Evaluators Report Cover Sheet
[Craig S. Scott]
[Period Covered by This Report: [01/2013 – 12/2013]
[February 3, 2014]

Center: Center for Advanced Forestry Systems (CAFS) Center Director: Barry Goldfarb

Site	Director	Award Period[1] (MM/YY-MM/YY)	Funding Phase (I, II, or III)
North Carolina State University	Jose Stape	08/12-07/17	II
Oregon State University	Glenn Howe	08/12-07/17	II
Purdue University	Charles Michler	08/12-07/17	II
Virginia Tech	Thomas Fox	08/12-07/17	II
University of Maine	Bob Wagner	02/09-01/14	I
University of Georgia	Michael Kane	02/09-01/14	I
University of Washington	Gregory Ettl	02/09-01/14	I
University of Florida	Erik Jokela	07/09-06/14	I
University of Idaho	Mark Coleman	02/10-01/15	I
Auburn University (under review)	Scott Enebank	NA	NA

[1] Please list the award period as it applies to each site; this information is available on the NSF website.
*Add additional lines here to list additional sites.

Significant Personnel Changes: Lee Allen stepped down as Deputy Director effective Oct. 1, 2013 and Stephanie Jeffries assumed that position effective Nov. 1, 2013.

IAB Meetings	Meeting 1	Members Participating via Video/Phone Conference?	Meeting 2	Members Participating via Video/Phone Conference?
Date	April 2013	☐	CAFS has a 1 meeting exemption	☐
Location	St. Simon Island (GA)			
Attendance: IAB/Total[2]	23/63			

[2] Please list total dues-paid members (not people) in attendance over total number of attendees.
*Please attach the Semi-Annual Meeting Best Practices Checklist as an Appendix to your Evaluator Report.

Membership Activity Table*

Member Name	Site	Membership Fee Level (Full, Assoc., etc.)	Status: New, Left, Continuing
SPONSOR NAME	UNIVERSITY	FULL or ASSOC	ENTER STATUS
Agrium Advanced Technologies	VT	Full	Continuing
Agropical	NCSU	Assoc	New
AgXplore	VT	Assoc	Continuing
American Forest Management	PU, VT	Full	Continuing
APRIL Asia	NCSU	Full	New
ArborAmerica	PU	Full	Continuing
ArborGen	NCSU, OSU, UF, VT	Full	Continuing
Atherton Foundation	PU	Full	New
Baskahegan Corporation	UMaine	Assoc	Continuing
BBC	UMaine	Full	Continuing

Beasley Timber Management, LLC	UGA	Assoc	Continuing
Boise, Inc	NCSU	Assoc	Continuing
Buckeye Technologies	NCSU	Assoc	Continuing
Bureau of Land Management	OSU, UI	Full	Continuing
Canopy	UMaine	Assoc	Continuing
Carolina Soil	NCSU	Assoc	Continuing
Cascade Timber Consulting, Inc.	OSU, UW	Assoc	Continuing
CBD Technologies, Ltd./FuturaGene	OSU	Assoc	Continuing
Claritas	NCSU	Assoc	Continuing
Clayton Lake	UMaine	Full	Continuing
CMPC Forestry - Forestal Mininco/Forestal Bosques del Plata	VT	Assoc	Continuing
Cooke Foundation	PU	Assoc	Terminated
Copener	NCSU	Full	Continuing
Deforsa	NCSU	Assoc	Continuing
Deltic Timber Company	UGA	Assoc	Continuing
Dougherty & Dougherty Forestry	NCSU	Assoc	Continuing
Dow AgroSciences LLC	UGA	Assoc	Continuing
DuPont Agricultural Products	NCSU	Assoc	Continuing
Eldorado	NCSU	Assoc	New
Fazenda Campo Bom (FCB)	NCSU	Assoc	Terminated
F&W Forestry Services, Inc	NCSU, UF, VT	Full	Continuing
Fibria	NCSU	Assoc	Continuing
Florida Grown	NCSU	Assoc	New
Foley Timber and Land, Inc	UGA	Assoc	Continuing
Forest Capital Partners	OSU, UGA, UI, UW, VT	Full	Terminated (acquired by Hancock)
Forest Investment Associates	UGA, VT	Full	Continuing
Forest Resource Consultants Inc.	UGA	Assoc	Continuing
Forestaciones Operativas de México (FOMEX)	VT	Assoc	Continuing
Forestal Rio Biabo	VT	Assoc	Continuing
Forestry & Land Resource Consultants, Inc.	VT	Assoc	Continuing
Gavilon Fertilizer, LLC (named changed from ConAgra International Fertilizer)	NCSU	Assoc	Continuing
Georgia Forestry Commission	UF	Assoc	New
Global Forest Partners	VT	Assoc	Continuing
GMO Threshold Timber Corp	UGA	Assoc	Continuing
Green Diamond Resource Company	OSU, UW	Full	Continuing
Green Edge	VT	Assoc	Continuing
Greenwood Resources	VT	Assoc	New
Hancock Forest Management	UGA, UI, UW, VT	Full	Continuing
Idaho Dept of Lands	UI	Full	Continuing
IFOM	NCSU	Assoc	New
Inland Empire Paper Co	UI	Assoc	Continuing
International Forest Company	NCSU, UGA	Assoc	Continuing
International Paper	NCSU	Assoc	Continuing

International Plant Nutrition Institute	VT	Assoc	Continuing
J.D. Irving (Irving Woodlands)	UMaine	Full	Continuing
James W. Sewell Co.	VT	Assoc	Continuing
Jordan Lumber Company	NCSU	Assoc	Continuing
Katahdin Forest Management, LLC	UMaine	Assoc	Continuing
Kingwood Forestry	VT	Assoc	New
Klabin	NCSU	Full	New
Koch (AGROTAIN)	VT	Assoc	Continuing
Larson and McGowin, Inc.	VT	Assoc	Continuing
Lone Rock Timber Management Co.	OSU, UW	Full	Continuing
Longview Fibre Co. Timber Department	OSU, UW	Full	Continuing
Lykes Brothers	NCSU	Assoc	Continuing
Milliken Forestry Company, Inc.	VT	Assoc	Continuing
Molpus Timberlands Management, LLC	UGA,VT	Full	Continuing
Montana Dept of Natural Resources and Conservation	UI	Assoc	Continuing
Mosaic Fertilizer	VT	Assoc	Terminated
MWV (formerly MeadWestvaco)	NCSU, VT	Full	Continuing
National Hardwood Lumber Association	PU	Assoc	Terminated
Olympic Resource Management	OSU, UW	Full	Continuing
Oregon Department of Forestry	OSU, UW	Full	Continuing
Packaging Corporation of America	UF	Assoc	New
Payne's Flying Service	VT	Assoc	Continuing
Plum Creek Timber Company	OSU, UF, UGA, UMaine, UW, VT	Full	Continuing
Port Blakely Tree Farms	OSU, UW	Full	Continuing
Potlatch Forest Holdings	UGA, UI	Full	Continuing
Prentiss and Carlisle Company, Inc.	UMaine	Full	Continuing
Purdue Research Foundation	PU	Full	Continuing
Purdue Univ. Forestry & Natural Resources	PU	Full	Continuing
Quinault Dept. Natural Resources	UW	Assoc	Continuing
Rayonier, Inc.	OSU, UF, UGA, UW, VT	Full	Continuing
Refofestadora de la Costa SA (formerly Refocosta S.A.)	NCSU	Assoc	Continuing
Renewable Resources LLC	VT	Assoc	Continuing
Resource Management Service, LLC	NCSU, UF, UGA, VT	Full	Continuing
RMK Timberland Fund	NCSU	Full	Continuing
Roseburg Forest Products	OSU, UW	Full	Continuing
SAPPI (Fine Papers & South Africa)	OSU, UMaine	Full	Continuing
Seven Islands Land Company	UMaine	Full	Continuing
Snowshoe Timberlands, LLC	UMaine	Assoc	Continuing
Starker Forests, Inc.	OSU	Assoc	Continuing
Steelcase	PU	Assoc	Continuing

Stimson Lumber Company	OSU, UI, UW	Full	Continuing
Superior Pine Products Company	UGA, VT	Full	Continuing
Suzano	NCSU	Assoc	Continuing
SweTree Technologies AB	OSU	Assoc	Continuing
Sylvan Timberlands, LLC	UMaine	Assoc	Continuing
Syngenta	NCSU	Assoc	Continuing
TerraSource Valuation	VT	Assoc	Continuing
The Campbell Group	OSU, UGA, UW, VT	Full	Continuing
The Forestland Group, LLC	UMaine	Assoc	Continuing
The Nature Conservancy	UMaine	Assoc	Continuing
The Westervelt Company	VT	Full	Continuing
Thrash Aviation, Inc.	VT	Assoc	Continuing
Timberland Investment Resources	UGA, VT	Full	Continuing
Timbervest, LLC	UGA	Assoc	Continuing
University of Hawaii - Manoa	PU	Full	New
USDA Forest Service Research	UF, UI	Full	Continuing
USDA Forest Service State and Private	PU	Full	Continuing
Valor Florestal	NCSU	Assoc	Continuing
Van Eck Foundation	PU	Full	Continuing
Varn Wood Products, LLC	UGA	Assoc	New
Wagner Forest Management	UMaine	Full	Continuing
Washington State Dept. of Natural Resources	OSU, UI, UW	Full	Continuing
West Fork Timber Co., LLC	UW	Assoc	Continuing
Weyerhaeuser	NCSU, OSU, UF, UGA, UW, VT	Full	Continuing
	Key: NCSU - North Carolina State University OSU - Oregon State University PU - Purdue University UF - University of Florida UGA - University of Georgia UI - University of Idaho UMaine - University of Maine UW - University of Washington VT - Virginia Tech		

* Add additional lines here as necessary.

	Estimated Budget This Year (Sponsor $$s)	**Estimated Budget Last Year (Sponsor $$s)**
North Carolina State University	$348,167	$344,667
Oregon State University	$398,870	$346,706
Purdue University	$355,000	$353,000
Virginia Tech	$406,740	$447,000
University of Maine	$444,562	$448,670
University of Georgia	$399,150	$348,666
University of Washington	$420,767	$413,556
University of Florida	$162,600	$152,600
University of Idaho	$311,389	$330,030
Total Center Support (All Sources):	$3,247,245	$3,184,895

* Please change the label "Membership Support for Site XX" to reflect the appropriate university sites.

Research Breakthroughs: Understanding Fertilizer Growth Response of Douglas-fir

Concerns & Cautions: None

Supplemental IUCRC Awards Purdue CAFS Site received an REU for $8000

Center for Advanced Forestry Systems (CAFS):
Evaluator's Report for 2013

http://cnr.ncsu.edu/fer/cafs/

North Carolina State University
Oregon State University
Purdue University
University of Florida
University of Georgia
University of Idaho
University of Maine
University of Washington
Virginia Polytechnic Institute and State University
[Auburn University - submitted]

Attachment A: NSF/IUCRC 2013 Annual Surveys of PIs & IAB Reps
Attachment B: CAFS Success Story
Attachment C: CAFS Developmental Milestones
Attachment D: CAFS Meeting Best Practices Checklist

Submitted by Craig S. Scott
Center Evaluator

The Center for Advanced Forestry Systems (CAFS) bridges leading forestry research programs with representatives of forest industry sponsors for the purpose of solving complex, industry-wide problems. In 2012, CAFS completed its 5th year of operation as an IUCRC with North Carolina State University as the lead institution. The NSF continues to consider CAFS to be a model cooperative research center that is vitally important to the US and to the international forestry industry. It is a productive collaborative enterprise that has become a national resource within academia and industry because of great leadership and organization, a geographically representative set of universities and a broad base of industry and governmental sponsors. It also has exceptionally strong, experienced and insightful Center support staff. A genuine strength of the Center is the interest in and willingness of the industry participants to focus on a wide variety of research with various species of plants and trees.

The Center for Advanced Forestry Systems excels as a remarkably successful multi-university center that is working to solve problems through multi-faceted approaches to basic problems in molecular, cellular, individual-tree, stand, and ecosystems research. The collaborative consortium involves scientists with expertise in biological sciences (biotechnology, genomics, ecology, ecophysiology, and soils). It encompasses a broad spectrum of research areas related to forestry management and processing including: growth and yield, stand and plantation management, wood quality, soils and nutrition, genetics and biotechnology, modeling, and remote sensing,

Center research themes combine traditional genetics, biotechnology and silviculture into integrated systems with quantitative models to support decision-making and value enhancement. Center research is conducted by a core of over 25 faculty, 4 post-docs, 16 doctoral, 17 masters, and several undergraduate students. In 2012, 7 PhD and 8 MS students completed their studies. Eighteen (18) students are continuing their graduate studies (9 PhD, 9 MS).

MISSION

CAFS's mission is to optimize genetic and cultural systems to produce high-quality raw forest materials for new and existing products by conducting collaborative research that transcends species, regions, and disciplinary boundaries. It's major goal remains to increase the economic value and utility of plantation forests; thereby enabling foresters to more efficiently produce greater volumes of high-quality wood materials. The Center bridges nine top university-based forestry research programs with leading industrial organizations to solve complex, industry-wide problems.

CENTER ADMINISTRATION

The center director, deputy director and in particular its operations coordinator, Lisa Schabenberger (NCSU), along with its outreach coordinator, Liz Jackson (Purdue) and Lea Cooney (University of Maine).

CAFS management includes:

Center Director, Barry Goldfarb, NCSU, 919.515.4471, barry_goldfarb@ncsu.edu
Deputy Director, Stephanie Jeffries (effective Nov. 1, 2013)
Past Deputy Director, Lee Allen (effective Nov 1, 2013), 919.612.1456, lee_allen@ncsu.edu
Operations Coordinator, Lisa Schabenberger, 919.513.7368, lisa_schabenberger@ncsu.edu
Outreach Coordinator, Liz Jackson, 765.583.3501, jackson@purdue.edu
IAB Chair, Marshall Jacobson, Plum Creek, 706.583.6716, marshall.jacobson@plumcreek.com
Past IAB Chair, Howard Duzan of Weyerhaeuser (retired 2011)
Center Evaluator, Craig Scott, University of Washington: 425.466.6535, scottcs@uw.edu.

CAFS Sites Directors:

NCSU Site Director, Jose Stape, (919) 513-4041, jlstape@ncsu.edu
Oregon State University, Glenn Howe, S541.737.9001, glenn.howe@oregonstate.edu
Purdue University, Charles Michler, 765.496.6106, michler@purdue.edu
University of Florida, Eric Jokela, 352.846.0890, ejokela@ufl.edu
University of Georgia, Michael Kane, 706.542.3009, mkane@warnell.uga.edu
University of Idaho, Mark Coleman, 208.885.7604, mcoleman@uidaho.edu
University of Maine, Robert Wagner, 207.581.2903, bob_wagner@umenfa.maine.edu
University of Washington, Gregg Ettl, 206.543.9744, ettl@uw.edu
Virginia Polytechnic Institute & State University, Thomas Fox, 540.231.8862, trfox@vt.edu
Auburn University, Scott Enebank, 334.844.1028 (under review), enebasa@auburn.edu

Between annual meetings, the 9-member CAFS Executive Committee (EC) serves as a sounding board for the Director, the Deputy Director and site directors on research and administration issues. The EC provides timely input (outside of regularly scheduled annual meetings) on issues, including final review of project selections, budget adjustments and related concerns, and location and organization of annual meetings.

TECHNOLOGY TRANSFER

On the 2012 technology transfer study an IAB representative of Wagoner Forrest's (WF), a forestry management firm, reported significant impact for the company of a product referred to as the Acadian version of the Acadian Variant of Forest Vegetation Simulator-Northeast variant (FVS-NE) that was developed and maintained by the US Forest Service. The Northeast variant encompasses Maine to Maryland and westward through Ohio, whereas the Acadian variant encompasses data from throughout the Acadian forest (Quebec, New Hampshire, Maine, New Brunswick, Nova Scotia and

New Foundland. This technology is used for modeling and to develop management plans for WF's client's forest management activities that involve their regionally developed proprietary volume tables. This product is enhancing the accuracy of their modeling efforts because it incorporates extensive data specific to the Acadian forest and it's various intensive management techniques. Dr. Weiskittel has developed new taper and volume equations; improved predictions regarding natural regeneration and ingrowth, and; effects of commercially thinned stands and the impact of spruce budworm. As a result it will be much more in-tune with the type of forests that WF manage. Because the technology is just being rolled out, it is not yet possible to estimate the commercialization impacts on the organization. Wagner Forrest's IAB representative anticipates a significant impact relatively soon but has not actually had the opportunity to use a final product.

Scott's June 2012 Technology Transfer Survey identified the following additional tech transfer instances: 1) Use of fertilization response data to make operational decisions (Hancock Forest Management); 2) Baseline long-term control plot data used for modeling: (Hancock Forest Management), and; Updated growth & yield NE models that improve Huber's understanding of volume production - early non-quantified commercial yield increases were reported (Huber Resources Corporation). NOTE: In 2012, CAFS reported that its fundamental research project helped spawn a 20 million USDA grant for the southeast region of the US that involves 50 co-investigators and 12 institutions.

Scott's June 2013 Technology Transfer Survey and related discussions identified the following tech transfer as having occurred: 1) Growth and yield models & update of growth equations in Maine Early commercial thinning – timing & intensity trails have led to better understandings of options (unnamed Main sponsor: just starting to use so it's not possible to speculate in economic impact); 2) Fertilized nitrogen fate studies (Eric Vance (evance@ncasi.org) - National Council for Air and Stream Improvement; 3) Abbie Acuff (abbie.acuff@potlatchcorp.com) of Potlatch cited use of CAFS's twin plot research site set-up because it is economical to install, small enough to not interfere with operations and yet yields desired results; 4) John Weller (john.weller@amforem.biz) of American Forrest Management reports that CFAS has helped foster more cooperation and sharing between forest research corporations and has accelerated some of the growth and yield modeling work.

In person economic impact interviews with a series of IAB members will occur for the first time at the 2014 meeting.

MEMBERSHIP

The Center for Advanced Forestry Systems is an important national research entity. CAFS industrial membership encompasses leading forestry industry organizations from throughout the nation many of which have international operations.

CFAS has two levels of membership. Full members pay an annual fee of $25,000. Associate member fees range from $5,000 to $25,000. These fees have remained stable since the Center was established.

COMPLIANCE WITH IUCRC MODEL

In all but one respect the Center remains faithful to the IUCRC Model. The one exception is that when the Center was founded it was granted a meeting frequency waiver that enables it to convene just one meeting annually and remain in good standing. The argument was based on the nature and pace of the technical field of forestry research, wherein research proceeds at a somewhat slower and more deliberate pace than research in the typical IUCRC. Also, the various co-op members of this Center typically meet separately one or two times per year.

CENTER MEETING

Center leadership is to be commended for another exemplary, issue-free 2013 center meeting. On April 9 & 10, 2013 the University of Georgia hosted the 6th annual meeting of the Center for Advanced Forestry Systems (CAFS) on St. Simon Island, Georgia. Once again CAFS set the standard for others to follow.

Attendance in 2013 was very good: 61 attendees (up from 41 in 2012).

Attendance for CAFS's 2013 Meeting
(Hosted by University of Georgia in St Simon Island, GA)

	NCSU	Oregon	Purdue	Florida	Georgia	Idaho	Maine	UWash	VPI	**TOTALS**
Faculty	5 (1)	1 (0)	3 (1)	3 (2)	5 (0)	2 (0)	2 (0)	2 (0)	1 (0)	24 (4)
Ind/gov memb's**	26**	0**	0	0	0	0	0	0	0	26**
Students	2 (2)	0	1 (1)	1 (1)	2 (0)	1 (1)	1 (0)	2 (1)	1 (0)	11 (6)
TOTALS	**33 (3)**	**1 (0)**	**4 (2)**	**4 (3)**	**7 (0)**	**3 (1)**	**3 (0)**	**4 (1)**	**2 (0)**	**61 (10)**

* __ = male & female combined; number in parentheses = females
** ( ) Because of the way that sponsors are shared across coops, it is difficult to assign sponsors exclusively to one site.

An innovative meeting structure/agenda format, begun in 2011, was continued at the 2013 meeting. This meeting design reduces the number of presentations and provides increased time for participant interactions within sequenced, grouped poster sessions. Meeting included 7 final reports, 7 proposals for new projects, 1 continuing project and 12 ePosters. IAB items included: election of University of Florida Executive Committee Member (a nine member group that: 1) consults amongst site directors and recommends allocation of resources amongst projects and, 2) handles needed between-meeting business and concerns; Update on fundamental research proposal; Update on Auburn University's proposal to become the 10th university site; Discussion of meeting format (combination of plenary and ePosters), and; Graduate student and post doc participation at meetings.

CAFS' sequenced, grouped poster sessions, which morphed into an ePoster protocol is very effective. In the beginning attendees were cycled in groups through each session's posters so that everyone got to hear from and interact with each poster presenter; almost everyone participated and contributed to the discussions. This process morphed into an even more effective ePoster protocol. More on this is in the meeting strengths section.

The IUCRC Program's Online LIFE System was used to provide feedback on all presentations and ePosters except for the final reports. Industry interest was high (60%+ of industry interested or very interested in projects) - range: very interested + interested 8 (38%) to 20 (95%); mean 12.7 of 21 raters (60%), SD 3.13). Feedback was discussed following each presentation/ePoster set.

At the 2013 meeting CAFS reported 105 total sponsors made up of 44 full and 61 associate members. There are an estimated 19 large (>500 employees), 71 small, 8 governmental agencies & 7 not-for-profit (involving special arrangements) and foundations. Center consists of a core of over 25 faculty, 4 post-docs, 17 doctoral, 14 masters, plus a number of undergraduate students. In 2012, 5 Ph.D. and 7 MS students completed their studies. seventeen (17) students are participating in PH.D. programs; Fourteen (14) are in M.S. programs.

As of April 2013 CAF represents $1,063,000 of NSF funding leveraged by $3.18 million of Coop dollars. There is a total of $9.3 million in CAFS funding including underlying Coop programs.

MEETING ISSUES

At this time there are no major issues in this Center other than:

It would be helpful to have even more research dollars to support the high cost of field-based forestry research.

While progress has been made on getting post-docs and graduate students to annual meetings, further improvement is being sought (see below) – though some in the survey complained about taking travel costs out of the research dollars.

While more cross-site multidisciplinary collaboration is happening, Center administration continues to strategize on how to promote further improvements in this area.

Though Barry does a superb job chairing the closed IAB meeting and is very well received, it would be good to have the IAB Chair take a larger role in leading the meeting (with Barry co-assisting). This would make the meeting seem more like industry's advisory board.

MEETING STRENGTHS

Attendees are absolutely dedicated to gaining thorough understandings of the CAFS research, its possible implications for their operations, and to getting things right. This is a real asset for the Center.

Significant progress has been made on getting post-docs and graduate students to annual meetings. In 2011, with leadership from the executive director, 9 sponsors contributed a total of $4,500 attendance by graduate students and post-docs. Pooled industry funds were used in 2012 to supplement CAFS funds in order to make it easier for these students to attend by covering lodging and registration fees. In 2013, funds came out of the NC State NSF award. Some sites took advantage of these funds; others did not. Ten (10) students attended the April 2013 meeting; six (6) made presentations, several made multiple presentations. Center administration is striving to make further improvement in grad student/post-doc attendance and participation.

CAFS' innovative meeting structure/agenda format, begun in 2011, was continued at the 2013 meeting. This approach reduces the number of presentations and provides increased time for participant interactions within sequenced, grouped ePoster sessions. In the beginning, attendees were distributed into three groups and then guided through three successive presentations of each ePoster. Attendee groups were cycled through each session's posters so that everyone got to hear from and interact with each poster presenter; almost everyone participates and contributes to the discussions. In 2012, the debriefing of the ePoster procedure that occurred during the IAB meeting indicated that a few found it difficult to view detail of posters during the presentations. In 2013, PPTs were added to the ePoster protocol and this successfully addressed the problem.

<u>Issues facing the Center that have financial ramifications</u>:

There is a general consensus that it would be helpful to have more research dollars to support the high cost of field-based forestry research. While more cross-site multidisciplinary collaboration is happening, center administration continues to strategize on how to promote further improvements in this area.

CENTER STRENGTHS

CAFS is a true national center with coast-to-coast geographical spread. Its leaders are to be commended for its success at getting good attendance at its annual center meetings.

Consistently strong attendance at center meetings.

CAFS' ePoster protocol for sequential, grouped poster sessions is the best I've seen

The Center has an industrially relevant research focus has considerable potential for benefit to sponsors.

The Center benefits from a solid, stable base of industry with common interests and needs.

Sponsors clearly respect the researchers and the values of the work they are doing.

Sponsors have demonstrated a willingness to focus on a wider variety of methodologies and species than they typically study.

Dedicated site directors who are committed to the concept of cooperative research.

A dedicated and innovative core of research and administrative faculty and graduate students.

Sound operations are made possible by professional collaborative efforts of the center director, the deputy director, the site directors and their support staff.

NSF ANNUAL OUTCOME SURVEYS

IAB reps of CAFS' major sponsors and PIs were conducted again in 2013 according to the I/UCRC Program's Center Evaluation Protocol (see attachment A). Response rates for the IAB rep and researcher surveys were 58% (20 of 34) and 85% (17 of 20), respectively.

IAB SURVEY RESULTS

Ratings by IAB reps of the quality of the research program and the capabilities Center faculty hovered around the national mean. Responding IAB representatives indicated that: they were interested in about 49% of the projects; it would take them about 32 months for their organizations to plan, conduct and complete the Center's typical research project internally, and; on average 1.6 projects were important enough for the their organization to consider conducting them internally, within the next few years, if the Center were not doing so.

Overall, IAB representatives reported few criticisms of the Center's research program.

When asked whether the Center enhanced their organization's ability to network and build scientific capability through collaboration, respondents on average reported a moderate impact. Respondents were less positive (between no and slight impact) about the Center's impact on their organization's ability to identify and recruit well-qualified graduate students.

Positive results also came from two new questions having to do with the benefits of the Center's research and development. 47% of respondents indicated "yes" the Center accelerated their organization's internal R&D. Similarly, 47% indicated "yes" the Center help them avoid new R&D costs. Sponsoring organizations indicated that approximately 8 new projects were triggered by Center research. Estimates of the dollar value of these triggered projects totaled $625,000 annually. The

value of new or redirected projects totaled $1 million dollars annually.

Finally, IAB representatives reported that they were on average quite satisfied with Center administrative operations and that they were above the national mean with regard to whey were likely to renew their memberships (CFAS mean 4.5 ‘between probably and definitely Yes’ – national mean 4.1 “probably” Yes)

PI SURVEY RESULTS

Responding faculty members remain pleased with the quality of the Center supported research program and with its relevance to their professional goals. Overall, faculty would like to see levels of funding increase and they would like to see more between meeting interactions. They generally view the program as providing worthwhile interactions. Faculty are particularly pleased with: the smooth Center operations; the director's and the operations coordinator's administrative skills and motivational capabilities; the responsiveness of the staff and administration, and; the Center's overall organization and planning.

Bottom line: CAFS remains a very successful Center. Industry interest in the collaborative research is widespread. Participation in the Center by industry sponsors and co-ops and its receipt of Phase II funding demonstrate that industry and the NSF view it as a valuable national organization that is addressing vital needs of the forestry industry.

Attachment A

CAFS IAB Survey: Fall 2013

[Response Rate: 58% (20 of 34)]

I) CENTER RESEARCH PROGRAM

Means Displayed as follows - [*Center mean* (*Bold & Italicize*d) –** *2012 National Mean* (smaller]

PPR3	49%	Mean percent of projects relevant to organizations' future R&D needs.
NSM	**32**/13	Mean number of scientist-months (full-time) it would take organizations to plan, conduct, and complete the center's typical research project internally
NPHP	**1.6**/2.3	Mean number of current research projects considered high enough priority that organizations would conduct them internally or by contract (within the next few years) if the Center was not conducting this research.

Means Displayed as follows - [*Center mean* (*Bold & Italicize*d -** *2012 National Mean* (smaller)]

CF/QRP:	**4.4**/4.3	Capabilities of faculty and quality of the research program (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)
BRT:	**4.1**/3.9	Breadth of the research topics covered (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)
FOR:	**3.8**/3.9	Focus of research (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)
RRON:	**3.7**/3.7	Relevance of research to my organization's needs (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)

ITEM: How can the center improve its research program? What features of the research program would your organization definitely want to see continued?

Attempts to provide funding to all institutions results in projects being funded that are of no interest to our organization.

I would like to have tangible returns at the annual meeting. When a project is complete a copy of papers generated (in digital form) or a copy of an excel program used in the research.

More emphasis on the minor "revenue" species, such as, Western hemlock, Western red cedar and red alder.

I personally think the Center is very effective, and have no real ideas for improvement at this time. Communication is good, but could be more often

Not sure - been very satisfied with the approved projects for the University cooperatives that we belong to.
One page summary on each study, and if it's out there, I am not sure investors know how to get it.

Questions 2-4 above and 9 below are hard to answer since my organization does not have the capacity to conduct this research internally. My organization hires few scientists internally.

II) BENEFITS OF BELONGING TO THIS CENTER

A. NETWORKING & HUMAN CAPITAL BENEFITS

	Mean	
OAN	**3.4**/3.3	Enhanced R&D organizations' ability to network and build scientific capability via cooperation with industry and university scientists outside your organization (1=No Impact; 2=Slight Impact; 3=Moderate Impact; 4=High Impact; 5=Very High Impact)
OAR	**1.3**/2.5	Enhanced organizations' ability to identify/recruit well-qualified graduate students to hire. (1=No Impact; 2=Slight Impact; 3=Moderate Impact; 4=High Impact; 5=Very High Impact)
SH	**3**/2.7	Number of center-trained students hired by center organizations

B) RESEARCH & DEVELOPMENT BENEFITS

ARHA	**47%**//64%	Percent indicating "Yes" Center accelerated organization's internal R&D: Access to Center research findings and outputs helped accelerate the pace and/or completion of some R&D projects already underway at organizations
ARHDA	**47%**/52%	Percent indicating "Yes" Center helped avoid new R&D costs: Access to Center research findings and outputs helped my organization to decide against initiating a new project organization otherwise would have conducted

If "Yes" to the above question (ARHDA), taking into account personnel, facility and related costs, sum of organization's estimates of how much these accelerated AND/OR avoided project(s) would have cost your organization:

Total Costs Avoided by Respondent Organizations **$625,000***

If organization indicated "other" to the previous (ARHDA) question, they indicated:

NA

ARTD **24%**/49% Percent indicating "Yes" Center stimulated new or re-directed R&D in organizations: Access to Center research findings and outputs has triggered the development of new R&D projects in organizations, or significantly redirected current R&D

If "Yes" to the above question (ARDT), organizations' estimates how many projects were triggered/stimulated:

Mean 0.5; Total 9

If "Yes" to the above question (ARDT), combined total dollar value of organization's new or redirected projects:

$1,000,000

If organization indicated "other" to the previous (ARDT) question, they indicated:

NA

If your organization has benefited commercially from participating in the Center, please describe:

Additional research ideas

$50,000 saved

Increased knowledge is an added value to the service we provide clients. 100,000K

Increased return on investment from tree improvement/genetics

We will incorporate growth and yield model results into planning system when internal checks have been made. It's too early to tell.

We have re-tasked some test sites that are now being managed as cone production areas. This will save/make us approximately $15,000 annually if seed production meets our minimum targets.

!!!) IAB VIEWS OF CENTER ADMINISTRATION & OPERATIONS

	Mean	
CAOps	4.1/4.0	Center administrative operations
[Range 3 > 5]		(1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)

IMPCOpps? How can the center improve its administration and operations program? Please put CHECKS next to any issues that can be improved:

A. Planning the Research Program	1 (6%)
B. Project Selection	3 (18%)
C. Project Development and Management	1 (6%)
D. Dissemination of Results via Publications via Pubs	7 (41%)
E. Technology Transfer	7 (41%)
F. Intellectual Property Management	0
G. Fund Raising and Recruitment of New Members	0
H. IAB Meeting Planning	0
I. IAB Meeting Content	0
J. IAB Meeting Execution	0
K. IAB Meeting Follow-up	1 (6%)
L. Communications	2 (12%)
M. Center Personnel	1 (6%)
Other (see below):	1 (6%)

Have voting After Annual Meeting.

Suggestions for how any of the above areas can be improved:

Do not feel compelled to provide funding to all institutions.

D. Digital copies of publications generated by the research. E. Digital copies of programs or spreadsheets used during the research. O. The voting needs to be closer to the end of the Annual Meeting. The information is fresh in my mind and I have a very good idea how I would like to vote. However, for 2013, by waiting from April to July or August, this was too long. I had to go through the material again in order to put my vote together.

E. Through various WFCA workshops.

Not sure, but maybe more often listing of publications available. (Maybe it is there & I have not noticed.) D, E - disseminate short synopsis of research findings and indicate where complete research can be found

More is better.

Better communication when publications are available. Not sure on the recruiting. In our region, lots of private industry owners are changing to REITs the traditional land management type of organization.

IV) GENERAL EVALUATION

Mean

LMR 4.5/4.1 Likelihood of membership renewal
(1= Definitely Not; 2=Probably Not; 3=Uncertain; 4=Probably Yes; 5=Definitely Yes)

1 of 17 indicated "Uncertainty" about renewal
7 of 17 respondents indicated "Probably" they would renew
10 of 17 respondents indicated "Yes" they definitely would renew

What can the center do to make your renewal more likely?

Hold meetings in less exotic places.

Leverage more money for research.

CAFS Faculty & Research Scientist Survey: Fall 2013

[Response Rate: 85% (17 of 20)]

FACULTY SATISFACTION WITH CENTER

Means Displayed as follows - [*Center mean* (*Bold & Italicize*d -** *2012 National Mean* (smaller)]

	Mean	
QCR	**4.4**/4.2	Quality of center supported research program (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)
RCR	**4.3**/4.2	Relevance of center's research program to my professional goals. (1=Not Satisfied; 2=Slightly Satisfied; 3=Somewhat Satisfied; 4=Quite Satisfied; 5=Very Satisfied)

How can the center improve its research program? What features of the center's research program do you definitely want to see continued into the future?

Defined regional collaborations where perceived industrial partner needs, data, and funding opportunities are explored in a formal way.

All projects are collaborations across two or more units. We should make high quality peer-reviewed journal articles that integrate across institutes a more clearly targeted outcome and return to the completed projects to determine if this goal was/was not met. If not, what happened and how can we improve?

Proposal development for other external programs.

Continue to emphasize genetics research and the interface between genetics and siliviculture.

I like that good standards of the scientific research, and i will like that to be promoted more and to continue as much as possible.

More cross-university collaboration on specific projects. It is currently good, but could be stronger.

Continue to emphasize using CAFS platform for obtaining larger sources (e.g. fundamental research grants) of research funds that core NSF support.

Additional funding is always helpful.

Low funding levels enable only incremental or minor work to be undertaken.

Applied research efforts are most useful to the clients we serve.

More collaborative research between sites.

Improve collaboration between institutions.

I want the meetings to continue...the ideas I get share and get there have greatly amplified my own work. There are few opportunities to attend conferences that focus on production of wood commodity the way CAFS does.

FoA	**4.1**/3.8	Next Year I will submit my best (1 = Definitely Not; 2 = Probably Not; 3 = Uncertain; 4 = Probably Yes; 5 = Definitely Yes)
ORC	**4.2**/3.6	During the past year how satisfied were you with center administrative operations? (1 = Not Satisfied; 2 = Slightly Satisfied; 3 = Somewhat Satisfied; 4 = Quite Satisfied; 5 = Very Satisfied)

IMPCOpps? How can the center improve its administration and operations program?

% Checking Area

Communication	3 (18%%)
Planning & development of res program	2 (12%)
Management of projects	1 (6%)
Project selection	0
Proposals and publications	1 (6%)
Technology transfer	0
Intellectual property	0
Fundraising	3 (18%%)
Other:	2 (12%)

Other (see below):

At our institution, it seems that the funding is always 9 months to a year lagging behind the year in which it is to be spent

A time line of reports and due dates for the year would be helpful.

ITEM: Are there any features of the administration and operations with which you are particularly pleased?

Lisa, Barry and Lee's reminders and communications. They do a great job.

Administration deeply cares about success of this Center and it shows in their interactions with groups.

We get very good response from Barry & Lisa when we have questions or need information.

strong leadership and coordination from NCState and Barry Goldfarb. Lisa and Liz also do a great job!

CAFS Central support in developing CAFS Phase II proposal was extremely valuable and timely.

The program is very well administered and well organized. The only problem is the very low level of funding provided by the center to each participating university. If available funds were increased the projects that could be completed would be more valuable to our clients.

Communication

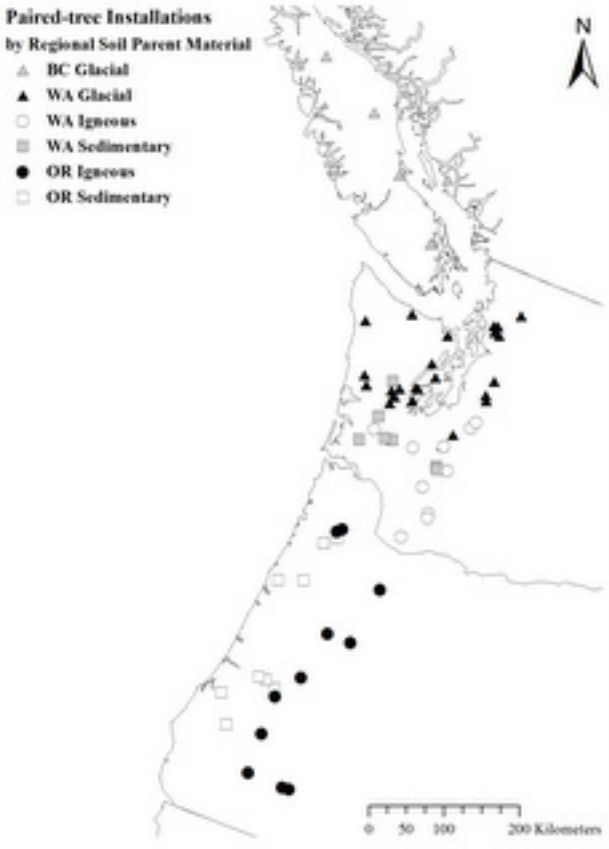
I was particularly pleased to see graduate students presenting their research at the CAFS meetings.

Attachment B

CAFS Research Highlight for 2013

Prepared by: Kim Littke **Date**: 12/3/13
CENTER NAME University of Washington School of Environmental and Forest Sciences

Highlight title: Understanding Fertilizer Growth Response of Douglas-fir
Highlight text (limit 300 words): A large network of sites has been set up in British Columbia, Washington, and Oregon to study fertilizer growth response in Douglas-fir. These sites cover current forest plantation lands and management techniques using a paired-tree design that allows for a high amount of replication over a small area. This study has allowed the forest industry to identify stands what will likely respond to fertilization by identifying key site, climate, soil, and stand predictors. The latest models show the greatest effect of fertilization on high elevation plantations. Adding fertilizer on these high elevation plantations boosts nitrogen cycling that is slowed by cold winter and spring temperatures. Low yearly radial growth per tree, which is due to low water and nitrogen availability, was also an important predictor of fertilizer response.
In terms of *intellectual merit*, why was this outcome notable and/or important? These models were developed with mapped and measured variables to make them accessible to industry professionals with varying levels of forest plantation information. Isolating fertilizer applications on plantations that will respond will result in less unnecessary fertilizer application throughout the region and improved growth on responding lands.
In terms of *broader impacts*, why was this outcome notable and/or important? Improving growth on plantation forest lands allows for more output of timber over the same footprint of land. Creating a smaller yet more productive land area of plantation forests could lead to higher profits, less conversion of forest land to other uses, and more land dedicated to natural forests.
If applicable, tell us how this research is or may be transformational. The paired-tree study design has been shown to adequately describe per-tree fertilizer response effectively with low costs and man-power. This design is recommended to test fertilizer response of other tree species throughout the world.
If applicable, tell us how this research represents broadening participation. This study required input and cooperation from a large number of industry, university, and government professionals.
If applicable, tell us how the research may have societal benefits, e.g. the economy. Improving fertilizer response will provide more income for rural towns that rely on the forest industry. Concentrating more growth on plantation lands will allow for more lands that can be dedicated to wildlife and natural forests.
Images are important. Please include one as a separate file with your highlight submission. Files must be GIFs or JPEGs. Maximum width and height are 240 pixels.


Paired-tree Installations
by Regional Soil Parent Material
BC Glacial
WA Glacial
WA Igneous
WA Sedimentary
OR Igneous
OR Sedimentary
N
0 50 100 200 Kilometers

Attachment C:

CAFS Developmental Milestones

CENTER TRANSITIONS

In 2010, the center grew to include 9 university sites. In 2003-2004, Oregon State University's Tree Genetic Engineering Research Center (TGERC) merged into Purdue University's Center for Tree Genetics (CTGr). In 2007, CTGr was subsumed into North Carolina State University's new IUCRC, the Center for Advanced Forestry Systems (CAFS).

In June 2011, Scott Enebak of Auburn University submitted a letter of intent to become CAFS's 10th site. The LOI received approval from Babu DasGupta to do a "fast track" proposal. Auburn University resubmitted the LOI in 2012. In 2013, he received approval to submit the full proposal. As of February 1, 2014, the application is pending.

In 2012, the original four sites of CAFS submitted a Phase II proposal to the NSF that sought support for a 2nd 5-year period of IUCRC funding. That proposal was approved and funded, effective August of 2012.

Attachment C:

CAFS Developmental Milestones:
Since NSF's original Involvement in the
Tree Genetics Engineering Center (TGE)

5/1998 TGE Center Technical Meeting, Portland, Oregon. Preparation for a planning grant: Alex Schwarzkopf and Craig Scott, the NSF Evaluator, presented a summary of the IUCRC Program.

11/1998 TGERC Annual meeting, University of Washington Urban Horticultural Center, Seattle, Washington. Introduction to NSF I/UCRC Centers & LIFE forms (Schwarzkopf, Scott); Operational requirements of NSF I/UCRC Centers (Schwarzkopf); Evaluator role in I/UCRC Center function (Scott); Discussion of changes in TGERC from "conversion" to NSF/I/UCRC (Strauss); Presentation of LIFE form results (Meilan).

5/1999 TGERC Proposal submitted to NSF

11/1999 TGERC Annual meeting (Technical & IAB Meeting), LaSells Stewart Center, Oregon State University, Corvallis Oregon:

Major issues at the IAB meeting were: 1) the amount and nature of public concern about genetically altered products and their potential impacts on the environment, and 2) a new 26% indirect cost rate on sponsors' fees to be applied by OSU to all OSU cooperative research centers that that would take effect when NSF support ceases.

1/1999 Letter to Wilson Hayes, OSU Vice Provost, from John Trobaugh TGERC IAB Chair (The Timber Company), on behalf of the IAB, protesting the possible imposition of overhead charges on TGERC sponsor dues.

1/2000 Steven Strauss announced a 50% reduction in the 26% indirect cost rate that was to have been imposed by OSU on sponsors' fees when NSF support ceases.

8/2000 Center Director and Center Evaluator meet to discuss Center-related issues

11/2000 TGERC Annual meeting (Technical & IAB Meeting), Seattle, Washington: Meeting was proceded by short course entitled "Gene School II" chaired by Meilan and Bradshaw. Included within the Meeting was a report entitled "Flowering Control in Euculypts" by Simon Southerton of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO). Major issues at the IAB meeting were: 1) discussion of intellectual property, research conduct, confidentiality of results and publicity; 2) Review of membership projections, sponsor dues and implications for NSF support; 3) TGERC research directions, and; 4) summary/discussion of LIFE form numeric results and project-specific comments.

7/2001 Symposium on ecological and societal aspects of transgenic plantations (Skamania Lodge).

11/2001 TGERC Annual meeting (Technical & IAB Meeting), Corvallis, Oregon:Meeting proceeded by short course entitled "Gene School II" chaired by Meilan and Bradshaw. Included within the Meeting was a report entitled "Flowering Control in Euculypts" by Simon Southerton of Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO). Major issues addressed at the IAB meeting were: 1) funding problems amidst consolidations; 2)

Review of membership projections, sponsor dues and implications for NSF support; 3) TGERC research directions; 4) the possibilities for affiliate memberships; 5) new funding or operations models; 6) the distractions of public controversies and the need for and implications of public interactions, and; 7) summary/discussion of LIFE form numeric results and project-specific comments.

11/2002 TGERC Annual meeting (Technical & IAB Meeting), Corvallis, Oregon. Major issues addressed at the IAB meeting were: 1) funding problems and center continuation as an NSF/IUCRC, and 2) Review of membership projections, sponsor dues and implications for NSF support.

3/22003 Purdue Planning Grant submitted to NSF.

11/2003 TGERC Annual meeting (Technical & IAB Meeting), West Lafayette, Indiana:

8/1/2004 Official start date of Purdue University's Center for Tree Genetic Research (CTGr) NSF/I/UCRC.

10/2004 CTGr Annual meeting (Technical & IAB Meeting), Corvallis, Oregon. Eight projects were presented at the technical meetings. The center essentially held two center meetings under an almost transparent umbrella of the Center for Tree Genetics (CTG). IAB meeting included: possible collaborating relationships with Kasetsart University of Thailand; interest in mechanisms for funding seed proposals; center growth goals and the possible addition of Virginia Polytechnic Institute and State University and North Carolina State University; activating/tagging direction, and; nomination of a new CTGr IAB chair (new chair to be from Purdue).

10/2005 CTGr Annual meeting (Technical & IAB Meeting), West Lafayette, Indiana.

1/2006 CTGr Directors' Planning Meeting of current Center administrators (Michler, Meilan & Scott) and NCSU's Tom Fox and Virginia Polytechnic Institute and State University's Barry Goldfarb, (Arlington, Virginia).

9/2006 CTGr Annual meeting (Technical & IAB Meeting) and CAFS Planning Meeting, Atlanta, Georgia): Schools represented – North Carolina State University, Purdue University, Virginia Tech and Oregon State University.

4/2007 University of Vermont, Purdue and Oregon State University receive IUCRC funding (effective May 31, 2007).

2/2008 CAFS Technical and IAB Meeting (Portland, Oregon). Topics addressed included: Center structure and function; IAB executive committee approved (selection of IAB chair to follow); voting process (proportional to dues); How to foster strong participation @ center meetings.

2/2009 University of Georgia and University of Main received I/UCRC funding, becoming CAFS's 5^{th} and 6^{th} sites (effective November 2, 2009). The University of Washington received an award letter just before the meeting. Both Florida and Idaho made brief presentations and were preparing to submit a proposal.

2/2009 CAFS Technical and IAB Meeting (Charleston, South Carolina). 68 total members, including: 21 large, 35 small, 12 governmental agencies & not-for-profit, 28 full and 40 associates. 8 new proposals presented; 6 continuation presentations. The new CASF

sites (Georgia and Maine) made presentations about their research capabilities. Florida and Idaho made capability presentations as potential new sites. IAB meeting included: Executive committee (structure, function, nominations and appointment by acclamation); project voting (satisfaction with last year's funding allocations, ideas for obtaining greater voting participation); membership agreement – minor modification needed [to reflect new sites without naming them in the standard agreement - no re-signing should be needed]; open and closed discussion of potential new sites (Florida and Idaho). Both of the aforementioned schools received approval from the IAB to go forward with their proposals.

4/2009 University of Florida becomes 7th CAFS site (effective April 2, 2010).

11/2009 University of Washington becomes 8th CAFS site (effective November 30, 2009).

2/2010 University of Idaho becomes 9th CAFS site (effective February 1, 2010).

4/2010 CAFS Technical and IAB Meeting (Indianapolis, Indiana). 58 total members (not including Idaho's 4), including: 24 large, 49 small, 8 governmental agencies & not-for-profit, 46 full and 43 associates. Presentations included: 11 new proposals; 2 completed and 12 continuing projects. IAB meeting included: overall discussion of LIFE feedback (project-specific discussions occurred after each session); business meeting. Field trip hosted by Hardwood Tree Improvement and Regeneration Center (HTIRC) to Danzer/HTIRC research plots and the ecosystem experiment in Morgan-Monroe State Forrest.

6/2011 CAFS Technical and IAB Meeting (Seattle, WA). 99 total members made up of 44 full and 55 associates. There are an estimated 23 large, 60 small, 9 governmental agencies & 7 not-for-profit (involving special arrangements). The technical meeting included: 11 continuation proposals and 1 new one; 2 completed and 12 continuing projects. The meeting followed an innovative agenda format that reduced the number of presentations and increased time for two-way communications by having a series of 11 single highlighted presentations followed by a total of 13 focused, grouped poster sessions. LIFE forms were completed on presentations and posters and feedback was discussed. There was an invited talk by Eric Vance of the National Council for Air and Stream improvement. The closed IAB meeting included: election of replacement members for the executive committee (it has 9 members; 1 per site); discussion of the meeting format and of support from industry for student travel (this year sponsors donated $4,500); discussion of graduate student participation at annual meeting; discussion of CAFS functioning (controlling meeting costs, center processes and projects); Possible collaborations with other NSF's IUCRCs; Planning for Phase II of CAFS, and; date for 2012 meeting in Maine.

6/2012 CAFS Technical and IAB Meeting (Bangor, ME). Meeting included 3 final reports, 6 proposals for new projects, 15 posters that updated continuing projects, and an update of the CAFS Fundamental Research Project on the use of stable isotopes to tract nitrogen that is on a no cost extension. CAFS reported 99 total members made up of 47 full and 52 associate members. There are an estimated 23 large (>500 employees), 60 small, 9 governmental agencies & 7 not-for-profit (involving special arrangements) and foundations. Center consists of a core of over 25 faculty, 4 post-docs, 16 doctoral, 17 masters, and several undergraduate students. In 2012, 7 PhD and 8 MS students completed their studies. Eighteen (18) students are continuing their graduate studies (9 PhD, 9 MS). IAB meeting agenda included: In-kind memberships; potential new NSF IUCRC Fundamental Research Proposal; possibilities for an International Supplemental Proposal;

8/2012 NCSU, OSU, Purdue and Virginia Tech receive Award Letter for Phase II

_/2013 Auburn University becomes 10th CAFS site (effective _____ __, 2013).

4/2013 CAFS Technical and IAB Meeting (St. Simons Island, GA). Meeting included 7 final reports, 7 proposals for new projects, 1 continuing project and 12 ePosters. IAB items included: election of University of Florida Executive Committee Member (a nine member group that: 1) consults amongst site directors and recommends allocation of resources amongst projects and, 2) handles needed between-meeting business and concerns; Update on fundamental research proposal; Update on Auburn University's proposal to become the 10th university site; Discussion of meeting format (combination of plenary and ePosters), and; Graduate student and post doc participation at meetings (most want to continue presentations by graduate students, perhaps with more pre-and during-meeting quality control by the PIs - a few wanted PIs to do all presentations but this was not a majority nor a consensus); Managing director opportunity, and; Open discussion of CAFS functioning process and projects.

NEXT MEETING: May 20-22, 2014 in Coeur d'Alene, Idaho.

Attachment D:

CAFS Annual Meeting Best Practice Checklist

[Annual Meeting: April, 2013]

☐ The Center has 2 face-to-face meetings of IAB, Center scientists & students per year:
- ☐ One primarily dedicated to proposal presentations w/ LIFE feedback (+ closed IAB Mtg).
- ☐ One primarily dedicated to technical review of progress w/ LIFE feedback (closed IAB Mtg).

Comments: CAFS has exemption for 1 mtg per year. Excellent attendance, participation and collaborative spirit

☒ At Point of Registration, "Non-Disclosure Form" is signed by each non-member industrial attendee. No Visitors

☐ At Meeting: "Closed Meeting" sign posted; materials labeled "Center Proprietary"

☒ A "List of Attendees" (industry, university) is contained in each attendee's registration packet.

☒ A Center Update Report that includes:
- ☒ A review of the center's vision and research roadmap and/or priorities
- ☐ A membership status report (including MIPRs and/or gov agency commitment involvement)
- ☐ An annual financial statement x site (w/ member fees collected & amt available for projects)
- ☒ Some discussion of center-related technology advances & economic impact
- ☒ An up-to-date listing of publications list plus PI awards & research highlights (OK if online)

Comments:

☒ A common presentation template is used and adhered to by most presenters (w/deliverables, milestones, timetable, budget & time limits).

Comments:

☒ 1-page executive summaries are available to all attendees at each bi-annual IAB meeting.

Comments: Online before the meeting.

☒ LIFE forms are completed following each presentation.

Comments: For all presentations except final reports

☒ LIFE feedback is discussed by industrial attendees in session(s) scheduled for that purpose.

Comments:

☒ There is a closed IAB session (members can make it open) that includes an opportunity for IAB representatives to raise and discuss issues about center policies, procedures and research direction.

Comments:

☒ A "state-of-the center" discussion by IAB members.

Comments:

☒ Clear procedures (voting/ranking) are used for project continuation/selection.

Comments:

☒ Meeting activities are included that support industry/ university networking; such poster sessions, evening hors d'oeuvres or dinner, and industry-driven mentoring sessions.

Comments: Very effective ePoster sessions

☒ A discussion of and preferably a decision on the date and location of the next meeting.