1. A current outcomes assessment plan and summary for the B.S. in Natural Resources Management is attached.

2a. For the time period 2008-2018, the state of Alaska Department of Labor projects 284 job openings in the agriculture and forestry fields, a 12% increase in actual jobs. In addition, over half the workforce will require replacement during this time period. Natural resource management is anticipated to replace 30% of the workforce while experiencing a 10% increase in jobs over the next decade. Environmental science jobs, for which Natural Resource Management graduates are also eligible, are expected to have 478 job openings representing approximately 40% of the current workforce. This represents a state need of 762 graduates in the field of natural resource management, agriculture, forestry, and environmental sciences over the 10 year period. Examples of positions held by our alumni are coaches of the UAF Nanook rifle team and womens basketball team and newly appointed deputy commissioner of ADF&G.

2b. Unique and significant service activities of faculty in the B.S. in Natural Resources Management (NRM) are quite varied. A list is attached. As examples, one faculty serves as a consultant for Alaska Waste on composting, others advise the U.S. Department of the Interior on climate change, International Mountain Guides, Alaska Wildland Fire coordinating group, Office of the Governor on the Endangered Species Act, Festival Fairbanks, the Department of Natural Resources Plant Materials Center and the Alaska State Park’s Citizen Advisory Board. Some work directly with school districts, developing university courses that are taught in high schools, serving as state advisor to the FFA and president of the 4-H Council, and serving as advisor to the Mat-Su School Board. Others work with Alaskan and other agricultural, forestry, and fishery associations in Alaska and the 48 contiguous states: Fairbanks Gourmet Mustard Company, Alaska Peony Growers Association, Alaska Legacy Project, the National Cooperative Soil Survey, NPFMC Crab Plan team, Alaska Diversified Livestock Association, Fox River Cattleman’s Association, Northwest Land and Cattle Company. Faculty define service as much more than serving on committees at UAF and serving their professional societies.

2c. No other programs in a science-based natural resources management exist in the UA system. The NRM program in SNRAS is the only one offering opportunities for education in high latitude agriculture, forest sciences, and resources management, combining the physical and biological sciences with the social sciences in policy, law, land and resource planning, economics, cultural anthropology, and recreation management.

2d. Student credit hours are relatively flat. Lower division credits are increasing, and this upward trend is expected to continue with more focused recruiting (e.g. teaching in the high schools) and increasing teaching on the rural campuses (Northwest Campus, Bristol Bay Campus). We are focusing our recruiting on NRM to build it as we have geography over the past several years. Major changes are being made in the resources management option, among them adding incentives for national and international exchanges and a name change of the Department of Resource Management and the degree option to Department of Humans and the Environment and the degree option in humans and the environment. Upper division
credits are anticipated to remain flat unless the UAF core is modified or acceptance of 2-year AA or AS degrees for completion of the core is put in place. This is particularly significant for our accredited option in forest sciences managed by the Forest Sciences Department. Because of this accreditation, the degree option requires 126 credits of the 130 credits necessary to complete the degree. We are increasing the number of asynchronous courses electronically delivered. Majors in NRM are career-oriented. The perception that entry-position salaries are low compared to engineering and even certificate and two-year degrees in the trades and crafts is influencing student decisions on choice of major. This is changing in federal and state agencies and more jobs are becoming available in private industries that are dealing with concerns about the environment and climate change, in which NRM majors excel.

The Agricultural and Forestry Experiment Station (AFES) is a part of SNRAS. Budgets for the unit are recorded for the AFES as one entity and SNRAS as another. The SNRAS budget is not recorded by department. Tuition is not generated by AFES. We do not currently account for our tuition by upper and lower division, graduate, outside and professional courses. Grants and contracts are for both research and instruction. With the exception of one tenured faculty and associated with the NRM B.S. degree, all hold joint appointments with the AFES. The date PAIR data is pulled will affect the FTEs for faculty and staff because at any given time, a different proportion of salaries will be charged to formula, grant, contract, or state funds. The AFES receives federal formula funds for research in agriculture and forestry. Faculty with joint appointments in AFES all receive these funds for approved projects. Most also receive grant and/or contract funding. A more useful way to report FTEs for SNRAS faculty associated with the NRM B.S. degree program would be to use workload allocations. Budget data provided show only AFES (not instruction) and SNRAS. We do not currently have information that breaks our budgets down on a course by course basis. We would need information at this level to report budget by department because faculty teach across departments within the NRM B.S. program as well as graduate programs. Attached are tables that show names of affiliated regular faculty for the NRM B.S. degree and grants and contracts for those faculty.

2e. The attached tables provide 2007 and 2008 publications for faculty and staff from the 2009-2010 and 2010-2011 Annual Unit Plan for SNRAS and AFES. Faculty in NRM, on average, hold 50% workload appointments in research with the remainder split between teaching and outreach and service.

2f. Partnerships are important to NRM. Our federal partners, USDA Agricultural Research Service and US Forest Service, provide opportunities to collaborate on cooperative agreements, employ our students and researchers, and serve on undergraduate senior thesis committees. We partner with the rural campuses to offer courses and certificate programs. Local businesses provide opportunities to showcase our research, to extend our research, to test both their and our products, and for student internships. Organizations such as the Alaska Community Agriculture Association serve as advocacy groups, work with us in service courses for the community, and also offer internship opportunities. Attached is our list of partners for 2007, 2008, and 2009.

2g. The Forest Science option in the NRM B.S. degree program is accredited by the Society of American Foresters.
<table>
<thead>
<tr>
<th>Expanded Statement of Institutional Purpose</th>
<th>Intended Objectives/Outcomes</th>
<th>Assessment Criteria and Procedures</th>
<th>Implementation (what, when, who)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MISSION STATEMENT:</strong></td>
<td>Graduates should be able to synthesize knowledge and to think through problems to develop meaningful solutions, and should have reached cognitive and personal development levels to enable responsible decision making process as it relates to management of natural resources and to life in general</td>
<td>Establish a measure of a student's ability to think independently, solve problems, and communicate both orally and in writing.</td>
<td>1. Each NRM student is required to complete a senior thesis which is presented in both written and oral form. The written thesis is evaluated by a committee of three faculty; the oral presentation is evaluated by the entire NRM faculty. Students are evaluated on content as well as writing and oral presentation skills. Grades for written theses and oral presentations will be compiled each year and compared to past years to establish trends thesis quality. 2. A sample (randomly selected) of written thesis from past and current years will be carefully evaluated by the Outcomes Assessment committee to detect any changes in students' writing skills and their abilities to think independently and solve problems.</td>
</tr>
<tr>
<td><strong>GOAL STATEMENT:</strong></td>
<td></td>
<td>Assess needs for</td>
<td>1. Dean will do exit</td>
</tr>
</tbody>
</table>

UAF and the School of Natural Resources and Agricultural Sciences is committed to providing quality education through close student-faculty relationships, development of critical thinking and decision making skills, student participation in research and other scholarly activities, and recognizing student's individual interests and needs.
| Implementation and successful long term management for the responsible human use, maintenance, and protection of natural resources. | Adjustments in program | Interviews with seniors near end of each semester.

2. An alumni survey of recent graduates will be conducted every five years.

3. A survey of employers who hire our graduates will be administered every five years. |
<table>
<thead>
<tr>
<th>Assessment information collected</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Ask faculty in upper division courses to complete surveys that evaluate cohort of students for writing, speaking, and critical thinking skills.</td>
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<td>1) Administered alumni survey</td>
<td></td>
</tr>
<tr>
<td>2) Dean administers exit interview with graduating students.</td>
<td>2) Dean administers exit interview with graduating students.</td>
<td>2) Comments on field courses from past evaluations.</td>
<td></td>
</tr>
<tr>
<td>3) Curriculum evaluated by Society of American Foresters reaccreditation team</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conclusions drawn from the information collected above</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) While most students have good skills in speaking, writing, and thinking critically, too many are deficient in these skills. We have initiated writing and speaking skills in our courses with O and W designators. We suggest that UAF review its courses at the 100 and 200 level to assure students have the skills appropriate to the sciences, natural</td>
<td>1) While most students have good skills in speaking, writing, and thinking critically, too many are deficient in these skills. We have initiated writing and speaking skills in our courses with O and W designators. We suggest that UAF review its courses at the 100 and 200 level to assure students have the skills appropriate to the sciences, natural</td>
<td>1) The survey included graduates from as much as 25 years ago; we separated responses for those who graduated in the past five years from those graduated more than five years ago. Many respondents did not report their current employment or salary but of those who reported, we were able to glean the following information:</td>
<td></td>
</tr>
<tr>
<td>resources management and engineering. We are expert at building critical thinking in our courses, but the difficulty lies in bringing students to the necessary skill level in speaking and writing to meet the challenges of these courses.</td>
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<tr>
<td>2) Students feel they learn skills not available elsewhere through field courses.</td>
<td>2) Students feel they learn skills not available elsewhere through field courses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Evaluation by the Society of American Foresters re-accreditation team indicated our curriculum is well designed to meet the needs of natural resource managers in Alaska but some concerns the team noted about the program were the limited amount of field training students receive.</td>
<td>Of those graduating within the 5 years, seven reported, with five holding jobs in natural resources management related fields and one in graduate school. Of those in careers, 5 reported five reported salaries in the $30,000 - 45,000 range and one reported a salary in the $45,000 - 60,000 range. For all respondents reporting job and salary data, (37), 65% are currently working in natural resources management related jobs and 5% are in graduate school. Salaries range from the $30,000 - $45,000 range to &gt; $80,000, with the median in the $45,000 - 60, range. Most common comments on the program were: hands on experience, field classes, small class size, interaction with professors, and interaction with other students. Courses which were most useful: None really stood out although soils, GIS, NRM 290: Resource Management at High Latitudes (a field course) and NRM 405-406: Senior Thesis in Natural Resource Management, required of all NRM BS students,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Curricular changes resulting from conclusions drawn above | 1). Strongly encourage faculty to more strongly emphasize writing, speaking, and critical thinking skills in their classes.  
2). We are looking into increasing number of field courses, but expense is major roadblock. One field course in Denali National Park using external funding | 1). Strongly encourage faculty to more strongly emphasize writing, speaking, and critical thinking skills in their classes.  
2). Began planning for a forestry field camp. | We are currently revising the Resources Option within the NRM degree to better meet students’ and employers’ needs. It will include an international component. Other than that, we do not see a need for major program revisions at this time. | were mentioned most often. Courses which were least useful: The UAF core curriculum or courses within the core curriculum were listed. fairly often. No others stood out.  
2) Initiated conversations with Norway (get the institution name here) to potentially augment our field courses at the undergraduate level. |
1. A current outcomes assessment plan and summary for the graduate programs in the School of Natural Resources and Agricultural Sciences (SNRAS) is attached.

2a. For the time period 2008-2018, the state of Alaska Department of Labor projects 284 job openings in the agriculture and forestry fields, a 12% increase in actual jobs. In addition, over half the workforce will require replacement during this time period. Natural resource management is anticipated to replace 30% of the workforce while experiencing a 9% increase in jobs for natural resource managers over the next decade, a total of 73 jobs. Environmental science/conservation/life scientist and technician jobs, for which Natural Resource Management graduates are also eligible, are expected to have 478 job openings representing approximately 40% of the current workforce. This represents a state need of 835 graduates in the field of natural science managers, agriculture, forestry, and environmental science/conservation/life sciences over the 10 year period.

2b. The tenure-track faculty and non-tenure track faculty holding the Ph.D. serve as the graduate faculty in SNRAS. Their unique and significant service activities are quite varied. Faculty are advisors to the U.S. Department of the Interior on climate change, International Mountain Guides, Alaska Wildland Fire coordinating group, Office of the Governor on the Endangered Species Act, Festival Fairbanks, the Department of Natural Resources Plant Materials Center and the Alaska State Park’s Citizen Advisory Board. An number work directly with school districts, developing university courses that are taught in high schools, serving as state advisor to the FFA and president of the 4-H Council, and serving as advisor to the Mat-Su School Board. Geography faculty in particular focus on service and outreach to school districts around Alaska. Two faculty are teaching and developing 100 level SNRAS courses for college credits, others support school districts in villages and mentor project teachers and principals. Faculty also work with Alaskan and other agricultural, forestry, and fishery associations in Alaska and the 48 contiguous states: Fairbanks Gourmet Mustard Company, Alaska Peony Growers Association, Alaska Legacy Project, the National Cooperative Soil Survey, NPFMC Crab Plan team, Alaska Diversified Livestock Association, Fox River Cattleman’s Association, Northwest Land and Cattle Company. Faculty serve as editor and guest editor for journals and atlases, and director or coordinator of major grant-funded programs within SNRAS. Service is defined by graduate faculty as much more than serving on committees at UAF and serving their professional societies.

2c. There are no other graduate programs in natural resources management and geography in the UA system. SNRAS offers the only professional master’s degree in Natural Resources Management and Geography, the only science based M.S. program that participates in the Peace Corp international graduate program, and the only Ph.D. in Natural Resource management and Sustainability.

2d. The Agricultural and Forestry Experiment Station (AFES) is a part of SNRAS. Budgets for the unit are recorded for the AFES as one entity and SNRAS as another. The SNRAS budget is not recorded by department. Tuition is not generated by AFES. We do not currently account for our tuition by upper and lower division, graduate, outside and professional courses. Grants and contracts are for both research and instruction. A mix of faculty hold
joint appointments in SNRAS and AFES. Therefore, the date PAIR data is pulled will affect the FTEs for faculty and staff because at any given time, a different proportion of salaries will be charged to federal formula funds, grant, contract, or state funds. The AFES receives federal formula funds for research in agriculture and forestry. Faculty with joint appointments in AFES all receive these funds for approved projects. Most also receive grant and/or contract funding. A more useful way to report FTEs for SNRAS would be to use workload allocations. Budget data provided show only AFES (not instruction) and SNRAS. We do not currently have information that breaks our budgets down on a course by course basis. This is the level we would need to have to report budget by department because faculty teach across departments at the graduate level. NRM faculty have heavy research assignments for tripartite faculty, on average 50% and over. Geographers hold 30% or less workload appointments in research with the remainder split between teaching and outreach and service. The federal formula funds jointly appointed SNRAS/AFES use must be matched 1:1 by state funds which are listed under the SNRAS budget in the table attached. Thus, to take budget numbers at face value is not an accurate measure for credit hour generation. Attached are tables that show names of affiliated regular faculty for SNRAS graduates.

2e. The attached tables provide 2007 and 2008 publications for faculty and staff from the 2009-2010 and 2010-2011 Annual Unit Plan for SNRAS and AFES. As stated above, tenure-track faculty in Geography do not have heavy research workload assignments. NRM faculty have workload assignments that average 50% and over.

2f. Partnerships are important to SNRAS. Our federal partners, USDA Agricultural Research Service and US Forest Service provide not only opportunities to collaborate on cooperative agreements, but employ our students and researchers serve on undergraduate senior thesis committees as well. Local businesses provide opportunities to showcase our research, extend our research, and test both their and our products. Organizations such as the Alaska Community Agriculture Association serves as advocacy groups and work with us in service courses for the community. Geography partnerships are focused on providing geography education to teachers and students in school districts around Alaska. A noteworthy partnership is the Geography Alliance. It has enabled Geography faculty and staff to travel the state with the ‘Giant Map’ that is in high demand by elementary school teachers. The partnership with GoogleEarth has brought opportunities for teachers to learn how to use Google teaching tools in their classrooms with hands on experience provided by staff from Google. The Cooperative Ecosystems Studies Unit (CESU) offers opportunities for new researchers as well as more experienced, the opportunity to participate in cooperative agreements with more than 15 state and federal agencies. Attached is our list of partners for 2007, 2008, and 2009.

2g. There are no specialized accreditations in the SNRAS graduate programs.
**UNIVERSITY OF ALASKA FAIRBANKS**  
Student Learning Outcomes Assessment Plan  
M.S. Natural Resources Management and  
Master of Natural Resources Management and Geography  
School of Natural Resources and Agricultural Sciences

Revised Fall 2010

<table>
<thead>
<tr>
<th>Expanded Statement of Institutional Purpose</th>
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<th>Assessment Criteria and Procedures</th>
<th>Implementation (what, when, who)</th>
</tr>
</thead>
</table>
| MISSION STATEMENT: UAF and the School of Natural Resources and Agricultural Sciences is committed to providing quality education through close student-faculty relationships, development of critical thinking and decision making skills, student participation in research and other scholarly activities, and recognizing student’s individual interests and needs. A hallmark of the masters programs the School and Natural Resources and Agricultural Sciences is its recognition of individual differences and interests of students and its ability to respond to those individual needs. | Graduates will have the skills to participate in a meaningful and responsible way in making decisions about management of natural resources. | 1. Students should show strong ability to analyze and synthesize information, determine its relevance to specific issues or problems.  
2. Students will have the ability to independently collect data or other information as part of an overall project through use of appropriate methodology and statistical procedures and develop appropriate conclusions and recommendation | 1) The graduate M.S. thesis or MNRM&G opus is evaluated for analytical skills.  
2. Faculty who have served on graduate committees will be surveyed periodically regarding graduate students abilities.  
3. The oral defense of the M.S. thesis or MNRM&G opus is evaluated by the entire audience for content and communication skills |
| GOAL STATEMENT: Natural Resources | Graduates are prepared to enter the workforce and advance in their careers in natural resources management | 3. Assess the necessity for adjustments in the graduate curriculum | 4. Dean or associate dean will administer exit interview each semester for M.S. and MNRM&G students nearing graduation.  
5. Administer an alumni survey every five years.  
6. Administer an employer survey every five years. |
Management MS and MNRM&G graduates will be professionals in their chosen fields within natural resources management. They will be well equipped to and will be involved in making decisions on and implementing successful management practices for human use and maintenance of ecosystems.
School of Natural Resources and Agricultural Sciences
Academic Outcomes Assessment Plan--Ph.D. in Natural Resources and Sustainability.

<table>
<thead>
<tr>
<th>EXPANDED STATEMENT OF INSTITUTIONAL PURPOSE</th>
<th>INTENDED OUTCOMES/OBJECTIVES</th>
<th>ASSESSMENT CRITERIA AND PROCEDURES</th>
<th>IMPLEMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mission Statement:</strong> The School of Natural Resources and Agricultural Sciences and the School of Management are committed to educating scholars at the Ph.D. level with in-depth and integrated knowledge about natural resources research and management.</td>
<td>Graduates will have the skills to carry out world-class research in natural resources and their management and to participate responsibly in the decision making process about the use of natural resources.</td>
<td>Establish measures of advanced level of knowledge about natural resources and their management.</td>
<td>Require a comprehensive examination to be administered in the second year of enrollment in a graduate program. Questions will address basic knowledge in mathematics, science, and economics related to natural resources and their management and appropriate course work chosen by the student and their committee. Evaluate Ph.D. dissertations for content quality. Administer exit interviews by the deans of the schools. Track employment record of graduates through alumni and employer surveys.</td>
</tr>
<tr>
<td>Develop leaders who will effectively direct the use and management of natural resources in Alaska and other high latitude regions.</td>
<td>Graduates are prepared to enter and move into high level resource management positions and to effectively affect policy related to natural resource use and management.</td>
<td>Measure employment success in high level positions in natural resource related fields</td>
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<tr>
<td>Table 4.1 Outcomes Assessment Implementation Summary</td>
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<tr>
<td>Complete a separate table for each degree and certificate program (will be updated through 2009-10 for Accred.)</td>
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<tr>
<td>Academic Year</td>
<td></td>
<td></td>
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<tr>
<td>2007-08</td>
<td>2008-09</td>
<td>2009-10</td>
<td></td>
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<tr>
<td>Assessment information collected</td>
<td></td>
<td></td>
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<tr>
<td>1). We ask audience members to evaluate several aspects of the students’ thesis work and the presentation on it and to compare it with other thesis defenses or presentations at scientific meetings they have attended.</td>
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<tr>
<td>2). Department heads read theses to assure they meet appropriate standards</td>
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<tr>
<td>Administered an alumni survey</td>
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<td></td>
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<tr>
<td>Conclusions drawn from the information collected above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1). Overall, most students were rated 4 out of 5 on the survey indicating they are well prepared</td>
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</tr>
<tr>
<td>1). Overall, most students were rated 4 out of 5 on a 5-point scale on the survey indicating they are well prepared</td>
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<tr>
<td>The survey included graduates from as much as 25 years ago; we separated responses for those who graduated in the past five years from those graduated more than five years ago. Since there are yet no graduates from the new Master of Natural Resources Management and Geography degree program, all were respondents were from the M.S. in Natural Resources Management program. There were too few respondents who...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curricular changes resulting from conclusions drawn above</td>
<td>None</td>
<td>We dropped the non-thesis option for the NRM M.S. degree program, and developed and gained approval for two new graduate degree in the past year, a Ph.D. degree in Natural Resources and Sustainability, in cooperation with the School of Management and a Master of Natural Resources</td>
<td>None</td>
</tr>
</tbody>
</table>

graduated in the past five years reported on jobs or salaries to make meaningful conclusions about recent graduates. Over all respondents who reported job and salary data, 80% are in careers in natural resources management. Salaries include those in the $30,000 to $45,000 range to greater than $80,000, with the median falling in the $60,000 – 80,000 range.

Most common comments from the survey were: Opportunities to do field work, faculty in the school. Most useful courses: thesis, statistics, soils, outdoor recreation, graduate/faculty seminar. Least useful courses: Several were mentioned, but never more than once.
Management and Geography. The latter is a professional degree designed primarily for people already working in the fields of natural resources management and geography. We believe these degrees will increase graduate enrollment in SNRAS and will meaningfully provide expertise needed for the workforce in Alaska. The new degrees have not been in place long enough to do outcomes assessments.
School of Natural Resources and Agricultural Sciences
Agricultural and Forestry Experiment Station Service
Natural Resources Management

- Coordinate w/ Mat Su Borough on compost equipment
- Consultant for Alaska Waste on composting
- Advisor to United Stated Dept. of Interior on climate change
- Advisor to International mountain guides
- Consultant to Alaska Wildland Fire coordinating group – fire effects group
- President - 4 H council
- President – Association for Women in Science
- Instructor –continuing education courses for teachers
- Liaison to Western Association of Agricultural Experiment Station Directors
- Consultant to federal and state government interest groups –legal policy
- Wildlife biologist on Alaska Board of Forestry
- Assess economic issues for Alaska Legacy Project, Forest Products Group
- Provide information to Governor’s office on Endangered Species Act
- Project Coordinator for Project OneTree
- Landscape consultant for Festival Fairbanks
- Conduct seed trials for Fairbanks Gourmet Mustard Co.
- Consultant for Alaska Peony Growers Association
- Coordinate w/ Chinese universities to develop UAF MOU’s
- Advisor/collaborator for National Cooperative Soil Survey
- Technical advisor for soil consulting firms
- Develop curricula using reindeer in biology class
- Consultant to reindeer producers in United States and Canada
- Economist - North Pacific Fisheries Management Council Crab Plan team
- Advisor to Department of Natural Resources Forestry on erosion, silviculture, etc.
- Give workshops, slideshows, surveys, make education guides, report reviews for Tanana Chiefs, Boreal Forest Council, FNSB, land owners, Alaska Department of Environmental Conservation, United States Forest Service, Cook Inlet Keepers
- Set up and manage Pike’s Waterfront Lodge greenhouse
- Advisor to rural Alaska on greenhouses, controlled environments
- Teach, lead, train natural resources class at local high school
- Organize, instruct Build Strong Leadership (BLASTOFF)conference
- Teach informally to high schools on career opportunities in natural resources
- Revise soil survey reports for National Cooperative Soil Survey Alaska program
- Organize program for 2008 International Conference on Permafrost
- Teach OSHER learning workshops
- Organize webpage and workshops for Society of American Foresters
- Advisor to Matanuska School District
- Advisor to Department of Natural Resources Plant Materials Center
- Advisor to MatSu Borough Real property Asset Management Board
- Director of Georigeson Botanical Garden
- Consultant for historic landscapes to Tanana Valley Historical Society
- Consultant for Festival Fairbanks-downtown landscaping along riverfront
- Consultant for Satellite Test Garden for International Hardy Fern Foundation
- Conduct variety trials for companies in Anchorage, Montana and Vermont
- Plan, organize and instruct activities for FFA state convention
- Chena Hot Springs Resort consultant on greenhouse and field production
- Advisor for Alaska State Park’s Citizen Advisory Board
- Advisor and consultant on wildland fire issues for United States Forest Service, National Park Service, Bureau of Land Management, United States Fish and Wildlife Service, United States Geological Survey, Alaska Fire Service, Alaska Department Fish & Game, Alaska Department Natural Resources
- Consultant for Alaska Diversified Livestock Association, Fox River Cattleman’s Association, North west Land and Cattle Co. individual Alaskans livestock producers on production mgmt., disease mgmt., reproductive mgmt and nutritional management
- Develop the Alaska Community Agriculture Association
- Manage UAF/USDA Agriculture Research Service virus vector survey
- Editor, report writer co-chair- Interior Issues Council, Climate Change Task Force
- Implement college courses taught to high school students in natural resources management
<table>
<thead>
<tr>
<th>Partner(s):</th>
<th>Project:</th>
<th>Funding Source (if applicable)</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Extension Service</td>
<td>Land grant mission of UAF and UA</td>
<td>USDA, state of Alaska, competitive grants</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USDA Agricultural Research Service</td>
<td>Integrated Pest Management, Arctic &amp; Subarctic plant curation</td>
<td>USDA/ARS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USDA Forest Service</td>
<td>Ecology of the Boreal Forest</td>
<td>USDA Forest Service</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USDA, USFS, Pacific Northwest</td>
<td>Alaska Coastal Rainforest Center</td>
<td>State of Alaska</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cooperative Ecosystems Study Unit</td>
<td>Natural resources research, education, and outreach in the American Pacific</td>
<td>Agricultural Development in the American Pacific</td>
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<td>X</td>
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1 Building Alaska Garden Soils from the Ground Up
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41060 Utah State University
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40270 DIAFES
1 48.497

NRM Forest Sciences
Barber, Valerie A
1 Unv of Alaska Fairbanks Forest Products Proc
40087
40816 USDA - CSREES
G000066072
DIAFES
1 597.76
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USDA-CSREES

NRM Resources Mgmt
BurnSilver, Shaeve Beth
1 Hydrology, Ecology and Pastoralism in the Subarctic
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41828 Colorado State University
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DIAFES
1 199.998

NRM High Latitude Agriculture
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1 Reindeer Range Mgmt Seward Peninsula, Alaska CESU
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1 Full fertilization Effects with Southcentral Alaska Turf
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1 YUKON RIVER BASIN STUDIES 4th LAIR
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Karlsson
1 FY2010 ARS Utility Research Support Agreement
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40559 Agricultural Research Service
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Lewis, Carol E
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1 Testing Potato Seed Lots for Viruses and Phytoplasmas
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1 Physiological Age of Seed - Potato Model
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NRM Forest Sciences
Soria, Juan Andres
1 Carbon, Hydrogen, Nitrogen Elemental Analysis
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Vetby, David L
1 Measuring Changes in Lake Surface Area in Alaska Turf
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## Names of affiliated regular faculty

### Natural Resources Management

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1) A yes or no indicates whether a faculty was listed as a principal investigator on funded projects. In SNRAS and AFES, this includes formula funds.

2) Red indicates changes to data provided from PAIR.

3) Adjunct faculty *
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<td>Local Environment: The International Journal of Justice and Sustainability 12(6), 627–643. To link to this article: DOI: 10.1080/13549830701657414.</td>
<td>Kofinas G</td>
<td>2007</td>
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<td>Arctic climate impacts: Environmental injustice in Canada and the United States.</td>
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<td>Presentation to the Science of Arctic Synthesis Studies meeting of NSF-ARCSS.</td>
<td>Kofinas G</td>
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<td>Heterogeneity and resilience of human-rangifer systems.</td>
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<td>Human dimension of Human-Rangifer Systems.</td>
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<td>Effects of diversity of tree species and size on forest basal area growth, recruitment, and mortality.</td>
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<td>Journal of American Indian Education. Special Issue. Vol.46.3.</td>
<td>Lipka, J</td>
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<td>Creating a third space for authentic biculturalism: Examples from Math in a Cultural Context.</td>
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<td>Conference/Event</td>
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<td>Journal of Biogeography 34:1622–1631.</td>
<td>Interactive controls by herbivory and fluvial dynamics over landscape vegetation patterns</td>
<td>Rupp TS</td>
<td>2007</td>
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<td>Journal/Publication details</td>
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<td>Institute of Food Technologies Annual Mtg, 24–28 June</td>
<td>Storage shelf-life and consumer acceptance of pre-cooked reindeer meat products.</td>
<td>Wiklund, E, Finstad, G</td>
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management, and nitrogen application rate in the sub-arctic areas of Alaska.

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<tr>
<th>Book/Chapter(s)</th>
<th>Chapter Title</th>
<th>Lead author (last name, first initial)</th>
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<th>Publication Date</th>
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Sustainable agriculture in subarctic Alaska. Zhang M Sparrow SD 2007
Reference Type: Government Document
Record Number: 9
Author: A.J. Stegmann, P.J. Fix and T.L. Teel
Year: 2008
Title: Benefits Based Management Study for the Dalton, Taylor and Denali Highways.

Reference Type: Journal Article
Record Number: 95
Author: J. D. Auer and P. S. Holloway
Year: 2008
Title: An introduction to harvesting and selling Alaska cut flower peonies.
Journal: University of Alaska Agricultural and Forestry Experiment Station Misc. Pub.
Issue: MP 2008-03
Pages: 16
Short Title: An introduction to harvesting and selling Alaska cut flower peonies.

Reference Type: Book Section
Record Number: 35
Year: 2008
Title: Climate Warming in Western North America/Evidence and Environmental Effects
Pages: 167
Short Title: A Synthesis of Recent Climate Warming Effects on Terrestrial Ecosystems of Alaska.

Reference Type: Journal Article
Record Number: 19
Author: C. M. Beier, S. E. Sink, P. E. Hennon and G. P. Juday
Year: 2008
Title: Twentieth-century warming and the dendroclimatolgy of declining yellow-cedar forests in southeastern Alaska.
Journal: Canadian Journal of Forest Research
Volume: 38
Issue: 6
Pages: 1319-1334
Short Title: Twentieth-century warming and the dendroclimatolgy of declining yellow-cedar forests in southeastern Alaska.
Reference Type: Book Section
Record Number: 83
Author: R. B. Boone, S. B. BurnSilver and R. Kruska
Year: 2008
Title: Comparing Landscape and Infrastructural Heterogeneity Within and Between Ecosystems
Editor: K. Galvin, R. Reid, R. Behnke and T. Hobbs
Book Title: Fragmentation of Semi-Arid and Arid Landscapes: Consequences for Human and Natural Systems
City: New York
Publisher: Verlag
Pages: 341-368
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Reference Type: Government Document
Record Number: 34
Author: A. M. Brackley and V. A. Barber
Year: 2008
Title: Consumer and Purchasing Agent Response to Terms Used to Describe Forest Products from Southeast Alaska

Reference Type: Journal Article
Record Number: 59
Author: L. B. Brubaker, P. E. Higuera, T. S. Rupp, M. Olson, P. M. Anderson and F. S. Hu
Year: 2008
Title: Linking sediment charcoal records and ecological modeling to understand causes of past fire-regime change in Alaskan boreal forests.
Journal: Ecology
Volume: 90
Pages: 1788-1801
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Short Title: Linking sediment charcoal records and ecological modeling to understand causes of past fire-regime change in Alaskan boreal forests.
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Reference Type: Book Section
Record Number: 84
Author: S. B. BurnSilver and J. S. Worden
Year: 2008
Title: Processes of Fragmentation in the Amboseli Ecosystem
Reference Type: Journal Article
Record Number: 81
Author: M. R. Cebrian, K. Kielland and G. L. Finstad
Year: 2008
Title: Forage quality and reindeer productivity: multiplier effects amplified by climatic change.
Journal: Arctic and Alpine Research
Volume: 40
Issue: 1
Pages: 48-54
Short Title: Forage quality and reindeer productivity: multiplier effects amplified by climatic change.

Reference Type: Journal Article
Record Number: 48
Year: 2008
Title: Increasing Wildfire in Alaska's Boreal Forest: Causes, Consequences, and Pathways to Potential Solutions of a Wicked Problem
Journal: Biosciences
Volume: 58
Pages: 531-540
Short Title: Increasing Wildfire in Alaska's Boreal Forest: Causes, Consequences, and Pathways to Potential Solutions of a Wicked Problem

Reference Type: Journal Article
Record Number: 56
Author: D. L. Cheyette, T. S. Rupp and S. Rodman
Year: 2008
Title: Developing fire behavior fuel models for the wildland-urban interface in Anchorage, Alaska.
Journal: Western Journal of Applied Forestry
Volume: 23
Reference Type: Journal Article
Record Number: 91
Author: D. D. Davies
Year: 2008
Title: Alaska’s State-Funded Agricultural Products and Policy—Have They Been A Success?
Pages: 20
Short Title: Alaska’s State-Funded Agricultural Products and Policy—Have They Been A Success?

Reference Type: Journal Article
Record Number: 70
Author: J. H. Dong, X. F. Cheng, Y. Y. Yin, Q. Fang, M. Ding, T. T. Li, L. Z. Zhang, X. X. Su, J. H. McBeath and Z. Z. Zhang
Year: 2008
Title: Characterization of tomato zonate spot virus, a new tospovirus in China
Journal: Archives of Virology
Volume: 153
Issue: 5
Pages: 855-864
Short Title: Characterization of tomato zonate spot virus, a new tospovirus in China
DOI: 10.1007/s00705-008-0054-5

Reference Type: Journal Article
Record Number: 55
Author: F. Dou, C. L. Ping, L. Guo and M. T. Jorgenson
Year: 2008
Title: Estimating the Impact of Seawater on the Production of Soil Water-Extractable Organic Carbon during Coastal Erosion
Journal: Soil Science Society of America
Volume: 37
Issue: 6
Pages: 2368-2374
Type of Article: Technical report
Short Title: Estimating the Impact of Seawater on the Production of Soil Water-Extractable Organic Carbon during Coastal Erosion
Reference Type: Journal Article
Record Number: 82
Author: A. L. Evans, R. F. Bey, J. V. Schoster, J. E. Gaarder and G. L. Finstad
Year: 2008
Title: Preliminary studies on the etiology of keratoconjunctivitis in reindeer (*Rangifer tarandus tarandus*) calves in Alaska.
Journal: Journal of Wildlife Diseases
Volume: 44
Issue: 4
Pages: 1051-1055
Short Title: Preliminary studies on the etiology of keratoconjunctivitis in reindeer (*Rangifer tarandus tarandus*) calves in Alaska.

Reference Type: Government Document
Record Number: 10
Author: P. J. Fix
Year: 2008
Title: White Mountains National Recreation Area and Steese National Conservation Area Benefits Based Management Study.

Reference Type: Journal Article
Record Number: 77
Author: J. D. Fox
Year: 2008
Title: The Farthest North Forest Sports Festival = Bragging Rights!
Journal: Western Forester
Volume: 25
Issue: 1
Pages: 18
Short Title: The Farthest North Forest Sports Festival = Bragging Rights!

Reference Type: Report
Record Number: 78
Author: J. D. Fox
Year: 2008
Title: A simple water-balance model for Harding Lake
Series Title: The Alaska Section of the American Water Resources Association
Date: January
Short Title: A simple water-balance model for Harding Lake
Reference Type: Journal Article
Record Number: 29
Author: N. H. French, E. S. Kasischke, R. J. Hall, K. A. Murphy, D. L. Verbyla, E. E. Hoy and J. L. Allen
Year: 2008
Title: Using Landsat data to assess fire and burn severity in the North American boreal forest regions: an overview and summary of results.
Journal: International Journal of Wildland Fire
Volume: 17
Pages: 443-462
Short Title: Using Landsat data to assess fire and burn severity in the North American boreal forest regions: an overview and summary of results.

Reference Type: Journal Article
Record Number: 88
Author: J. Garron
Year: 2008
Title: End of an era for experimental oil spill sites
Journal: Agroborealis,
Volume: 39
Issue: 2
Pages: 25-27
Short Title: End of an era for experimental oil spill sites

Reference Type: Journal Article
Record Number: 69
Year: 2008
Title: GLOBE students, teachers, and scientists demonstrate variable differences between urban and rural leaf phenology along a multi-continent bioclimatic gradient.
Journal: Global Change Biology
Volume: 14
Pages: 1-13
Short Title: GLOBE students, teachers, and scientists demonstrate variable differences between urban and rural leaf phenology along a multi-continent bioclimatic gradient.
DOI: 10.1111/j.1365-2486.2008.01602.x

Reference Type: Journal Article
Record Number: 90
Author: H. Geier
Year: 2008
Reference Type: Journal Article
Record Number: 76
Author: M. R. George, N. K. McDougald, W. A. Jensen, R. E. Larsen, D. C. Cao and N. R. Harris
Year: 2008
Title: Effectiveness of nutrient supplement placement for changing beef cow distribution.
Journal: Journal of Soil and Water Conservation
Volume: 63
Issue: 1
Pages: 11-17
Short Title: Effectiveness of nutrient supplement placement for changing beef cow distribution.

Reference Type: Journal Article
Record Number: 116
Author: G. González, W. A. Gould, A. T. Hudak and T. N. Hollingsworth
Year: 2008
Title: Decay of aspen (Populus tremuloides Michx.) wood in moist and dry boreal, temperate and tropical forest fragments
Journal: Ambio
Volume: 37
Issue: 7-8
Pages: 588-597
Short Title: Decay of aspen (Populus tremuloides Michx.) wood in moist and dry boreal, temperate and tropical forest fragments

Reference Type: Journal Article
Record Number: 115
Year: 2008
Title: Forest structure and downed woody debris in boreal, temperate, and tropical forest fragments.
Journal: Ambio
Volume: 37
Issue: 7-8
Pages: 577-587
Short Title: Forest structure and downed woody debris in boreal, temperate, and tropical forest fragments.

Reference Type: Journal Article
Record Number: 94
Author: Herb Bunch Volunteers, P. S. Holloway, E. Gardiner and G. Matheke
Year: 2008
Title: Herb Evaluations 2007
Journal: Agricultural and Forestry Experiment Station AFES Variety Trial
Issue: VT 2008-03.
Short Title: Herb Evaluations 2007

Reference Type: Journal Article
Record Number: 92
Year: 2008
Title: Annual flowering plant evaluations 2007.
Journal: Agricultural and Forestry Experiment Station AFES Variety Trial
Issue: VT 2008-01.
Short Title: Annual flowering plant evaluations 2007.

Reference Type: Government Document
Record Number: 117
Author: J. F. Johnstone, T. N. Hollingsworth and F. S. Chapin III.
Year: 2008
Title: A key for predicting postfire successional trajectories in black spruce stands of interior Alaska.
City: Portland, OR
Pages: 37 p.

Reference Type: Journal Article
Record Number: 71
Author: M. Karlsson
Year: 2008
Title: Early day length sensitivity in sunflower
Journal: HortScience
Volume: 43
Pages: 1261-1262
Type of Article: Abstract
Short Title: Early day length sensitivity in sunflower

Reference Type: Journal Article
Record Number: 3
Author: J. J. Liang, D. E. Calkin, K. M. Gebert, T. J. Venn and R. P. Silverstein
Year: 2008
Title: Factors influencing large wildland fire suppression expenditures.
Journal: International Journal of Wildland Fire
Volume: 17:
Pages: 650-659
Short Title: Factors influencing large wildland fire suppression expenditures.

Reference Type: Journal Article
Record Number: 72
Author: J. Lipka and D. Andrew-Ihrke
Year: 2008
Title: Ethnomathematics applied to classrooms in Alaska: Mathematics in a Cultural Context
Journal: NCSM- Network, Communicate, Support, Motivate Leadership in Mathematics Education
Volume: Winter
Pages: 35-37
Short Title: Ethnomathematics applied to classrooms in Alaska: Mathematics in a Cultural Context

Reference Type: Journal Article
Record Number: 93
Author: G. E. M. Matheke, J. Hanscom, P. S. Holloway and E. Gardiner
Year: 2008
Title: Vegetable trials 2007.
Journal: Agricultural and Forestry Experiment Station AFES Variety Trial
Issue: VT 2008-02
Short Title: Vegetable trials 2007.

Reference Type: Journal Article
Record Number: 58
Year: 2008
Title: The Western Arctic Linkage Experiment (WALE): Overview and synthesis.
Journal: Earth Interactions
Volume: 12
Issue: 7
Pages: 13
**Short Title:** The Western Arctic Linkage Experiment (WALE): Overview and synthesis.  
**DOI:** 10.11175/2008EI239.1

**Reference Type:** Journal Article  
**Record Number:** 96  
**DOI:** doi:10.1016/j.marpol.2008.03.003

**Reference Type:** Journal Article  
**Record Number:** 6  
**Author:** C. L. Meeks, L. Lovecraft, M. D. Robards and G. P. Kofinas  
**Year:** 2008  
**Title:** Building resilience through interlocal relations: Case studies of polar bear and walrus management in the Bering Strait.  
**Journal:** Marine Policy,  
**Volume:** 32  
**Issue:** 6  
**Pages:** 1080-1089  
**Date:** November 2008  
**Short Title:** Building resilience through interlocal relations: Case studies of polar bear and walrus management in the Bering Strait.  
**DOI:** doi:10.1016/j.marpol.2008.03.003

**Reference Type:** Journal Article  
**Record Number:** 52  
**Author:** G. J. Michaelson, C. L. Ping, H. Epstein, J. M. Kimble and D. A. Walker  
**Year:** 2008  
**Title:** Soils and frost boil ecosystems across the North American Arctic Transect  
**Journal:** J. Geophys. Res.  
**Volume:** 113  
**Issue:** G03S11  
**Pages:** 11  
**Short Title:** Soils and frost boil ecosystems across the North American Arctic Transect  
**DOI:** 10.1029/2007JG000672

**Reference Type:** Journal Article  
**Record Number:** 7  
**Author:** T. R. Miller, T. D. Baird, C. M. Littlefield, G. Kofinas, I. Chapin, F. and C. L. Redman  
**Year:** 2008
Title: Epistemological pluralism: reorganizing interdisciplinary research
Journal: Ecology and Society
Volume: 13
Issue: 2
Pages: 46
Short Title: Epistemological pluralism: reorganizing interdisciplinary research
URL: http://www.ecologyandsociety.org/vol13/iss2/art46/

Reference Type: Book Section
Record Number: 73
Author: S. Nelson Barber and J. Lipka
Year: 2008
Title: Rethinking the Case for Culture-based Curriculum: Conditions that Support Improved Mathematics Performance in Diverse Classrooms
Editor: M. M. Brisk, P.
Book Title: Language, Curriculum & Community in Teacher Preparation
City: Mahwah, NJ
Publisher: Lawrence Erlbaum
Pages: 99-123
Short Title: Rethinking the Case for Culture-based Curriculum: Conditions that Support Improved Mathematics Performance in Diverse Classrooms

Reference Type: Journal Article
Record Number: 50
Author: C. L. Ping, G. J. Michaelson, M. T. Jorgensen, J. M. Kimble, H. Epstein, V. E. Romanovsky and D. A. Walker
Year: 2008
Title: High stocks of soil organic carbon in North American Arctic region
Journal: Nature Geoscience
Volume: 1
Pages: 615-619
Epub Date: 24 August 2008
Short Title: High stocks of soil organic carbon in North American Arctic region
DOI: 10.1038/ngeo284

Reference Type: Journal Article
Record Number: 51
Author: C. L. Ping, G. J. Michaelson, J. M. Kimble, V. E. Romanovsky, Y. L. Shur, D. K. Swanson and D. A. Walker
Year: 2008
Title: Cryogenesis and soil formation along a bioclimate gradient in Arctic North America
Reference Type: Journal Article
Record Number: 33
Author: M. K. Raynolds, J. C. Comiso, D. A. Walker and D. L. Verbyla
Year: 2008.
Title: Relationship between satellite-derived land surface temperatures, arctic vegetation types, and NDVI.
Journal: Remote Sensing of Environment
Volume: 112
Pages: 1884-1894.
Short Title: Relationship between satellite-derived land surface temperatures, arctic vegetation types, and NDVI.

Reference Type: Journal Article
Record Number: 8
Author: M. Robards and J. L. Joly
Year: 2008
Title: Interpretation of 'Wasteful Manner' within the Marine Mammal Protection Act and its Role in Management of the Pacific Walrus
Journal: 13 Ocean and Coastal Law Journal
Volume: 171
Short Title: Interpretation of 'Wasteful Manner' within the Marine Mammal Protection Act and its Role in Management of the Pacific Walrus

Reference Type: Journal Article
Record Number: 65
Author: J. A. Soria
Year: 2008
Title: Biomass for bio fuels: not all trees are equal.
Journal: Agroborealis
Volume: 39
Issue: 2
Pages: 7-9
Short Title: Biomass for bio fuels: not all trees are equal.
Reference Type: Journal Article  
Record Number: 64  
Author: J. A. Soria, A. G. McDonald and B. B. He  
Year: 2008  
Title: Wood solubilization and depolymerization by supercritical methanol, Part 2: Analysis of methanol soluble compounds.  
Journal: Holzforschung  
Volume: 62  
Issue: 4  
Pages: 409-416  
Short Title: Wood solubilization and depolymerization by supercritical methanol, Part 2: Analysis of methanol soluble compounds.

Reference Type: Journal Article  
Record Number: 63  
Author: J. A. Soria, A. G. McDonald and S. R. Shook  
Year: 2008  
Title: Wood solubilization and depolymerization using supercritical methanol, Part 1: Process optimization and analysis of methanol insoluble components (bio-char).  
Journal: Holzforschung  
Volume: 62  
Issue: 4  
Pages: 402-408  
Short Title: Wood solubilization and depolymerization using supercritical methanol, Part 1: Process optimization and analysis of methanol insoluble components (bio-char).

Reference Type: Journal Article  
Record Number: 68  
Author: E. B. Sparrow, P. Y. LeMone, S. Yule, R. Boger, M. Galloni and M. Kopplin  
Year: 2008  
Title: Pole to Pole Videoconferences Connect Students and Scientists  
Journal: EOS Trans  
Volume: AGU89  
Issue: 53  
Type of Article: Abstract  
Short Title: Pole to Pole Videoconferences Connect Students and Scientists  
Call Number: ED32A-04

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Record Number: 46  
Author: S. D. Sparrow and d. masiak  
Year: 2008  
Title: Second harvest timing and cut height of forage crops in Central Alaska
Reference Type: Government Document
Record Number: 97
Author: A. J. Stegmann, P. J. Fix and T. L. Teel
Year: 2008
Title: Benefits Based Management Study for the Dalton, Taylor and Denali Highways

Reference Type: Government Document
Record Number: 87
Author: S. F. Trainor, G. Yu and J. Walsh
Year: 2008
Title: Towards Predicting the Impact of Climate Change on Tourism: An Efficient Tourism Climate Index.

Reference Type: Journal Article
Record Number: 30
Author: D. L. Verbyla
Year: 2008
Title: The greening and browning of Alaska based on 1982-2003 satellite data.
Journal: Global Ecology and Biogeography
Volume: 17
Pages: 547-555.
Short Title: The greening and browning of Alaska based on 1982-2003 satellite data.

Reference Type: Journal Article
Record Number: 28
Author: D. L. Verbyla, E. S. Kasischke and E. E. Hoy
Year: 2008
Title: Seasonal and topographic effects on estimating fire severity from Landsat TM/ETM+ data.
Volume: 17
Pages: 527-534
Short Title: Seasonal and topographic effects on estimating fire severity from Landsat TM/ETM+ data.

Reference Type: Journal Article
Record Number: 31
Author: D. L. Verbyla and R. Lord
Year: 2008.
Title: Estimating post-fire organic soil depth in the Alaskan boreal forest using the Normalized Burn Ratio.
Volume: 29
Issue: 13
Pages: 3845-3853.
Short Title: Estimating post-fire organic soil depth in the Alaskan boreal forest using the Normalized Burn Ratio.

Reference Type: Journal Article
Record Number: 53
Year: 2008
Title: Arctic Patterned-Ground Ecosystems: a Synthesis of Studies Along a North American Arctic Transect
Short Title: Arctic Patterned-Ground Ecosystems: a Synthesis of Studies Along a North American Arctic Transect
DOI: 10.1029/2007JG000504
Call Number: G03S01

Reference Type: Journal Article
Record Number: 86
Author: E. Wiklund, G. L. Finstad, L. Johansson, G. Aguiar and P. J. Bechtel
Year: 2008
Title: Carcass composition and yield of Alaskan reindeer steers and effects of electrical stimulation applied during field slaughter on meat quality.
Journal: Meat Science
Volume: 78
Pages: 185-193
Short Title: Carcass composition and yield of Alaskan reindeer steers and effects of electrical stimulation applied during field slaughter on meat quality.

Reference Type: Journal Article
Record Number: 85
Author: E. Wiklund, G. L. Finstad, S. Workers and P. J. Bechtel
Year: 2008
Title: Effects of early castration on carcass composition, yield and quality characteristics of meat from young reindeer (Rangifer tarandus tarandus) bulls and steers.
Journal: Rangifer  
Volume: 28  
Pages: 1-8  
Short Title: Effects of early castration on carcass composition, yield and quality characteristics of meat from young reindeer (Rangifer tarandus tarandus) bulls and steers.

Reference Type: Journal Article  
Record Number: 54  
Author: C. H. Xu, L. D. Guo, F. Dou and C. L. Ping  
Year: 2008  
Title: Potential DOC production from size fractioned arctic tundra soils. Cold Region Science & Technology  
Journal: Cold Region Science & Technology  
Volume: 55  
Issue: 1  
Pages: 141-150  
Epub Date: 22 August 2008  
Short Title: Potential DOC production from size fractioned arctic tundra soils. Cold Region Science & Technology  
DOI: 10.1016/coldregions.2008.08.001

Reference Type: Journal Article  
Record Number: 24  
Author: J. A. Yarie  
Year: 2008  
Title: Effects of moisture limitation on tree growth in upland and floodplain forest ecosystems in interior Alaska.  
Journal: Forest Ecology and Management  
Volume: 256  
Pages: 1055-1063.  
Short Title: Effects of moisture limitation on tree growth in upland and floodplain forest ecosystems in interior Alaska.

Reference Type: Journal Article  
Record Number: 5  
Author: M. Zhou, J. Buongiorno and J. J. Liang  
Year: 2008  
Title: Economic and Ecological Effects of Diameter Caps: A Markov decision model for Douglas-fir/western hemlock forests  
Journal: Forest Science  
Volume: 54  
Issue: (4)
Pages: 397-407.
Short Title: Economic and Ecological Effects of Diameter Caps: A Markov decision model for Douglas-fir/western hemlock forests

Reference Type: Journal Article
Record Number: 4
Author: M. Zhou, J. Liang and J. Buongiorno
Year: 2008
Title: Adaptive versus fixed policies for economic or ecological objectives in forest management.
Journal: Forest Ecology and Management
Volume: 254
Short Title: Adaptive versus fixed policies for economic or ecological objectives in forest management.