one-to-one basis. For FY 2012, the University of Montana is eligible for \$662,278, which must be matched. Funds can be used for research and training across a broad variety of efforts including ecological restoration; catastrophe management; valuing ecological services; energy conservation, biomass and biobased materials; carbon sequestration and climate change; fostering healthy forests; and maintaining competitiveness in the forestry resource sector. The FY 2012 appropriated amount was \$32.934 million, which is also the FY 2013 budget request and the FY 2013 Senate number. The 2013 House number is \$32.275 million.

Wildland Fire Science Partnership

The Wildland Fire Science Partnership is a joint program of the US Forest Service, the University of Montana and the University of Idaho. It is funded under the Forest Service/Joint Fire Science account in the Interior Appropriations Bill and operated out of the Rocky Mountain Research Station in Fort Collins, CO. Current funding for the Partnership is \$2.6 million which is divided as follows: \$1.3 million to the Forest Service and \$650,000 each to UM and UI. The program is designed to integrate multiple fire programs to give wildland fire managers new approaches, techniques, information and advanced tools to help them address rising fire suppression costs, deteriorating ecosystems, increasing fire hazards and other disturbances that affect water and environmental quality.

USGS Cooperative Research Unit (CRU)

UM houses the Montana Cooperative Wildlife Research Unit. Research emphases within the Unit include ecology and management of carnivores, applied landscape ecology, management of large game, interactions between forest management and wildlife, environmental influences on the demography and diversity of birds and related issues. CRUs generally have several positions assigned to a campus. For FY 2013, the budget request was \$18.921 million, a slight increase over the FY 2012 appropriated level of \$18.7 million but a slight reduction from the \$19.1 million appropriated in FY 2012.

Forest Products/Wood Utilization

For many years, UM participated in a Wood Utilization Research (WUR) consortium that consisted of 14 institutions. Funding was earmarked under USDA/NIFA and used for research on sustainable bioproducts from wood and woody residues, advanced engineered wood and biopolymer composites, biofuels, biopharmaceuticals and the manufacture, marketing and economic analysis of these bioproducts. While there are no longer earmarks, some language which seems to have similar objectives has been included in the Agriculture Appropriations Bill under the title, "forest products".

Defense Critical Languages and Cultures Program

UM has received funding from the Department of Defense, Operations and Maintenance, Defense-wide, for language instruction and cultural background training related to Arabic and Chinese. A special focus has been Afghanistan, although the program is expanding into other areas and needs to turn its focus more in these new directions. Funding has been obtained through direct contact with DOD/National Security Education Program and response to BAAs. The University is also interested in looking at larger contract opportunities.

NIH IDeA

The IDeA program is NIH's version of EPSCoR. There are two components to IDeA. One is the INBRE program which seeks to develop a network of researchers in the medical and biomedical fields and the other is the COBRE program which supports the development of research clusters. UM has been successful in the COBRE program. The President's budget request for FY 2013 did not include the \$50 million in additional funding which was added to the program in FY 2012. The Senate Labor-HHS Appropriations Committee reinstated the \$50 million through a full committee amendment which brought the program back to the \$276 million appropriated in FY 2012. On the House side, the FY 2013 recommendation is \$310 million.

Montana Safe Schools Center

The MSSC program provides schools not only in Montana but across the US with training, research and professional development services covering a variety of topics from suicide prevention to emergency response and crisis management. UM houses MSSC, but all funding comes from grants and consultation fees, which are negotiable based on the needs and resources of the school.

Living Well with a Disability

UM's Rural Institute on Disabilities teamed with the Research and Training Center on Independent Living at the University of Kansas to develop this program. Living Well with a Disability aims to reduce the severity and incidence of secondary conditions (e.g. depression and pressure sores) by promoting healthy, independent living. Federal funding currently comes from the National Institute on Disability and Rehabilitation Research (NIDRR) in the Department of Education.

Pell Grants

Students pursuing undergraduate degrees can apply for this need-based grant, which does not have to be repaid, by filling out FAFSA. Awards are determined based on expected family contribution, cost of attendance per institution, the student's enrollment status and whether the student attends for a full academic year or less. The grant will now only cover 12 straight semesters, rather than the previous 18. For FY 2013-2014, the maximum award will be \$5635, an increase of \$85 since FY 2010-2011 level. However, funds will only cover fall and spring courses, leaving students who take summer courses to find other sources of funding, such as Stafford loans. A recent change to that structure means the loans begin accumulating interest at the end of study, whether the student has graduated or is no longer enrolled. About 28 percent of UM students receive Pell Grants.

Re-authorization of the Rehabilitation Act of 1973 / Workforce Investment Act

UM's RTC:Rural program currently receives funding from the NIDRR, a division of the Office of Special Education and Rehabilitative Services within the Department of Education. The Rehabilitation Act of 1973 actually requires the NIDRR to fund a rural center. This requirement does not appear in at least one draft of the Workforce Investment Act of 2012 though, leaving the potential for a rural center to appear at odds with the NIDRR's long-range plan. Changing the language to include a requirement will help ensure the RTC:Rural program receives NIDRR funding.

SPECIAL AREAS OF INTEREST

- Systems Ecology Research
 - Wildlife Biology
 - Preparation for College
 - Alternative Energy Applications and Technologies
-

Systems Ecology Research

Forest fires are intensifying -- with longer fire seasons, hotter fires and larger fires. This situation is likely to be exacerbated by anticipated climate changes, mainly dryer and hotter seasons. The University of Montana has a long-standing expertise in fire science and landscape restoration. UM is the only university in the nation directly involved in fire operations, thus giving it a special expertise and understanding of firefighting. The University also has expertise in assessments and monitoring, especially the use of technologies such as airborne laser scanners, 3D models for simulating fire movement through shrublands and new means of conducting forest and fuel inventories. UM will continue to use Landsat/geospatial satellite data for analyzing fires and landscape impact. UM will be seeking funds to continue its work in these areas.

Wildlife Biology

The University of Montana is a leader in both educating students in wildlife biology and in conducting research in selected areas. Montana's tourism and timber and agricultural industries are dependent on understanding of the wildlife-habitat relationships. UM can be -- and needs to be -- a leader in the emerging fields of conservation genetics, landscape pattern and connectivity and quantitative wildlife ecology. It can build on its expertise in threatened and endangered species, the maintenance of biological diversity and problems associated with small population sizes. UM will be seeking research funding for these areas. We may also consider a workshop or conference designed to identify the top 10 challenges in wildlife biology research, moving beyond individual species to more integrative approaches.

Preparation for College

Many students come to college unprepared for the rigors of the academic environment or without exposure to the coursework necessary for certain fields, especially math, science and engineering. This means that students are often unable to pursue the education and careers of their choice, that the state and the nation loses much-needed students in the STEM areas or that expensive and time-consuming remedial courses and support are necessary. UM is interested in research to better understand and then actualize means of helping K-12 better prepare for college.

Alternative Energy Applications and Technologies

UM is examining a number of energy applications and technologies to supply future energy needs. These include support for greater penetration of hybrid vehicles (solar and electric charging stations), diversification of energy sources (hydrogen), microgrid technologies and development of net-zero homes. UM will be looking for research support for these and related technologies.

Research and Technology Transfer Report, 2012
THE UNIVERSITY OF MONTANA-MISSOULA

Data Elements for MUS Policy	FY 2008	FY2009	FY2010	FY2011	FY2012
R&D Expenditures (same data reported to NSF)	\$62,405,729	\$67,117,785	\$66,961,101	\$63,857,146	\$61,543,835
Number of new invention disclosures filed	8	6	7	10	12
Number of new start-up companies which have licensed or commercialized university-developed intellectual property	3	3	1	0	1
Number of new intellectual property licenses issued	5	4	1	5	4
Total intellectual property licenses in effect at the close of the fiscal year	22	23	23	28	30
Total gross revenues from intellectual property licenses	\$0	\$0	\$47,905	\$56,082	\$68,581

Data Elements for Strategic Plan	FY 2008	FY2009	FY2010	FY2011	FY2012
Patents Issued (annual)	2	0	3	3	2
Active Licenses (Total)	22	23	23	28	30
Active Licenses (MT Companies)	12	13	12	13	9
Percent Licenses w/ MT Companies	55%	57%	52%	46%	37%
License/Patent Revenues	\$0	\$0	\$14,348	\$34,155	\$40,805
Reimbursed Patent Costs from Licenses	\$0	\$0	\$33,557	\$21,927	\$27,776

MONTANA TECH OF THE UNIVERSITY OF MONTANA

Data Elements for MUS Policy	FY2008	FY2009	FY2010	FY2011	FY2012
R&D Expenditures (same data reported to NSF)	\$7,882,940	\$8,408,515	\$9,656,552	\$9,296,423	8,509,560
Number of new invention disclosures filed	6	6	8	2	1
Number of new start-up companies which have licensed or commercialized university-developed intellectual property	0	0	0	0	0
Number of new intellectual property licenses issued	0	0	2	0	0
Total intellectual property licenses in effect at the close of the fiscal year	1	1	3	3	3
Total gross revenues from intellectual property licenses	\$0	\$0	\$2,720	\$7,110	0

Data Elements for Strategic Plan	FY2008	FY2009	FY20010	FY2011	FY2012
Patents Issued (annual)	1	1	0	0	
Active Licenses (Total)	1	1	3	3	
Active Licenses (MT Companies)	1	1	1	1	
Percent Licenses w/ MT Companies	100%	100%	33%	33%	



License/Patent Revenues	\$0	\$0	\$1,500	\$0
Reimbursed Patent Costs from Licenses	\$0	\$0	\$1,220	\$7,110

