



Great Lakes - Northern Forest

Cooperative Ecosystem Studies Unit

First Five Year Renewal Self-Assessment

February 1, 2012

Criterion 1

Were the formal commitments identified in the CESU agreement (and amendments) fulfilled?

1. Did the host university and partner institutions conduct with participating federal agencies a program of research, technical assistance and education related to the CESU objectives?

The Great Lakes-Northern Forest Cooperative Ecosystems Studies Unit (GLNF) federal partners reported supporting over \$18 Million (up from \$9 Million from 2003-2007) in project funding for 159 projects (up from the 140 projects from 2003-2007).

At the request of federal partners, and to strengthen GLNF expertise, GLNF has added new partners through three amendments. Thirteen new partners were added from 2007-2012, up from 6 new partners added during the previous five year period. Amendment One added Antioch University New England, Cornell University, Indiana State University, Purdue University, and University of Notre Dame. The Second Amendment added U.S. Fish and Wildlife Service, and the Office of the Deputy Under Secretary of Defense (Installations and Environment). The Third Amendment added Ball State University, Grand Valley State University, Hamline University, Midwest Art Conservation Center, St. Mary's University of Minnesota, and Winona State University. Currently applications from two academic institutions and one organization (Ohio State University, Central Michigan University, and Wildlife Conservation Society) are pending with three additional academic institutions expressing interest in joining the GLNF-CESU (Eastern Michigan University, Northland College, and Indiana University of Pennsylvania).

Most GLNF projects have focused on research and/or technical assistance (Table 1). Less than 10 percent of GLNF projects have addressed educational needs of federal partners. GLNF continues to work with federal partners to identify educational needs.

Table 1. GLNF Project Types and Funding FY 2003-2012 (to date)

Project Type	1 st 5 years (2003 – 2007)		2 nd 5 years (Aug 2007 - present)		Totals
	# of projects	Funding ¹	# of projects	Funding	
Research	61	\$5,327,318	77	\$10,301,883	\$15,629,201
Technical Assistance	72	\$5,383,246	65	\$ 6,708,024	\$12,091,270
Education	11	\$ 322,886	17	\$ 1,335,520	\$ 1,623,210
Total Projects	140²		159		299
Total Project Funding	\$9,060,608		\$18,345,427		\$27,406,034

¹ Sums to more than total project funding because some projects classified into more than one type.

² Sums to less than the total number of projects because some projects classified into more than one type.

Five of the nine federal agencies contributed funding to GLNF-CESU partners for projects from 2007-2012 (Table 2, Figure 1). From greatest to least percentage of funding allocated the

agencies contributed the following: NPS 39%, USFS 19%, USGS 16%, USACE 13%, and NRCS contributed 13%. In the summer of 2011 two federal agencies (USFWS and DoD) joined the GLNF-CESU; they have not yet contributed funds to partners during this period of the agreement. The Bureau of Land Management (BLM) and National Aeronautics and Space Administration (NASA) have never funded projects through GLNF.

Table 2. Number of Projects and Funding by Federal Agency, August 2, 2007 - present

Federal Agency	Number of Projects	% Projects	Amount of Funding	% Funding
Bureau of Land Management (BLM)	0		0	
Department of Defense (DoD)	0		0	
National Aeronautics and Space Administration (NASA)	0		0	
National Park Service (NPS)	65	41	\$7,142,723	39
Natural Resources Conservation Service (NRCS)	28	18	\$2,381,878	13
U.S. Army Corp of Engineers *(USACE)	10	6	\$2,412,361	13
U.S. Forest Service (USFS)	35	22	\$3,453,735	19
U.S. Geological Survey (USGS)	21	13	\$2,954,730	16
U.S. Fish and Wildlife Service (USFWS)	0		0	
	159	100%	\$18,345,427	100%

Percentage of Funding by Federal Agency

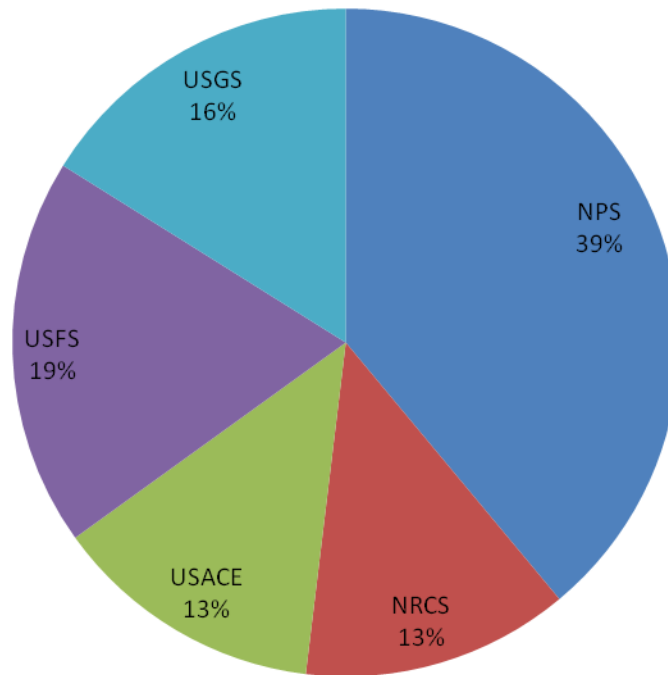


Figure 1: Funding by GLNF CESU federal agency, August 2, 2007 - present

2. Did the host university and partner institutions develop and adopt with participating federal agencies a CESU role and mission statement?

Yes, the role and mission statement of GLNF was adopted March 2003 at the strategic planning meeting. In subsequent years the mission statement has not been revised. The role of GLNF is to facilitate quality research that is agency and resource based. The mission statement is:

“To conduct a program of research, technical assistance and education that involves the biological, physical, social and cultural sciences needed to address, manage and preserve Great Lakes Northern Forest ecosystems in a rapidly changing social, economic and environmental landscape.”

3. Did the host university and partner institutions develop and adopt with participating federal agencies a multi-year CESU strategic plan?

Yes, a strategic plan was adopted at the strategic planning meeting held in 2003 and is posted on GLNF’s website (<http://www.cesu.umn.edu/Documents/CESUArchives/index.htm>).

4. Were periodic meetings of the CESU convened for the purpose of collaboration and coordination of CESU activities?

During the five year period of this agreement annual meetings were convened in 2007 and 2009. The annual meeting in 2009 was held jointly with the Great Rivers and Great Plains CESUs in Dubuque Iowa. All GLNF partners were invited to attend the national meetings, held in 2008 and 2010. CESU administrative and activities documents are posted at:

<http://www.cesu.umn.edu/Documents/index.htm>.

5. Did the host university and partner institutions develop with participating federal agencies annual work plans to guide the activities of the CESU?

During the five year period of this agreement the GLNF developed one workplan. The last annual workplan developed for the GLNF CESU was in 2007.

6. Were students encouraged to participate in the activities of the CESU?

Yes, a key component of all the projects initiated through GLNF is student involvement. Nearly every project has at least one graduate student associated with it. Whenever possible, principal investigators involve undergraduates as well. Students indirectly participate in GLNF projects through classroom and field learning opportunities. Technical representatives and principal investigators report that they regularly include material from GLNF projects as part of their classroom and field teaching.

7. Did the host university and partner institutions offer educational and training opportunities to participating federal agencies' employees?

Yes, 17 GLNF projects focused on educational and training needs. Many of these projects were initiated solely for the purpose of training and educating federal agency employees. In addition, several GLNF projects have a study objective aimed at educational training.

Also, the host university (University of Minnesota) co-hosts and co-sponsors the Western Great Lakes Research Conference, which provides educational and training opportunities for all

participants. The conference is held at a GLNF partner location each year.

8. Did the host university provide basic administrative and clerical support, access to campus facilities, suitable office space and basic services for federal agencies' personnel to be located at the host university?

Yes, all federal partner coordinators have access to host university facilities such as libraries, classrooms, and office space. Only the National Park Service has elected to house its CESU coordinator in University space. The NPS Research Coordinator for GLNF is provided with a furnished office, telephone account, email account, and access to all university facilities. The NPS coordinator also has adjunct status in the host university's Department of Forest Resources and member status in the host university's Graduate School. The U.S. Forest Service historically has had office space on the host university campus and does not require additional space for its coordinator. The remaining federal partners have elected to house their coordinators at their respective regional offices.

The GLNF has gone through some administrative changes. In 2008 the Co-Director for GLNF left the university, and the unit was without a program coordinator/administrative fellow position in 2010. The University currently supports a 10 hour a week administrative fellow position. This position provides basic administrative and clerical support for GLNF, and has full access to campus facilities; however the graduate student in this position is leaving the CESU in March. Budgets to support this position continue to be problematic. Initially a small portion of GLNF start-up funds supported the position. In addition the National Park Service has provided very modest support for this position through projects to identify research needs, technical assistance, and educational needs for NPS in GLNF's region and to plan and coordinate the Western Great Lakes Research Conference. In 2011 the start-up fees of the US Fish and Wildlife and Department of Defense provided funding to support the administrative fellow. The Department of Forest Resources provides a permanent member of the office staff to maintain the GLNF website.

GLNF's program coordinator/administrative fellow engages in a number of activities related to the overall functioning of GLNF. These activities include but are not limited to project administration, soliciting and distributing statements of interest for projects, and preparing and distributing promotional materials related to GLNF's operation. In addition, the program coordinator takes the lead in coordinating GLNF meetings; planning, coordinating, and promoting the Western Great Lakes Research Conference; providing content for the GLNF website including preparing updates; developing and maintaining a GLNF expertise database; distributing appropriate information to partners concerning federal partner research, technical assistance, and research needs, employment opportunities, upcoming conferences, workshops and other events of importance or interest to partners; and, GLNF's program coordinator assists with monitoring project status and obtaining interim and final products from partners.

9. Did the host university coordinate activities, as appropriate, with the partner institutions and develop administrative policies for such coordination?

Yes, the host university regularly conducts and assists with activities related to project monitoring, invoicing, and obtaining interim and final products, which are posted on GLNF's website: <http://www.cesu.umn.edu/Projects/index.htm>. Projects are listed by funding agency. GLNF's program coordinator regularly communicates with all partners via telephone and email. Generally, the purpose of this communication is to answer questions partners may have about GLNF, discuss current events involving partner institutions and GLNF, gather partner input on

GLNF materials and promotional ideas, and promote conferences, workshops, education opportunities, job listings, or meetings of interest to partners.

The host university has worked with partners to establish policies and guidelines on project initiation, project reporting, and new member induction processes. GLNF's website serves as the key communication tool for these policies (<http://www.cesu.umn.edu/Documents/index.htm>) The website is an important resource for partners as well as others interested in the business of GLNF. The program coordinator receives feedback from individuals accessing the site who are interested in the region GLNF serves and the kinds of research carried out in the region.

10. Did the host university establish a CESU Managers Committee and convene annual meetings?

A managers' committee was formed at GLNF's inception. Managers' committee meetings are held in conjunction with GLNF's annual meetings. During the five year period of this agreement meetings were held in 2007 and 2009. The host university communicates via telephone and email with managers to assess research, technical assistance and education needs. The host university also works with managers to improve the processing and tracking of awards.

Criterion 2

Were the projects successfully completed, and was there effective delivery of relevant and high quality project results to managers, consistent with the mission of the CESU?

1. Were projects conducted successfully, with all project deliverables accepted by collaborating federal agency(s) providing project funds?

To date 29 projects have been completed successfully and 130 projects are ongoing. Timely and successful completion of projects has led to additional work between many university, organization and federal partners.

2. Were some projects unsuccessful, with project deliverables rejected by collaborating federal agency(s) providing project funds?

None of the federal agency partners reported any unsuccessful projects or rejected project deliverables during this agreement period.

3. Did the host university and partner institutions provide effective delivery of relevant and high quality project results to managers, consistent with the mission of the CESU?

GLNF's administrative fellow works to ensure delivery of project reports and final reports in several ways. The CESU network requires project reports or links to project reports and products be posted on the unit website. Agencies are asked to forward products or links to products to the host university administrative fellow. The changes in and absence of GLNF administrative staff due to budget constraints has reduced the ability to get timely delivery of products, but the host university is exploring ways to attain this goal. Products are posted on the website: <http://www.cesu.umn.edu/Projects/index.htm>. For ongoing projects, the administrative fellow sends reminders to principal investigators and agency project coordinators as project end dates approach. Contact with investigators and agency coordinators continue until a report is submitted and the agency is satisfied with the report. In addition to seeking product delivery, GLNF encourages close out meetings between researchers and managers. Principal

investigators are also encouraged to disseminate their work through publications, workshops, and regional conferences such as the Western Great Research Lakes Conference.

Criterion 3

Was there involvement of the partner institutions as appropriate in the activities and projects of the CESU?

1. Did partner institutions participate in activities of the CESU?

Yes, university partners as well as several organization partners have participated in GLNF activities. At GLNF’s inception all partners participated in preparing and approving the strategic plan. All partners participate in the review and selection of additional partners. Partners participate as appropriate in research, technical assistance and educational activities of GLNF. GLNF partners have participated as their budgets have allowed in the 2007 and 2009 GLNF annual meetings and at the national CESU meeting. Some partners have attended workshops and meetings hosted and/or promoted by one or more GLNF partners throughout GLNF’s region. For example, the Western Great Lakes Research Conference is well attended by GLNF partners.

2. Did partner institutions participate in projects of the CESU?

GLNF has 38 university partners and nine organization partners. During this agreement period thus far, 21 university and two organization partners have participated in GLNF projects (Table 3, Figure 2).

Table 3. Number of Projects and Funding by Non-Federal Partners¹

Non Federal Partner	Partner Abbrev.	Number of Projects	Amount of Funding
Antioch University New England (ANE)	ANE	2	\$90,247
Cornell University (CU)	CU	6	\$699,172
Cleveland State University (CSU)	CSU	4	\$1,049,138
Indiana University (IU)	IU	5	\$446,138
Minnesota State University – Mankato (MNSU)	MNSU	1	\$150,420
Michigan State University (MSU)	MSU	18	\$3,265,557
Michigan Technological University (MTU)	MTU	13	\$1,041,930
University of Notre Dame (ND)	ND	3	\$717,342
Northern Michigan University (NMU)	NMU	2	\$382,158
Purdue University (PU)	PU	9	\$1,055,957
Science Museum of Minnesota (SMM)	SMM	9	\$577,695
State University of New York-Environmental Science & Forestry	SUNY	3	\$204,208
The Nature Conservancy (TNC)	TNC	4	\$425,339
University of Iowa	IU	1	\$110,000
University of Massachusetts – Amherst (UMASS)	UMASS	2	\$159,587
University of Minnesota – Duluth (UMD)	UMD	3	\$69,000
University of Minnesota (UMN)	UMN	27	\$2,550,108
University of Toledo (UT)	UT	2	\$35,446
University of Vermont (UVM)	UVM	1	\$74,294
University of Wisconsin – Madison (UW)	UW	22	\$1,895,019
University of Wisconsin – LaCrosse (UWLax)	UWLax	2	\$1,676,157
University of Wisconsin – Stevens Point (UWSP)	UWSP	3	\$381,500
West Virginia University (WVU)	WVU	17	\$1,289,015
		159	\$18,345,427

¹ Does not include non-federal partners that did not have GLNF projects from August 2, 2007 – present.

Percentage of Funding by Non-Federal Partner

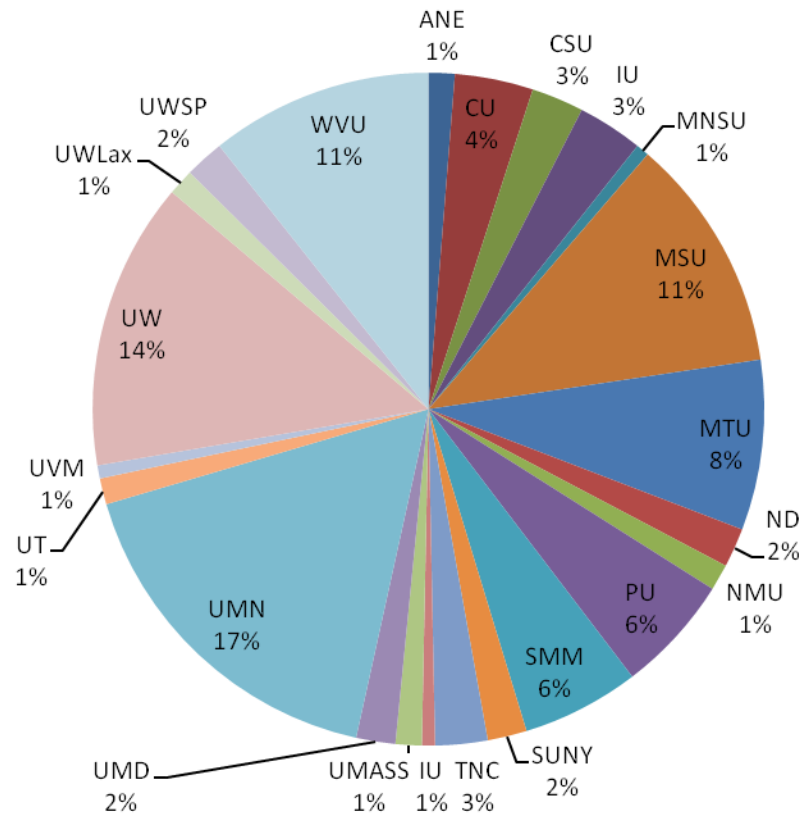


Figure 2: Funds received by GLNF University and Organization partners.

Criterion 4

Did the CESU facilitate collaboration and substantial involvement among its participants?

Yes, but not as much in this five year period as in the first five year period because of budget constraints and turnover of UMN host university staff. However, the host university organized, promoted and facilitated two annual meetings, maintains the GLNF website that includes up-to-date information on GLNF activities and other activities of interest to GLFN partners, distributes -via email—announcements and requests for proposals concerning federal partner needs. Finally, GLNF encourages partners to informally get together at other conferences and workshops they attend throughout the year.

Appendix A

GLNF CESU Projects Administered under 2nd Five Year Agreement

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present							
Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type ¹
NPS	ANE	Human and Environmental Dynamics at Cape Krusenstern, Alaska	6/1/2008	9/30/2011	Complete	\$49,709	R
NPS	ANE	Post-volcanic Landscape Change and Human Response in the Chignik and Meshik Rivers Region, Alaska	6/16/2011	10/1/2014	In Progress	\$40,538	R
NPS	CU	Human Dimensions of Highly Pathogenic Avian Influenza: Understanding Perceptions of Risk and Identifying Implications for Developing Effective Communications Messages	7/15/2008	12/31/2013	In Progress	\$270,000	E
NPS	CU	Understanding the Human Dimensions of Human-Wildlife Habituation: Developing Knowledge for Interventions to Foster Positive Interactions Between People and Wildlife	7/15/2008	12/31/2012	In Progress	\$117,725	E
NPS	CU	Development of a Conceptual Model to Guide Scientific, Management, and Policy Review of Contentious Natural Resource Issues	8/1/2009	12/31/2012	In Progress	\$24,000	T
NPS	CU	Acoustic Monitoring Project for Congaree National Park	9/15/2009	12/31/2010	Complete	\$32,738	T
NPS	CU	Developing and evaluating effective One Health messaging using national parks as a launching point	8/6/2010	12/31/2014	In Progress	\$165,000	T
NPS	CU	Underwater Noise Analysis and Acoustic Habitat Metrics for Glacier Bay Marine Mammals	7/2/2011	10/1/2013	In Progress	\$89,709	R
NPS	IU	GLRI: Assessment of Natural Resource Conditions for Indiana Dunes National Lakeshore	3/1/2010	12/31/2012	In Progress	\$136,874	T
NPS	IU	GLRI: Evaluation of Reference Conditions for Nearshore Sand Habitats of Southern Lakes Michigan at INDU	5/1/2010	5/31/2012	In Progress	\$95,000	T
NPS	IU	GLRI: Evaluate Major Ditches of Wetland Restoration Work Units, Peepoon, Kurz, and Peattie, for Fish, Crayfish, and Amphibians	7/15/2010	9/30/2011	Complete	\$9,960	T
NPS	IU	Researching National Park Service Partnership Training Needs	9/10/2011	1/1/2013	In Progress	\$50,000	E
NPS	MSU	Money Generation Model 2011-2015	6/1/2011	5/31/2016	In Progress	\$33,200	T
NPS	MTU	Isle Royale NP Wolf/Moose Study 2005-2010	1/1/2005	12/31/2010	Complete	\$194,000	R
NPS	MTU	Isle Royale NP Wolf/Moose Study 2011-2015	1/1/2011	12/31/2015	In Progress	\$73,200	R
NPS	MTU	Determine invasion status and ecological impacts of an exotic zooplankter in Great Lakes parks	6/1/2008	9/30/2012	In Progress	\$189,280	R
NPS	MTU	Isle Royale Institute Parks As Classroom Project: Join the Pack	7/1/2008	5/30/2009	Complete	\$10,951	E
NPS	MTU	Multicriteria Risk Models and Management Studies for Invasive Plants at Pictured Rocks National Lakeshore: Development, Validation and Implementation	6/24/2008	6/30/2011	Complete	\$110,497	R
NPS	MTU	Supporting Emergency Treatment of Ballast Water to Prevent the Spread of VHS	6/23/2008	6/30/2011	Complete	\$25,000	R
NPS	MTU	Isle Royale Institute Support 2009-2014	5/16/2009	5/16/2014	In Progress	\$144,500	E

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type¹
NPS	MTU	Assess Vernal Pools of Pictured Rocks National Lakeshore by Determining Distribution, Abundance, and Ecological Significance	4/10/2009	9/30/2011	Complete	\$17,360	T
NPS	MTU	GLRI: Assess vernal pools of Pictured Rocks National lakeshore by determining distribution, abundance, and ecological significance	4/10/2010	9/30/2011	Complete	\$15,000	T
NPS	ND	Saint Croix National Scenic Riverway Understanding Fish Habitat History in the Namekagon River - Cold Water Zone	6/1/2008	3/31/2009	Complete	\$15,000	R
NPS	ND	Determine effects of changing climate on demography of Karner blue butterfly	6/1/2010	12/31/2013	In Progress	\$124,058	R
NPS	NMU	Examine Resident and Coaster Brook Trout Response to Exotic Salmonid Removal in Sevenmile Creek and Conduct Stream Creel Survey at Pictured Rocks National Lakeshore	5/12/2008	12/31/2012	In Progress	\$315,441	R
NPS	NMU	Tracing the Trail: The Pictured Rocks Segment of the Anishnaabeg Migration Route	6/1/2009	12/31/2011	Complete	\$66,717	R
NPS	PU	GLRI: Invasive Species Early Detection Flyer	7/1/2011	9/30/2012	In Progress	\$7,006	T
NPS	SMM	Modeling the Effects of Past and Future Climate Change on GLKN Lakes: A Pilot Study	7/1/2011	6/30/2012	In Progress	\$46,996	T
NPS	SMM	Using diatoms as a bio-monitoring tool to identify and interpret changes in water quality of Great Lakes Network parks	5/3/2010	6/30/2015	In Progress	\$108,745	T
NPS	SMM	GLRI: Mapping and Biological Studies Shoreline Rock Pools in 3 Lake Superior national parks	5/12/2010	9/30/2012	In Progress	\$99,609	T
NPS	SMM	GLRI: History, mechanism, drivers of botulism outbreaks near SLBE	5/1/2010	9/30/2012	In Progress	\$164,000	R
NPS	SMM	Diatom analysis of Crater Lake sediment cores	7/24/2010	7/1/2012	In Progress	\$14,100	R
NPS	SMM	Implement the Science Training and Research Skills Program (STARS)	8/6/2011	11/1/2011	Complete	\$13,310	E
NPS	SMM	Implement the Science Training and Research Skills Program (STARS)	7/1/2010	12/31/2010	Complete	\$14,800	E
NPS	SMM	GLRI: Synthesis of National Coastal Assessment Data for Great Lakes National Parks	8/30/2011	1/1/2013	In Progress	\$37,000	T
NPS	SMM	Lake sediments as records of altered nitrogen inputs to GLKN lakes: a pilot study using nitrogen stable isotopes	9/20/2011	9/30/2013	In Progress	\$43,939	R
NPS	TNC	GLRI: Indiana Coastal Cooperative Weed Management Area	3/23/2011	11/1/2013	In Progress	\$125,000	T
NPS	UMD	GLRI: Conduct AIS Public Education Along Lake Superior's North Shore	4/19/2010	9/30/2011	Complete	\$37,000	E
NPS	UMD	GLRI: Conduct AIS Public Education Along Lake Superior's North Shore	6/1/2011	9/30/2015	In Progress	\$32,000	E
NPS	UMN	Analysis of the Impact of Road Use for Alternative Transportation Systems in Denali Park	4/1/2009	12/31/2013	In Progress	\$249,723	R
NPS	UMN	Development of Stream Survey Methodology for Estimating Harlequin Duck Abundance and Distribution in Glacier National Park, Montana	5/12/2008	3/31/2010	Complete	\$60,000	T
NPS	UMN	Demography and Disturbance History Across the Ponderosa Pine-Lodgepole Pine Ecotone in the Southern Cascade Range	9/1/2008	8/31/2012	In Progress	\$39,856	R
NPS	UMN	Analyze Lake Sediment Cores from Crater Lake to Assess Deepwater Moss Growth and Climate Change	9/16/2008	9/30/2010	Complete	\$10,434	R
NPS	UVM	Monitoring of Biodiversity & Phenology: A Pilot Wildlife Monitoring Partnership for Adaptive Mgt	5/13/2010	12/31/2012	In Progress	\$74,294	T

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type ¹
NPS	UWLax	Intensified monitoring and assessment of contaminants in six national park units in the Great Lakes Network - GLRI	4/15/2010	3/30/2015	In Progress	\$1,498,125	T
NPS	UWLax	Monitoring and Assessing Methylmercury and organic pollutants in Aquatic Organisms at six national parks	5/19/2008	5/19/2013	In Progress	\$178,032	T
NPS	UWM	Monitoring of American Pikas	6/1/2009	9/30/2010	Complete	\$19,994	T
NPS	UWM	Restoring Ethnobotanically Significant Species at Grand Portage National Monument	6/1/2009	3/31/2012	In Progress	\$14,250	R
NPS	UWM	Locate and Identify Native, Exotic, and Hybrid Cattail Populations in Cuyahoga National Park, Pictured Rocks National Lakeshore and Sleeping Bear Dunes National Lakeshore	6/1/2009	12/31/2011	Complete	\$14,710	R
NPS	UWM	Bark Beetles, Fuels and Future Fire Hazard in Contrasting Conifer Forests of Greater Yellowstone Ecosystem	9/1/2009	9/30/2012	In Progress	\$375,051	R
NPS	UWM	Backlog Cataloging of NPS Geological Specimens at University of Wisconsin, Madison, Department of Geoscience, Geology Museum	8/5/2010	9/30/2014	In Progress	\$20,074	T
NPS	UWM	GLRI: Creation and Implementation of a Great Lakes Invasive Species Data Collection and Reporting System	8/6/2010	9/30/2012	In Progress	\$123,869	T
NPS	UWM	GLRI: Creation and Implementation of a Great Lakes Invasive Species Data Collection and Reporting System 2011-2015	9/20/2011	9/30/2015	In Progress	\$78,729	T
NPS	UWM	GLRI: Estimating population size for deer living in Apostle Islands National Lakeshore	5/1/2010	9/30/2013	In Progress	\$125,000	R
NPS	UWM	Mapping the Lowland Surficial Geological Deposits of Glacier Bay National Park and Preserve	7/1/2010	2/29/2012	In Progress	\$42,233	T
NPS	UWM	Comparative Analyses of Forest, Trees, & Vegetation	1/6/2011	12/31/2012	In Progress	\$26,061	T
NPS	UWM	Changing soil characteristics of Tuolumne Meadows: Increased vulnerability and implications for meadow restoration	3/2/2011	6/2/2014	In Progress	\$203,875	R
NPS	UWSP	Assessment of Natural Resource Conditions for Grand Portage National Monument, Saint Croix National Scenic River, Voyageurs National Park, and Mississippi National River and Recreation Area	7/1/2011	6/30/2014	In Progress	\$275,000	T
NPS	UWSP	Assessment of Natural Resource Conditions for Isle Royale National Park	8/1/2008	5/31/2010	Complete	\$90,000	T
NPS	WVU	GIS Mapping Support for the NPS Civil War - 150th Anniversary Website	8/1/2008	5/15/2013	In Progress	\$104,000	T
NPS	WVU	Understanding Karst Geology found in Three NCR parks: Developing a GIS Database and Assessment of Available Hydrogeologic Data	7/1/2009	5/15/2011	Complete	\$19,993	T
NPS	WVU	Comprehensive Assessment of Natural Resources & Visitor Impacts to Cliff Habitats in the New River Gorge National River	1/3/2010	12/31/2013	In Progress	\$170,280	R
NPS	WVU	Evaluation of GRSM chestnut sites for the incidence of biological control agents of chestnut blight	5/16/2010	9/30/2012	In Progress	\$15,000	R
NPS	WVU	Cave Assessments in Chesapeake and Ohio Canal National Historical Park	12/23/2010	6/1/2012	In Progress	\$19,982	R
NPS	WVU	Assessing the Vulnerability of Sensitive Karst Habitats Containing RTE Species in Chesapeake & Ohio Canal National Historical Park	8/27/2011	9/30/2014	In Progress	\$100,000	R

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type¹
NRCS	CSU	Snow Survey Program	10/1/2009	9/30/2011	Complete	\$70,000	T
NRCS	IU	Ohio River Basin	7/15/2009	12/31/2011	Complete	\$154,304	T
NRCS	MSU	Introduction to Aerial Photography Interpretation for NRI Course	4/15/2006	9/30/2011	Complete	\$215,254	E
NRCS	MSU	Re-Purpose of the Introduction to Remote Sensing NEDC Course	1/15/2007	3/31/2009	Complete	\$5,502	E
NRCS	MSU	Image Interpretation for the NRI course – 4th Operational Year	10/1/2011	9/30/2012	In Progress	\$10,085	E
NRCS	MSU	Intro to Image Interpretation Course	9/30/2011	9/30/2012	In Progress	\$8,888	E
NRCS	MSU	Biological Monitoring Data	9/2/2009	12/31/2010	Complete	\$80,000	T
NRCS	PU	Rapid Carbon Assessment Project – Sample Preparation and Analysis	4/1/2011	3/31/2013	In Progress	\$35,000	T
NRCS	PU	Soil Formation/landscape	9/14/2009	9/30/2011	Complete	\$35,309	R
NRCS	PU	Tactical Planning	6/21/2010	9/30/2011	Complete	\$200,000	T
NRCS	PU	Develop NRSC Training	8/10/2010	9/30/2011	Complete	\$75,000	E
NRCS	PU	Develop NRSC Training	9/8/2010	6/30/2012	In Progress	\$160,000	E
NRCS	TNC	Development of a Freshwater Aquatic Health Indicator for use with CEAP Cropland Modeling Output	5/1/2007	12/31/2012	In Progress	\$167,075	T
NRCS	TNC	Index of Biotic Integrity	8/21/2009	6/30/2011	Complete	\$73,264	T
NRCS	TNC	Forecasting benefits of agricultural BMPs to physical, chemical, and biological conditions to help maximize return on conservation investments.	4/1/2011	12/31/2012	In Progress	\$60,000	T
NRCS	UI	Prediction of KAST	6/21/2010	6/30/2011	Complete	\$110,000	R
NRCS	UMASS	Assessing the Benefits of Conservation Practices for Scrub-shrub Birds in New England	9/1/2006	12/31/2010	Complete	\$126,128	T
NRCS	UMASS	Scrub-Shrub Birds	9/1/2009	12/31/2010	Complete	\$33,459	R
NRCS	UWM	“Roundtree Research Project Proposal”	10/11/2011	9/30/2013	In Progress	\$60,000	R
NRCS	UWM	USDA Energy Assessment Website Maintenance	8/15/2011	6/30/2013	In Progress	\$56,350	T
NRCS	UWSP	Completion of the NRCS Rapid Carbon Initiative in MLRA Soil Survey Region 10	4/11/2011	4/30/2012	In Progress	\$16,500	T
NRCS	WVU	Develop, Prep & Disseminate	6/18/2010	6/30/2011	Complete	\$175,845	T
NRCS	WVU	Tech Support	6/18/2010	12/31/2011	Complete	\$198,671	T
NRCS	WVU	Admin Support	6/18/2010	12/31/2011	Complete	\$130,000	T
NRCS	WVU	Rapid Assessment of Soil Carbon Assistance for the Appalachian and Interior Plateaus Soil Survey Region	4/1/2011	3/31/2012	In Progress	\$16,381	T
NRCS	WVU	Digital Soil Mapping at Regional and Continental Scales: Creating a Seamless Spatial Database using Legacy Data and Pedometric Techniques.	8/1/2011	7/31/2013	In Progress	\$78,813	T
NRCS	WVU	“harmonization and Spatial Enhancement of Legacy Databases to Improve Soil Organic Carbon Inventory of the Eastern Allegheny Plateau and Mountains”	10/1/2011	9/30/2013	In Progress	\$30,050	T

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type ¹
NRCS	WVU	Soil Survey Reports	unknown	unknown	unknown	unknown	T
USACE	CSU	International Upper Great Lakes Study	1/6/2010	unknown	unknown	\$33,630	R
USACE	CSU	ID, Dev, & Release Insect Biol. Ctrl Agents - Phragmites australis	9/22/2010	unknown	unknown	\$299,881	T
USACE	CSU	Recreation Impacts to the Great Lake and Mississippi River Basins	8/1/2011	unknown	unknown	\$645,627	R
USACE	MNSU	Development of Hydrogeomorphic (HGM) Classification and a HGM Guide Book for Organic Flats	3/23/2009	unknown	unknown	\$150,420	T
USACE	ND	Aquatic Invasive Species Risk Assessment for the Chicago Sanitary and Ship Canal (CSSC)	8/21/2009	unknown	unknown	\$578,284	R
USACE	SUNY	Develop database and algorithms to support the National Wetlands Plant List	9/28/2011	unknown	unknown	\$94,419	T
USACE	UMN	Development of Guidelines for Implementing Benefits Based Management at Corps of Engineers Projects	3/1/2007	9/1/2008	Complete	\$77,596	T
USACE	UMN	International Upper Great Lakes Study	1/4/2010	unknown	unknown	\$300,004	R
USACE	UMN	Erie Pier Dredged Material Beneficial Use Study	1/24/2011	unknown	unknown	\$187,500	R
USACE	UMN	Red River Basin Drainage Design Study	3/29/2011	unknown	unknown	\$45,000	R
USFS	MSU	Development of Local Scale Dispersion Models for Short-Term Prediction of Smoke Dispersion from Prescribed and Wildland Fires	7/2/2007	6/30/2012	In Progress	\$190,300	R
USFS	MSU	Impacts of Land Cover Changes on the Climate System	8/23/2007	8/22/2012	In Progress	\$258,350	R
USFS	MSU	Adaptation of Atmospheric Dispersion Models for Predictions of Smoke from Low Intensity Fires	8/11/2009	6/1/2012	In Progress	\$302,883	R
USFS	MSU	Analyzing and Assessing the Criteria for Issuing an Air Stagnation Advisory	8/21/2009	9/30/2011	Complete	\$52,570	T
USFS	MSU	Stand Replacing Wildfire	6/8/2010	unknown	unknown	\$123,350	R
USFS	MSU	An Investigation of the Differences Between Real Time Mesoscale Analysis and Observed Meteorological Conditions at RAWs Stations in the Northeast United States	8/16/2010	5/31/2012	In Progress	\$136,500	R
USFS	MSU	Development of a Canopy Model Suitable for Predicting Smoke Dispersion from Low-Intensity Wildland Fires	7/14/2011	9/30/2014	In Progress	\$54,500	R
USFS	MSU	A Study of Climate Change and Land-Use Change Impacts	7/19/2011	9/30/2014	In Progress	\$55,300	R
USFS	MTU	Effects of Red Pine Thinning and Stand Age on Ecosystem Carbon Polls and Fluxes	12/9/2008	7/31/2012	In Progress	\$165,713	R
USFS	MTU	Lessons Learned from Federal Biomass Projects	9/10/2007	12/31/2010	Complete	\$35,553	T
USFS	MTU	Analysis of Hydrochemistry of Upland Peatland Watersheds Using Isotopic Tracers	5/20/2010	4/30/2011	Complete	\$9,595	R
USFS	MTU	Peatlands Research at Houghton Mesocosm	9/7/2010	unknown	unknown	\$51,281	R
USFS	PU	Carbon Sequestration in the Central Hardwood Region: What Are the Relative Contributions of Primary and...	6/11/2010	unknown	unknown	\$143,597	R
USFS	PU	Evaluating Silvicultural Treatments to Sustain Oak Stocking Through Regeneration of Southern Indiana Forests	1/18/2011	unknown	unknown	\$78,000	R
USFS	SUNY	FIA Data to Assess Current Status and Predict Future Overstory Species Composition based on Current Woody Understory Species Composition	8/30/2007	12/31/2009	Complete	\$44,905	R

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type¹
USFS	UMN	Controls Over Temporal Variability In Tree Growth	1/19/2007	1/30/2011	Complete	\$141,155	R
USFS	UMN	Short Rotation Crops International Conference: Biofuels, Bioenergy, and Bioproducts from Sustainable Agricultural and Forest Crops	8/4/2008	9/30/2008	Complete	\$10,500	R
USFS	UMN	Deciphering the Heterogeneous Effects of Variable Sources and Transport Processes on Dissolved Organic Matter Bioavailability and Fluxes in Peatland Catchments	8/4/2008	7/31/2013	In Progress	\$69,761	R
USFS	UMN	Managing for Complex Structure and Wood Productivity in Great Lakes Pine Ecosystems	4/17/2008	8/31/2010	Complete	\$199,525	R
USFS	UMN	Influence of Riparian Management on the Trophic Cycling of Carbon and Nitrogen Through Stream Food Webs in Stream Systems	9/13/2007	9/12/2012	In Progress	\$64,000	R
USFS	UMN	Comparison of Scaled Up Chamber Respiration Measurements to Calculate Nighttime Soil Respiration for an Eddy Covariance System in Bog Setting	9/19/2007	8/23/2012	In Progress	\$45,000	R
USFS	UMN	Influence of Forest Species Conversion on Watershed Hydrology	11/17/2008	9/30/2011	Complete	\$49,685	R
USFS	UMN	Assessing Black Ash Decline in Northern MN	7/10/2008	5/31/2010	Complete	\$106,182	R
USFS	UMN	Influence of Fire on Mercury Cycling and Accumulation in Fish	6/30/2009	6/30/2012	In Progress	\$90,385	T
USFS	UMN	Toward Annual Monitoring of Climate Change Impacts on Experimental Forests Across The Northern Forest Region	7/29/2009	7/24/2014	In Progress	\$170,000	R
USFS	UMN	Quantifying Wood Decay Rates in the Northern Forest NRS-07 - FIA Integrated Work	8/12/2009	7/24/2014	In Progress	\$30,500	R
USFS	UMN	An Ecological and Socioeconomic Evaluation of Woody Biomass Harvesting in the Northern Forest	8/12/2009	7/24/2014	In Progress	\$63,768	R
USFS	UMN	Hmong Gathering of Non-Timber Forest Products in Minnesota and Wisconsin	8/27/2007	unknown	unknown	\$24,824	R
USFS	UMN	Characterizing Lessons Learned from Federal Biomass Removal Projects	9/10/2007	unknown	unknown	\$123,026	T
USFS	UMN	Aquatic Species Responses to Variation in Temperature and Riparian Width	7/29/2010	unknown	unknown	\$52,500	R
USFS	UMN	Economics of Short Rotation Woody Crops Where Soil Types and Other Locational Factors Vary	8/12/2010	unknown	unknown	\$37,594	R
USFS	UWM	Effects of Blowdown, Salvage Logging, and Wildfire on Regeneration and Fuel Characteristics in Minnesota's Forests	9/10/2008	unknown	unknown	\$235,133	R
USFS	UWM	Ecological Assessment of Deer Densities	8/25/2010	unknown	unknown	\$57,800	R
USFS	WVU	Modeling Soil Organic Carbon at the Landscape-Scale using Legacy Data and Pedometric Techniques	7/20/2007	6/30/2010	Complete	\$80,000	T
USFS	WVU	A Symposium to Synthesize Information from Experimental Forests and Ranges	9/14/2007	unknown	unknown	\$100,000	E
USGS	MSU	Interactions Between Indicator Bacteria, Suspended Sediment and Sunlight in the Near-Shore Region: An Integrated Approach for Improved Beach Closure Forecasting	9/15/2008	12/31/2011	Complete	\$203,357	R
USGS	MSU	Research, Management and Communication Pertaining to Population Genetics, Conservation Genetics and Biodiversity of Aquatic Species within the Great Lakes Basin	9/23/2008	10/5/2012	In Progress	\$499,999	R
USGS	MSU	Managing the Nation's Fish Habitat at Multiple Spatial Scales in a Rapidly Changing Climate	3/16/2010	9/30/2012	In Progress	\$835,519	R

Great Lakes Northern Forest CESU Projects August 2, 2007 - Present

Agency	Partner	Project Name	Start Date	End Date	Status	Amount	Type ¹
USGS	MSU	Developing New Strategies for the Global Assessment of inland Fisheries and Predicting the Response of Inland Fisheries to Regional Climate Change	8/16/2011	8/15/2012	In Progress	\$200,000	R
USGS	PU	Land Change Analysis and Modeling to Support the Multiscale Assessment of Land Use and Climate Change Impacts on the Nation's Fish Habitat	6/8/2010	9/30/2012	In Progress	\$322,045	R
USGS	SUNY	Near Shore Ecology of Grand Canyon Fish: Validating of 13C and 18O Otolith Chemistry Signature of Resident Little Colorado Fish Using Secondary Ion Mass Spectrometry, and Validation of Growth	8/23/2010	9/30/2011	Complete	\$64,884	R
USGS	UMD	Development of a Risk Assessment Plan for Acadia National Park Wetlands	unknown	unknown	unknown	unknown	T
USGS	UMN	Marsh Soil Bacterial Community Responses to Elevated CO2 and Nitrogen	8/27/2007	5/31/2008	Complete	\$22,008	R
USGS	UMN	Managing the Nations' Fish Habitat at Multiple Spatial Scales in a Rapidly Changing Climate	1/19/2010	12/31/2012	In Progress	\$269,648	R
USGS	UMN	Electron Microscopy of Tissues from Black-capped Chickadees Affected by Avian Keratin Description	5/23/2011	9/30/2011	Complete	\$9,934	R
USGS	UT	Determining the Origin and Dynamics of Coastal Processes of Sand Point at Pictured Rocks National Lakeshore	9/25/2007	9/24/2008	Complete	\$18,000	R
USGS	UT	Hydrogeologic Assessment of the Potential Effects of Sea-Level Rise on Natural Resources, Assateague Island National Seashore	8/23/2010	9/30/2011	Complete	\$17,446	R
USGS	UWM	Automated Georeferencing of Scanned Maps for Use in Geographic Information Systems	3/3/2009	2/15/2010	Complete	\$24,689	T
USGS	UWM	Viewing and Comparison of Multiple Versions Electronic Images of Maps for Temporal Feature Analysis and Determination of Geographic Change	7/28/2009	6/30/2010	Complete	\$19,989	R
USGS	UWM	Technical Management of the NBII Wildlife Disease Information Node (WDIN)	9/17/2009	9/30/2012	In Progress	\$136,185	T
USGS	UWM	Strategic Habitat Conservation in the Face of Land Use and Climate Change: Bridging the Research Implementation Gap and Accounting for Interactions of Conservation Threats	6/1/2010	5/31/2012	In Progress	\$107,806	T
USGS	UWM	Data and Product Management of the NBII Wildlife Disease Information Node (WDIN)	7/6/2010	6/30/2012	In Progress	\$63,680	T
USGS	UWM	Map Image Georeferencing Tools	9/20/2010	12/31/2012	In Progress	\$74,852	T
USGS	UWM	Fire Science Needs Analysis	7/20/2011	9/30/2011	Complete	\$3,000	T
USGS	UWM	Effects of Conjugated Lionelic Acid on Lake Trout Reproduction, Fatty Acid Deposition and Embryo Survival	9/15/2011	8/14/2012	In Progress	\$11,689	T
USGS	WVU	Development of a Local Resolution NHD Steam Network in WV for Assessing Water Quality and Biota Events	9/30/2007	9/29/2008	Complete	\$50,000	T

¹ Project Types: R=Research, T=Technical Assistance, E= Education