Joshua Ost

From: Thomas Grant <ugrestoration@gmail.com>
Sent: Thursday, December 28, 2017 11:59 AM
To: Joshua Ost
Subject: Gunnison County Weed Commission
Attachments: 171228_Grant_CV_LongRevised.docx

Hello Mr. Ost,
My name is Tom Grant and I am interested in applying for the County's weed commission. I have over 20 years of experience working in vegetation management, specifically invasive plant management. My PhD research focused on understanding and managing the interactions between invasive plants (primarily Russian knapweed) and soil to develop novel ways to manage weeds, although much of my work has been directly related to land management issues. Currently, I work at a contractor to the Upper Gunnison River Water Conservancy District and manage the basin-wide Wet Meadow/Riparian Restoration program. Prior to this work, I taught in the Master of Environmental Management program at WSCU. Attached is a resume, although it is a little out-dated. I will try to update my resume and email it to you early next year. My resume does not include my roles on the Boards of ColdHarbour Institute and the Crested Butte Wildflower Festival. In both of these roles, I am working to highlight noxious weed issues and find reasonable options to minimize the impact of invasive plants.

Is there anything else that is required to apply for the weed commission? Please contact me with any questions and I appreciate your consideration for the weed commission position.

Thank you for your time and I look forward to talking with you.
Sincerely,
Tom

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Thomas A. Grant III PhD
Restoration Ecologist...
Wet Meadows Restoration-Resilience Project Coordinator
Contractor to the Upper Gunnison River Water Conservancy Districts http://ugrwcd.org/
Office# 970 641-6065 Cell# 720 530-5290

PROFESSIONAL REFERENCES:

Dr. Mark Paschke
Restoration Ecologist, Shell Endowed Chair of Restoration Ecology and Associate Dean for Research, Colorado State University and Primary PhD advisor
(970) 491-0760
mark.paschke@colostate.edu

Dr. Carol Dawson
Bureau of Land Management - State Botanist, former supervisor at the Denver Botanic Gardens
(303) 239-3725
Carol_Dawson@blm.gov

Betsy Neely
The Nature Conservancy – Senior Conservation Planner
(720) 974-7015
bneely@tnc.org

Dr. Claire Alix
Alaska Quaternary Center, University of Alaska Fairbanks and
University of Sorbonne, Paris France
Colleague on Dendrochronology and Dendro-Archaeology research in Alaska
(907) 479-6781
cmalix@alaska.edu

PERSONAL REFERENCES:

Michelle DePrenger-Levin
Research Associate, Denver Botanic Gardens
(720) 865-3630
deprengm@botanicgardens.org

Tim Hoelzle
Colleagues/graduate students at Colorado State University (Restoration Ecology Lab)
Vice President of Technical Services – Great Ecology Environment & Design
(970) 297-8063
timhoelzle@gmail.com

Curriculum Vitae for

Thomas A. Grant III PhD

316 W. Georgia Ave, Gunnison, CO 81230
(720) 530-5290, metag3@gmail.com

PURPOSE STATEMENT:

I have a vision of diverse, functioning ecosystems that include humans. I want to be a leader in the development of robust science-based solutions to today's greatest social-ecological challenges. Solutions include increasing ecosystems' resilience to climate change, innovative management and restoration of forest, grassland, riparian, and aquatic ecosystems, and most importantly developing creative partnerships that foster environmental sustainability and viable livelihoods on working landscapes.

EDUCATION:

Post-Doc 2012 – University of Alaska Fairbanks School of Natural Resources (SNRAS)
Post-Doc Research – Dendrochronology, fire ecology, and forest management in a climate induced biome shift (Advisor Dr. Glenn P. Juday – Professor of Forest Ecology)

PhD 2011 - Colorado State University Graduate Degree Program in Ecology (GPA 3.92)
Dissertation Research – Integrating plant-soil feedbacks into ecological management of invasive weeds (Advisor Dr. Mark Paschke – Restoration Ecology Lab)

Masters 2002 - University of Colorado at Denver Environmental Sciences (GPA 3.72)
Master's Thesis – Insect predation and exclusion on *Lupinus crassus*, a rare endemic species of the Paradox Valley of western Colorado (Advisor Dr. Leo Bruederle)

Bachelor of Science 1995 - University of Denver Environmental Sciences (GPA 3.081)
Honor's Thesis – Comparative Biogeochemistry of Aspen and Lodgepole Pine Forests in the Front Range of Colorado (Advisor Dr. Robert 'Buck' Sanford)

WORK EXPERIENCE:

May 2017 – **current**	Wet Meadow/Riparian Restoration Coordinator (Upper Gunnison River Water Conservancy District – Contractor)
July 2014 – **current**	Western State Colorado University – Lecturer/Graduate Faculty in Master in Environmental Management Program (MEM)
May 2013 – Mar '14	University of Alaska Fairbanks Adjunct/Research (Forestry)
May 2013 – Mar '14	Mountain Studies Institute (MSI) – Director of Research
Jan - May 2013	University of Alaska Fairbanks – Assistant Research Professor
Fall 2011 - 2012	University of Alaska Fairbanks – Post-doc. & Adjunct Faculty
2010 - Fall 2011	University of Alaska Fairbanks – Research Technician
2006 - Winter 2011	Colorado State Univ. (GDPE program) – Research Assistant & TA
2001 - 2006	Denver Botanic Gardens – Manager of Research Programs *Interim Director of Research Programs 2001-2003*
1997 - 2001	Denver Botanic Gardens – Research Assistant, promoted to Associate
1995	Oregon State University - Forest Sciences Dept. Biology Technician

1994 Fall	University of New Mexico Sevilleta LTER - Biology Dept. Internship
1994 Summer	Denver Botanic Gardens - Plant Conservation Internship

LEADERSHIP AND MANAGERIAL EXPERIENCE:

My leadership philosophy is based in finding projects or initiatives I believe in and then building support to overcome obstacles and make the projects a reality. I am a strategic thinker that seeks connections both inter-personally and ecologically. I consider several possibilities, resources, and organizational structures before building a team and objectives to accomplish project goals. I have initiated many new and novel projects while at DBG, UAF, MSI, and CSU, including: citizen science projects, rare plant reintroduction and habitat manipulations, student guild of Society for Ecological Restoration, and collaborative forest management to name a few. I attempt to include diverse stakeholders and find common ground, often through listening to stakeholders' concerns and working together to make positive change.

I have extensive personnel and budget management experience at DBG, UAF, and MSI. Throughout these positions, I have learned inclusive approaches to management, while retaining my independence and objectivity in order to make decisions based on institutional priorities and financial realities. I treat all staff, stakeholders, and volunteers with respect and always attempt to be clear and direct with them, especially concerning the development of project objectives and evaluation of work. I strive to make the work place safe and enjoyable, while also setting clear expectations for performance and conduct.

- Experienced at safely managing field crews and office staff, including UAF field staff in remote wilderness locations (Alaska), MSI staff and interns in wilderness settings (1-2 FTE's & 2-4 Interns), and the Denver Botanic Gardens office and field crews (> 4 FTE's & >10 PTE's)
- Development of annual budgets and financial record keeping, including the use of budgeting and financial projection software at UAF (>$1 million, Banner Software) and DBG (> $300K annually, BlackBaud Software)
- Extensive grant writing and reporting experience to federal, state and local agencies (*see Grants and Funding section below*)
- Experienced in human resources protocols, including employee review and performance evaluations, hiring, and dismissal

ECOLOGICAL EXPERIENCE:

Climate Change Research

- Climate change induced biome shift in Alaskan boreal forests (see FEM 2015 publication)
- Analysis of climate impacts on sagebrush (*Artemisia*) die-back in early 2000's (CO)
- Dendrochronological analysis of forest response to climate change and fire history in Alaska
- Climate related impacts to insect outbreaks and forest mortality in Alaska

Restoration Ecology (Riparian, Wetland, Mines, and Invasive Plants)

- Building resilience to climate change through riparian restoration (Gunnison, CO)
- Analysis of potential landscape impacts (insects) from riparian restoration (Gunnison, CO)
- Fen restoration to restore hydrologic regime and wetland vegetation (MSI 2013)
- Mine tailing remediation using middle school students and willow planting (MSI 2013)

- Implementing and evaluating new **Riparian Monitoring Protocol** for US Forest Service in southwestern Colorado (MSI 2013)
- Vegetation monitoring for large-scale, long-term restoration projects at Fort McCoy military base, Summitville Mine, Piceance basin (Shell Oil), and Roan Plateau (Williams Oil),
- Road restoration experiments in Boulder County Parks and Open Space areas
- Effects of prescribed fire on invasive Cheatgrass in Boulder County Parks & Open Space (CO)
- Litter decomposition and nutrient cycling in invasive Knapweed (CSU)
- Manipulation of soil microbes to improve management of invasive Knapweeds (CSU)

Forest Management and Fire Ecology

- Impacts of fuels treatments on PJ tree growth using dendro-ecology (WSCU Colorado)
- Innovative forest management for fuels treatments and energy production (MSI – CO)
- Development of a fire history for the White Mountains of Alaska (BLM)
- Sustainable forest management for woody biomass energy (AK)
- Landscape perspective of timber harvest on forest diversity and regeneration (AK)
- Determination of riverine transport times for coastal driftwood from interior Alaska
- Dating archaeological structures using dendrochronological methods in remote western AK

Rare Plant Conservation and Population Demography

- Managed long-term demographic monitoring of five rare plant species for US Bureau of Land Management (BLM), including habitat manipulation experiments
- Rare plant surveying, mapping, seed collection and salvage in several National Parks (Rocky Mountain, Yellowstone, Glacier, and Capital Reef National Parks)
- Ex-situ conservation and cryogenetic seed banking of > 32 rare or endangered plant species with Denver Botanic Gardens and the Center for Plant Conservation
- Biological control insect predation studies on several rare plants (*Cirsium ownbeyi* – BLM and *Frankenia jamesii* – US Army Corp of Engineers)
- Designed and implemented rare plant reintroductions at the Rocky Mountain Arsenal (USFWS - *Eustoma grandiflorum*) and Rocky Mountain National Park (NPS - *Cypripedium fasciculatum*)
- Medicinal plant monitoring and sustainable harvest study (*Ligusticum porteri*) with the US Forest Service, Mountain Studies Institute, University of Kansas, Plant Conservation Alliance, and the Garden Clubs of America
- Design and installation of field and greenhouse experiments examining plant population dynamics, plant-soil feedbacks, intra- and inter-specific plant competition, and soil amendments (CSU PhD)
- Floristic inventories and surveys (Rocky Mtn. NP, Jefferson County Open Space)

TEACHING EXPERIENCE:

Recent Teaching Evaluations:

I have received excellent teaching evaluations from my graduate students at Western Colorado State University and undergraduate students at University of Alaska Fairbanks. Complete and official evaluation forms are available upon request.

- Science of Environmental Management (Fall 2014): 4.8/5.0 (**Excellent**)
- Quantitative Skills for Environmental Management (Spring 2015, 2 Sections):
  Section #1: 4.9/5.0 (**Excellent**) and Section #2: 4.8/5.0 (**Excellent**)

- Natural Resource Management and Conservation (Fall 2011): 4.0/5.0 (**Very Good**)

Graduate Teaching

- Western State Colorado University Lecturer in MEM – Restoration Ecology Fall 2015 & 2016 (ENVS 625), Plants & Soils Fall 2015 (ENVS 625), Science of Environmental Management Fall 2014-2016 (ENVS 605), Spring 2014-2017 – Quantitative Skills in Environmental Management (612)
- University of Alaska Fairbanks Adjunct faculty – Co-Instructor for Graduate Seminar Fall 2012 (NRM692)

Undergraduate Teaching

- University of Alaska Fairbanks Adjunct faculty – Instructor on Record for Natural Resources Conservation and Policy Fall 2012 (NRM101)
- University of Denver – Laboratory instructor for Plant Biodiversity class (Spring 2003 & 2004)

University Guest Lecturing

- Fort Lewis College Sept 2013 – Forest Ecology (Biology 481)
- Western State Colorado University Oct 2013 – Research Methods & Design (ENVS 320)
- University of Alaska Fairbanks Guest lecturer – Conservation Biology (NRM277), Forest Ecology (NRM375), Wilderness Management (NRM464), and Interdisciplinary Research Methods Seminar (NRM692), Introduction to Fisheries (FISH101)
- Colorado State University Guest lecturer for several ecology classes: Undergraduate Experience Fall 2006 (IU193), Ecology of Disturbed Lands Spring 2009 (RS578), Ecology Fall 2009 (LIFE 320), Community Ecology (ECOL600 TA)
- University of Denver Guest lecturer - Conservation Biology (Spring 2004) and The Plains Ecosystems (Winter 2004)

Educational Outreach and Non-Traditional Teaching

- The Nature Conservancy's Gunnison Basin riparian restoration project – facilitated stakeholder discussion on monitoring and research (October 2014)
- Wildlands Restoration Volunteers – Crew leader for riparian restoration projects in Gunnison (2014-15); Crew leader for native plant seed collections and ecological restoration projects (2008-10)
- Applied Plant Conservation Training Program at Denver Botanic Gardens - organizer and lecturer on citizen science programs and plant conservation volunteerism (June 2005 and 2006)
- Partners for Colorado Native Plants (PCNP) – lead instructor for volunteer trainings on rare plant surveying (elemental occurrence records), native seed collection and propagation, use of global positioning systems (GPS), and Orchidaceae morphology (2005-2006)
- Denver Botanic Gardens adult education program – Botany for Botanical Illustrators (lead instructor, taught annually 2002-2004)

TECHNICAL SKILLS:

- Broad statistical and experimental design experience, including the use of Machine Learning for spatial modeling (Gradient Boosting Regression Trees, Random Forests, Maxent), ANOVAs (GLM, GLiMMiX, MANOVA, Repeated Measures), Multi-variate Ordination (Non-metric Multi-dimensional Scaling, Principle Components Analysis, Cluster Analysis, and

K-Means), Population Viability Analysis (PVA), transition matrix models, sample size and power analysis, and the use of JMP, R, SAS, Systat, PC-ord, and Statgraphics software packages
- Dendrochronology/climatology sample and data analysis. Experience using all relevant dendrochronological software (dplR, TSAPwin, DetrendeR, Dendroclim, Cofecha, Arstan) and statistical tools for processing, cross-dating quality control, detrending, and climate sensitivity
- Vegetation sampling and monitoring using all common techniques and statistical sample size and power analysis
- Soil microbiology lab techniques (EL-FAME, PLFA, Microbial Biomass Carbon and Nitrogen)
- Soil biogeochemical analysis and litter decomposition methodologies
- Database development and management using Microsoft Access (15 years experience) and Advanced Revelation softwares.
- Digital imaging experience: including digital microscopy, image manipulation, and digitization of herbarium specimens.
- Botanical identification, plant collection, and herbarium management
- Basic soil classification and analysis
- Development & application of seed mixes for restoration projects
- GPS experience (primarily Trimble units) and basic GIS skills (ERSI ArcGIS)

PEER REVIEWED PUBLICATIONS

1. Wolken, J.M., D.H. Mann, **T.A. Grant III**, A.H. Lloyd, T.S. Rupp, and T.N. Hollingsworth. 2016. Climate-growth relationships along a black spruce toposequence in interior Alaska. Arctic, Antarctic, and Alpine Research 48(4): 637-652.
2. Juday, G.P., C.M. Alix, and **T.A. Grant III**. 2015. Spatial coherence and change of opposite white spruce temperature sensitivities on floodplains in Alaska confirms early-stage boreal biome shift. Forest Ecology and Management 350: 46-61.
3. DePrenger-Levin, M.E., J.M. Ramp, **T.A. Grant III**, C. Dawson, and Y. Erguner Baytok. 2013. Life History and Demography of *Astragalus microcymbus* Barneby (Fabaceae). Natural Areas Journal 33(3): 500-511.
4. **Grant III, T.A.**, M.E. DePrenger-Levin, and C. Dawson. 2012. Long-term Population Demographics and Plant Community Interactions of *Penstemon harringtonii*, an Endemic Species of Colorado's Western Slope. Calochortiana (Research Journal of the Utah Native Plant Society) 1:115-119.
5. **Grant III, T.A.** and M.W. Paschke. 2012. Invasive Plant Impacts on Soil Properties, Nutrient Cycling, and Microbial Communities. In Invasive Plant Ecology and Management: Linking Processes to Practice. Eds. Sheley R.L. and T.A. Monaco. CABI Oxfordshire UK.
6. DePrenger-Levin, M.E., **T.A. Grant III**, and C. Dawson. 2010. Impacts of the Introduced Biocontrol Agent, *Rhinocyllus conicus* (Coleoptera: Curculionidae), on the Fruit Production and Population Dynamics of *Cirsium ownbeyi* (Asteraceae) a Rare, Native Thistle. Biological Control 55: 79-84.
7. Brown C.S., V.J. Anderson, V.P. Claassen, M.E. Stannard, L.M. Wilson, S.Y. Atkinson, J.E. Bromberg, **T.A. Grant III**, and M.D. Munis. 2008. Restoration Ecology and Invasive Plants in the Semiarid West. Invasive Plant Science and Management 1:399-413.

8. Smith, S.L., A.A. Sher and **T.A. Grant III**. 2007. Genetic Diversity in Restoration Materials and the Impact of Seed Collection in Colorado's Restoration Plant Production Industry. Restoration Ecology 15(3): 369-374.

Publications in Review or Preparation:

1. **Grant III, T.A.** and M.W. Paschke *(Revising submission).* Opposing responses of North American native (*Solidago canadensis* L.) and invasive (*Acroptilon repens* (L.) D.C.) species to competition and plant-microbe interactions
2. Juday, G.P., Spencer, D., Beck, P.S.A., **Grant III, T.A.**, Barber, V.A. *(in preparation).* Growth decline and tree mortality in aspen from negative temperature sensitivity, moisture limitation, and leaf miner attack.

Non-peer reviewed Publications:

1. **Grant III, T.A.** February 2010. Aquilegia (newsletter of the Colorado Native Plant Society). Collaborative Efforts to Conserve Colorado's Rare Plants.
2. **Grant III, T.A.** 2007. Introduction to Proceedings. Eds: Sher, A.A and J. Wingate. A Manual for Developing Conservation Programs. Denver Botanic Gardens, Denver, CO.
3. **Grant III, T.A.** and A.A. Sher. 2006. The Public Garden as Science. In: Gardening with Altitude: Cultivating a New Western Style. Denver Botanic Gardens Press. Denver, CO.

Professional Editorial Review:

Winter 2015 – Reviewed paper for Climatic Change (Boreal forests and climate change – China)
Spring 2013 – Reviewed paper for Holocene (Dendrochronology temperature reconstruction)
Fall 2012 - Reviewed paper for the Canadian Journal of Forest Research (Boreal Ecology)

PROFESSIONAL PRESENTATIONS (INVITED):

1. Western State Colorado University seminar (April 2015) – Climate induced biome shift in Alaska's boreal forests
2. Delta Conservation District (January 2015) – Noxious weed management and control strategies in Delta County Colorado
3. San Juan Four Corners Native Plant Society (November 2013) – Forests, Fens, and Medicinal Plants – Mountain Studies Institute's current research initiatives
4. Boulder County Nature Association research symposium (April 2010) - Fighting weeds with innovative restoration strategies
5. Colorado Weed Network oral presentation (January 2010) – Fighting weeds with innovative restoration strategies
6. Garden Club of America Broadmoor Chapter (February 2007) – Colorado's Rare Plants
7. Texas Plant Conservation Conference (September 2006) – An Overview of Colorado's Biocontrol Agents and Interactions with Rare Plants
8. Junior League of Denver (Spring 2006) - Rare Plant Conservation in Colorado
9. Colorado Weed Network oral presentation (March 2005) – Invasive Cheatgrass & Prescribed Fire as a Management Tool
10. Colorado Weed Network oral presentation (January 2003) – Colorado's Invasive Ornamental Plants

CONFERENCE PRESENTATIONS & POSTERS
(*primary author unless otherwise noted):

1. American Geophysical Union (San Francisco CA – December 2012). Early Stages Of Biome Shift in Boreal Alaska: Climate Sensitivity of Tree Growth and Accelerated Tree Mortality (invited submission). Juday, G.P., **T.A. Grant III**, C.A. Alix, D.L. Spencer, P. Beck.
2. Natural Areas Conference (Norfolk VA - October 2012). Climate Sensitivity of White Spruce Growth in Boreal Alaska Research Natural Areas Suggests a Biome Shift. Juday, G.P., **T.A. Grant III**, and D.L. Spencer.
3. Ecological Society of America oral presentation (Portland OR – August 2012). Lichens, Wildfires, and Climate Change in Interior Alaska: A Preliminary Assessment of the Drivers of Caribou Habitat Quality. **Grant III, T.A.**, J. Herriges, and G.P. Juday.
4. Ecological Society of America (Portland OR – August 2012). Boreal Alaska aspen growth rate collapse and mortality from high temperatures and drought and insect attack. Juday, G.P., D.L. Spencer, and **T.A. Grant III.**
5. Canadian Archaeological Association (Montreal Canada – May 2012). Date, transit time and origin of driftwood – a tool for tree-ring dating archaeological sites in northwestern Alaska. Alix C.A., G.P. Juday, and **T.A. Grant III**
6. Soil Metagenomics Conference poster presentation (Argonne National Lab IL - October 2011) – Soil inoculation as a tool to manipulate plant-soil feedbacks and improve management of exotic knapweed invasions.
7. Partners in Environmental Technology Technical Symposium and Workshop poster presentation (Washington DC - December 2009) – Can Native Weedy Plants be used to Control Exotic Invasive Weeds on Military Training Grounds?
8. Society for Ecological Restoration International (SERI) oral presentation (Victoria Canada - August 2009) – Use of Native Soil Inoculum in the Restoration of Lands Invaded by Exotic Weeds
9. Ecological Society of America (ESA) oral presentation (Albuquerque NM - August 2009) – Influences of Plant-Soil Feedbacks on the Intra- and Inter-Specific Competition of Several Invasive Knapweeds
10. Southwestern Rare Plant Conference poster presentation (Salt Lake City UT - March 2009) - Long-Term Population Demographics and Plant Community Interactions of the Rare *Penstemon harringtonii*
11. Front Range Student Ecology Symposium poster presentation (Fort Collins CO - February 2009) – Intraspecific Auto-inhibition of Seed Germination by the Invasive *Acroptilon repens*
12. Front Range Student Ecology Symposium poster presentation (Fort Collins CO - February 2008) – Use of Native Soil Inoculum in the Restoration of Lands Invaded by Exotic Weeds
13. Society for Ecological Restoration International (SERI) oral presentation (Liverpool England - Fall 2004) – Rare Plant Reintroduction at Rocky Mountain Arsenal NWR
14. Society for Ecological Restoration International (SERI) oral presentation (Niagara Falls Canada - Fall 2001) – Rare Plant Surveying and Salvage in Rocky Mountain National Park
15. American Association for Botanic Gardens and Arboreta (AABGA) oral presentation (Denver CO - Summer 2001) – Cooperative & Volunteer-based Plant Conservation Programs
16. Southwestern Rare Plant Conference poster presentation (Flagstaff AZ - Fall 2000) – Demographic Monitoring of *Penstemon harringtonii*
17. World Botanic Gardens Congress poster presentation (Asheville NC - Summer 2000) – Demographic Monitoring of *Astragalus microcymbus*

SELECTED GRANTS, CONTRACTS AND AWARDS

Current Funding - University of Alaska Fairbanks (UAF)

- State of Alaska Capital Appropriation - Boreal Alaska – Learning, Adaptation, and Production (BAK-LAP)($1,000,000). Lead PI – G.P. Juday, Co-PI's J. Dawe and **T.A. Grant III**
- Joint Fire Science Program (JFSP) – Data Archiving of BLM White Mountains/Steese Fire History Study. ($10,000 **PI – T.A. Grant III**)
- BLM Cooperative Agreement (Eastern Alaska Field Office) – Fire History, Climate Control of Tree Growth and Caribou Habitat Investigations in the Steese/White Mountains Area of Central Alaska ($112,000). (PI - G.P. Juday, **Co-PI - T.A. Grant III)**
- University of Alaska Fairbanks Innovative Technology and Education – iPad mini teaching kits for undergraduate education, citizen science, and outreach ($5,000 **PI – T.A. Grant III**)

Previous Funding by General Categories:

Ecological Restoration

- Rocky Mountain Arsenal National Wildlife Refuge – annually $4,000 to $11,000 since 1995 for noxious weed control, prairie restoration & reintroduction of *Eustoma grandiflorum*
- Boulder County Small Grants Program
  - Effects of spring & fall prescribed fire on Cheatgrass - $10,573 over 3 years;
  - Use of mycorrhiza in the restoration of a degraded road - $5,869 over 2 years

Vegetation Monitoring and Botanical Surveys

- National Park Service Rocky Mountain National Park - over $40,000 during four years for floristic studies, rare plant documentation, rare plant transplanting, and herbarium collecting
- Bureau of Land Management ~ $10,000 annually for rare plant monitoring (1992-2010)
- U.S. Forest Service - $40,000 over four years for *Draba burkei* ex-situ conservation (seed banking & collection, germination and growth experiments)
- Jefferson County Colorado – Open space botanical inventories and rare plant surveys (~$2000)

Citizen Science

- Plant Conservation Alliance's Medicinal Plant Working Group - $2,300 for citizen scientist monitoring and sustainable harvesting study of Osha (*Ligusticum porteri*)

Education and Outreach

- Congressional appropriation to U.S. Botanic Garden and Denver Botanic Gardens - Implementation of the 2005 and 2006 Applied Plant Conservation (APC) training programs and internships ($150K for 2005 and $86K for 2006)

Databasing and Collections Management

- National Science Foundation - $31,200 for databasing of herbarium specimens for a GIS website managed by the University of Colorado Boulder (Mountain and Plains Spatial and Temporal Database Initiative, MaPSTeDI) – sub award to Denver Botanic Gardens
- Institute of Museum and Library Services – $42,000 for digital mapping of DBG living plant collection (co-PI)

PROFESSIONAL TRAINING AND/OR WORKSHOPS:

NSF Long-Term Ecological Monitoring (LTER) Data Management Workshop. August 13-16, 2011. University of New Mexico

Wildlands Restoration Volunteers (WRV) Crew Leader Training. 2008-09

Tools for management of Chlorinated Solvent Contaminated Sites. December 3, 2009 at the Partners in Environmental Technology Technical Symposium and (SERDP/ESTCP). Washington D.C.

Information Theoretical Course (Model Based Inference) by Dr. David Anderson. November 23, 2009. Colorado State University

Computational Science for Natural Resource Managers. April 11-14, 2007. University of Tennessee, Knoxville

Licor Biosciences LI-6400 Portable Photosynthesis System Advanced Training. April 2006. Lincoln, NE.

Colorado Native Plant Society plant identification workshops. Numerous day-long workshops on specific plant families, including: Asteraceae, Cyperaceae, Chenopodiaceae, Fabaceae (genus *Astragalus*), Ophioglossaceae (genus *Botrychium*), Poaceae, Salicaceae (genus *Salix*).

EXTRACURRICULAR ACTIVITIES:

- CSU's Restoration Ecology Club – founding member and organizer (2008-2010)
- Colorado Native Plant Society – Conservation Committee chair (2009-2010)
- CSU's Front Range Student Ecology Symposium (2008 VP, 2009 organizer)
- Wildlands Restoration Volunteers (WRV) – volunteer and crew leader (2007-2010 and 2014+)
- Colorado Rare Plant Technical Committee – member of working group consisting of federal, state, local, academic and non-profit organizations focused on prioritizing and improving the management of rare and endangered plants (1997-2010)
- Society for Ecological Restoration's (SER) regional chapter (Central Rockies) – Secretary/Treasurer and events organizer (2002-2011)
- Colorado Weed Management Association's Invasive Ornamental committee – assistance with outreach programs and development of annual calendar (2003-2008)
- Colorado Natural Heritage Program – volunteer (2007-2008)

PERSONAL INTERESTS:

Be a good father. Become a better surfer, backcountry snowboard mountaineering, skateboarding, botanizing, backpacking, growing food to eat and store, vegetarian cooking, mountain biking and long-distance off-road bicycling touring, yoga, sewing utilitarian items, and contributing to a healthier and more sustainable world.

Fairbanks NewsMiner Newspaper article about Tom Grant and Competitive Snowboarding: http://peninsulaclarion.com/news/2011-11-19/uaf-studentPage 10 of 10-has-double-life-as-pro-snowboarder