

**Department of Forest and
Natural Resources Management**

Syracuse and Wanakena Campuses

Annual Report 2009-2010



Cover Photo taken by Roger Nissen at the Summer Program in Wanakena, June 2010

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Natural Resources Management
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Annual Report

**Summer 2009
Academic Year 2009-2010**

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August 1, 2010

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Introduction

This report is a summary for the ESF college administration of the FNRM teaching, research, and outreach and service activities during the 2009-2010 academic year. The accomplishments within FNRM over the last year detailed here were made possible through the individual and collective efforts of faculty and staff members at the Syracuse and Wanakena campuses.

While no changes in staff or faculty occurred over the past year, the department is poised for substantial changes in the upcoming year. A total of three faculty members and three staff will be retiring before the end of December. Professors Chad Dawson and Allan Drew on the Syracuse campus and Wayne Allen from the Wanakena campus will be taking advantage of the state buy-out to retire in December. As of this date, only Mr. Allen's replacement has been approved and a search will take place next year. Staff members Tari Pittenger and Roger Nissen on the Syracuse campus and Kathie Nevil on the Wanakena campus will be leaving during the upcoming Fall. It is hoped that replacements for all of them will be approved. A listing of our current faculty is found in Appendix A.

The following faculty members going up for promotion, tenure, or reappointment were successful this year. Drs. René Germain and Valerie Luzadis were promoted to Professor and Mr. Mike Webb received continuing appointment at the Instructor level.

Two of our faculty received major awards from the Society of American Foresters. Dr. Bob Malmshemer was named a Fellow and Dr. Chris Nowak received the Distinguished Service Award from the New York chapter.

During the past year, a number of our faculty had changing situations:

- Two faculty members, Professors Russ Briggs and Lianjun Zhang took sabbaticals. Dr. Briggs took a visiting scientist position with the USDA Forest Service in Washington, DC while Dr. Zhang stayed in Syracuse but did various visiting teaching activities in China at the Northwest Forestry University.
- Mr. Nasri Abdel-Aziz took a year's leave of absence to take a visiting faculty position at the University of Qatar. During the year, his teaching responsibilities were taken over by Mr. Kenneth Embry. We are quite happy by the fact that Mr. Abdel-Aziz will be returning to the faculty this coming Fall. As part of his changing responsibilities, he will become the Director of Math programs for the College.

- Professors Russ Briggs and Valerie Luzadis took on new responsibilities for the College. Dr. Briggs was named director of the Division of Environmental Sciences. Dr. Luzadis was named Assistant to the Provost in January. In addition, this Fall, she will become the Interim Chair for the Department of Environmental Studies.

A positive outcome this year was the appointment of Dr. Philippe Vidon to an Associate Professor position in Hydrology. Dr. Vidon's unexpected appointment came about as a result of the College's search for three Empire Innovation positions. Dr. Vidon will, in effect, replace Dr. Laura Lautz who left our faculty in 2009 to take a position at Syracuse University. Nevertheless, with the upcoming retirements this Fall, the Syracuse campus faculty will be down potentially five teaching faculty positions from our status as of Fall 2006. In fact, as shown in Appendix B, the faculty has shown a continuing decline in numbers over the past decade. At the time of our SAF accreditation in 2002, the Department had 28 teaching or research faculty members. Since that time, 11 teaching faculty retired, resigned, or died and we have replaced only 4 of them. A fifth faculty member, Dr. Tim Volk, was added to the faculty in a permanent research position (he was actually a research scientist in the department at the time of the accreditation but did not have a permanent position). In addition, as a result of the changes in responsibilities of Drs. Briggs and Luzadis, we will be further short-handed. Thus, we will have directly lost seven teaching faculty positions in only 8 years and have only a single remaining assistant professor on the staff (as opposed to 7 in 2002). This extremely top-heavy, short-handed faculty structure does not bode well for future productivity and limits our ability to act on new teaching and research opportunities.

Teaching

Courses Taught.

The teaching load for FNRM faculty members varies greatly depending on the number of courses assigned (e.g., Research Associates and temporary visiting Instructors typically have low teaching loads while Instructors have high teaching loads) and course enrollment. Appendix C shows the total teaching responsibilities for each faculty member as provided by ESF College records. Table 1 is based on this data and shows the total credit hour production by faculty classification from all components of the teaching program: classes, seminar and problem courses, and graduate/undergraduate research supervision. Total credit hours are calculated by multiplying the number of students by the activity credit hours by the percentage responsibility. Table 2 shows this same information for individual faculty members. Finally, Table 3 shows the number of students in all classes taught by each faculty member, differentiated by graduate and undergraduate students.

Table 1: Summary Teaching by Faculty Rank, 2009-2010

Instructor Type	# Class Preps (>8 UG; >5 G)	Lab Courses	Research /Seminar Credit Hours	Class Credit Hours	Total Credit Hours	% of Total
Instructors (1)	4	0	0	1,093	1,093	10.9%
Assistant Professors (1)	2	0	25	137	162	1.6%
Associate Professors (6)	23	4	172	2,553	2,725	27.1%
Professors (10)	31	6	184	1,857	2,041	20.3%
Research Associates (3)	7	0	52	376	428	4.3%
Visiting Instructors (4)	22	6	0	3,000	3,000	29.8%
Adjunct Professors (3)	4	0	20	444	464	4.6%
Emeritus (3)	6	0	2	147	149	1.5%
Total (31)	99	16	455	9,607	10,062	100.0%

Based on ESF College records, the Syracuse FNRM faculty produced from 26 credit hours to 1,093 credit hours per instructor of record and overall generated a total of 10,062 credit hours (up 11.7% from 9,946 credit hours in the previous year). Non-line faculty members (those who are either instructors, visiting faculty, adjunct professors, or retired faculty) were responsible for almost 47% of all the credit hours produced in the department. Instructors, who are primarily responsible for GED courses, produced about 42% (down slightly from last year) of the total credit hours, while 27% (22% last year) were produced by Associate Professors and Professors produced 20% (25% last year). The reason for the relative decrease in Professor production was because of sabbaticals and changed responsibilities of several of our professors. Because we will have even fewer Associate Professors next year, it is expected that the share of credit hour production by these faculty members will decline next year.

Table 2: Summary Teaching by Faculty Member, 2009-2010

Faculty Name	Rank	# Courses	# Students	R/S CH	Class CH	Total CH	% of Total
VONHOF, SARAH	Instructor	4	366	0	1093	1093	10.9%
STELLA, JOHN	Assistant Prof	2	49	25	137	162	1.6%
BEVILACQUA, EDDIE	Assoc Prof	4	206	6	618	624	6.2%
GERMAIN, RENE	Assoc Prof	5	139	34	417	451	4.5%
KUEHN, DIANE	Assoc Prof	5	137	49	315	364	3.6%
LUZADIS, VALERIE	Assoc Prof	1	104	39	312	351	3.5%
MALMSHEIMER, ROBERT	Assoc Prof	5	157	39	423	462	4.6%
WAGNER, JOHN	Assoc Prof	3	168	5	468	473	4.7%
BRIGGS, RUSSELL	Professor	3	132	18	292	310	3.1%
DAWSON, CHAD	Professor	2	24	54	72	126	1.3%
DREW, ALLAN	Professor	3	50	1	150	151	1.5%
MAYNARD, CHARLES	Professor	3	238	26	235	261	2.6%
NEWMAN, DAVID	Professor	3	40	8	79	87	0.9%
NOWAK, CHRISTOPHER	Professor	5	119	19	354	373	3.7%
NYLAND, RALPH	Professor	3	26	10	97	107	1.1%
STEHMAN, STEPHEN	Professor	4	103	3	287	290	2.9%
YANAI, RUTH	Professor	3	37	22	87	109	1.1%
ZHANG, LIANJUN	Professor	2	68	23	204	227	2.3%
BEIER, COLIN	Res Assoc	1	4	22	4	26	0.3%
MORRISON, DOUGLAS	Res Assoc	4	98	0	294	294	2.9%
VOLK, TIMOTHY	Sr. Res Assoc	3	56	30	78	108	1.1%
CONAHAN, KAREN	Visiting Inst	7	243	0	872	872	8.7%
EMBRY, KEN	Visiting Inst	5	171	0	645	645	6.4%
KIERNAN, DIANE	Visiting Inst	3	311	0	933	933	9.3%
LA VIE, JACQUELINE	Visiting Inst	7	140	0	550	550	5.5%
CULKOWSKI, JUSTIN	Adjunct Prof	1	41	0	123	123	1.2%
KELLEHER, MICHAEL	Adjunct Prof	2	47	18	141	159	1.6%
LAUTZ, LAURA	Adjunct Prof	1	60	2	180	182	1.8%
BLACK, PETER E.	Emeritus	3	38	0	96	96	1.0%
HERRINGTON, LEE	Emeritus	4	21	2	50	52	0.5%
WHITE, EDWIN H.	Emeritus	1	1	0	1	1	0.0%
Total - Syracuse Faculty	31	102	3,394	455	9,607	10,062	100.0%
Average Syracuse Faculty		3.3	109	15	310	325	3.2%
Total - Line Faculty	20	64	1,955	433	4,923	5,356	53.2%
Total - Non-Line Faculty	11	38	1,439	22	4,684	4,706	46.8%

Table 3: Students in Classroom by Faculty Member, 2009-2010

Faculty Name	F 09	F 09	Sp 10	Sp 10	Total Su-09	Total Fa-09	Total Sp-09	Total
	U	G	U	G				
STELLA, JOHN	17	27	0	5	0	44	5	49
BEVILACQUA, EDDIE	28	43	115	20	0	71	135	206
GERMAIN, RENE	105	5	12	17	0	110	29	139
KUEHN, DIANE	51	11	75	0	0	62	75	137
LUZADIS, VALERIE	0	0	103	1	0	0	104	104
MALMSHEIMER, ROBERT	75	16	51	15	0	91	66	157
WAGNER, JOHN	96	1	58	1	0	97	59	156
BRIGGS, RUSSELL	120	12	0	0	0	132	0	132
DAWSON, CHAD	8	9	7	0	0	17	7	24
DREW, ALLAN	16	5	26	3	0	21	29	50
MAYNARD, CHARLES	227	0	11	0	0	227	11	238
NEWMAN, DAVID	0	19	7	14	0	19	21	40
NOWAK, CHRISTOPHER	64	20	14	1	20	84	15	119
NYLAND, RALPH	15	4	3	4	0	19	7	26
STEHMAN, STEPHEN	0	30	2	71	0	30	73	103
YANAI, RUTH	0	6	0	31	0	6	31	37
ZHANG, LIANJUN	0	68	0	0	0	68	0	68
BEIER, COLIN	0	4	0	0	0	4	0	4
MORRISON, DOUGLAS	17	0	71	10	0	17	81	98
VOLK, TIMOTHY	26	8	19	3	0	34	22	56
CONAHAN, KAREN	140	0	103	0	0	140	103	243
EMBRY, KEN	110	0	61	0	0	110	61	171
KIERNAN, DIANE	130	0	179	2	0	130	181	311
LA VIE, JACQUELINE	81	1	58	0	0	82	58	140
CULKOWSKI, JUSTIN	0	0	40	1	0	0	41	41
KELLEHER, MICHAEL	10	8	23	6	0	18	29	47
LAUTZ, LAURA	48	12	0	0	0	60	0	60
BLACK, PETER E.	2	2	17	17	0	4	34	38
HERRINGTON, LEE	5	11	0	3	2	16	3	21
WHITE, EDWIN H.	0	1	0	1	0	1	1	2
Total	1576	324	1235	226	22	1900	1461	3383

Based on ESF College records, the production of the FNRM faculty at the Wanakena campus varied from 227 credit hours to 411 credit hours per instructor of record (not including visiting faculty) and overall generated a total of 2,050 credit hours (down slightly from 2,098 in the previous year). This distribution of credit hours reflects the extensive team teaching that occurs in all courses at the Ranger School over the course of a year. The Summer “Bridge” program, consisting of intensive biology and trigonometry courses, was again offered during the summer to allow students missing prerequisites for the AAS degree to make up the courses prior to entry into the School. A total of 15 students took advantage of this opportunity (up from 11 last year).

Table 4: FNRM Credit Hours and Students – Wanakena Campus, 2009-2010

Faculty Member	# Class Preps	Lab Courses	Summer Student #'s	Fall Student #'s	Spring Student #'s	Total CH	% of CH
ALLEN, WAYNE	2	1	0	41	40	405	19.8%
BRIDGEN, MICHAEL	3	1	15	41	32	343	16.7%
DONOVAN, CAREN	1	0	9	0	0	27	1.3%
JOHNSTON, MARIANN	3	1	0	41	64	420	20.5%
SAVAGE, JAMES	3	1	0	41	64	356	17.4%
WEBB, MICHEAL	3	1	0	41	18	227	11.1%
WESTBROOK, CHRIS	5	0	0	41	36	272	13.3%
Grand Total	20	5	24	246	254	2050	100.0%

Number of Advisees - Graduate

The number of graduate students advised by each faculty member as major professor fluctuates throughout the year as students arrive, leave, or graduate. A total of 74 students began the year in the program. As a result of graduation, our numbers declined to 68 in the Spring. The relatively even distribution of males and females in the program is reflected in the advising responsibilities of the faculty. Tables 5a and 5b show the graduate advising by degree objective for Fall and Spring semester by faculty member.

Table 5a: Graduate Advising by Degree & Gender, Fall 2009

Advisor	MF	MPS	MS	PHD	Female	Male	Total
BEIER			1	2	1	2	3
BEVILACQUA			1		1		1
BRIGGS		3	2	2	4	3	7
DAWSON			2	3	2	3	5
DREW			1		1		1
GERMAIN	1	1	4	2	3	5	8
KUEHN		2	3		1	4	5
LUZADIS		1	1	6	5	3	8
MALMSHEIMER		2	2	1	4	1	5
NEWMAN			1			1	1
NOWAK		1	1	2	1	3	4
NYLAND		1			1		1
STELLA		1	3		3	1	4
VOLK		1	3	2		6	6
WAGNER		1	2	1	3	1	4
YANAI		2	2	2	3	3	6
ZHANG				5	2	3	5
Total	1	16	29	28	35	39	74

Table 5b: Graduate Advising by Degree & Gender, Spring 2010

Advisor	MF	MPS	MS	PHD	F	M	Total
BEIER			2	2	1	3	4
BRIGGS		3	2	2	4	3	7
DAWSON		1	2	3	3	3	6
DREW		1			1		1
GERMAIN	1	1	4	2	2	6	8
KUEHN		1	3		1	3	4
LUZADIS		1	1	5	5	2	7
MALMSHEIMER		2	2	1	3	2	5
NEWMAN			1			1	1
NOWAK		1	1	2	1	3	4
NYLAND		1			1		1
STELLA		1	3		3	1	4
VOLK		1		2		3	3
WAGNER		1	2		2	1	3
YANAI		3	2	2	3	4	7
ZHANG				3	1	2	3
Total	1	18	25	24	31	37	68

Number of Advisees - Undergraduate

The number of undergraduate students advised by each faculty member also fluctuates throughout the year as students arrive, leave, change programs, or graduate. Advising assignments are made by the Undergraduate Program Coordinator upon the matriculation of students in the Fall and Spring. Care is made to distribute students by relevant program area and trying to keep the numbers relatively evenly distributed. 6a and 6b show the undergraduate advising by class for Fall and Spring semester by faculty member. Dr. Briggs is not shown in these Tables because of his changed status as Director of the Division of Environmental Sciences where he has substantial advising responsibilities.

Table 6a: Undergraduate Advising by Program and Class, Fall 2009

Advisor	FES	FRM	NRM	Total	Fresh	Soph	Junior	Senior
BEVILACQUA		4	5	9	3	3	1	2
DAWSON			4	4			3	1
DREW		1	6	7	1	1	3	2
GERMAIN		2	1	3				3
HASSETT		1		1				1
KUEHN			7	7		2	1	4
LUZADIS		1	3	4	3	1		
MALMSHEIMER	1	1	4	6	2		2	2
MAYNARD	1	6	1	8	1	1	2	4
NEWMAN		4	4	8		3	3	2
NOWAK	1	7	5	13	2	1	5	5
NYLAND	2	5	1	8	1	4	2	1
STEHMAN	5	2	1	8	4	2	2	
STELLA			6	6			3	3
WAGNER	1	4	1	6	2	1	1	2
YANAI		3	3	6		1	3	2
ZHANG		2	2	4	3	1		
Total	11	43	54	108	22	21	31	34

Table 6b: Undergraduate Advising by Program and Class, Spring 2010

Advisor	FES	FRM	NRM	Total	Fresh	Soph	Junior	Senior
BEVILACQUA		4	4	8	3		4	1
DAWSON			3	3			1	2
DREW		2	5	7	1		3	3
GERMAIN		2	1	3				3
KUEHN			4	4		2		2
LUZADIS		1	3	4	1	2	1	
MALMSHEIMER	1	1	4	6	1	1	2	2
MAYNARD	1	4		5	1		1	3
NEWMAN	1	4	3	8		2	3	3
NOWAK	1	4	9	14	1	5	3	5
NYLAND	2	5	1	8	1	4	2	1
STEHMAN	4	2	1	7	2	2	1	2
STELLA			6	6			4	2
WAGNER	1	4	1	6	2		2	2
YANAI		3	3	6			2	4
ZHANG		2	2	4	2	1	1	
Total	11	38	50	99	15	19	30	35

Teaching Effectiveness

All courses taught by faculty in the Department with more than 5 enrolled students receive student course evaluations. Our faculty maintains a history of, and strong dedication to, high quality teaching. Faculty members give most lectures, and most take an active lead in carrying out field labs. This dedication to teaching is reflected in generally high overall course evaluations. The unweighted average across all courses was 4.45 in the Fall and 4.10 in the Spring, out of a possible score of 5.0. Part of the reason for the decline in scores in the Spring is a result of a new, on-line evaluation system that was instituted with a few hiccups. While return rate was fairly high, there were some difficulties in the timing of the survey that may have affected the scores. In addition, graduate courses had much lower response rates than in the past.

In general, the course evaluations were consistent with previous years with the general education APM courses having somewhat lower scores than courses in the undergraduate major. The average for APM courses was 4.19 (median 4.35) in the Fall and 4.12 (4.25 median) in the Spring as opposed to 4.49 (4.50 median) and 4.00 (4.15 median) for the undergraduate courses. Graduate courses generally have higher evaluations with 4.60 (4.70 median) in the Fall but there was a significant drop in the Spring to 4.17 (4.35 median). Nevertheless, there is remarkable consistency and appreciation by students for the high quality of teaching effort received. Tables 7a and 7b show the course evaluations for courses taught at the Syracuse campus.

Table 7a: FNRM Faculty Course Evaluations, Fall 2009

Type	Enroll	Sent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Avg
APM	130	91	4.7	4.7	4.9	4.9	4.9	4.7	4.8	4.8	4.6	4.4	4.70
APM	9	6	5.0	4.8	4.3	4.8	4.7	4.5	4.7	4.8	4.6	3.7	4.60
APM	43	37	4.7	4.5	4.3	4.7	4.7	4.6	4.6	4.6	4.1	4.2	4.50
APM	30	32	4.6	4.6	4.3	4.7	4.7	4.8	4.7	4.8	4.3	4.0	4.50
APM	30	27	4.7	4.4	4.1	4.8	4.6	4.4	4.3	4.6	4.4	4.4	4.50
APM	38	33	4.7	4.2	4.0	4.7	4.5	4.4	4.5	4.6	4.1	4.1	4.40
APM	26	23	4.7	4.3	3.9	4.7	4.5	4.4	4.0	4.4	3.9	4.2	4.30
APM	29	22	4.0	3.7	3.7	4.5	4.5	3.6	3.6	4.0	3.8	4.2	4.00
APM	39	31	3.8	3.5	3.6	4.1	4.2	4.2	4.4	4.0	3.4	3.7	3.90
APM	42	36	3.7	3.5	3.7	4.4	4.1	4.0	3.8	3.8	3.6	3.6	3.80
APM	21	16	3.9	3.1	3.4	4.3	4.1	2.9	3.3	3.2	3.3	4.1	3.60
APM	25	24	3.8	2.8	3.0	4.0	3.7	3.4	3.6	3.5	3.1	4.2	3.50
GRAD	3	3	4.3	5.0	5.0	5.0	5.0	5.0	5.0	4.7	5.0	5.0	4.90
GRAD	3	3	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7	4.7	4.90
GRAD	30	37	4.9	5.0	4.9	5.0	5.0	4.8	5.0	4.9	4.6	4.3	4.80
GRAD	19	19	4.8	4.8	4.9	5.0	4.9	4.8	4.6	4.6	4.6	4.8	4.80
GRAD	29	26	4.8	4.3	4.9	5.0	4.9	4.9	4.8	4.7	4.5	4.4	4.70
GRAD	16	12	4.6	4.6	5.0	5.0	4.8	4.3	4.4	4.8	4.4	4.8	4.70
GRAD	11	10	4.6	4.6	5.0	4.9	4.9	4.9	4.5	4.7	4.7	4.4	4.70
GRAD	10	11	4.6	4.7	4.8	4.8	5.0	4.8	4.8	4.5	4.3	4.4	4.70
GRAD	14	6	4.7	4.7	5.0	4.8	4.8	4.7	4.8	4.7	4.3	4.5	4.70
GRAD	12	10	4.4	4.8	5.0	5.0	5.0	4.9	4.9	4.4	4.6	4.4	4.70
GRAD	39	28	4.6	4.2	4.7	4.9	4.8	4.9	4.9	4.6	4.1	4.2	4.60
GRAD	6	12	4.6	4.6	4.9	4.8	4.8	4.6	4.6	4.4	4.3	4.4	4.60
GRAD	9	9	4.8	4.6	4.9	5.0	4.8	4.0	3.9	4.3	4.1	4.3	4.50
GRAD	4	4	4.5	4.8	4.8	5.0	4.0	3.5	4.3	4.8	4.5	3.8	4.30
GRAD	9	9	4.0	4.4	4.6	4.4	4.4	4.3	4.3	4.3	4.1	4.1	4.30

GRAD	15	14	4.1	3.6	4.7	4.5	4.7	3.9	4.2	3.9	3.9	4.4	4.20
GRAD	47	36	4.1	3.9	4.2	4.4	4.3	4.3	4.4	3.8	3.6	3.7	4.10
UG	9	8	4.9	4.9	5.0	4.9	5.0	5.0	5.0	4.9	4.6	4.6	4.90
UG	15	16	4.9	4.9	4.8	4.9	4.9	4.6	4.6	4.8	4.7	4.5	4.80
UG	49	42	4.8	4.9	5.0	4.9	5.0	4.7	4.7	4.8	4.6	4.5	4.80
UG	17	12	4.8	4.6	5.0	5.0	5.0	4.8	4.7	4.7	4.7	4.3	4.70
UG	8	8	4.8	5.0	5.0	5.0	5.0	4.6	4.5	4.5	4.6	4.4	4.70
UG	27	21	4.7	4.7	5.0	5.0	5.0	4.5	4.6	4.7	4.7	4.7	4.70
UG	24	19	4.7	4.6	4.8	4.8	4.7	4.3	4.7	4.8	4.5	4.1	4.60
UG	23	11	4.7	4.7	4.9	5.0	4.9	4.3	4.5	4.7	4.5	4.2	4.60
UG	28	11	4.6	4.5	4.8	4.9	4.9	4.4	4.5	4.5	4.6	4.5	4.60
UG	11	9	4.2	4.7	4.6	4.9	4.7	4.7	4.7	4.7	4.8	4.6	4.60
UG	51	38	4.2	4.3	4.4	4.5	4.6	4.8	4.8	4.6	4.5	4.6	4.50
UG	19	11	4.2	4.2	4.3	4.8	4.8	4.5	4.5	4.2	4.2	4.0	4.40
UG	88	60	4.5	4.5	4.6	4.7	4.5	4.3	4.2	4.3	4.2	4.1	4.40
UG	97	65	4.6	4.4	4.7	4.7	4.6	4.4	4.4	4.5	4.0	4.1	4.40
UG	43	37	4.3	4.6	4.5	4.5	4.6	4.4	4.4	4.3	3.7	3.9	4.30
UG	11	10	4.3	4.1	4.4	4.8	4.5	4.0	4.5	4.2	4.0	3.7	4.30
UG	95	77	4.5	4.5	4.4	4.7	4.4	4.0	3.9	4.4	4.0	4.0	4.30
UG	33	67	4.5	4.2	4.8	4.9	4.4	3.7	3.1	4.3	4.0	4.3	4.20
UG	21	14	4.4	4.1	4.0	4.3	4.6	3.8	4.0	4.3	3.9	4.4	4.20
UG	96	78	4.2	4.2	4.5	4.4	4.1	3.8	3.8	4.0	3.8	4.1	4.10
UG	17	14	3.7	3.5	4.5	4.2	4.6	4.1	4.2	3.8	4.0	4.3	4.10
Avg.	1,520	1,255	4.48	4.40	4.55	4.74	4.66	4.38	4.42	4.44	4.24	4.27	4.45
SD			0.34	0.50	0.48	0.27	0.31	0.46	0.44	0.38	0.42	0.31	0.32
Median			4.6	4.6	4.7	4.8	4.7	4.4	4.5	4.6	4.3	4.3	4.5
Max			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9
Min			3.7	2.8	3.0	4.0	3.7	2.9	3.1	3.2	3.1	3.6	3.5

Table 7b: FNRM Faculty Course Evaluations, Spring 2010

Type	Enroll	Sent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Avg
APM	30	26	4.6	4.4	4.8	4.8	4.8	4.6	4.5	4.5	4.3	4.1	4.54
APM	32	23	4.4	4.4	4.9	4.8	4.8	4.6	4.6	4.4	4.2	3.8	4.49
APM	29	25	4.4	4.5	4.7	4.8	4.9	4.5	4.5	4.2	4.3	4	4.48
APM	30	27	4.4	4.2	4.7	4.8	4.7	4.6	4.5	4.3	4.2	4	4.44
APM	35	30	4.3	4.4	4.7	4.7	4.7	4.4	4.5	4.2	4.1	3.6	4.36
APM	26	20	4.2	4.1	4.2	4.2	4.6	4.5	4.4	4.1	4.1	4.1	4.25
APM	14	13	4.3	4	4.2	4.4	4.4	4.3	4.2	3.8	3.7	4.2	4.15
APM	45	44	4	4.1	4	4.3	4.5	4.1	4.3	4.2	3.9	3.9	4.13
APM	28	22	4.2	4.1	4	4.2	4.3	4	4	4	4	4.2	4.10
APM	31	26	3.8	3.8	3.7	4.3	4	3.9	4	3.8	3.5	3.9	3.87
APM	16	14	3.7	3.5	3.6	4.3	4	3.3	3.6	3.3	3.1	4	3.64
APM	27	24	3.6	3.2	3.5	4.1	3.6	3.7	3.7	3.7	3	3.7	3.58
APM	28	23	3.5	3.4	3.5	3.8	4.1	3.6	3.6	3.2	3.3	3.6	3.56
GRAD	17	16	4.6	4.8	4.6	4.9	4.7	4.4	4.5	4.7	4.7	4.6	4.65
GRAD	59	40	4.7	4.7	4.7	4.8	4.8	4.5	4.6	4.7	4.4	4.3	4.62
GRAD	13	9	4.2	4.5	5	4.8	4.3	4.4	4.1	4.4	4.5	4.7	4.49
GRAD		21	4.6	4.7	4.6	4.6	4.4	4.3	4.3	4.2	4.1	4.3	4.41
GRAD		15	4.2	4.1	4.4	4.6	4.6	4.2	4.2	4.2	4.3	4.2	4.30

GRAD	25	24	4.4	4.5	4.5	4.6	4.5	4.1	2.7	4.3	4.1	4.3	4.20
GRAD	11	11	2.7	3.2	4.4	3.6	4.3	4	3.9	3.4	3.6	4	3.71
GRAD	9	9	2.6	2.5	3.5	3.1	4.4	2.4	3	2.8	2.4	3.1	2.98
UG	34	31	4.6	4.7	4.8	4.8	4.8	4.5	4.4	4.6	4.5	4.6	4.63
UG	22	18	4.4	4.6	4.7	4.6	4.7	4.2	4.3	4.5	4.4	4.1	4.45
UG	10	9	4.1	4.2	4.7	4.6	4.7	4.5	4.4	4.6	4.3	4.3	4.44
UG	17	16	4.2	4.4	4.6	4.3	4.7	4.6	4.6	4.4	4.3	4.3	4.44
UG	42	37	4.6	4.5	4.6	4.8	4.4	3.9	4.1	4.2	4.2	4.3	4.36
UG	12	9	4	3.8	4.1	4.5	4.3	4.2	4.2	4.4	4.5	4.6	4.26
UG		17	4.1	4.1	4.1	4.5	4.5	4.3	4.3	4.3	4	3.9	4.21
UG	69	64	4.2	4.2	4.3	4.4	4.5	4.4	4.4	4	3.8	3.8	4.20
UG	120	110	4.3	4.2	4.6	4.4	4.3	4.2	4	4.1	3.8	4	4.19
UG	16	13	4.3	4.2	4.4	4.5	4.3	3.8	3.8	4.3	4.1	4	4.17
UG	7	7	3.8	4.1	4.5	4.7	4.5	3.7	3.8	4.1	4.1	4.2	4.15
UG		11	3.8	4	4.4	4.2	4.4	4.1	4.3	3.9	3.7	4	4.08
UG	14	12	4	4	4	4.5	3.8	4	3.8	3.7	4.1	4.5	4.04
UG	99	87	4.2	3.9	4.2	4.4	4.2	4.2	4.1	3.9	3.5	3.7	4.03
UG	52	49	4.2	4.1	4.2	4.3	3.8	3.7	3.6	4.1	3.6	3.9	3.95
UG	39	36	3.8	3.8	4.2	3.9	4.3	3.8	3.9	3.7	3.6	3.7	3.87
UG	13	13	3.6	3.4	3.3	4.5	3.9	3.3	3.2	3.6	3.1	3.7	3.56
UG	26	22	3.3	3.3	3.7	4.2	4.2	3.2	3.8	2.9	3	3.3	3.49
UG	19	14	3.2	3.3	3.9	3.7	4.4	3.2	3.4	3.4	3	3.4	3.49
UG		26	2.2	2.5	4.1	4	4.2	3.3	3.7	2.7	2.6	3.3	3.26
UG	23	18	2.1	2.3	3.3	3.3	3.8	2.4	2.6	2.2	2.3	3	2.73
Avg.			4.0	4.0	4.3	4.4	4.4	4.0	4.0	4.0	3.8	4.0	4.1
SD			0.6	0.6	0.5	0.4	0.3	0.5	0.5	0.6	0.6	0.4	0.4
Median			4.2	4.1	4.4	4.5	4.4	4.2	4.1	4.1	4.1	4.0	4.2
Max			4.7	4.8	5.0	4.9	4.9	4.6	4.6	4.7	4.7	4.7	4.7
Min			2.1	2.3	3.3	3.1	3.6	2.4	2.6	2.2	2.3	3.0	2.7

Curriculum changes

- A number of significant changes were approved for the programs on the Wanakena campus. The major change was the approval of a new major, Environmental and Natural Resource Conservation (ENRC). This proposal has been sent to Albany and final approval is expected early this Fall. In addition, a change to the hours required for the majors was approved and will be implemented this Fall. Only 21 (as opposed to 24) credit hours will be required in the Fall. This change was done to allow the semester to begin at the same time as the Syracuse campus. In addition, a number of course changes were made to support the new ENRC major.
- A new minor in urban forestry was approved by the COI.
- SAF accreditation for our Master of Forestry (MF) degree was approved. So far, we have had 4 students graduate with the degree and there are currently 2 students enrolled in the program.
- The Ranger School faculty have initiated the ABET accreditation process for the surveying program. The initial draft of the Accreditation report was submitted in July and site visit by the accreditation team is planned for October.
- The Forest Resources Management (FRM) program will be going through SAF accreditation in 2012 and planning has begun for this process.
- The Ranger School Summer “Bridge” Program in Biology and Trigonometry continued with good results with 15 students attending the program. All of these students continued on for their AAS degree in the fall.

Research

Publications

FNRM faculty authored or co-authored 49 individual published articles in refereed journals or edited volumes (down from 60 last year); another 26 manuscripts are in press and 19 manuscripts were submitted and are under review. Another 46 manuscripts were published as research reports and in conference proceedings (see full list of publications and presentations in Appendix C). FNRM faculty members were very productive in non-journal publications and as presenters at professional science conferences and meetings. Some faculty members do not have research publication assignments or do not currently have publications and presentations listed, but are expected to have them now and in the future. Based on the individual annual reports of faculty a summary of publications/presentations (numbers by faculty and type) is presented in Table 8 (the total numbers do not correspond to the totals listed above because a number of publications have multiple FNRM authors):

Table 8: FNRM Publications and Presentations, 2009-2010

Faculty Member	Refereed		In Press		In Review		Non Ref		Presents	
	#	1st	#	1st	#	1st	#	1st	#	1st
Abrahamson, L.P.			3	1			1		9	
Beier, C.M.	3	1	1		3	3	1		2	2
Bevilacqua, E.	6		2		8		2	1	1	1
Bridgen, M.R.							2	2	3	2
Briggs, R.D.	2				4		1	1	1	1
Dawson, C.P.							4	4	5	5
Drew, A.P.					2		1			
Garrison-Johnston, M.T.							2	2		
Germain, R.H.	6		3	1	2		3		5	2
Kiernan D.H.	2	1	2	1	1	1				
Kuehn, D.	2	2	1		1	1	4	2	4	1
Luzadis, V.A.	5	1	3		1		4		6	1
Malmsheimer, R.W.			2		2		5	3	11	4
Maynard, C.A.					1					
Newman, D.	1						2	1	5	3
Nowak, C.					1	1	14	11	5	4
Nyland, R.D.	4	1	4	2	1		2	1	3	3
Savage, J.							3	2		
Stehman, S.V.	11	3					1	1	1	1
Stella, J.C.	3	2			2				13	3
Volk, T.A.	5		3	2	9		5	3	24	16
Vonhof, S.			1	1						
Wagner, J.E.	2	1	2						4	2
Yanai, R.D.	6	3	2		3	1	1	1	17	5
Zhang, L.	2	1	3						3	
Total	60	16	32	8	41	7	58	35	122	56

1st indicates the number of first author publications by category

Research Proposals and Projects

As shown in Table 9, based on the ESF Research Office records, FNRM faculty operated with 75.3 funded research projects during the 12-month period ending on April 30, 2009 (down from 85.2 last year). The awards amounted to \$2.95 million (up from \$2.5 million last year). Some faculty members do not have research assignments or did not have operating research projects during the 12-month period.

Table 9: FNRM Sponsored Program Expenditure Activity, 2009-2010

Faculty Member	#	Total Expenditure	Credited Expenditure	Credited Direct	Credited Indirect
Abrahamson, L.P.	14	\$675,164	\$98,947	\$78,590	\$20,357
Beier, C.M.	4	\$177,490	\$62,963	\$50,279	\$12,684
Bevilacqua, E.	7	\$166,010	\$100,633	\$87,597	\$13,037
Briggs, R.D.	2	\$62,910	\$62,910	\$52,383	\$10,528
Dawson, C.P.	9	\$759,388	\$759,388	\$656,342	\$103,045
Germain, R.H.	6	\$183,120	\$114,154	\$97,630	\$16,524
Herrington, L.P	2	\$17,323	\$13,695	\$12,534	\$1,161
Kuehn, D.M.	8	\$173,346	\$151,334	\$119,461	\$31,873
Lautz, L.K	3	\$27,737	\$15,338	\$15,371	-\$33
Lim, G.W	1	\$6,447	\$2,149	\$2,149	\$0
Luzadis, V.A.	2	\$68,688	\$17,603	\$16,269	\$1,334
Malmsheimer, R.W.	5	\$173,064	\$75,875	\$67,704	\$8,171
Maynard, C.A.	10	\$289,227	\$157,841	\$137,266	\$20,576
McGuigan, L.	1	\$2,676	\$892	\$892	\$0
Newman, D.H.	6	\$136,510	\$115,098	\$111,913	\$3,185
Nowak, C.A.	3	\$105,258	\$105,258	\$70,242	\$35,016
Nowak, D.J.	1	\$8,636	\$8,636	\$5,608	\$3,028
Nyland, R.D.	3	\$48,479	\$16,339	\$16,254	\$85
Schuster, R.M.	1	\$6,075	\$4,050	\$2,656	\$1,394
Stehman, S.V.	2	\$33,835	\$33,835	\$26,853	\$6,982
Stella, J.C.	3	\$117,458	\$102,086	\$92,602	\$9,484
Volk, T.A.	30	\$1,689,688	\$604,514	\$471,944	\$132,570
White, E.H.	10	\$627,266	\$131,845	\$131,845	\$0
Yanai, R.D.	6	\$169,192	\$157,402	\$134,355	\$23,047
Zhang, L.	2	\$94,663	\$34,895	\$29,676	\$5,219
Total	141	\$5,819,651	\$2,947,680	\$2,488,413	\$459,267

Based on the ESF research Office records and as shown in Table 10, FNRM faculty were credited with submitting 39.52 proposals based on PI and Co-PI percentage shares (down from 43.68 last year) with a total proposed value of \$11.3 million (up 49%% from last year's \$7.6 million). This decline in proposal activity (but increase in total value), while significant, represents the normal vagaries in research output. The productivity of FNRM faculty has continued at a high level over recent years based on total external direct dollars for research and service grants and contracts; total indirect dollars, and the percentage indirect dollars generated. A listing of all current and proposed research projects is found in Appendix D.

Table 10: Proposal Submission Activity, 2009-2010

Faculty Member	#	Acc, Pend, Reject	Total Request	Credited Amount	Credited Direct	Credited Indirect
Abrahamson, L.P.	3	1,1,1	\$676,541	\$90,205	\$63,929	\$26,277
Beier, C.M.	13	3,5,5	\$5,435,788	\$1,001,770	\$787,138	\$214,633
Bevilacqua, E.	4	2,1,1	\$157,970	\$51,373	\$48,825	\$2,548
Briggs, R.D.	2	1,1,0	\$43,473	\$30,649	\$25,356	\$5,293
Dawson, C.P.	4	1,3,0	\$812,236	\$812,236	\$702,019	\$110,217
Drew, A.P.	1	0,0,1	\$431,638	\$43,164	\$27,669	\$15,495
Germain, R.H.	1	0,0,1	\$42,384	\$42,384	\$34,323	\$8,061
Kuehn, D.M.	1	0,0,1	\$431,638	\$43,164	\$27,669	\$15,495
Luzadis, V.A.	4	0,2,2	\$4,141,776	\$460,996	\$377,225	\$83,771
Malmsheimer, R.W.	1	0,1,0	\$51,843	\$34,562	\$34,562	\$0
Maynard, C.A.	4	3,1,0	\$1,029,890	\$343,297	\$298,766	\$44,531
Newman, D.H.	2	1,1,0	\$305,344	\$265,344	\$254,489	\$10,855
Nowak, C.A.	1	1,0,0	\$10,000	\$10,000	\$8,197	\$1,803
Nowak, D.J.	1	0,1,0	\$149,975	\$24,996	\$20,567	\$4,429
Nyland, R.D.	2	1,0,1	\$91,127	\$38,184	\$37,159	\$1,025
Stehman, S.V.	5	2,3,0	\$223,616	\$223,616	\$177,474	\$46,142
Stella, J.C.	4	1,1,2	\$3,769,642	\$813,221	\$660,936	\$152,284
Vidon, P.	1	0,1,0	\$32,981	\$32,981	\$32,981	\$0
Volk, T.A.	11	3,3,5	\$5,962,126	\$1,963,339	\$1,568,622	\$394,717
Yanai, R.D.	5	1,3,1	\$5,045,814	\$4,992,170	\$4,247,047	\$745,123
Total	70	21,28,21	\$28,845,802	\$11,317,650	\$9,434,953	\$1,882,697

Research Impact

A well-regarded measure of research impact is the number of times that works of a researcher are cited by other researchers. Ms. Linda Galloway of the library performed a Scopus Science Citation index search of members of the FNRM faculty and the results are shown in Table 11. Since we are running on a 10-year basis, to allow for comparisons over time, it should be realized that these numbers will likely change. Thus, even though the number of citations in 2009 was 18% higher than in 2008 and 23% higher for the comparable 10-year period, the average h-index for the faculty as a whole declined slightly.¹ In fact, 7 faculty members saw their h-index increase, 7 had no change, and 6 saw a decrease.

Table 11: SCOPUS Science Citation Index for FNRM Faculty, 2000-2009

Faculty Member	#Citations 2009	#Citations 2005-2009	#Citations 2000-2009	h-Index 2009	h-Index 2008
Abrahamson, L.P.	49	252	314	12	12
Beier, C.M.	11	16	16	3	2
Bevilacqua, E.	17	41	51	4	3
Briggs, R.D.	36	162	249	9	11
Dawson, C.P.	1	7	8	1	2
Drew, A.P.	8	39	61	3	5
Germain, R.H.	28	69	87	6	5
Kuehn, D.M.	1	3	3	2	1
Luzadis, V.A.	16	21	26	4	3
Malmsheimer, R.W.	15	32	34	3	3
Maynard, C.A.	33	173	257	7	8
Newman, D.H.	36	121	182	8	8
Nowak, C.A.	18	94	134	6	8
Nyland, R.D.	32	199	288	8	10
Stehman, S.V.	223	753	1,111	19	18
Stella, J.C.	2	3	3	1	1
Volk, T.A.	78	286	322	12	11
Wagner, J.E.	18	67	102	5	5
Yanai, R.D.	113	515	749	14	14
Zhang, L.	57	294	347	13	13
Total This Year	792	3,147	4,344	7.0	
Total Last Year (1999-08)	669	2,624	3,530		7.2

¹ In actuality, I am not even sure if it is meaningful to calculate an average h-index. Nevertheless, it provides an interesting comparison of the vagaries of this statistic.

Outreach and Service

Faculty delivered an extensive number of presentations, workshops and conferences to a wide range of client types in the state and region. These programs targeted forest and natural resource-based clients and continue to be well received and well attended. Examples of programs and workshops include professional forestry state and national conferences and workshops, recreation and Silviculture workshops, GIS conferences, national tourism conference, watershed management workshops, and vegetation management workshops and conferences. Individual faculty reports did not completely list and enumerate their outreach and extension-type activities so a full listing has not been developed herein.

Faculty spent a significant amount of time and energy providing unfunded service to local, county and state governmental agencies, public interest groups, and others. In particular, RS faculty efforts with community and economic renewal in southern St. Lawrence County and northern NY were notable.

FNRM faculty provided editorial board service as follows:

Name	Journal	Position
Abrahamson	Biomass and Bioenergy Journal	Editorial Board
Abrahamson	Forest & Shade Trees	Section Editor
Briggs	Journal of Forestry	Associate Editor
Briggs	Northern Journal of Applied Forestry	Associate Editor
Dawson	International Journal of Wilderness	Managing Editor
Luzadis	Journal of Forestry	Associate Editor
Luzadis	Inter. J. of Ecological Economics & Statistics	Associate Editor
Luzadis	Syracuse J. of Sustainability	Editorial Advisory Board
Malmsheimer	New York Forester	Managing Editor
Stehman	Remote Sensing of Environment	Associate Editor
Stehman	Remote Sensing Letters	Associate Editor
Volk	BioFPR	Advisory Committee Member
Wagner	Northern Journal of Applied Forestry	Associate Editor
Wagner	Journal of Regional Analysis and Policy	Editorial Board
Yanai	Forest Ecology and Management	Editorial Advisory Board
Zhang	Canadian J. of Forest Research	Associate Editor
Zhang	Chinese J. of Forest Science	Editorial Board

FNRM Faculty Representation on Organization Boards is as follows:

Name	Position and Organization
Abrahamson	Co-Chair, IUFRO group on short-rotation forestry
Abrahamson	Board Member, Christmas Tree Farmers Association of NY (CTFANY)
Bevilacqua	Co-Chair, New York State GIS Conference Advisory Council
Bevilacqua	Co-Chair, Society of American Foresters, A3 Biometrics Working Group
Dawson	Board member for The WILD Foundation
Germain	National SAF Continuing Education Accreditor for New York, 2007 – 2009
Germain	APHIS Science Advisory Panel for Sirex Wood Wasp, 2006 – present
Germain	New York Forest Health Advisory Council, 2008 – present

Germain	Member, Advisory Committee, SUNY Morrisville School of Agriculture and Natural Resources, 2002-
Germain	Board of Directors – New York Forest Owners Association, 2007 –
Germain	Board of Directors - New York Logger Training, Inc., 1994 –
Germain	Chair, New York Logger Training Curriculum Committee, 1997 –
Germain	Member, Watershed Forestry Program Committee, 1997 –
Germain	Chair, Watershed Forestry Model Forest Program, 1997 –
Kuehn	Treasurer, Council of Park Friends
Kuehn	Program Coordinator, NE Recreation Research Symposium Planning Comm
Luzadis	Secretary-Treasurer and Executive Committee Member of Board of Directors, United States Society for Ecological Economics
Malmsheimer	Member, SAF National Convention Planning Committee
Malmsheimer	Secretary, New York Society of American Foresters
Newman	Northern Region Chair, NAUFRP
Newman	Director, Theme 4, NSRC
Volk	Chair of the Short Rotation Woody Crops Operations Working Group
Volk	Board of Directors for the NY Biomass Alliance
Volk	Deputy Chair, Feedstock Production working group, International Poplar Council
Wagner	Member of the Ben Roach/Curtis Bauer Executive Committee

Finally, FNRM faculty members were quite active and sought out as reviewers of manuscripts and proposals. Table 12 lists the number of these activities for the faculty.

Table 12: Reviewing Activity by FNRM Faculty

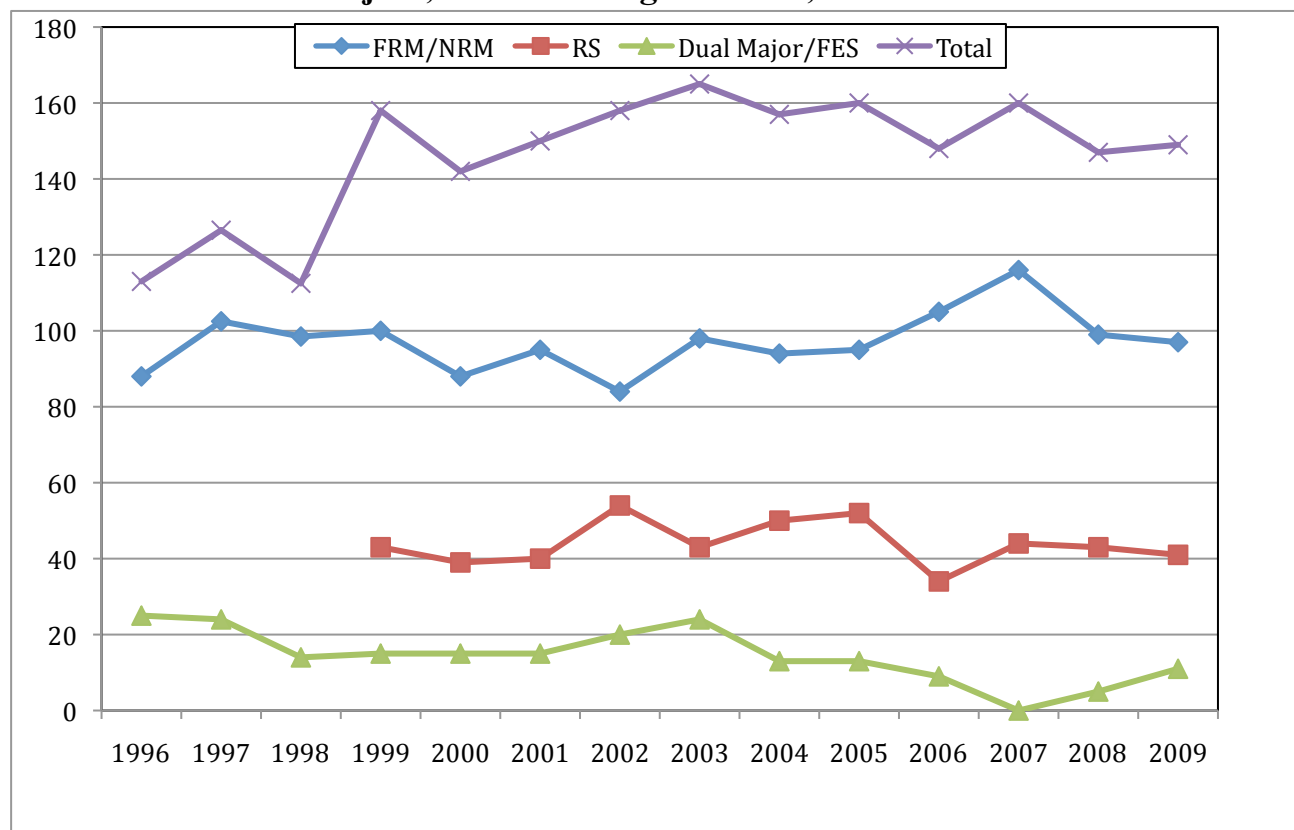
Faculty	Manuscripts	Proposals	Other
Abrahamson	4	3	
Bevilacqua	4	2	1
Briggs	5		
Dawson	37	33	
Drew			1
Germain	2		
Kuehn	3		4
Luzadis	13	16	
Malmsheimer	3		
Maynard	1		
Newman	3	33	
Nowak	1		
Nyland	5		
Stehman	21	1	4
Stella	4	2	
Volk	13	10	
Wagner	11		3
Yanai	15	22	
Zhang	20		
Total	165	122	13

Undergraduate and Graduate Students

Undergraduate Enrollment

Undergraduate student enrollment in the Syracuse program reached a high point in 2007, in part due to a great degree of ongoing recruitment effort, but has fallen somewhat in the last two years. This past Fall, enrollment in the FRM/NRM majors stood at 108, representing a 9% decline from that record high enrollment. Nevertheless, the Forest Ecosystem Science major's enrollment increased from 5 to 11 students. Another encouraging trend is that the enrollment in this year's Summer Program at Wanakena was the largest (31 students) in recent memory. Enrollment at the Wanakena campus stayed steady from the previous year. Figure 1 shows the enrollment trends at both the Syracuse and Wanakena campuses since 1996.

Figure 1: Undergraduate enrollment for the FRM/NRM and Forest Ecosystem Science Majors, and the Ranger School, 1996-2009



The breakdown of undergraduate students enrolled at both campuses is shown in Table 13a. The NRM major is no longer broken out by program area since the new curriculum, implemented in 2008 has done away with program areas. The decline in students in the sophomore year at the Syracuse campus is a direct result of the continued effectiveness of the 1-1-2 option in providing learning opportunities for our forestry and NRM students. This program is part of the reason why the NRM major has more students than the FRM major. The land surveying program at the Ranger School showed some decline from last year, representing 17% of the student body.

Table 13a: FNRM UG Students by Degree Program of Study, Fall 2009

Class	Syracuse Campus				Wanakena Campus			Total
	FES	FRM	NRM	Total	FOR TECH	LAND SURVEY	Total	
Freshman	3	11	8	22	16	3	29	51
Sophomore	2	5	14	21	18	4	22	43
Junior	4	11	16	31				31
Senior	2	16	16	34				34
Total	11	43	54	108	34	7	41	149

The gender breakdown for the two programs (Table 13b) exhibits the continued imbalance of the program between male and female students. This imbalance is most strongly felt in the forestry program where only 14% of the students are female. The breakdown is somewhat better in the NRM program where 30% of the students are female. Overall, 22% of the students at the Syracuse and 7% of the students at the Wanakena campus are female. This imbalance is a continuing problem for forestry programs across the country and is a serious issue when we consider the fact that university student bodies are now composed of a higher percentage of female students.

Table 13b: FNRM UG Students by Gender, Fall 2009

Class	Syracuse Campus			Wanakena Campus			Total
	F	M	Total	F	M	Total	
Freshmen	6	16	22	1	18	29	51
Sophomore	5	16	21	2	20	22	43
Junior	7	24	31				31
Senior	6	28	34				34
Total	24	84	108	3	38	41	149

Finally, Table 13c shows the registration breakdown in the department. While the percentage of transfer students to the Syracuse program is down from historical levels, they do represent almost 22% of the student body. An important development that has occurred over the past few years has been the development of the 1-1-2 degree option, where students spend 1 year at ESF, 1 year at the Ranger School to obtain their AAS degree, and then return to ESF to obtain a BS. The 17 continuing students at the Wanakena campus this past year highlights the impact of this program.

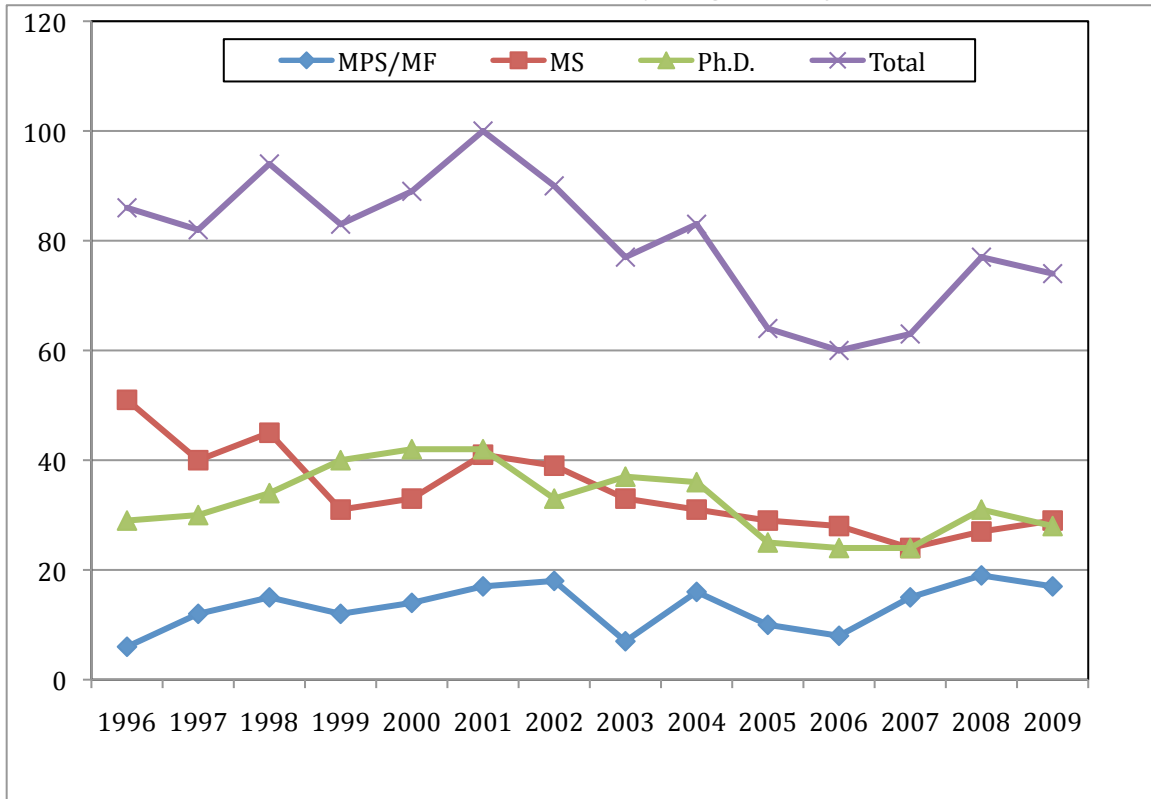
Table 13c: FNRM UG Students by Registration Status, Fall 2009

Class	Syracuse Campus				Wanakena Campus		Total
	Cont	New	Return	Transfer	Cont	Transfer	
Freshmen	3	17		2	8	11	11
Sophomore	6			15	9	13	13
Junior	17		7	7			7
Senior	33		1				1
Total	59	17	8	24	17	24	149

Graduate Enrollment

Graduate student enrollment numbers were slightly down from last year, declining from 77 to 74. The FNRM graduate students enrolled in Fall 2009 were: 28 Ph.D. students, 29 MS degree students, 16 MPS degree students, and 1 MF degree student. The trend line in graduate enrollment has been down for FNRM since 2001 but appears to have leveled off. We have expended significant effort in trying to attract students into the program but we are hampered by relatively low assistantship levels (compared to other comparable institutions), a lack of research assistantships, and a declining number of faculty members taking on new students. Unfortunately, this last factor will only increase in the future without more hires.

Figure 2: Graduate enrollment in FNRM by degree objective: 1996-2009



The breakdown of students by degree and program area is show in Table 14a. These show the ecosystem science and natural resources areas to have the largest numbers. The other areas are taking on graduate students commensurate with their faculty numbers. Appendix E lists all the graduate theses and dissertations approved this past year.

Table 14a: FNRM Graduate Students by Degree & Program Area, F-2009

Degree	ES/ LAND	ES/ POL	ES/ ENV& NAT	FRM/ ECO SCI	FRM/ ENV& NAT	FRM/ GRAD	FRM/ NAT RES	FRM/ QUANT	FRM/ REC	FRM/ H2O	Total
MF				1	2		1		2	3	1
MPS				1	2		8		2	3	16
MS				5	2	1	10	1	5	5	29
PHD	2	2	1	8	6		3	3	3		28
Total	2	2	1	14	10	1	22	4	10	8	74

The gender breakdown is much more even than was shown for the undergraduate program (Table 14b). Nearly half of all graduate students are female, with a majority of MPS and MS students being female while a majority of MF and Ph.D. students are male. We had 17 entering graduate student in the Fall, representing 23% of the graduate student body.

Table 14b: FNRM Graduate Students by Degree, Gender & Status, Fall 2009

Degree	F	M	Total	Cont Grad	New Grad	Return Grad	Transf Grad
MF		1	1	1			
MPS	8	8	16	9	7		
MS	16	13	29	20	9		
PHD	11	17	28	24	1	1	2
Total	35	39	74	54	17	1	2

Awards, Scholarships, and Graduate Assistantships

The quantity and size of scholarships and awards for both FNRM undergraduate and graduate students is relatively small and used both for recruiting new students and to award outstanding effort. Both the Syracuse and Wanakena campuses have their own endowments that are used to fund these awards (Tables 15a and 15b). Some awards are also designated for graduate students. This year, on the Syracuse campus, we created a new Honors and Awards Committee (chaired by Dr. Malmshemer) to be responsible for the selection of award recipients. The largest scholarship in the Department is the Farnsworth Fellowship, which is presented as part of a major program to honor Dr. Farnsworth. This year, the invited speaker was Dr. William Bentley, former Chair of the Department.

This past year, even with the financial difficulties facing our endowment, we were able to give out about the same amount of funds in the Syracuse program as last year. No new scholarships were created but we have been able to manage our funds in such a way as to maintain solid funding for our students. Things were a bit more difficult at the Ranger School, where several funds were strongly down and the resulting support for students declined. It is expected that funding levels should be higher this coming year.

Table 15a: FNRM 2010 Syracuse Campus Awards & Scholarships

Syracuse Scholarship	Amount	Recipient
Bartlett Tree Award	\$1,000	Yoni Diamond
Curt H. Bauer/FORECON Scholarship	\$500	Chelsea Sheridan
Herbert Baxter Scholarship	\$1,400	Recruiting
Jay & Olive Bentley Scholarship	\$750	Allison Bodine
John V. Berglund Memorial	\$1,000	Gabriel Kellman
Cline Scholarship	\$1,400 total	Chandrani Gosh (G); Neal Maker (G)
W.J. Cox Award	\$2,500	Jamie Kendall
Craig J. Davis Scholarship	\$500	Partick Davis
Farnsworth Fellowship	\$6,000	Artem Treyger (G)
Forestry Undergraduate Scholarship	\$2,800	Recruiting
Paul Klapthor/American Forest Management Award	\$5,000 total	Patrick Dolan, Sam Glass, Paul Ludwiczak, Benjamin Randolph, Timothy Russell
Albert L. Leaf Memorial	\$650	Junfeng Lu (G)
Robert "Bob" Marshall Memorial	\$750	Andrew McDonald
New York Forest Owners Association	\$750	Julie Van Winkle
Prigoff Scholarship	\$1,400 total	Job Lowry; Jeremy Dalton; Trevis McIntyre; Craig Amundson
Alec Proskine Scholarship	\$1,700	Amanda Miner (G)
Rizzo Memorial	\$325	Dean Holmen
SAF Bauer-Sand Award (New)	\$1,000	Logan Quinn
Robert Wolf	\$1,800	Jonathan Haas (G)
Tropical Social Forestry Fund	\$500	Haroun-Al-Rashid I. Jaji (G)
Total	\$31,725	

Table 15b: FNRM 2010 Wanakena Campus Awards & Scholarships

Award Name – 2009-2010	Amount	Recipient
Philip J. Haddock Award	\$400	Anthony Despirito
Wesson Scholarship	\$400	Spencer Morrissey
Wesson Scholarship	\$400	Michael Wheaton
Bartlett Tree Award	\$1,000	Justin Page
Eagle Award	\$100	Nicholas Jaeger
Piet Van Witsen Spring Semester Scholarship	\$600	William Brown
Ranger School Endowment Scholarship	\$2,800 total	Nathan Allen, Mark Dew, Adam Leven, Bryan Nafziger, Justin Page, Nicholas Weston, Phlander Hart
Daniel Cooke '55 RS Scholarship		WilliamBrown
Marianne/George Butts Scholarship Fund	\$1,000	Jeffrey Chase
Ranger School Expendable	\$1,000	Jordan Grammo
Frank/Letitia Buholtz Endowed Scholarship	\$5,000 total	Phlander Hart, Cody Hesseltine, Daniel Hohl, Kyle Mott, Blake Spilman
Ranger School Expendable	\$1,000	Ellen Wright
Shaw Fund Scholarship	\$1,000	Jeffrey Chase
Charles Hartnett Scholarship	\$500	Jeffrey Chase
Eastern NYSLS Scholarship	\$250	Phlander Hart
Bartlett Tree Foundation Scholarship	\$1,000	Justin Page
Award of Recognition	\$100	Joseph Morse
James F. Dubuar Merit Award	\$150	Jeffrey Chase
J.E. Fisher Annual Memorial Scholarship	\$250	Michael Wheaton
Forestry Chair's Award	\$100	Christi Barber
Piet Van Witsen Memorial Award	\$100	Arseni Zastoynny
Faculty/Staff Award	\$150	Blake Spilman
Surveying Excellence Award	\$100	Bryan Nafziger
Class Salutatorian	\$100	Jeffrey Chase
Class Valedictorian	\$150	William Brown
Total	\$16,650	

Graduate support in FNRM is mainly through state supported Graduate Assistantships, individual Research Assistantships, some college fellowships, or a few national or international organization fellowships. No centralized record is kept at the college of the number and type of these awards. FNRM received 35 semesters of GA support. Additional students received funding, but FNRM does not keep a centralized record of such awards.

FOR and APM courses that were awarded GA's for teaching support in 2008-2009 were based on the teaching load of the faculty member; amount of field, lab and discussion time in the course; new course start-ups; and projected enrollment in the course or related courses (Table 16):

Table 16: FNRM Graduate Assistantships for 2009-2010

Course Number	# of GA's Assigned	GA	Instructor	Enrollment
FOR 132 & FOR 476/676	1	Andrew McDonald	Kuehn	43
FOR 207	2	Andy Boslett, Carrie Oberholtzer	Wagner	97
FOR 321/521	1	Ryan Wynne	Nowak	73
FOR 322	1	John Zale	Bevilacqua	24
FOR 332	0.5	Carrie Rose Levine	Drew	21
FOR 334/534	0.5	Kikang Bae	Nyland	19
FOR 340/540	2	Laura Schifman Anna Harrison	Lautz	60
FOR 345/545	3	Nick Pitel Renato Pacaldo Artem Treyger	Briggs	79
FOR 360	2	Chandrani Ghosh Bryan Ellis	Germain	94
FOR 373	0.5	Neal Maker	Germain	15
APM 391	2	Zhihai Mao Junfeng Lu	Kiernan	130
FOR 465	2	Alison Taroli	Malmsheimer	49
FOR 487/687	2	Tristan Knight	Malmsheimer	33
FOR 478/678	0.5	Laura Sullivan	Dawson	17
FOR 442/643	1	Braulio Quintero	Stella	32
Total	19.5			
FOR 207	2	Carlos Gavilondo Evisa Abolina	Luzadis	103
FOR 232	0.5	Carrie Rose Levine	Drew	13
FOR 323	1	Zhihai Mao	Kiernan	24
FOR 510 & FOR 557	1	Braulio Quintero	Bevilacqua	72
FOR 333/533	1	Josh VanBrakle	Wagner	42
FOR 338/538	0.5	Kikang Bae	Culkowski	41
FOR 370	1	Andy Boslett	Wagner	17
FOR 372	1	Andrew McDonald	Kuehn	70
APM 391	2	Junfeng Lu Amanda Miner	Kiernan	156
FOR 475/675 & FOR 496	1	Blake Propst	Dawson	24
FOR 488/688; 489/689	2	Alison Taroli	Malmsheimer	42
FOR 488/688; 489/689	2	Tristan Knight	Malmsheimer	17
FOR 490	1	Chandrani Ghosh	Germain	12
FOR 490	1	Bryan Ellis	Nowak	14
Total	15			

Governance Structure

Chair Assigned Responsibilities

- Associate Chair, none appointed for this year.
- Graduate Program Coordinator, René Germain, is responsible for chairing and leading the Graduate Education Committee and reports to the FNRM Chair.
- Undergraduate Program Coordinator, Chris Nowak, is responsible for chairing and leading the Undergraduate Education Committee and reports to the FNRM Chair.
- Honors and Awards Committee, chaired by Bob Malmshemer, is responsible for determining recipients of Departmental awards.
- Seminar Committee, chaired by Steve Stehman, is responsible for soliciting seminar speakers for the Department's monthly speaker.

FNRM Faculty Governance

- The Department's faculty bylaws were last modified in the spring of 2008.
- Graduate Education Committee is chaired by Graduate Program Coordinator and staffed with four elected members of the faculty and is responsible to:
 1. develop with the faculty, the goals of the graduate program and a plan of action to meet those goals, including guidelines for recruitment, placement and implementation.
 2. develop and provide advising materials for students and faculty.
 3. act on all academic petitions by M.F., M.P.S., M.S. and Ph.D. students of the Department of Forest and Natural Resources Management.
 4. administer the review process for all applications and make admission recommendations for the M.F., M.P.S., M.S. and Ph.D. applicants.
 5. assess quality and effectiveness in the content and organization of graduate education by identifying present and potential opportunities and problems and recommending appropriate courses of action.
 6. consider for approval all proposals for new courses or modifications of existing courses numbered 500 and above and to report appropriate proposals to the faculty (first) and the College's Committee on Instruction (second) for action. The Graduate Committee should consult with the Undergraduate Education Committee on 500-level and shared resource courses
 7. review and advise the Department Chair on guidelines and procedures for handling graduate student applications, and assigning graduate teaching assistantships and fellowships
 8. serve as the oversight committee on graduate education
 9. work with the Department Chair and other faculty to more effectively market the M.F., M.P.S., M.S. and Ph.D. programs in the Department of Forest and Natural Resources Management and fully fund graduate students

- Undergraduate Education Committee is chaired by Undergraduate Program Coordinator and staffed with four elected members of the faculty and is responsible to:
 1. develop, with the faculty, the goals of the associate and baccalaureate degree programs, and curricula to meet those goals.
 2. develop and provide advising materials for students and faculty.
 3. act upon all academic petitions from associate and baccalaureate students of the Department of Forest and Natural Resources Management.
 4. assess quality and effectiveness in content and organization of undergraduate education by identifying present and potential opportunities/problems and recommending appropriate courses of action.
 5. consider for approval all proposals for new courses or modifications in existing courses numbered 100 through 499 and report appropriate proposals to the Department (first) and the College's Committee on Instruction (second) for action. The Undergraduate Education Committee should consult with the Graduate Education Committee on 500-level courses.
 6. work with the Chair and other faculty to market the AAS and BS degree programs in FNRM, including developing guidelines for and conduct of recruitment, placement and implementation of said programs.
- Promotion and Tenure Committee is composed of two committees for Syracuse and Wanakena and each has three elected faculty members responsible to:
 (Syracuse Committee –Chad Dawson (Chair), Chris Nowak, Lianjun Zhang)
 (Wanakena Committee –Chris Westbrook (Chair), Mike Bridgen, Russ Briggs)
 1. review of all candidates for promotion or tenure who are ready according to the Department of Forest and Natural Resources Management, College, and SUNY Guidelines or who request early consideration in writing by the appropriate dates each academic year
 2. biennial review of all adjunct appointments
 3. review of the Department of Forest and Natural Resources Management guidelines for promotion and tenure on a periodic basis
 4. encouragement and general supervision of the mentoring process with the Department of Forest and Natural Resources Management
- Honors and Awards Committee
 1. The Honors and Awards Committee shall be composed of four elected members from the faculty, a Chair appointed by the Presiding Officer, an undergraduate student and a graduate student.
 2. Functions are to meet as appropriate to recommend recipients of established award recommend and establish criteria for new honors and awards as they are established and to plan for the presentation of awards

- Seminar Committee
 1. The Seminar Committee shall be composed of two elected members from the faculty, a Chair appointed by the Presiding Officer, and at least one graduate student.
 2. The Committee shall meet as appropriate to select potential speakers and organize seminars. Duties shall consist of the development and conduct of regularly scheduled Department sponsored seminars.
- FNRM Faculty Governance Secretary (Ruth Yanai) is elected from the faculty and is responsible for:
 1. be responsible for the recording of the minutes of all meetings of the faculty and shall distribute the minutes to the faculty members within ten days of the meeting
 2. maintain a permanent file of all actions of the faculty and a current official version of these bylaws in the faculty of FNRM main office
 3. shall conduct all mail ballots of the faculty and report the results thereof to the faculty

2009-2010 FNRM Budget

The main source of funds to operate the department are mainly from the Instructional accounts with Other than Personal Services (OTPS) and Temporary Services (TS) funds distributed by the college to FNRM and shared by the Syracuse and Wanakena Campuses. The FNRM operating funds available to the Syracuse campus from the college included \$37,000 for OTPS and \$10,000 for TS, the same as was received last year. The variety of expenses is shown in Table 17a

Table 17a: 2009-2010 FNRM Budget

Revenues	Budget
Initial Allocation	\$37,000.00
TS Allocation	\$10,400.00
Total	\$47,400.00
Expenditures	Expenditures
Faculty	\$4,595.69
Computers & Equipment	\$11,829.78
Copier	\$2,245.87
Supply	\$6,845.58
Membership & Advertising	\$5,012.27
Travel	\$2,207.76
Speakers	\$622.86
Food	\$1,648.48
Other (TBD)	\$1,573.09
Subtotal	\$36,581.38
Temporary Services	\$10,890.00
Subtotal	\$10,890.00
Total	\$47,471.38
Excess / Deficit	(\$71.38)

In addition, the Department received Academic Equipment Replacement Funds to support our teaching program. The following purchases were made with these funds.

Table 17b: Academic Equipment Replacement Purchases

Academic Equipment Replacement Purchases	Expenditure
10 Garmin Handheld GPS units with support equipment	\$3,049.87
2 Water Quality Test Packages	\$1,901.53
1 Digital Dictation Recorder with transcription kit	\$1,697.98
1 NEC LCD Projector	\$2,612.29
3 Recon 400 Data Loggers	\$2,220.42
Total	\$11,482.09

Significant expenses are incurred each year and the level of support provided to the FNRM Instructional Account has not been adequate to maintain program functionality and quality. It has increasingly become necessary to use other funding sources to provide adequate support to maintain a viable academic program, including professional development, maintaining office facilities, equipment repairs and faculty computer replacements. The additional sources include the Research Incentive Funds and the surplus funds generated from Continuing Education activities, programs, and conferences. Approximately \$10,000 to \$15,000 per year in these funds results from research and outreach activities of faculty and are highly variable from year to year. These funds are used for travel to professional and research meetings and conferences, start up or seed money grants to begin proposal work, journal publication and reprint charges, and professional development expenses.

The Ranger School Instructional Account is the primary account used for daily support of the academic program at the Ranger School (Table 17c). Their budget this year was for \$10,000 (the same as last year). The wide variety of expenses in the budget includes supplies, equipment, student recruitment activities, faculty and staff travel, professional development, copier expenses, forest operations, and other program support expenses. Briefly the categories of expenses we track are:

Table 17c: 2009-2010 Ranger School Budget

Revenues	Budget
Initial Allocation	\$10,000.00
Expenditures	Expenditures
Advertising	\$0.00
Individual Reimbursement	\$353.00
BTI	\$0.00
Searches	\$0.00
Office	\$3,923.46
Computer	\$398.34
Photocopy	\$611.98
Mileage	\$1,488.64
Seminars/Conferences	\$2,400.53
Furniture/Equipment	\$1,016.47
Misc,	\$550.50
Total	\$10,742.92
Excess / Deficit	(\$742.92)

Given the significant expenses incurred and the level of support provided to the Ranger School Instructional Account it has become necessary to use other funding sources to provide adequate support to maintain a viable and prestigious academic program. These additional sources include the Dormitory Account, Student Support Services Account, Sugaring Account, Ranger School Endowment (College Foundation Account), and Wanakena Institutional Development (College Foundation Account).

Student Learning Outcomes Assessment

For each of our 3 majors, a set of 9 learning objectives have been identified and represent the core beliefs of our faculty with respect to student learning and development. While there are some specific differences, the general objectives are as follows:

Learning Objectives

1. Understand Forests (for FES and FRM) or Natural Environments (for NRM)
2. Measure Forests (for FES and FRM) or Natural Resources (for NRM)
3. Manipulate Forests (for FES and FRM) or Natural Resources (for NRM)
4. Manage Forests (for FES and FRM) or Natural Resources (for NRM)
5. Analyze Policies
6. Communicate
7. Demonstrate Ethical Behaviors
8. Solve Problems
9. Lead

The FNRM Department has long been aware of the need to assess the effectiveness of our curriculum in meeting the needs of our students and meeting the objectives that we have laid out for each of our majors. For that reason, two years ago, we instituted a review process that forces us to examine each of our majors on a 3-year revolving basis. In 2007-2008, an ad hoc committee, chaired by Bob Malmshemer, reviewed the Natural Resources Management major. This effort led to a major restructuring of the major in which we dropped the 3 areas of emphasis (Watershed Hydrology, Recreation, and Natural Resource Management), broadened the required courses in the program (including attendance at the summer program), and increased the number of free electives. With these changes, we felt that students would be able to broaden their expertise to better meet the objectives of the major, deepen their specific knowledge by being able to incorporate minors into their program of study, and have an easier time transferring into the program. The increase in NRM students this coming year is an indication of the success of this strategy.

In 2008-2009, an ad hoc committee, chaired by René Germain, reviewed the Forest Resource Management program. This assessment was done in the context of our initial attempts of defining a formal assessment process that is only now being implemented. The committee did a significant modification of the major, changing some of the pre-professional requirements, adding some new professional requirements, and increasing the number of free electives. Again, with these changes we feel that students would be able to deepen their expertise to better meet the objectives of the major, deepen their specific knowledge by being able to incorporate minors into their program of study, and have an easier time transferring into the program.

This past year, we did a major evaluation of the Forest Technology and Land Surveying degrees at the Wanakena Campus as well as the overall structure of the program there. There were a number of outcomes from this exercise, the most important being the creation of a new major in Environmental and Natural Resource Conservation (set to begin in Fall 2011). However, there were also a number of changes to existing courses and the reduction in required credit hours in the Fall. For

This coming year, we will form another ad hoc committee, to be chaired by Ralph Nyland, to evaluate the Forest Ecosystem Science major. Given the relatively few, but growing number of

students in the major, their high quality, and its general effectiveness in meeting its objectives, it is believed that there should be few proposed changes for the major

Very little formal data collection took place as part of the assessment of our programs in the past. The new assessment program that we instituted this year will change that. One of our primary means for evaluating the success of the program is through the evaluation of capstone projects for our two large majors. This course, FOR 490, was split for the first time this year into FRM and NRM courses. Table 18 shows student responses to a series of questions based on our program's objectives since 2006 (the survey was not given in 2008). In general, the students feel reasonably confident in the skills that they have developed, except for their statistical abilities, growth and yield projection skills, finance abilities, and their knowledge of policy.

As a graduating senior, I feel confident in my abilities to:	2006	2007	2009	2010
1. Communicate relationships between flora and fauna in a forest setting.	4.2	4.3	4.2	4.6
2. Describe alternative ways to change or maintain forest and stand structure.	4.2	4.2	4.4	4.4
3. Prescribe, justify, and implement forest and stand level treatments in accord with owner objectives.	4.3	4	4.4	4.4
4. Correctly identify the number of major species of flora in a given area.	4.4	4.5	4.4	4.7
5. Plan, conduct, and analyze forest inventories including biological, physical, and social.	4.4	4.3	4.3	4.8
6. Describe and apply different statistical sampling methods.	3.8	3.8	3.9	4.3
7. Project stand and forest development. Possess knowledge, and use, of computer growth and yield projection models.	3.7	3.7	3.5	3.5
8. Evaluate tradeoffs among biological sustainability, economic feasibility, and social acceptability.	4.4	4.4	4.1	4.4
9. To describe and apply different economic and related decision techniques including investment analyses, to evaluate alternative stand and forest management practices.	4.0	4.0	3.9	3.9
10. Specify and implement management practices appropriate to owner objectives.	4.5	4.4	4.4	4.8
11. Explain how forest policy at the national, state, and local levels affect forest management.	4.1	4.3	3.6	4.3
12. Describe technical forestry and natural resources management terms to many different audiences.	4.4	4.4	4.4	4.6
13. To function as an effective team member.	4.9	4.8	4.8	4.8
14. Feel qualified to pursue a career in forestry.			4.5	4.7

¹ The survey in 2009 and 2010 was only given to the FRM section of FOR490.

We utilized an informal evaluation this spring to get a quick assessment of the effectiveness of our programs. The technique used was to perform an SII (Strengths, Areas of Improvement, Insights) analysis of the learning outcomes for our students in our capstone course, FOR 490. The two

instructors for the course, Dr. Nowak for the NRM section and Dr. Germain for the FRM section, performed the analyses. The results of this analysis were as follows:

For the NRM students, the following results were found (relative to the degree objectives):

- *Strengths*: Students have ability to plan, conduct and analyze natural areas inventories (2c-Measuring), Good communication skills (6), Good problem solving skills (8);
- *Areas of Improvement*: Identification of major species of flora in an area (2a-Measuring), Knowledge of / implementation capacity for alternative ways to manage natural resources (3a-Manipulating; 4c-Managing), Understanding of contemporary management issues – biodiversity, non-native invasives, hazard/danger trees, Ability to do library research and correct citation of literature;
- *Insights*: Reliance of students on the web as a primary source of information. Our program works – students are ready to enter society as professional natural resource managers

For the FRM section of the course, the following SII were obtained:

- *Strengths*: Writing, Map making skills, generally capable of pulling together a nice plan, Forest inventory planning skills, Good public presentation skills, Ability to respond to questions without getting defensive, Ability to think on their feet in the field;
- *Areas of Improvement*: • Knowledge of herbaceous plants and shrubs, Not equipped to address wildlife management, Timber volumes and quality (come with experience), Maintain professional demeanor in field – avoid getting too informal
- *Insights*: • Students need more practice interpreting field situations, Need to reinforce plant and shrub ID, Gap in wildlife management knowledge, Generally, students are in a good position to learn and grow as foresters

As stated above, we have only begun the process of formally collecting data to assess student outcomes. This coming year, we will be implementing the plan that we submitted to the provost and will have clearer indications of the effectiveness of our programs.

Objectives for 2010-2011

Improving Educational Programs

- Get approval for the MPS degree in Natural Resources Management. Expectations would be for the major to begin accepting students in the Fall of 2012.
- Explore the possibilities for a new major in Energy Resource Management to be housed in the Department.
- Complete the ABET accreditation process for the Land Surveying degree program at the Wanakena Campus.
- Begin the SAF reaccreditation process for the FRM degree. The site visit for the reaccreditation should take place in the 2011-2012 academic year.
- Evaluate the undergraduate Forest Ecosystem Science major for needed revisions.
- Initiate a strategic planning process for the Department. One of the major outcomes of the recent 3-year review of the Chair was the desire to think more strategically about the Department's place in the college. With the recent and upcoming retirements, there is urgent need to make clear what opportunities we will be able to pursue, and what we will not. Teaching loads are currently unbalanced and there will likely be need for readjustment of responsibilities over the coming years. The faculty has shown remarkable resilience and willingness to adapt to changing situations but there are limits to what we can accomplish with declining resources.

Status of Objectives listed last year for 2009-2010

Improving Educational Programs

- Begin faculty replacement searches to fill three faculty vacancies in FNRM at the Syracuse campus. **(Partially accomplished with the hiring of Philippe Vidon)**
- Begin the ABET accreditation process for the AAS surveying degree program at the Ranger School as part of the College's Strategic Plan. **(Process underway. Campus visit to occur in October)**
- Evaluate the undergraduate Forest Ecosystem Science major for needed revisions. **(Delayed, will take place this year. Instead, the curriculum at the Ranger School was substantially modified)**
- Development and approval of one new minor, Urban Forestry. **(accomplished)**
- Develop a new major to help improve student recruitment at the Ranger School. **(Accomplished – The Environmental and Natural Resource Conservation major was approved by the COI and is awaiting final approval in Albany for implementation in the Fall of 2011)**

- Develop a feasibility study and architectural design for a recreation facility at the Ranger School. **(This project was funded by a member item received from NY State Senator Joe Griffo but was held up by the budget and other campus priorities).**

Other Issues

- Develop new display materials and recruiting material for use at conferences. **(In process)**
- Continue to seek expanded funding for Northeast States Research Consortium. **(Accomplished – Long term funding has been assured through changes)**

FNRM Contributions to ESF Strategic Goals

- Assessment of the Surveying degree program at the RS toward documenting the ABET accreditation process (ESF Goal 1). **(Accomplished)**
- Pursue federal supported funding and linkages for adaptive forest management (science-based decision making) with the Northeastern States research Cooperative (ESF Goal 4). **(Accomplished)**
- Continue building relationships with other institutions and organizations related to outreach and CE efforts and collaborative research projects (ESF Goal 5). **(Continuing)**
- Expand entrepreneurship in collaborative research projects (ESF Goal 6). **(Continuing)**
- Continue building research projects in renewable energy feedstock production and management (ESF Goal 7). **(Continuing)**

Performance Program Status

- There are 6.5 Research Professionals covered under the UUP who are associated with the department: Larry Abrahamson (shared with EFB), Ken Burns, Jim Halligan, Roger Nissen, Chuck Schirmer, and Tim Volk. All Performance Programs have not yet been accomplished but will be done before the beginning of classes in the fall.

APPENDIX A: FNRM FACULTY: RANK, EDUCATION, AND INTERESTS

Faculty Member	Academic Background	Specialization
Nasri Abdel-Aziz, Instructor	BA, Syracuse University	Calculus
Lawrence P. Abrahamson, Senior Research Associate	PhD, University of Wisconsin MS, University of Wisconsin BS, Michigan Tech University	Forest Entomology, Forest Pathology, Pesticides, Integrated Pest and Vegetation Management, Woody Biomass for Energy Crops
Wayne Allen, Associate Professor	MST, SUNY Potsdam BS, Western Maryland College AAS, The Ranger School	Timber Harvesting, Forest Roads, Forest Fire Ecology and Suppression
Eddie Bevilacqua, Associate Professor	PhD, University of Toronto MSF, University of Toronto BSF, University of Toronto	Forest Mensuration, Tree-Ring Analysis, Applied Statistics, Growth and Yield Modeling
Michael R. Bridgen, Professor	PhD, Michigan State University BS, Penn State University	Silviculture, Ecophysiology, Restoration Forestry
Russell D. Briggs, Professor	PhD, SUNY ESF MS, SUNY ES BS, SUNY ESF AAS, The Ranger School	Forest Soils, Silviculture
Chad P. Dawson, Professor	PhD, SUNY ESF MS, Cornell University BS, University of Michigan	Wilderness Management, Outdoor Recreation Management
Allan P. Drew, Professor	PhD, Oregon State University MS, University of Arizona BS, University of Illinois	Tree Physiology, Forest Ecology, Physiological Ecology, Tropical Forestry
René H. Germain, Associate Professor and Graduate Studies Coordinator	PhD, SUNY ESF MBA, Boston University BS, University of Vermont	Sustainable Forestry Systems, Forest Management, Business

Mariann Garrison-Johnston, Assistant Professor	PhD, University of Idaho MS, University of Idaho BS, Colorado State University	Forest Ecology and Management
Diane Kuehn, Assistant Professor	PhD, SUNY ESF MS, SUNY ESF BS, SUNY ESF	Recreation Resources Management, Tourism Planning, Commercial Recreation
Jacqueline LaVie, Visiting Lecturer	MS, University of Pennsylvania MBA, Southern New Hampshire BA, Bryn Mawr College	Calculus
Valerie A. Luzadis, Associate Professor	PhD, SUNY ESF MS, Cornell University BS, Cornell University	Forest Policy and Values, Ecological Economics
Robert W. Malmshemer, Associate Professor	PhD, SUNY ESF JD, Albany Law School BLA, SUNY ESF	Forest and Natural Resource Law and Policy
Charles A. Maynard, Professor	PhD, Iowa State University MS, Iowa State University BS, Iowa State University	Forest Genetics, Tree Improvement, Plant Tissue Culture and Transformation
Douglas A. Morrison, Research Associate	PhD, University of Oregon MS, Syracuse University MS, University of Oregon BA, Univ. of Western Ontario	Sociology, Psychology, Urban Forestry
David Newman, Professor and Department Chair	PhD, Duke University MS, Duke University BS, UC Berkeley	Forest Resource Economics, Land Use Change, Taxation, Natural Resource Policy
Christopher A. Nowak, Professor and Undergraduate Studies Coordinator	PhD, SUNY ESF MS, SUNY ESF BS, SUNY ESF AAS, The Ranger School	Vegetation Management, Silviculture and Forest Ecology, Sustainable Forest Management, Certification

Ralph D. Nyland, Distinguished Service Professor	PhD, Michigan State University MS, Syracuse University BS, Syracuse University	Silviculture, Forest Practice
James M. Savage, Professor	MS, SUNY ESF BS, SUNY ESF AAS, Paul Smith's College	Forest Measurements and Inventory, NIPF Management, Forest Recreation Management
Stephen V. Stehman, Professor	PhD, Cornell University BS, Penn State University	Statistics, Environmental Sampling, Map Accuracy Assessment
John Stella, Assistant Professor	PhD, UC Berkeley MS, UC Berkeley BA, Yale University	Riparian and Stream Ecology, Watershed Management, Mediterranean Ecology, River Corridor Restoration
Timothy A. Volk, Senior Research Associate	PhD, SUNY ESF MS, Cornell University BS, University of Guelph	Short Rotation Intensive Culture Forestry, Agroforestry, Phytoremediation, International Forestry
Sarah L. Vonhof, Instructor	PhD, SUNY ESF MS, SUNY ESF BS, Aquinas College	Environmental & Natural Resources History, Property Systems
John E. Wagner, Associate Professor	PhD Colorado State University MS, University of Idaho BS, Washington State Univ.	Forest Resources Economics
Christopher Westbrook, Professor and Director of the Ranger School	MA, West Virginia University BS, University of Montana AAS, The Ranger School	Surveying, Personnel Management
Ruth Yanai, Professor	PhD, Yale University MPhil, Yale University MS, Yale University BA, Yale University	Forest Ecology, Nutrient Cycling, Forest Soils

Lianjun Zhang,
Professor

PhD, University of Idaho
MS, University of Idaho
MS, University of Idaho
BS, Shandong University, PRC

Forest Biometrics, Quantitative
Silviculture

Appendix B: Changes in FNRM Faculty since 2002 SAF Self-evaluation Report

2002 Listing (28 faculty)		Area	2010 Listing (22 faculty)		Replacement or New	
Faculty	Title	Major Field	Faculty	Title	Faculty	Title
Cooperating Faculty						
Allen*	Professor	Entomology	Teale*	Associate		
Leopold*	Professor	Forest Ecology	Leopold*	Professor		
Manion*	Professor	Pathology	Castello*	Professor		
Cooperating Administration						
Whaley	Professor	Policy/Econ	Bongarten	Professor		
White	Professor	Soils				
Retired or Resigned (11)						
Bentley	Prof/Retired	Economics			Newman	Professor
Canham	Prof/Retired	Economics				
Davis	Prof/Died	For. Operations				
Floyd	Prof/Resign	Policy				
Herrington	Prof/Retired	GIS				
Boyer	Assist/Resign	Hydrology			Vidon	Associate
Endreny	Assist/Resign	Hydrology			Stella	Assistant
Schuster	Assist/Resign	Recreation				
Philippon	Lect/Resign	Math			Abdel-Aziz	Lecturer
Dawson	Prof/Retired	Recreation	(Retiring in December 2010)			
Drew	Prof/Retired	Ecology/Tropical	(Retiring in December 2010)			
Remaining Faculty (17)						
Maynard	Professor	Genetics	Maynard	Professor		
Nyland	Professor	Silviculture	Nyland	Professor		
Westbrook	Professor	Forest Tech.	Westbrook	Professor		
Briggs	Associate	Soils	Briggs	Professor		
Luzadis	Associate	Policy	Luzadis	Associate		
Nowak	Associate	Silviculture	Nowak	Professor		
Stehman	Associate	Statistics	Stehman	Professor		
Wagner	Associate	Economics	Wagner	Associate		
Yanai	Associate	Ecology	Yanai	Professor		
Zhang	Associate	Biometrics	Zhang	Professor		
Bevilacqua	Assistant	Biometrics/GIS	Bevilacqua	Associate		
Germain	Assistant	Management	Germain	Associate		
Malmsheimer	Assistant	Policy	Malmsheimer	Associate		
Vonhof	Assistant	Policy/History	Vonhof	Lecturer		
Abrahamson *	Res Assoc	Biomass Energy	Abrahamson *	Res Assoc		
Morrison	Res Assoc	Sociology	Morrison	Res Assoc		
Kuehn	Lecturer	Recreation	Kuehn	Associate		
New Additions (5)						
		Policy/Econ	Newman	Professor		
		Water	Stella	Assistant		
		Hydrology	Vidon	Associate	(Starting in August 2010)	
		Biomass Energy	Volk	Res Assoc		
		Math	Abdel-Aziz	Lecturer		
Visiting Lecturers (3)						
		Math	LaVie	Vis Lecturer		
		Math	Conahan	Vis Lecturer		
		Statistics	Kiernan	Vis Instructor		

APPENDIX C: FACULTY TEACHING ACCOMPLISHMENTS

Summary of main courses taught by Syracuse faculty and enrollment in each course

Instructor Name	Course #	Title	Lab	Enrollment
BEVILACQUA	300 (S)	Intro/Geospatial Info Tech	Lab	85
	322	Forest Mensuration	Lab	24
	510	Statistical Analysis		47
	557	Practical Vector GIS		25
BLACK	550	Envrn Impact Analysis		30
BRIGGS	ESC132	Orientation Seminar:EnvSci		52
	345/545	Introduction to Soils	Lab	79
CONAHAN	APM104 (F)	College Algebra & PreCalculus		73
	APM104 (S)	College Algebra & PreCalculus		27
	APM105 (F)	Survey Of Calc & Appl I	Lab	67
	APM106 (S)	Survey Of Calc & Appl II	Lab	76
CULKOWSKI	338	Meteorology		41
DAWSON	478/678	Wilderness & Wildlands Mgt		17
	496	Human Dimensions/Nat Res Mgt		7
DREW	232	Natural Resources Ecology	Lab	13
	332	Forest Ecology	Lab	21
	523	Tropical Ecology		16
EMBRY	APM104	College Algebra & PreCalculus		39
	APM105 (F)	Survey Of Calc & Appl I	Lab	61
	APM105 (S)	Survey Of Calc & Appl I	Lab	71
GERMAIN	360	Principles Of Management		94
	373/573	Forest Operations	Lab	15
	490	Integrated Resource Mgt		12
	560 (S)	Principles Of Management		17
KELLEHER	ESC 335	Renewable Energy		29
	ESC 422	Energy Markets and Regulation		10
	ESC 535	Renewable Energy		6
	ESC 622	Energy Markets and Regulation		8
KIERNAN	323/523	Forest Biometrics		24
	391 (F)	Intro/Probability&Stats	Lab	130
	391 (S)	Intro/Probability&Stats	Lab	156
KUEHN	132	Orientation Seminar:F&NRM		43
	372	Fund/Outdoor Recreation		70
	476/676	Ecotourism and Nature Tourism		19
	APM101	Fundamentals/College Algebra		10
LA VIE	APM106 (F)	Survey Of Calc & Appl II	Lab	26
	APM106 (S)	Survey Of Calc & Appl II	Lab	16
	APM205	Calculus I:Science & Engr	Lab	46
	APM296	Calc II: Science & Engr	Lab	42
LAUTZ	340/540	Watershed Hydrology		60
LUZADIS	207	Introduction To Economics		104
MALMSHEIMER	465	Natural Resources Policy		49
	487/687	Environmental Law and Policy		33
	489/689	Natural Resources Law & Policy		42
	496	Business Law		17

Instructor Name	Course #	Title	Lab	Enrollment
MAYNARD	307	Principles Of Genetics		213
	426	Plant Tissue Culture Methods	Lab	14
	496	Intro to Arboriculture	Lab	11
MORRISON	202 (F)	Intro To Sociology		17
	202 (S)	Intro To Sociology		26
	312	Sociology/Natural Resourc		24
	480	Urban Forestry		31
NEWMAN	665	Natural Resources Policy		19
NOWAK	304	Adirondack Field Studies		20
	321	Forest Ecol&Silviculture	Lab	73
	490	Integrated Resource Mgt		14
NYLAND	334	Silviculture	Lab	19
STEHMAN	620	Analysis Of Variance		62
	625	Intro/Sampling Techniques		30
STELLA	442/642	Watershed Ecology & Management		32
	796	Restoration Ecology		12
VOLK	ESC 325	Energy Systems		20
	BPE 441	Biomass Energy		18
	ESC 450	Renewable Energy Capstone		7
	ESC 525	Energy Systems		8
VONHOF	203(F)	Western Civilization&the Envrn		88
	204 (F)	Nat Resources in American Hist		94
	203 (S)	Western Civilization&the Envrn		122
	204 (S)	Nat Resources in American Hist		55
WAGNER	207	Introduction To Economics		97
	333	Natural Resrc Managerial Econ		42
	370	Forest Mgmt Dec Mking&Plng	Lab	17
YANAI	690	Sem&Wkshp:Nat Res Pol&Mgt		11
	694	Writing/Scientific Pubs		15
ZHANG	630	Regression Analysis		29
	635	Multivariate Stat Method		39

Summary of main courses taught by Wanakena faculty and enrollment in each course

Instructor Name	Course #	Title	Lab	Enrollment
ALLEN	208	Spatial Analys/For Resour	Lab	41
	215	Timber Harv,Transprt&Util		40
BRIDGEN	105	Tree & Forest Biology		15
	200	Dendrology	Lab	41
	211	Silviculture		32
DONOVAN	101	Trig for Nat Res Tech		9
JOHNSTON	206	Forest Ecology	Lab	41
	217	Forest Protection		32
	221	Forest Management		32
SAVAGE	204	Intro/For Measure&Stats	Lab	41
	213	For Inventory Practicum		32
	219	Intro Wildlife&Rec Mgt		32
WEBB	202	Intro To Surveying	Lab	41
	253	Survey Law		9
	259	Intro/Cmptr-Aided Draftng&Dsgn		9
WESTBROOK	210	Leadership&Forest Tech		41
	223	Intro to Water Resources		9
	251	Adv Survey Measure&Comp		9
	255	Boundary Surveying		9
	257	Construction&Topo Surveys		9

APPENDIX D: PUBLICATIONS AND PRESENTATIONS

Refereed Publications (FNRM faculty in bold; n = 49):

1. Anderson, N., **E. Bevilacqua**, and **R.H. Germain**. 2010. Chapter 4 - Competition for sawlogs in the northern forest: An analysis of overlapping sawmill woodsheds. In *Mapping Forestry*. Redlands, CA: Environmental Systems Research Institute (ESRI).
2. Anderson, N., **R.H. Germain**, and **E. Bevilacqua**. 2009. Characteristics of transborder wood flow to sawmills in eastern Canada. *Forestry Chronicle* 85(1):1-10.
3. **Beier C.M.**, A.L. Lovecraft, and F.S. Chapin. 2009. Growth and collapse of a resource system: an adaptive cycle of public lands governance and forest management in Alaska. *Ecology & Society* 14(2):5 [online] <http://www.ecologyandsociety.org/vol14iss2art5>
4. Broich, M., **S.V. Stehman**, M. Hansen, P. Potapov, and Y.E. Shimabukuro. 2009. A comparison of sampling designs for estimating deforestation from Landsat imagery: A case study of the Brazilian Legal Amazon. *Remote Sensing of Environment* 113:2448-2454.
5. Buchholz, T., **T.A. Volk**, and **V.A. Luzadis**. 2009. Sustainability criteria for bioenergy systems – an expert survey. *Journal of Cleaner Production* 17(Supplement 1 International Trade in Biofuels):86-98.
6. Claggett, P.R., J.A. Okay, J. A., **S.V. Stehman**. 2010. Monitoring regional riparian forest cover change using stratified sampling and multiresolution imagery. *Journal of the American Water Resources Association* 46:334-343.
7. Fisk, M.C, **R.D. Yanai**, and N. Fierer. 2010. A molecular approach to identifying fine roots of forest trees: testing effects of root species, relative abundance, and diameter. *Canadian Journal of Forest Research* 40(4):836-841.
8. Golden, H.E., E.W. Boyer, M.K. Brown, T.S. Purucker, and **R.H. Germain**. 2009. Spatial variability of nitrate concentrations under diverse conditions in tributaries to a lake watershed. *Journal of the American Water Resources Association* 45(4):945-962.
9. Hansen, M.C., **S.V. Stehman**, and P.V. Potapov. 2010. Quantification of global gross forest cover loss. *Proceedings of the National Academy of Sciences* 107:8650-8655.
10. Hansen, M.C., **S.V. Stehman**, P.V. Potapov, B. Arunarwati, F. Stolle, and K. Pittman. 2009. Quantifying changes in the rates of forest clearing in Indonesia from 1990 to 2005 using remotely sensed data sets. *Environmental Research Letters* 4, doi:10.1088/1748-9326/4/3/034001 (12 p).
11. Horton J.L., B.D. Clinton, J.F. Walker, **C.M. Beier**, and E.T. Nilsen. 2009. Variation in soil and forest floor characteristics along gradients of ericaceous shrub cover in the southern Appalachians. *Castanea* 74(4):340-352.
12. Johnson, D.H., J.P. Gibbs, M. Herzog, S. Lor, N.D. Niemuth, C.A. Ribic, M. Seamans, T.L. Shaffer, W.G. Shriver, **S.V. Stehman**, and W.L. Thompson. 2009. A sampling design framework for monitoring secretive marsh birds. *Waterbirds* 32:203-215.
13. **Kiernan, D.**, **E. Bevilacqua**, **R.D. Nyland**, and **L. Zhang**. 2009. Modeling tree mortality in low- to medium-density uneven-aged hardwood stands under selection system using generalized estimating equations. *Forest Science* 55(4):343-351.
14. Kraemer, M.J., and **R.D. Nyland**. 2010. Hardwood crown injuries and crown rebuilding following Ice storm damage: A literature review. USDA Forest Service Gen. Tech. Rpt.: GTR-NRS-60. <http://nrs.fs.fed.us/pubs34892>
15. **Kuehn, D.**, M.J. Sali, and R. Schuster. 2010. Motivations of male and female shoreline birdwatchers in New York. *Tourism in Marine Environments* 6(1):25-37.

16. **Kuehn, D.**, R. Schuster, M. Mink, and E. Nordman. 2009. Beliefs and attitudes toward boating of four stakeholder groups in the Saranac Lakes area. *Adirondack Journal of Environmental Studies* 15 (2): 25-35.
17. Kuzovkina, Y.A., and **T.A. Volk**. 2009. The characterization of willow (*Salix L.*) varieties for use in ecological engineering applications: co-ordination of structure, function and autecology. *Ecological Engineering* 35:1178-1189
18. Limburg, K.E., **V.A. Luzadis**, M. Ramsey, and K.L. Schulz. 2010. The good, the bad, and the algae: perceiving ecosystem services and disservices generated by zebra and quagga mussels. *Journal of Great Lakes Research* 36(1):86-92.
19. **Luzadis, V.A.**, L. Castello, J. Choi, C.B. Franco, E. Greenfield, S. Kim, J. Munsell, E. Nordman, and F. Olowabi. 2010. The science of ecological economics: A content analysis of Ecological Economics, 1989–2004. *Annals of the New York Academy of Sciences* Vol. 1185, Issue Ecological Economics Reviews: 1-10.
20. Mirck, J., and **T.A. Volk**. 2010. Seasonal sap flow of four *Salix* varieties growing on the Solvay Wastebeds in Syracuse, NY, USA. *International Journal of Phytoremediation* 12(1):1-23
21. Mirck, J., and **T.A. Volk**. 2010. Response of three shrub willow varieties (*Salix spp.*) to storm water treatments with different concentrations of salts. *Bioresource Technology* 101(10):3484-3492.
22. Munsell, J.F., **R.H. Germain**, **V.A. Luzadis**, and **E. Bevilacqua**. 2009. Owner intentions, previous harvests, and future timber yield on 50 working NIPF in New York State. *Northern Journal of Applied Forestry* 26(2):45-51.
23. **Nyland, R.**, and **D. Kiernan**. 2010. Form class and its use in estimating sawtimber volume of sugar maple trees. *Northern Journal of Applied Forestry* 27(2):75-77.
24. Pailler, S., **J.E. Wagner**, J.G. McPeak, and D.W. Floyd. 2009. Identifying conservation opportunities among Malinké bushmeat hunters of Guinea, West Africa. *Human Ecology* 37(6):761-774
25. Park, B.B., and **R.D. Yanai**. 2009. Nutrient concentrations in roots, leaves and wood of seedling and mature sugar maple and American beech at two contrasting sites. *Forest Ecology and Management* 258 (7):1153–1160
26. Pian, C.C.P., and **T.A. Volk**. 2009. Willow biomass gasification feasibility study. In: Badeau, J-P. and A. Levi. (eds). *Biomass Gasification: Chemistry, Process and Applications*. Nova Science Publishers.
27. Pradhanang, S.M., and **R.D. Briggs**. 2010. Evaluation of nutrients in Skaneateles Lake Watershed. Soil Science Society of America, Annual Meeting, Pittsburgh PA, Nov. 1-5 - Agronomy Abstracts.
28. Quaye, A.K., C.A.S. Hall, and **V.A. Luzadis**. 2009. Agricultural land use efficiency and food crop production in Ghana. *Environment, Development, and Sustainability*. Received: 20 March 2009 Accepted: 22 January 2010. DOI 10.1007/s10668-010-9234-z.
29. Rodríguez-González, P.M., **J.C. Stella**, F. Campelo, T. Ferreira, and A. Albuquerque. 2010. Subsidy or stress? Tree structure and growth in wetland forests along a hydrological gradient in southern Europe. *Forest Ecology and Management* 259:2015–2025.
30. Sarmiento, P.S., P.H. Carrão, M. Caetano, and **S.V. Stehman**. 2009. Incorporating reference classification uncertainty into the analysis of land cover accuracy. *International Journal of Remote Sensing* 30:5309-5321.
31. Shah, A.A., M.J. Ryan, **E. Bevilacqua**, and M.A. Schlaepfer. 2010. Prior experience alters the behavioral response of prey to a nonnative predator. *Journal of Herpetology* 44(2):185-192.

32. Siry, J., F. Cubbage, **D. Newman**, and R. Izlar. 2010. Forest ownership and management outcomes in the U.S., in global context. *International Forestry Review* 12(1):38-48.
33. Slesak, R.A., and **R.D. Briggs**. 2010. Foliar Mass and nutrition of *Abies concolor* Christmas trees following application of organic and inorganic fertilizer. *Northern Journal of Forestry Applied* 27(1):28-33.
34. Stager J.C., S.A. McNulty, **C.M. Beier**, and J. Chiaranzelli. 2009. Historical patterns and effects of changes in Adirondack climates since the early 20th century. *Adirondack Journal of Environmental Studies* 15(2):22-38.
35. **Stehman, S.V.** 2009. Sampling designs for accuracy assessment of land cover. *International Journal of Remote Sensing* 30:5243-5272.
36. **Stehman, S.V.** 2009. Model-assisted estimation as a unifying framework for estimating the area of land cover and land-cover change from remote sensing. *Remote Sensing of Environment* 113:2455-2462.
37. **Stehman, S.V.**, and D.J. Selkowitz. 2010. A spatially stratified, multi-stage cluster sampling design for assessing accuracy of the Alaska (USA) National Land-Cover Data (NLCD). *International Journal of Remote Sensing* 31:1877-1896.
38. **Stella, J.C.**, and J.J. Battles. 2010. How do riparian woody seedlings survive seasonal drought? *Oecologia* DOI: 10.1007/s00442-010-1657-6
39. **Stella, J.C.**, J.J. Battles, J.R. McBride, and B.K. Orr. 2010. Riparian seedling response to experimental seasonal drought and applications to river restoration in a semi-arid ecosystem. *Restoration Ecology* DOI: 10.1111/j.1526-100X.2010.00651.x
40. Teale, S.A., S. Letkowsky, G. Matusick, **S.V. Stehman**, and J.D. Castello. 2009. Quantitative, nondestructive assessment of beech scale (*Hemiptera: Cryptococcidae*) density using digital image analysis of wax masses. *Environmental Entomology* 38:1235-1240.
41. Vickory, B., **R.H. Germain**, and **E. Bevilacqua**. 2009. Urbanization's impact on sustained yield management as perceived by forestry professionals in Central New York. *Forest Policy and Economics* 11: 42-49.
42. **Wagner, J.E.** 2009. Expected rates of value growth for individual sugar maple crop trees in the Great Lakes Region: A comment. *Northern Journal of Applied Forestry* 25(4):141-145.
43. Wagner, S., C. Collet, P. Madsen, T. Nakashizuka, **R.D. Nyland**, and K. Sagheb-Talebi. 2010. Beech regeneration research: From ecological to silvicultural aspects. *Forest Ecology and Management* 259(2010):2172-2182.
44. Wickham, J.D., **S.V. Stehman**, J.A. Fry, J.H. Smith, and C.G. Homer. 2010. Thematic accuracy of the NLCD 2001 land cover for the conterminous United States. *Remote Sensing of Environment* 114:1286-1296.
45. Wood, D.M, **R.D. Yanai**, D.C. Allen, and S. Wilmot. 2009. Sugar maple decline following defoliation by forest tent caterpillar. *Journal of Forestry* 107(1):29-37
46. **Yanai, R.D.**, **R.H. Germain**, N. Anderson, A. Coates, and A. Mishler. 2009. Heart size of sugar maple sawlogs across six northern states. *Journal of Forestry* 107(2):95-100.
47. **Yanai, R.D.**, K.J. McFarlane, M.S. Lucash, J.D. Joslin, and S.E. Kulpa. 2009. Nutrient uptake by Engelmann spruce and subalpine fir at two Colorado subalpine forests. *Forest Ecology and Management* 258(10):2233-2241
48. **Yanai, R.D.**, J.J. Battles, A.D. Richardson, E.B. Rastetter, D.M. Wood, and C. Blodgett. 2010. Estimating uncertainty in ecosystem budget calculations. *Ecosystems* 13(2):239-248.
49. **Zhang, L.**, Z. Ma, and L. Guo. 2009. Spatial autocorrelation and heterogeneity in the relationships between tree variables. *Forest Science* 55(6):533-548.

Refereed Publications - Accepted or in press (FNRM faculty in bold; n = 26):

1. **Abrahamson, L.P.**, S. Liu, and T.E. Amidon. (In press). editors of special edition of *Biomass & Bioenergy* on "International Biorefinery Conference IBC 09, October 8&9, 2009, Syracuse, NY"
2. Anderson, N., and **R.H. Germain**. (In press). Land cover, land use and mill characteristics as predictors of wood procurement range. *Forest Products Journal*.
3. Anderson, N., **R.H. Germain**, and **E. Bevilacqua**. (In press). GIS-based spatial analysis of sawmill wood procurement. *Journal of Forestry*.
4. Bruins, R.J. F., W. R. Munns, Jr., S. J. Botti, S. Brink, D. Cleland, L. Kapustka, D. Lee, **V.A. Luzadis**, L.F. McCarthy, N. Rana, D. B. Rideout, M. Rollins, P. Woodbury, M. Zutko. (In press). A problem formulation process for integrating assessments of social, economic and environmental outcomes: Case study of wildland fire management in the United States. *Integrated Environmental Assessment and Management* - Published on the Web 3 December 2009. DOI: 10.1897/IEAM_2009-075.1
5. Buchholz, T. and **T.A. Volk**. (In press). Considerations of Project Scale and Sustainability of Modern Bioenergy Systems in Uganda. *Journal of Sustainable Forestry*.
6. Bueno, S., and **E. Bevilacqua**. (In press). Modeling stem diameter increment in individual *Pinus occidentalis* Sw. trees in La Sierra, Dominican Republic. *Forest Systems*.
7. Chase, L., and D. Kuehn. (In press). Measuring Outcomes of Extension Conferences: A Case Study of the National Extension Tourism Conference. *Journal of Extension*.
8. Escobedo, F., S. Varela, M. Zhao, **J.E. Wagner**, W. Zipperer. (In press). Analyzing the efficacy of subtropical urban forests in offsetting carbon emissions from cities. *Environmental Science and Policy*. In Press.
9. Franco, C.B., and **V.A. Luzadis**. (In press). The effects of economic growth-based policies on social well-being in the Dominican Republic. Peer reviewed, accepted for publication in *Ecological Economics & Herman Daly*.
10. **Germain, R.H.**, and P. Pennfield. (In press). The Certified Wood Supply Chain Bottleneck and its Impact on LEED Construction Projects in New York State. *Forest Products Journal*.
11. Horton J.L., B.D. Clinton, J.F. Walker, C.M. Beier, and E.T. Nilsen. (In press). Variation in soil and forest floor characteristics along gradients of ericaceous, evergreen shrub cover in the southern Appalachians. *Castanea*.
12. **Kiernan D.** (In Press). *Introductory Statistics for Environmental Sciences*. Kendall-Hunt Publishers
13. Labriole, M., and **V. A. Luzadis**. (In press). Foresters' attitudes toward the potential impact of climate change in New York. *Journal of Forestry*.
14. Lu, J., and **L. Zhang**. (In press). Evaluation of parameter estimation methods for fitting spatial regression models. *Forest Science* (in press).
15. Miner, A.M.A., **R.W. Malmshemer**, D.M. Keele, and M.J. Mortimer. (In press). Twenty years of Forest Service National Environmental Policy Act litigation. *Environmental Practice*.
16. Mortimer, M.J., M.J. Stern, **R.W. Malmshemer**, D.J. Blahna, L. Cerveny, and D. Seesholtz. (In press). Environmental and social risks: Defensive NEPA in the U.S. Forest Service. *Journal of Forestry*.
17. Nordman, E., and **J.E. Wagner**. (In press). Incorporating acquisition costs in forestland open space programs: Lessons from conservation biology and applications.
18. **Nyland, R.D.** (In press). The shelterwood method: Adapting to different management options. *Journal of Forestry*.

19. **Nyland, R.D.**, and **D. H. Kiernan**. (In press). Form class and its use in estimating sawtimber volume in sugar maple trees, *Northern Journal of Applied Forestry*.
20. Ray, D.G., **R.D. Yanai** and **R.D. Nyland**. (In press). Canopy growing-space relationships in young even-aged northern hardwood stands. *Northern Journal of Applied Forestry*.
21. Ray, D.G., **R.D. Yanai**, **R.D. Nyland**, and T.R. McConnel. (In press). Growing-space relationships in young even-aged northern hardwood stands based on individual-tree and plot-level measurements. *Northern Journal of Applied Forestry*.
22. **Volk, T.A.**, **L.P. Abrahamson** and E.H. White. (In press). Integration of Cover Crops During the Establishment of Short-Rotation Woody Crops. 2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection. May 10 – 14, Rome, Italy.
23. **Volk, T.A.**, T. Verwijst, P.J. Tharakan, **L.P. Abrahamson**, and E.H. White. (In press). Are short-rotation woody crops sustainable? *2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection*. May 10 – 14, Rome, Italy.
24. **Vonhof, S.** (In press). Deficiencies of undergraduate forestry curricula in their social sciences and humanities requirements. *Journal of Forestry*.
25. Wang, M., A. Upadhyay, and **L. Zhang**. (In press). Trivariate distribution modeling of tree diameter, height, and volume. *Forest Science*.
26. Zhang, W., Y. Ke, L. Quackenbush, and **L. Zhang**. (In press). Using error-in-variable regression to predict tree diameter and crown width from remotely sensed imagery. *Canadian Journal of Forest Research*.

Manuscripts Submitted and Under Review (FNRM faculty in bold; n = 19):

1. Anderson, N., **R.H. Germain** and **E. Bevilacqua**. (In review). GIS-based spatial analysis of sawmill wood procurement in the Northern Forest. *Journal of Forestry*.
2. Baier, K., D.S. DiLoreto, A. Barakat, K. M D'Amico, F.V. Hebard, J.E. Carlson, **C.A Maynard** and W.A. Powell. (In review). Interspecific suppression subtractive hybridization identifies a Chinese chestnut (*Castanea mollissima* laccase-like gene).
3. **Beier CM**, McNulty SA, **Stella JA**, Dovciak M. (in review). Local climatic drivers of changes in ice phenology and duration on five high-elevation lakes in the Adirondack Mountains, New York. *Climate Change*.
4. **Beier CM**, Woods AM, Mitchell MJ, Gibbs JP, Dovciak M, Leopold DJ, Lawrence G, Page B. (In review). Variability in land snail and amphibian communities along a soil calcium gradient in upland hardwood forests of the Adirondack Mountains, NY. *Ecological Applications*
5. **Beier CM**. (In review). Institutional adaptive capacity in the reorganization of forest governance in Alaska. *Ecology & Society*
6. Buchholz, T. and **T.A. Volk**. (In review). Identifying opportunities to improve the profitability of willow biomass crops with a crop budget model. *Bioenergy Research*.
7. Bueno, S. and **E. Bevilacqua**. (In review). Evaluation of different approaches to estimating merchantable bole volume for different utilization standards of *Pinus occidentalis* in La Sierra, Dominican Republic. *Revista Bosque*
8. Cheng, K., Diemont, S. and **A. Drew**. (In review). Role of Tao (*Belotia mexicana*) in the traditional Lacandon Maya shifting cultivation ecosystem. *Agroforestry Systems*.
9. Harper, E.B., **J.C. Stella**, A.K. Fremier. (In review). Using ecologically meaningful sensitivity analyses to set research priorities: A case study of Fremont cottonwood (*Populus fremontii*) population dynamics. *Ecological Applications*
10. **Kiernan, B.D.**, **T.A. Volk**, J. Gingerich, **L.P. Abrahamson**, and **E.H. White**. (In review). An evaluation of chips from willow shrubs (*Salix* spp.) grown in short-rotation intensive culture as a carbon source for composting layer manure. *Bioresource Technology*.
11. **Kuehn, D.**, P. D'Luhosch, **V. Luzadis**, **R. Malmshiemer**, and R. Schuster. (In review). Attitudes and intentions of off-highway vehicle riders toward trail use: Implications for forest managers. *Journal of Forestry*.
12. Mirck, J. and **T.A. Volk**. (In review). Mass balances and allocation of salt ions from Solvay storm water for three shrub willow varieties (*Salix* spp.) in a greenhouse experiment. *Bioenergy Research*.
13. Mirck, J. Zalesny Jr, R., Dimitriou, I. Zalesny, J., **Volk, T.** Mabee, W. (In review). Electrical Conductivity as a Salt Stress Indicator for Short Rotation Willows and Poplars. *International Journal of Phytoremediation*.
14. Mortimer, M.J., **R.W. Malmshiemer**, and L. Stall. (In review). The Equal Access to Justice Act and Federal Forest Service Land Management: Incentives to Litigate? *Journal of Natural Resources Policy Research*.
15. **Nowak, C.**, **R. Germain** and **A. P. Drew**. (In review). Chapter 3 in the book to be published by S. Teale and J. Castello, *Forest Health: An Intergrated Perspective*, by Cambridge University Press. Chapter 3 entitled, "Silviculture and Forest Management as a Means to Conserve Forest Health."
16. Pandit, R. and **E. Bevilacqua**. (In review). Environmental impacts of community forestry in the hills of Nepal. *Forest Policy and Economics*.
17. Pandit, R. and **E. Bevilacqua**. (In review). Social heterogeneity and community forestry processes: reflections from forest users of Dhading District, Nepal. *Small-scale Forestry*.

18. Tumwebaze, S. B., **E. Bevilacqua, R. Briggs, and T. Volk.** (In review). Soil organic carbon under linear simultaneous agroforestry systems. *Agroforestry Systems*.
19. Tumwebaze, S. B., **E. Bevilacqua, R. Briggs, and T. Volk.** (In review). Development of allometric biomass equations for tree species used in agroforestry systems in Uganda. *Biomass and Bioenergy*.

Non-refereed Publications (FNRM faculty in bold; n = 46):

1. Anderson, N., **E. Bevilacqua** and **R.H. Germain**. 2010. Competition for sawlogs in the Northern Forest: An analysis of overlapping sawmill woodsheds. In *Mapping Forestry*. Environmental Systems Research Institute (ESRI), Redlands, CA. pp. 1-7.
2. Ballard, B.D., **C.A. Nowak**, and A.B. Kline. 2009. *Willow (Salix) Identification in New York State*. Research Foundation of SUNY, Liverpool Litho, Liverpool, NY. ISBN: 978-0-615-31665-9
3. Ballard, B.D., H. L. Luszak, and **C.A. Nowak**. (In press). *Northeastern shrub and short tree identification-A guide for right-of-way vegetation management* (2nd edition).
4. **Bevilacqua, E.** and S. Bueno. 2010. Estimating periodic annual increment on state forest lands in New York. Final Report submitted to NYS Department of Environmental Conservation. February 26, 2010.
5. **Bridgen, M. R.** and David McDonald. 2010. Compare and contrast: Two Ranger Schools. Council of Eastern Forest Technology Schools blog. (cefts.blogspot.com).
6. **Bridgen, M.R.** *Dendrology-Eco Field Manual, A Guide to Plant Identification at the Ranger School*. reprint, 2009.
7. **Briggs, R.D.** and R.S. Sardon. 2010. Summary of Completed and Planned Work: Central NY Watersheds Program 1/20/10.
8. Brincka, Jr., M.B., **D.M. Kuehn**, and **V.A. Luzadis**. 2010. Constraints and motivations related to fishing along the Lake Ontario Coast. *Proceedings of the 2010 Northeastern Recreation Research Symposium*, The Sagamore Resort on Lake George, Bolton Landing, NY.
9. Buchholz, T., **T. A. Volk**, **L. P. Abrahamson**, and L. B. Smart. 2009. Willow Economic Model Fact Sheet: "EcoWillow v 1.0 (Beta) - An Economic Analysis Tool for Willow Short-Rotation Coppice for Wood Chip Production" - published 5/2008 with a new version in 2009-10.
10. Conable, D., and **T.A. Volk**. 2010. Projecting cropped biomass supplies: The landowner factor. *Biomass Magazine* 78-81.
11. **Dawson, C. P.** 2009. New Wilderness Legislation in 2009. *International Journal of Wilderness* 15(3):31-32, 44.
12. **Dawson, C. P.** 2010. Wilderness and Baseline Experiences. *International Journal of Wilderness* 16(1):3.
13. **Dawson, C.P.** and J. C. Hendee. 2010. Wilderness Management and Preservation. In P.S. Auerbach. *Wilderness Medicine* (sixth edition). Philadelphia, PA: Mosby Elsevier Publishing. in press.
14. **Dawson, C.P.**, R. Schuster, B. Propst and C. Black. 2010. Experiences of Campers and Campsite Impacts in the St. Regis Canoe Area Wilderness. *Proceedings of the Northeastern Recreation Research Symposium*, March 28-31, 2009, Bolton Landing, NY. USDA General tech. rep. NRS-P-???. Newton Square, PA: Forest Service, Northern Research Station. In press.
15. **Garrison-Johnston, M.T.** 2010. Foliar Nutrition Assessment of Eastern White Pine at Huntington Wildlife Forest CC165. Department of Forest and Natural Resources Management, SUNY College of Environmental Science and Forestry, 9 p.
16. **Garrison-Johnston, M.T.** 2010. Northeast Oregon IFTNC Region Nutrition Guidelines By Rock Type: Nutrition guidelines for use in conjunction with digital geology for the northeastern portion of the state of Oregon. Intermountain Forest Tree Nutrition

- Cooperative, Department of Forest Resources, College of Natural Resources, University of Idaho, Moscow, Idaho, 63p.
17. **Kuehn, D.**, and J. Smahol. 2010. Exploring elements that influence stewardship in the Eastern Lake Ontario Wetland Area. *Proceedings of the 2009 Northeast Recreation Research Symposium*, April, 2009, Bolton Landing, NY. USFS General Technical Report (in press).
 18. **Kuehn, D., V.A. Luzadis, R.W. Malmshiemer**, and R.M. Schuster. 2010. Perceptions of public forest managers concerning train use by off-highway vehicle riders in the Northeastern United States. *Proceedings of the 2010 Northeastern Recreation Research Symposium*, The Sagamore Resort on Lake George, Bolton Landing, NY.
 19. Labriole, M. and **V.A. Luzadis**. 2009. NYSAF professional members' climate change perceptions. *The New York Forester*. 65(2) June 2009.
 20. **Malmshiemer, R.W.** 2009. Dziengleski running for SAF Vice-President. *The New York Forester* 65(4):1,12.
 21. **Malmshiemer, R.W.** 2010. Appendix M-B: Local Government Regulations Affecting Biofuel Supplies in New York. In J.M.Nostrand and C. Rutzke, eds. *Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York*. White Plains, NY: Pace University Energy and Climate Center. 874 pp.
 22. **Malmshiemer, R.W.**, and **D.H. Newman**. 2010. Limit Forest Service's role expansion to informing policy. *Journal of Forestry* 108(2):97-98. (Note: This was an invited response to: Kimbell, A.R., C. Hickman, and H. Brown. How do taxes affect America's private forestland owners?)
 23. Mueller, W., and **J. Savage**. 2010. Ranger School trails to Cathedral Rock and Dubuar Forest. *Adirondack magazine*, Adirondack Mountain Club (in press).
 24. **Newman, D.H.** 2010. Forestry Foundations - Introduction. *The New York Forester* 66(2):7-9
 25. **Nowak, C.A.** 2008. CONSIDER THIS ... Observed strength of, shortfalls in, and insights for, forest practice across the Northeast U.S. - Final words on sustainable forest management and forest certification. *The New York Forester* 65(4):5-7.
 26. **Nowak, C.A.** 2009. CONSIDER THIS ... Plantations. *The New York Forester* 65(3):5-6.
 27. **Nowak, C.A.** 2009. IMPROVE YOUR LANGUAGE ... Plantation. *The New York Forester* 65(3):8.
 28. **Nowak, C.A.** 2009. Sustainability, Factsheet no. 6. New York Power Authority, White Plains, NY.
 29. **Nowak, C.A.** 2009. SUSTAINABILITY: A central principle for the electric industry available through vegetation management on transmission rights-of-way. Technical Report 1017963, Electric Power Research Institute, Palo Alto, California.
 30. **Nowak, C.A.** 2009. THIS I BELIEVE ... We should be planting. *The New York Forester* 65(3):7-8.
 31. **Nowak, C.A.** 2009. YOU OUGHT TO KNOW ... The triad approach to land allocation in forest management. *The New York Forester* 65(3):6-7.
 32. **Nowak, C.A.** 2010. A viewshed management plan for the home of Franklin D. Roosevelt National Historic Site: Reestablishing the river and mountain views from the South Lawn. Final Report, National Park Service, March 2010.
 33. **Nowak, C.A.**, and W. Van Gorp. 2010. Chainsaw Safety, Factsheet no. 7. New York Power Authority, White Plains, NY.

34. **Nowak, C.A.**, B. Ballard, P. Hofmeyer, and A. Treyger. (In press). Efficacy and effectiveness of various herbicide treatments for managing powerline corridor vegetation. Final Report, New York Power Authority, April 2010.
35. **Nowak, C.A.**, **R.H. Germain**, and **A.P. Drew**. (In press). Silviculture and forest management as a means to conserve forest health. Chapter 3 In J.D. Castello and S.A. Teale, eds. *Forest Health: An Integrated Perspective*. Boston, MA: Cambridge University Press.
36. **Nyland, R.D.** 2009. Silviculture and invasive insects: Dealing with hemlock woolly adelgid, emerald ash borer, and Asian longhorned beetle. Cornell Univ. Coop. Ext. ForestConnect Fact Sheet. P.J. Smallidge (ed.). Cornell Coop. Ext. Serv., Ithaca, NY. 6 p.
37. **Savage, J.** 2010. Recreation improvements on the Dubuar. Winter/Spring Alumni News, Ranger School Alumni Association.
38. **Savage, J.**, K. Davidson, and L. Karasin, eds. 2009. *Cranberry Lake 50: Trail Map and Guide*. Five Ponds Partners, Wanakena, NY.
39. Smallidge, P.J., and **R.D. Nyland**. 2009. Woodland guidelines for the control and management of American beech. Cornell Univ. Coop. Ext. ForestConnect Fact Sheet. P.J. Smallidge (ed.). Cornell Coop. Ext. Serv., Ithaca, NY. 6 p.
40. **Stehman, S.** et al. 2010. Designing a global reference validation database for accuracy assessment of land cover. Proceedings of the 2010 Spatial Accuracy in the Natural Sciences Symposium, Leicester, UK (unpaginated CD).
41. Sullivan, L., R. Schuster, **D. Kuehn**, and D. Morais. 2009. A study of the tourism commons in Hudson River communities. NY Sea Grant: Stony Brook, NY.
42. Treyger, A.L. and **C.A. Nowak**. (In press). Tree community dynamics on powerline corridors coincident with global climate change in New York State. In J. Goodrich-Mahoney, ed. *Proceedings 9th International Symposium Environmental Concerns in Rights-of-Way Management*. Amsterdam: Elsevier,.
43. **Volk, T.**, **C. Beier**, T. Buchholz, J. Caputo, P.Castellano, **R. Germain**, M. Kelleher, **V. Luzadis**, and **Malmsheimer, R.W.** 2010. Appendix K: Sustainability Criteria for the New York Renewable Fuels Roadmap. . In J.M.Nostrand and C. Rutzke, eds. *Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York*. White Plains, NY: Pace University Energy and Climate Center. 874 pp.
44. **Volk, T.A.** Final Harvesting report.
45. **Volk, T.A.** Final Northern NY report for NYSERDA.
46. **Yanai, R.D.** 2009. Assessing the sensitivity of New York forests to cation depletion. New York State Energy Research and Development Authority Final Report 09-06. <http://www.nyserdera.org/publications/Report%2009-06%20-%20Web.pdf>

Papers Presented at Professional and Scientific Meetings (FNRM faculty in bold; n = 98):

1. Anderson, A.M., **R. W. Malmshemer**, and D.M. Keele. 2010. Twenty Years of Forest Service Land Management Litigation. New York Society of American Foresters' Winter Convention. Syracuse, NY, January 28-29.
2. Bae, K., T.J. Fahey, **R.D. Yanai**, and B.B. Park. 2009. Comparison of soil respiration, fine root biomass, and litterfall in young and mature forest in the White Mountains of New Hampshire. Rochester, NY - Rochester Academy of Science Meeting, October 31, 2009.
3. Bae, K.T.J. Fahey, **R.D. Yanai**, and B.B. Park. 2010. Comparison of soil respiration, fine root biomass, and litterfall in young and mature forest in the White Mountains of New Hampshire. E. Syracuse, NY - New York Society of American Foresters Winter Meeting, January 28, 2010.
4. Bae, K.T.J. Fahey, **R.D. Yanai**, and B.B. Park. 2009. Comparison of soil respiration, fine root biomass, and litterfall in young and mature forest in the White Mountains of New Hampshire. Estes Park, CO - LTER All Scientists Meeting, September 12-16, 2009.
5. **Beier CM**, Limburg KL, Groffman P. 2010. Ecosystem services and resilience of hardwood ecosystems: concepts and applications of the Forest Ecosystem Services Toolbox for Hubbard Brook. Hubbard Brook Scientists Meeting - Cary Institute of Ecosystem Studies, Milbrook, NY. Invited talk.
6. **Beier CM**. 2009. A systems framework and methodology for geospatial assessment of ecosystem services. International Association for Landscape Ecology - U.S. Chapter Conference, Snowbird, Utah.
7. Bendix, J., and **J.C. Stella**. 2010. A Geographic Analysis of Riparian Biogeomorphology. Annual Meeting of the American Association of Geographers. Washington, D.C, April 2010.
8. **Bevilacqua, E**. 2010. Integration of Tablet PC technology in an undergraduate forestry curriculum. Blacksburg, VA. - 8th Biennial Conference on University Education in Natural Resources. March 25-27th, 2010.
9. **Bridgen, Michael R**. 2009. Seven year results of testing paper mill residual sludge as a soil ameliorant of iron mine tailings. Logan, Utah. North American Forest Ecology Workshop. June 22-26, 2009.
10. **Bridgen, Michael R**. 2010. Black ash silviculture projects in New York and Maine. West Lafayette, IN. Symposium on Ash in North America. March 9-11, 2010.
11. **Briggs, R.D**. 2010. The role of nutrition in Christmas tree production. Northeast Regional Christmas Tree Growers Meeting and Trade Show, Hazleton, PA. March 6, 2010.
12. Brincka, Jr. M.B., **D.M. Kuehn**, and **V.A. Luzadis**. 2010. Internal motivations and intrapersonal constraints and/or facilitators related to bass fishing along the Lake Ontario coast" International Symposium on Society and Resource Management, Corpus Christi, TX; June 6-10, 2010.
13. Brincka, Jr., M.B., **D.M. Kuehn**, and **V.A. Luzadis**. 2010. Constraints and motivations related to fishing along the Lake Ontario Coast. Presented at the 2010 Northeastern Recreation Research Symposium, The Sagamore Resort on Lake George, Bolton Landing, NY. Sunday, April 11 - Tuesday, April 13, 2010.

14. Buchholz, T., and **T.A. Volk**. 2009. Sustainability is not a goal but a process: Concepts and examples to measure sustainability in forest management and bioenergy applications. Natural Resources Canada Webinar on Forestry - Sustainability Issues and Approaches to Assessment and Implementation, December 4, 2009.
15. Buchholz, T. N. Patterson, **T.A. Volk**, and **V.A. Luzadis**. 2009. Sustainable electricity: Towards assessing future options for an Iroquois Nation based on traditional values. Paper presentation, June 2009. US Society for Ecological Economics Biennial Meeting, Washington, DC.
16. Caputo, J., and **T. A. Volk**. 2010. Woody Biomass as a source of renewable energy. Northeast Energy and Commerce Association Meeting. March 3, 2010, Boston, MA.
17. **Dawson, C.P.**, and C. Williams. 2010. An exploration of centrality in distance hikers and its application to involvement. Northeastern Recreation Research Symposium, April 11-13, 2010, Bolton Landing, NY.
18. **Dawson, C.P.**, and L. Barker. 2010. Exploring the relationship between outdoor recreation activities, community participation and environmental attitudes. Northeastern Recreation Research Symposium, April 11-13, 2010, Bolton Landing, NY.
19. **Dawson, C.P.**, D. Graefe, and R. Schuster. 2010. Roadside camping in the Adirondack Park: A qualitative examination of place attachment and resource substitutability. Northeastern Recreation Research Symposium, April 11-13, 2010, Bolton Landing, NY.
20. **Dawson, C.P.**, and J. Hendee. 2009. Special provisions of wilderness designation and wilderness-related laws in the United States 1964-2008. 9th World Wilderness Congress, Merida, Mexico, Nov. 10, 2009,.
21. **Dawson, C.P.** 2009. Writing as an inspiration. 9th World Wilderness Congress, Merida, Mexico, Nov. 9, 2009,.
22. Franco, C.B., and **V.A. Luzadis**. 2009. Developing a comprehensive measure of subjective well-being in the Dominican Republic. US Society for Ecological Economics Biennial Meeting, Washington, DC.
23. Gehl, K.L.*, K.E. Limburg, **J.C. Stella**. 2009. Three watershed approaches for evaluating nutrient loads, Onondaga Creek, NY. Poster presentation, Healthy Buildings 2009 Conference and Exhibition. Sept. 15, 2009.
24. **Germain, R.H.**, D. Boyce, J. Ward, and **J.E. Wagner**. 2010. Moving skeptics to supporters: Case study on sustained yield management. New York State Chapter of the Society of American Foresters held in Syracuse, NY, January 28, 2010
25. **Germain, R.H.** 2009. Woody biomass feedstock availability from family forests. Sustainable Use of Renewable Energy Conference. Syracuse, NY, November 5, 2009.
26. Greenlaw, S., M.R. Emery, R.W. Kimmerer, and **M.R. Bridgen**. 2010. Understanding and integrating native knowledge to determine and identify high quality ash resources. West Lafayette, IN. March 9-11, 2010.
27. Harper, E.B., **J.C. Stella**, A.K. Fremier. 2009. Identifying data gaps and prioritizing restoration strategies for Fremont cottonwood using linked geomorphic and population models. Poster presented at American Geophysical Union Fall Meeting, San Francisco, CA, December 15-19, 2009.
28. Harper, E.B., **J.C. Stella**, A.K. Fremier. 2009. Ecologically meaningful sensitivity analyses: A case study of Fremont cottonwood (*Populus fremontii*). Annual Meeting of the Ecological Society of America, Albuquerque, NM. August 2-7, 2009.

29. Harper, E.B., **J.C. Stella**, A.K. Fremier. 2009. Ecologically meaningful sensitivity analyses: A case study of Fremont cottonwood (*Populus fremontii*). Poster presentation at the NSF Idaho EPSCoR Annual Meeting, Moscow, ID, Aug 31-Sept 1 2009.
30. Harrison, A.M., **J.C. Stella**, S.E. McNulty. 2010. The influence of landscape factors on beaver (*Castor canadensis*) occupancy in the Adirondack region of NY. Adirondack Research Consortium Annual Conference, Lake Placid, NY. 20 May 2010.
31. Harrison, A.M., **J.C. Stella**, S.E. McNulty. 2010. The influence of landscape factors on beaver (*Castor canadensis*) occupancy in the Adirondack region of NY. Spotlight on Student Research Symposium, SUNY-ESF, April 13, 2010.
32. Hayden, M.K., **J.C. Stella**, J.J. Battles, S. Dufour, and H. Piégay. 2009. Drivers of pioneer riparian forest dynamics in abandoned channels: an alternate recruitment pathway? Annual Meeting of the Ecological Society of America, Albuquerque, NM, August 2-7, 2009.
33. Helms, J.A., **R. W. Malmshemer**, and M.T. Goergon. 2009. Forest management solutions to mitigate climate change. 13th World Forestry Congress. Buenos Aires, Argentina. October 18-25.
34. Keele, D.M., **R. W. Malmshemer**, and A.M. Anderson. 2009. The legal environment of National Forest management. Grand Valley State University, Allendale, MI, October 22.
35. **Kuehn, D., V.A. Luzadis, R.W. Malmshemer**, and R.M. Schuster. 2010. Perceptions of Public Forest Managers Concerning Train Use by Off-highway Vehicle Riders in the Northeastern United States. Northeastern Recreation Research Symposium, Bolton Landing, NY April 11 - April 13, 2010.
36. Levine, C.R., **R.D. Yanai**, S.P. Hamburg, T.K. Refsland, L.Wielopolski, and S. Mitra. 2010. New techniques in soil sampling: methods for long-term ecological research. E. Syracuse, NY - New York Society of American Foresters Winter Meeting, January 28, 2010.
37. Levine, C.R., **R.D. Yanai**, S.P. Hamburg, T.K. Refsland, L.Wielopolski, and S. Mitra. 2009. New techniques in soil sampling: methods for long-term ecological research. Estes Park, CO - LTER All Scientists Meeting, September 12-16, 2009.
38. Levine, C.R., **R.D. Yanai**, S.P. Hamburg, T.K. Refsland, L.Wielopolski, and S.Mitra. 2009. New techniques in soil sampling: methods for long-term ecological research. Rochester, NY.- Rochester Academy of Science Meeting, October 31, 2009.
39. Lu, J. and **L. Zhang**. 2009. Comparison of model fitting algorithms for linear mixed models. Northeastern Mensurationist Organization (NeMO) 13th Annual Meeting. Durahm, NH. November 2-3, 2009
40. Lucash, M.S., **R.D. Yanai**, and J.D. Blum. 2009. Importance of soil mineralogy to calcium availability in forests. Rochester, NY - Rochester Academy of Science Meeting, October 31, 2009.
41. Lucash, M.S., **R.D. Yanai**, and J.D. Blum. The Importance of soil mineralogy to calcium availability in forests. Albany, NY - EMEP Conference (Environmental Monitoring, Evaluation and Protection in NY: Linking Science and Policy), October 14-15, 2009.
42. **Luzadis, V.A.**, and Schindehutte, M. 2009. Sustainability science and entrepreneurship: Toward a new paradigm for planetary stewardship. US Society for Ecological Economics Biennial Meeting, Washington, DC, June 2009.

43. Ma, Z. and **L. Zhang**. 2009. Spatial Poisson regression models for predicting bird species richness. Northeastern Mensurationist Organization (NeMO) 13th Annual Meeting, Durahm, NH. November 2-3, 2009.
44. **Malmsheimer, R. W.**, A.M. Anderson, and D.M. Keele. 2009. Forest Service land management litigation: An analysis of lost cases. Society of American Foresters' National Convention. Orlando, FL, October 1-4.
45. **Malmsheimer, R. W.**, A.M. Anderson, and D.M. Keele. 2009. Forest Service land management NEPA litigation". Society of American Foresters' National Convention. Orlando, FL, October 1-4.
46. **Malmsheimer, R. W.**, M. Mortimer, K. Richards, C. Ryan, and D. Seesholtz. 2009. NEPA and US Courts of Appeals deference to the US Forest Service. Society of American Foresters' National Convention. Orlando, FL, October 1-4.
47. **Malmsheimer, R.W.**, A.M. Miner, and D.M. Keele. 2010. Forest Service land management cases 1999 to 2009: Understanding losses and NEPA Cases. Presentation to the Forest Service Ecosystem Management Coordination, USDA Office of General Council, and USDOJ Natural Resource staffs. Washington, DC. November 19.
48. McDonald, A., and **Kuehn, D.** 2010. Optimal experience and ability in rock climbing and bouldering. Northeast Recreation Research Symposium, Bolton Landing, NY; April 11-13, 2010.
49. Mirck, J, R. S. Zalesny Jr, I. Dimitriou, J. A. Zalesny, **T.A. Volk**, P. Aronsson and W. E. Mabee. 2009. The use of short rotation willows and poplars for recycling of saline wastewaters. 6th International Phytotechnologies Conference, St. Louis, MI, December 1-4, 2009.
50. **Newman, D.H., R.W. Malmsheimer**, and J. Hass. 2010. Taxation and sustainable management in the Northern Forest. New York Society of American Foresters' Winter Convention. Syracuse, NY, January 28-29.
51. **Newman, D.H., R.W. Malmsheimer**, and J. Hass. 2010. Taxation and sustainable management in the Northern Forest. New England Society of American Foresters' Winter Convention. Nashua, NH, March 9-10.
52. **Newman, D.H., R.W. Malmsheimer**, and J. Hass. 2010. Taxation and sustainable management in the Northern Forest. (Invited Seminar Presentation) Michigan State University, E. Lansing, MI, March 30.
53. **Nowak, C.A.** 2009. Assessment of IVM performance on electric transmission line rights-of-way across the United States. 9th International Symposium Environmental Concerns in Rights-of-Way Management, Portland, OR, September 27-30, 2009.
54. **Nowak, C.A.** 2009. Recent (and not so recent) IVM research with the New York utilities and SUNY-ESF. Utility Arborist Association – New York Regional Meeting, Liverpool, NY, June 3-4, 2009.
55. **Nowak, C.A.** 2010. Sustainability as a guiding principle for vegetation management of rights-of-way. Empire State Green Industry Show, Rochester, NY, January 12, 2010.
56. **Nowak, C.A.** 2009. Sustainability as the guiding principle for vegetation management on rights-of-way. 9 th International Symposium Environmental Concerns in Rights-of-Way Management, Portland, OR, September 27-30, 2009.
57. **Nyland, R.D.** 2010. Even- to uneven-aged: Some challenges of conversion. Faculty of Forestry and Environmental Management at the University of New Brunswick, Fredericton, New Brunswick, April 9, 2010.

58. **Nyland, R.D.** 2010. Silviculture, deer, and beech: Some lessons from Huntington Wildlife Forest. Canadian Institute of Forestry, Maritime Section Annual Meeting. Fredericton, New Brunswick, April 9, 2010.
59. **Nyland, R.D.** 2010. Silviculture, EcoDo, and cutover stands: A necessary convergence. Keynote address for the Annual Meeting of the Canadian Woodland Forum, Moncton, New Brunswick, April 8, 2010.
60. Pitel, N.E., **R.D. Yanai**, and D.M. Wood. 2009. Assessing the health of sugar maple stands in New York following forest tent caterpillar defoliation. Syracuse, NY - CNY American Water Resources, November 19, 2009.
61. Pitel, N.E., **R.D. Yanai**, and D.M. Wood. 2010. Assessing sugar maple condition in the Northeast following forest tent caterpillar defoliation. E. Syracuse, NY - New York Society of American Foresters Winter Meeting, January 28, 2010.
62. Ratliff, T.J., M.C. Fisk, **R.D. Yanai**, E.B. Rastetter, B.K. Naples, T.J. Fahey, F. Fatami, and S.P. Hamburg. 2009. Is P more limiting than N in young northern hardwood forests? Albuquerque, NM - ESA Meeting, August 2-7, 2009
63. Rodríguez-González, P.M., **J.C. Stella**, F. Campelo, T. Ferreira, A. Albuquerque. 2009. Hydrologic controls on stand structure, tree architecture and growth in southern-European forested wetlands. 6th Symposium for European Freshwater Sciences, Bucharest, Romania.
64. Schifman, L.A.*, **J.C. Stella**, **T.A. Volk**, M.A. Teece. 2010. Plant growth and water stress response of hybrid willow (*Salix* spp.) among sites and years in central New York. Spotlight on Student Research Symposium, SUNY-ESF, April 13, 2010.
65. **Stehman, S.V.** and D. Selkowitz. 2010. Accuracy assessment of the Alaska NLCD 2001. Anchorage, AK - The Alaska NLCD, May 20, 2010.
66. **Stella, J.C.**, A.K. Fremier, S. Dufour, and H. Piégay. 2009. Co-convened a special session on "Ecological Processes on Abandoned Riparian Floodplains. Annual Meeting of the Ecological Society of America, Albuquerque, NM, August 2009.
67. **Stella, J.C.**, E.B. Harper, A.K. Fremier, M.K. Hayden, J.J. Battles. 2009. Using a patch dynamics approach to model cottonwood forest populations in river floodplains. Annual Meeting of the Ecological Society of America, Albuquerque, NM, August 2-7, 2009.
68. **Stella, J.C.**, E.B. Harper, A.K. Fremier. 2009. Quantifying geomorphic process controls on riparian forest dynamics using a linked physical-biological model: implications for river corridor conservation. American Geophysical Union Fall Meeting, San Francisco, CA, December 15-19, 2009.
69. Treyger, A.L. and **C.A. Nowak**. 2009. Tree community dynamics on powerline corridors coincident with global climate change in New York State. 9th International Symposium Environmental Concerns in Rights-of-Way Management, Portland, OR, September 27-30, 2009.
70. Vadeboncoeur, MA., **R.D. Yanai**, S.P. Hamburg, M.A. Arthur, C.B. Fuss, T.G. Siccama, C.L. Goodale, and P.M. Groffman. 2009. Long-term forest floor data and the changing nitrogen budget at Hubbard Brook's Watershed 6. Estes Park, CO - LTER All Scientists Meeting, September 12-16, 2009.
71. Van Rees, K.C.J., B.Y. Amichev, R.D. Hanks and **T.A. Volk**. 2010. Productivity of willow clones across an environmental gradient. IEA Task 43 and Long Term Soil Productivity Workshop, May 31 - June 4, 2010, Kamloops, BC.

72. VanBrakle, J. and **R.H. Germain**. 2009. Best management practices implementation in the New York City Watershed: A formative evaluation. National SAF Conference, Orlando, FL, September 30 – October 4, 2009.
73. **Volk, T. A., L.P. Abrahamson**, T. Buchholz, P. Castellano, C. Foster, M. McArdle, J. Posselius, and B. Stanton. 2010. Development of a harvesting system for short rotation willow and hybrid poplar biomass crops. Biomass 2010, March 30-31, Washington, DC.
74. **Volk, T.A.** 2010. Carbon cycling in willow biomass crops. 25 x 25 Wood-to-Energy Roadmap: Carbon Workshop, April 1, 2010, Arlington, VA.
75. **Volk, T.A.** 2010. Estimates of sustainably produced biomass feedstocks in New York. Bioenergy Market Development Conference, Adirondack Research Consortium, February 17, 2010, Saratoga Springs, NY
76. **Volk, T.A.** 2010. Potential supply of sustainably produced biomass in New York. NY SAF meeting, Syracuse, NY January 28-29, 2010.
77. **Volk, T.A.** 2010. Potential supply of sustainably produced biomass in New York: State wide and regional perspectives. NYSERDA Agricultural Innovations Conference, Troy, NY, November 17-18, 2009.
78. **Volk, T.A.** 2010. Short rotation woody crops: Production and Sustainability. Sustainable Forestry Initiative Webinar, January 13, 2010.
79. **Volk, T.A.** 2009. Creating effective bioenergy systems. Energy from Biomass in Ontario: Getting Beyond the Promise, Queen’s University, Kingston, ON, June 1, 2009.
80. **Volk, T.A.** 2010. Developing willow biomass crops as a source of home grown energy. Renewable Energy Forum, Auburn, NY, March 20, 2010.
81. **Volk, T.A.** 2010. Willow biomass crop feedstock development. Sun Grant Feedstock Partnership meeting, San Antonio, TX, February 23-24, 2010.
82. **Volk, T.A., L.P. Abrahamson**, P. Castellano. 2009. Living snow fences. 6th Annual Interagency (NYS DOT, NYS DEC, Army Corp of Engineers) Water and Ecology Meeting. Schenectady, NY, June 16 – 17, 2009.
83. **Volk, T.A., L.P. Abrahamson**, T. Amidon, D. Aneshansley, K. D. Cameron, G. Johnson, J. Posselius, D. Rak, L.B. Smart, E. Spomer, E.H. White. 2009. Developing willow biomass crops for bioenergy and bioproducts in the Northeastern and Midwestern United States. Sun Grant Energy Conference Washington, DC, March 10 – 13.
84. **Volk, T.A., L.P. Abrahamson**, T. Amidon, D. Aneshansley, T. Buchholz, K. D. Cameron, G. Johnson, J. Mirck, J. Posselius, D. Rak, L.B. Smart, E. Spomer, **E.H. White**. 2009. Willow crops: Research update and opportunity. Saskatoon, SK March 17 – 18.
85. **Volk, T.A., L.P. Abrahamson**, T. Amidon, T. Buchholz, P. Castellano, L. Smart, and **E. White**. 2009. Woody biomass: Sources, sustainability and status of markets. NY Society of American Foresters, Syracuse, NY, January 28–30.
86. **Volk, T.A., L.P. Abrahamson**, T. Amidon, T. Buchholz, P. Castellano, K. Cameron, C. Foster, J. Posselius, D. Rak, L.B. Smart, **E.H. White**. 2009. Advances in the commercialization of willow biomass crops. The Feedstock Value Chain Forum, Washington, DC, November 19, 2009.
87. **Volk, T.A., P. Castellano**, T. Buchholz, and **R. Germain**. 2010. Potential supply of woody biomass from forests in NY. NE Sun Grant Regional Workshop, Syracuse, NY, May 25, 2010.

88. **Volk, T.A.**, T. Buchholz, P. Castellano, **L. Abrahamson**, and L. Smart. 2009. Heating the Northeast. Ninth International Symposium on Environmental Concerns in Rights-of-Way Management Nashua, NH, April 29 - 30.
89. **Wagner, J.E.**, and **D.H. Newman**. 2010. Forest-based ecosystem services: Market forces and policy options a view from the U.S. Invited presentation, Universidad Jey Juan Carlos, Madrid, Spain
90. **Wagner, J.E.**, and **D.H. Newman**. 2010. Land stewardship, certification, land trusts, & forest management. IV Jornadas Estatales de Custodia del Territorio, Benia de Onís, Asturias, Spain, Mayo 26-28, 2010.
91. **White, E.H.**, **L.P. Abrahamson**, **T.A. Volk**, L.B. Smart and T.E. Amidon. 2009. The Salix Program in the Northeast. 14th Annual Ethanol Conference, San Antonio, TX, February 22-26, 2009.
92. **White, E.H.**, **L.P. Abrahamson**, **T.A. Volk**, **R.H. Germain** and P.J. Castellano. 2009. Current state of forest inventory in New York. The Forest Biomass Discovery Workshop, Queen's University, Kingston, On, March 7, 2009.
93. **Yanai, R.D.** 2009. Multi-element limitation modeling predicts P limitation in young Hubbard Brook Forests. North Woodstock, NH - Hubbard Brook Ecosystem Study 46th Annual Cooperators Meeting, July 7-8, 2009
94. **Yanai, R.D.**, E.B. Rastetter, M. C. Fisk, T.J. Ratliff, T.J. Fahey, B.K. Naples, F.Fatami, and S. P. Hamburg. 2009. Phosphorus and nitrogen limitation in young and mature northern hardwood forests. Rochester, NY.- Rochester Academy of Science Meeting, October 31, 2009.
95. **Yanai, R.D.**, E.B. Rastetter, M.C. Fisk, T.J. Ratliff, T.J. Fahey, B.K. Naples, F.Fatami, and S.P. Hamburg. 2010. Phosphorus and nitrogen limitation in young and mature northern hardwood forests. E. Syracuse, NY - New York Society of American Foresters Winter Meeting, January 28, 2010.
96. **Yanai, R.D.**, E.B. Rastetter, M.C. Fisk, T.J. Ratliff, T.J. Fahey, B.K. Naples, F.Fatami, and S.P. Hamburg. 2009. Phosphorus and nitrogen limitation in young and mature northern hardwood forests. Pittsburgh, PA - Agronomy Society of America Meeting, November 1-5, 2009.
97. **Yanai, R.D.**, S.P. Hamburg, M.A. Arthur, M.A. Vadeboncoeur, C.B. Fuss, and T.G. Siccama. 2009. From missing source to missing sink: Long-term nitrogen dynamics in the northern hardwood forest. Albuquerque, NM - ESA Meeting, August 2-7, 2009.
98. Yoo, S., **J.E. Wagner**, J. McPeak, P. Wilcoxon, **L. Zhang**. 2010. Measuring amenity benefits from urban open space: A Hedonic approach. (Poster presentation) 2010 Spotlight on Research held as SUNY - ESF Syracuse, NY

APPENDIX E: RESEARCH PROJECTS AND PROPOSALS

FNRM Sponsored Program Expenditure Activity Fiscal Year 2009-2010

P I / C o	Title	Primary Sponsor Name	Credited Share %	Total Expend Amount	Credited Expend Amount	IC:DC Ratio	Credited Direct Expend	Credited Indirect Expend
Abrahamson								
P	ENHANCE NYS ABILITY TO PRODUCE BIOMASS: OPERATING ACCOUNT	NYSERDA	40%	4,801	1,920	30.8%	1,468	452
P	ENHANCE NYS ABILITY TO PRODUCE BIOMASS: LAND RESTORATION	NYSERDA	40%	15,785	6,314	30.8%	4,827	1,487
P	Wood Biomass As An Alternative Farm Product	USDA CSRS	20%	34,376	6,875	21.6%	5,654	1,221
P	Wood Biomass as an Alternative Farm Product	USDA CSRS	27%	101,036	26,943	24.5%	21,647	5,296
C	Biomass Crops as Source of Locally Produced Renewable Fuels in Northrn NY State	NYSERDA	10%	(1,024)	(102)	0.0%	(102)	(0)
C	COE In Watershed Applications & Technology-Willow& Forest Biomass Project	New York City Dept of Environ. Protection	10%	82,880	8,288	30.3%	6,362	1,926
C	Reducing the Cost of Willow Biomass by Improving Willow Harvest System Efficiency	NYSERDA	10%	8,770	877	30.8%	670	207
C	Facilitating the Commercialization of Willow Biomass Crops by Increasing Yeild	USDA Rural Develop.	10%	184,804	18,480	37.3%	13,459	5,022
C	The Role of Glycobius Speciousus in Sugar Maple Decline	USDA Forest Service	13%	7,098	946	0.0%	946	-
C	Applying Genomic Approaches to the Improvement of Shrub Willow Bioenergy Crops	USDA CSRS	8%	25,620	2,050	0.0%	2,050	-
C	Designing, Developing and Implementing a Living Snow Fence Program for New York State	Research Foundation of City University of New York	10%	52,373	5,237	26.0%	4,157	1,081
C	Accelerated Commercialization and Expansion of Short Rotation Woody Biomass Energy Crops in New York State	NYS Office of Science Technology and Academic Res	13%	99,552	13,274	7.5%	12,350	924
C	Regional Biomass Feedstock Partnership-Willow	South Dakota State University	13%	58,457	7,794	54.0%	5,061	2,733
C	Short Rotation Crops International Collaboration	Multiple Sponsors	8%	637	51	22.0%	42	9
Beier								
P	Importance of Calcium-Rich Substrates for Supporting Refugia and Productivity in an Increasingly acidified Landscape	USDA NSRC	33%	27,509	9,170	0.0%	9,170	-
P	Using LIDAR to Assess the Roles of Climate and Land-cover Dynamics as Drivers of Changes in Biodiversity	NASA Goddard Flight Center	100%	31,127	31,127	40.9%	22,088	9,039
C	Renewable Fuels Roadmap and Sustainable Biomass Geedstock Supply for New York	Pace University	11%	50,740	5,638	31.0%	4,304	1,334

C	Application of GIS Resource Inventory for Unit Management Planning	NYS DEC	25%	68,115	17,029	15.7%	14,718	2,311
Bevilacqua								
P	Higher Education Grant Incentive	Hewlett Packard Company	100%	5,121	5,121	0.0%	5,121	-
P	Modeling Ingrowth and Mortality in Managed Northern Hardwood Stands to Evaluate Sustainability in Forest Production	USDA CSRS	67%	36,637	24,424	0.0%	24,424	-
P	Management Effects on Sustainable Wood Production and Carbon Sequestration in Uneven-aged Northern Hardwood Forests	Univ. of Vermont	100%	42,707	42,707	25.0%	34,165	8,541
P	Estimating Periodic Annual Increment on State Forest Lands in New York	NYS DEC	100%	15,000	15,000	15.7%	12,965	2,035
C	2009 NYS GIS Conference	Multiple Sponsors	20%	61,144	12,229	22.5%	9,986	2,243
C	Analyzing Diameter Growth of New Brunswick Sugar Maples	Natural Resources Canada	33%	539	180	31.0%	137	43
C	2010 NYS Geographical Information Systems Conference	Multiple Sponsors	20%	4,862	972	22.0%	797	175
Briggs								
P	Central New York Watersheds Program	EPA	100%	61,117	61,117	20.8%	50,589	10,528
P	Agricultural Land Use Effects on Water Quality in the Skaneateles Lake Watershed: A Habitat Assessment Using Benthic Macroinvertebrates	Environ. Finance Center	100%	1,793	1,793	0.0%	1,793	-
Dawson								
P	Wildland Training	NYS DEC	100%	48,246	48,246	15.7%	41,699	6,547
P	Roadside Camping Study on Adirondack Forest Preserve Lands	NYS DEC	100%	75,871	75,871	15.7%	65,575	10,295
P	Carrying Capacity Water Bodies Study on Adirondack Forest Preserve Lands	NYS DEC	100%	78,987	78,987	15.7%	68,269	10,718
P	Visitor Use Studies on Forest Preserve Lands	NYS DEC	100%	109,174	109,174	15.7%	94,359	14,814
P	Conservation Easement Stewardship Specialists	NYS DEC	100%	45,061	45,061	15.7%	38,947	6,115
P	Sr. Natural Resources Planner	NYS DEC	100%	154,738	154,738	15.7%	133,740	20,997
P	Natural Resources Planning	NYS DEC	100%	156,915	156,915	15.7%	135,622	21,293
P	Conservation Easement Planning and Stewardship Specialists	NYS DEC	100%	75,346	75,346	15.7%	65,122	10,224
P	Visitor Study Program	NYS DEC	100%	15,051	15,051	15.7%	13,008	2,042
Germain								
P	Promoting Forest Stewardship Compatible with Water Quality	Watershed Agricultural Council	100%	36,879	36,879	21.9%	30,259	6,620
P	Promoting NIPF as a Future Woody Bioenergy Feedstock	NYFOA	100%	25,009	25,009	0.0%	25,009	-
P	The Impact of Wood Procurement Pressure on Sustained Yield Management on Private Non-Industrial Forestland in the Northern Forest	Univ. of Vermont	100%	34,816	34,816	20.0%	29,014	5,803
C	Predicting the Size of Discolored Hearts of Sugar Maple	USDA Forest Service	20%	600	120	0.0%	120	-
C	Development of a Model for the Assessment of Incremental Commercial Biomass Availability on a Regional Basis	NYSERDA	33%	35,076	11,692	31.0%	8,925	2,767
C	Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York	Pace University	11%	50,740	5,638	31.0%	4,304	1,334
Herrington								
P	Dynamic Nonpoint Pollution Model Development for the Carmans River: Phase II	NYS Department of State	67%	10,883	7,255	0.0%	7,255	-

P	CORSE 2007	Institute for Applcat. of Geospatial Technology	100%	6,440	6,440	22.0%	5,279	1,161
Kuehn								
P	Increasing Farm Profitability through Agritourism Product Development and Marketing	Univ. of Vermont	100%	4,353	4,353	0.0%	4,353	-
P	Outreach and Education	NYS DEC	100%	2,310	2,310	15.7%	1,996	313
P	Constraints and Motivations Related to Bass Fishing Along the Lake Ontario Coast	NOAA	100%	44,919	44,919	54.0%	29,168	15,751
P	Outreach and Education (AMO7675)	NYS DEC	100%	85,983	85,983	15.7%	74,315	11,667
P	Constraints and Motivations Related to Bass Fishing Along the Lake Ontario Coast	NOAA	100%	5,757	5,757	54.0%	3,739	2,019
C	Nature and Heritage Tourism in the Hudson River Valley: Enhancing and Sustaining	NOAA	33%	6,075	2,025	52.5%	1,328	697
C	Northeast Recreation Research Symposium	Multiple Sponsors	25%	452	113	0.0%	-	113
C	Northeast Recreation Research Symposium	Multiple Sponsors	25%	23,498	5,874	28.8%	4,562	1,312
Lautz								
P	The Impact of Changing Climate on Winter Nitrogen Export from a Forested Watershed of the Adirondack Mts	USDA CSRS	67%	20,577	13,718	0.0%	13,718	-
C	Water Flux and Nitrogen Cycling in the Hypothetic Zones of a Semi-Arid Watershed	Syracuse Univ.	25%	3,753	938	0.0%	971	(33)
C	A Decision-Support System for Forest Management under Forest Tent Caterpillar Defoliation	Univ. of Maine at Orono	20%	3,407	681	0.0%	681	-
Lim								
C	Environmental Entrepreneurship: Scholarship in Action for a Sustainable Future	Syracuse Univ.	33%	6,447	2,149	0.0%	2,149	-
Luzadis								
P	Assessing Private Landowner and Land Manager Knowledge of and Attitudes Toward Invasive Species in Adirondack Forests	USDA CSRS	67%	17,948	11,965	0.0%	11,965	-
C	Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York	Pace Univ.	11%	50,740	5,638	31.0%	4,304	1,334
Malmsheimer								
P	Forest Service Land Management Litigation Research: Stage Two	USDA Forest Service	100%	38,698	38,698	0.0%	38,698	-
P	SUNY Sustainability: A Climate Changes Solutions Curriculum	NASA Washington	40%	40,711	16,284	47.5%	11,040	5,244
P	SUNY Sustainability: An Enhanced Climate Changes Solutions Curriculum	NASA Washington	40%	14,249	5,699	0.0%	5,699	-
C	Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York	Pace Univ.	11%	50,740	5,638	31.0%	4,304	1,334
C	Taxation and Sustainable Forest Management in the Northern Forest	Univ. of Maine at Orono	33%	28,667	9,556	20.0%	7,963	1,593
Maynard								
P	Two Plant Growth Chambers for the American Chestnut Project	American Chestnut Foundation	67%	4,432	2,954	0.0%	2,954	-
P	Development of a Nut Grafting Procedure for Transgenic Micropropagated American Chestnut Shoots	Northern Nut Growers Association	67%	2,676	1,784	0.0%	1,784	-
P	Regenerating Transformation Events into Whole Plants and Expansion of Field Trials	American Chestnut Foundation	100%	59,756	59,756	15.0%	51,962	7,794

P	Field Testing Blight Resistance in the First Transgenic Line of American Chestnut Trees	Consortium for Plant Biotech. Res. Inc.	100%	137	137	0.0%	137	-
P	FHI: First and Second Generation Transgenic American Chestnut Trees	US Endowment for Forestry & Commun.	100%	57,085	57,085	15.0%	49,639	7,446
C	Transformation of American Chestnut with Genes Encoding Transcription Factors	Institute of Forest Biotech.	33%	13	4	10.3%	4	0
C	Testing Transgenic Events for Gene Copy Number, Gene Expression, and Blight Resistance	American Chestnut Foundation	33%	37,268	12,423	15.0%	10,802	1,620
C	Applying Genomic Approaches to the Improvement of Shrub Willow Bioenergy Crops	USDA CSRS	20%	25,620	5,124	0.0%	5,124	-
C	Evaluating Environmental Impacts of Transgenic American Chestnut Trees to Chestnut Trees Produced by Conventional Breeding	USDA CSRS	17%	93,039	15,506	25.0%	12,405	3,101
C	Developing Blight Resistance in Transgenic American Chestnut for Agroforestry and Restoration	Consortium for Plant Biotech. Research Inc.	33%	9,200	3,067	25.0%	2,453	613
McGuigan								
C	Development of a Nut Grafting Procedure for Transgenic Micropropagated American Chestnut Shoots	Northern Nut Growers Association	33%	2,676	892	0.0%	892	-
Newman								
P	FY 2008 NSRC Research Grants	USDA NSRC	100%	53,753	53,753	0.0%	53,753	-
P	FY 2009 NSRC Research Grants	USDA NSRC	100%	35,917	35,917	0.0%	35,917	-
P	Taxation and Sustainable Forest Management in the Northern Forest	Univ. of Maine at Orono	67%	28,667	19,112	20.0%	15,926	3,185
P	FY 2010 NSRC Research Grants	USDA NSRC	100%	3,073	3,073	0.0%	3,073	-
C	Kids as Environmental Entrepreneurs	Syracuse Univ.	25%	4,474	1,118	0.0%	1,118	-
C	Entrepreneurship, Not-for-Profits and Climate Change	Syracuse Univ.	20%	10,626	2,125	0.0%	2,125	-
Nowak, C								
P	A Continued Partnership for Powerline Vegetation Management in New York: New York Power Authority and SUNY-ESF	New York Power Authority	100%	96,751	96,751	55.7%	62,140	34,612
P	Using FIA Data to Assess Current Status and Predict Future Overstory Species Composition based on Current Woody Understory Species Composition	USDA Forest Service	100%	5,791	5,791	0.0%	5,791	-
P	Conduct Inventory of Historic Tree Plantations	National Park Service	100%	2,715	2,715	17.5%	2,310	404
Nowak, D								
P	ULTRA-Ex: Positioning Rust-Belt Cities for a Sustainable Future: A Systems Approach to Enhancing Urban Quality of Life	NSF	100%	8,636	8,636	54.0%	5,608	3,028
Nyland								
P	Analyzing Diameter Growth of New Brunswick Sugar Maples	USDA CSRS	67%	539	359	31.0%	274	85
C	Modeling Ingrowth and Mortality in Managed Northern Hardwood Stands to Evaluate Sustainability in Forest Production	USDA CSRS	33%	36,637	12,212	0.0%	12,212	-

C	Northern Hardwood Forest Health Ten Years After the Ice Storm of 1998	USDA Forest Service	33%	11,304	3,768	0.0%	3,768	-
Schuster								
P	Nature and Heritage Tourism in the Hudson River Valley: Enhancing and Sustaining	NOAA	67%	6,075	4,050	52.5%	2,656	1,394
Stehman								
P	IPA for Stephen Stehman	US Geological Survey	100%	25,000	25,000	26.0%	19,841	5,159
P	IPA for Dr. Stephen Stehman	US Geological Survey	100%	8,835	8,835	26.0%	7,012	1,823
Stella								
P	14-APR-2011	Univ. of California	100%	72,671	72,671	15.0%	63,187	9,484
P	Quantifying Riparian Zone Structure and Function to Guide Mgmt of the Northern Hardwood Forest Ecosystem	USDA CSRS	100%	25,572	25,572	0.0%	25,572	-
C	Restoring Small, Ephemeral Wetlands in Forested Landscapes of New York State	USDA CSRS	20%	19,215	3,843	0.0%	3,843	-
Volk								
P	Biomass Crops as Source of Locally Produced Renewable Fuels in Northrn NY State	NYSERDA	50%	(1,024)	(512)	0.0%	(512)	(0)
P	COE In Watershed Applications & Technology-Willow& Forest Biomass Project	NYSERDA	50%	82,880	41,440	30.3%	31,812	9,628
P	Reducing the Cost of Willow Biomass by Improving Willow Harvest System Efficiency	NYSERDA	50%	8,770	4,385	30.8%	3,352	1,033
P	Facilitating the Commercialization of Willow Biomass Crops by Increasing Yield	USDA Rural Develop.	50%	184,804	92,402	37.3%	67,294	25,108
P	Sustainable Reuse Remedy Demonstration	Honeywell Internation. Inc.	40%	312,560	125,024	59.0%	78,631	46,392
P	Development of a Model for the Assessment of Incremental Commercial Biomass Availability on a Regional Basis	NYSERDA	67%	35,076	23,384	31.0%	17,850	5,534
P	Designing, Developing and Implementing a Living Snow Fence Program for New York State	Research Foundation of City University of New York	50%	52,373	26,186	26.0%	20,783	5,404
P	Accelerated Commercialization and Expansion of Short Rotation Woody Biomass Energy Crops in New York State	NYS Office of Science Technology & Academic Res	67%	99,552	66,368	7.5%	61,748	4,620
P	Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for New York	Pace Univ.	22%	50,740	11,275	31.0%	8,607	2,668
P	Management and Collection of Willow as a Short Rotation Woody Crop (SRWC) for Biofuel	Consortium for Research on Renewable Industrial Ma	100%	6,818	6,818	15.0%	5,928	889
P	COE: Willow and Forest Biomass Project	US DOE	100%	26,150	26,150	30.4%	20,054	6,096
P	Regional Biomass Feedstock Partnership-Willow	South Dakota State Univ.	67%	58,457	38,971	54.0%	25,306	13,665

P	Availability of Marginal Land and Economics of Scale in the Production of Non-Traditional Energy Crops	Central New York Land Manage. LLC	100%	14,001	14,001	10.0%	12,728	1,273
P	Willow Biomass Crop Yield Trial in South Carolina	American Forest Manage. Inc.	100%	150	150	31.0%	114	35
C	COE in Watershed Applications & Technology-Biomass Gasification Project	New York City Dept of Environ. Protection	33%	9,126	3,042	30.8%	2,326	716
C	O'Brien-Biorefinery Pilot Research and Development	OBrien and Gere	13%	108,340	13,542	0.0%	13,542	-
C	31-MAR-2009	OBrien and Gere	13%	301,464	37,683	0.0%	37,683	-
C	31-MAR-2009	OBrien and Gere	13%	87,304	10,913	0.0%	10,913	-
C	31-MAR-2009	OBrien and Gere	13%	143	18	0.0%	18	-
C	31-MAR-2009	OBrien and Gere	13%	31,319	3,915	0.0%	3,915	-
C	Wood Biomass As An Alternative Farm Product	USDA CSRS	25%	34,376	8,594	21.6%	7,067	1,527
C	Applying Genomic Approaches to the Improvement of Shrub Willow Bioenergy Crops	USDA CSRS	20%	25,620	5,124	0.0%	5,124	-
C	COE: Biomass Gasification Project	US DOE	33%	17,218	5,739	30.4%	4,401	1,338
C	550-Amidon-O'Brien-3.1.d	OBrien and Gere	13%	17,906	2,238	0.0%	2,238	-
C	550-Amidon-O'Brien-3.2.d	OBrien and Gere	13%	16,661	2,083	0.0%	2,083	-
C	550-Amidon-O'Brien-3.1.e	OBrien and Gere	13%	810	101	0.0%	101	-
C	550-Amidon-O'Brien-3.1.f	OBrien and Gere	13%	2,251	281	0.0%	281	-
C	Wood Biomass as an Alternative Farm Product	USDA CSRS	33%	101,036	33,679	24.5%	27,058	6,621
C	Confronting the Obstacles to Willow Genetoc Transformation	USDA CSRS	33%	4,173	1,391	0.0%	1,391	-
C	Short Rotation Crops International Collaboration	Multiple Sponsors	20%	637	127	22.0%	104	23
White								
P	NYSTAR Capital Facility Program	SUNY ESF	100%	61,071	61,071	0.0%	61,071	-
C	O'Brien-Biorefinery Pilot Research and Development	OBrien and Gere	13%	108,340	13,542	0.0%	13,542	-
C	31-MAR-2009	OBrien and Gere	13%	301,464	37,683	0.0%	37,683	-
C	31-MAR-2009	OBrien and Gere	13%	87,304	10,913	0.0%	10,913	-
C	31-MAR-2009	OBrien and Gere	13%	143	18	0.0%	18	-
C	31-MAR-2009	OBrien and Gere	13%	31,319	3,915	0.0%	3,915	-
C	550-Amidon-O'Brien-3.1.d	OBrien and Gere	13%	17,906	2,238	0.0%	2,238	-
C	550-Amidon-O'Brien-3.2.d	OBrien and Gere	13%	16,661	2,083	0.0%	2,083	-
C	550-Amidon-O'Brien-3.1.e	OBrien and Gere	13%	810	101	0.0%	101	-
C	550-Amidon-O'Brien-3.1.f	OBrien and Gere	13%	2,251	281	0.0%	281	-
Yanai								
P	Predicting the Size of Discolored Hearts of Sugar Maple	USDA Forest Service	40%	600	240	0.0%	240	-
P	Long-Term Ecological Research at Hubbard Brook Experimental Forest	Cornell Univ.	100%	47,460	47,460	22.9%	38,616	8,844

P	Forest Health GIS Planner - Yanai	NYS DEC	100%	73,927	73,927	15.7%	63,896	10,032	
P	A Decision-Support System for Forest Management under Forest Tent Caterpillar Defoliation	University of Maine at Orono	40%	3,407	1,363	0.0%	1,363	-	
P	A Decision-Support System for Forest Management under Forest Tent Caterpillar Defoliation	Univ. of Maine at Orono	50%	18,772	9,386	0.0%	9,386	-	
P	Non-Destructive Soil Inventory using Inelastic Neutron Scattering: An Application to Nitrogen Controls	Univ. of New Hampshire	100%	25,026	25,026	20.0%	20,855	4,171	
Zhang									
P	Enhancing HABPLAN by Adding New Stand Growth and Yield Models for NE Forests	USDA Forest Service	100%	14,972	14,972	0.0%	14,972	-	
C	Using LIDAR to Assess the Roles of Climate and Land-cover Dynamics as Drivers of Changes in Biodiversity	NASA Goddard Space Flight Center	25%	79,692	19,923	35.5%	14,704	5,219	
			Credited-	75.29	-Amount:	2,947,680	18.5%	2,488,413	459,267

Proposal Submission Activity, FY 2009-2010

P I / C O	Title	Sponsor Name	Credite d Share %	Total Request	Credited Amount	IC:DC Ratio	A / P / R	Credited Direct Cost Amount	Credited Indirect Cost Amount
Abrahamson									
C	Design Intelligence Biofibers and Smart Building Systems	Syracuse University	13.3%	\$316,541	\$42,205	45.1%	R	29,082	13,124
C	Development and Deployment of a Short Rotation Woody Crops Harvesting System Based on a Case New Holland Forage Harvester and SRC Woody Crop Header	NYSERDA	13.3%	\$250,000	\$33,333	31.0%	P	25,445	7,888
C	NE Woody Crops Development Project (Continuation 51689)	South Dakota State University	13.3%	\$110,000	\$14,667	56.0%	A	9,402	5,265
Beier									
P	Coupling Local-Scale Climate Change and Forest Ecosystems in the Adirondack Mountains, NY	USDA CSREES Mc Stennis	66.7%	\$51,799	\$34,533	0.0%	A	34,533	-
P	Collaborative Research: Bioenergy and Resilience in the Northern Hardwood Forest	NSF	50.0%	\$299,352	\$149,676	47.4%	R	101,551	48,126
P	Impacts of Acidic Deposition and Soil Calcium Depletion on Terrestrial Biodiversity and Food Webs in Northern Hardwood Forest Ecosystems	USDA Forest Service - NSRC	33.3%	\$139,688	\$46,563	20.0%	P	38,802	7,760
P	Collaborative Research: Bioenergy and Resilience in the Northern Hardwood Forest	NSF	50.0%	\$450,079	\$225,040	53.0%	P	147,080	77,960
C	IGERT: "Helping Forests Walk": Engaging Scientific and Traditional Ecological Knowledge to Build Resilience in Cultural Landscapes Facing Environmental Change	NSF	7.7%	\$3,199,901	\$246,146	6.9%	R	230,352	15,794
C	Application of GIS to Resource Inventory for Unit Management Planning	NYS DEC	25.0%	\$115,000	\$28,750	15.7%	A	24,849	3,901
C	Characterization of Montane Forest Ecosystems Using Advanced Remote Sensing Technology	USDA CSREES Mc Stennis	20.0%	\$79,453	\$15,891	0.0%	A	15,891	-
C	Forest Change in the Adirondacks over 40 years of Multiple Stresses	USDA CSREES Mc Stennis	25.0%	\$54,034	\$13,509	0.0%	P	13,509	-
C	Trans-Port: A Partnership to Develop a Portable Transportation Network for the New York State Forest Preserve	USDI - Geological Survey	33.3%	\$75,000	\$25,000	23.9%	R	20,170	4,830
C	Multi-Sensor Data Assimilation to Characterize Ecosystem Health of the Montane Forests	USDA Forest Service - NSRC	20.0%	\$110,765	\$22,153	20.0%	R	18,461	3,692
C	Multi-Sensor Data Assimilation to Characterize Ecosystem Health of the Montane Forests	USDA Forest Service - NSRC	20.0%	\$110,765	\$22,153	20.0%	R	18,461	3,692
C	Characterization and Monitoring of Montane Forest Ecosystems Using Satellite Multi-Sensor Data Assimilation	NASA	20.0%	\$582,194	\$116,439	47.2%	P	79,101	37,338
C	Scenic Byways Adirondacks Regional Information Access	US DOT	33.3%	\$167,758	\$55,919	26.0%	P	44,380	11,539

	System								
Bevilacqua									
P	Estimating Periodic Annual Increment on State Forest Lands in New York (Addendum #28)	NYS DEC	100.0%	\$15,000	\$15,000	15.7%	A	12,965	2,035
C	Establishing a Field Laboratory for Investigating Beech Biology and Management in Northern Hardwood Forest	USDA CSREES Mc Stennis	20.0%	\$84,627	\$16,925	0.0%	R	16,925	-
C	Analyzing Diameter Growth of New Brunswick Sugar Maples	Natural Resources of Canada	33.3%	\$6,500	\$2,167	31.0%	A	1,654	513
C	A Spatial Model of National Forest Fire Ignitions	USDA-Forest Service	33.3%	\$51,843	\$17,281	0.0%	P	17,281	-
Briggs									
P	Application and Demonstration of Fungal Biofiltration Systems in the Treatment of Agricultural Wastewater Effluents	Bluepoint Environmental LLC	66.7%	\$38,473	\$25,649	26.0%	P	20,356	5,293
P	Agricultural Land Use Effects on Water Quality in the Skaneateles Lake Watershed: A Habitat Assessment Using Benthic Macroinvertebrates	Syracuse COI in Environmental and Energy Systems	100.0%	\$5,000	\$5,000	0.0%	A	5,000	-
Dawson									
P	Conservation Easement Planning and Stewardship Specialists (MOU #AM07679)	NYS DEC	100.0%	\$115,803	\$115,803	15.7%	A	100,089	15,714
P	Natural Resource Planners (AM07674)	NYS DEC	100.0%	\$245,084	\$245,084	15.7%	P	211,827	33,257
P	Visitor Study Program	NYS DEC	100.0%	\$245,447	\$245,447	15.7%	P	212,141	33,306
P	Sr. Natural Resources Planner Program	NYS DEC	100.0%	\$205,902	\$205,902	15.7%	P	177,962	27,940
Drew									
C	Collaborative Research: Convergent Discourse Development and Negotiating Intended Meaning in the Scientific Writing of Non-Native English Speaking STEM Graduate Students	NSF	10.0%	\$431,638	\$43,164	56.0%	R	27,669	15,495
Germain									
P	Supply Chain Management to Improve Saw Mill Productivity	USDA - WERC	100.0%	\$42,384	\$42,384	23.5%	R	34,323	8,061
Kuehn									
C	Collaborative Research: Convergent Discourse Development and Negotiating Intended Meaning in the Scientific Writing of Non-Native English Speaking STEM Graduate Students	NSF	10.0%	\$431,638	\$43,164	56.0%	R	27,669	15,495
Luzadis									
C	IGERT: "Helping Forests Walk": Engaging Scientific and Traditional Ecological Knowledge to Build Resilience in Cultural Landscapes Facing Environmental Change	NSF	7.7%	\$3,199,901	\$246,146	6.9%	R	230,352	15,794
C	Collaborative Research: Bioenergy and Resilience in the Northern Hardwood Forest	NSF	25.0%	\$299,352	\$74,838	47.4%	R	50,775	24,063
C	Integrated Knowledge-Based Experience for First-Year Biology and Chemistry Laboratories Project	NSF	14.3%	\$192,444	\$27,492	21.9%	P	22,558	4,934
C	Collaborative Research: Bioenergy and Resilience in the Northern Hardwood Forest	NSF	25.0%	\$450,079	\$112,520	53.0%	P	73,540	38,980

Malmshaimer									
P	A Spatial Model of National Forest Fire Ignitions	USDA-Forest Service	66.7%	\$51,843	\$34,562	0.0%	P	34,562	-
Maynard									
C	Project 1: First and Second Generation Transgenic American Chestnut Tree	U.S. Endowment for Forestry & Communities, Inc.	33.3%	\$900,000	\$300,000	15.0%	A	260,870	39,130
C	Forest Health Initiative Supplemental Grant: Testing Early Flowering in Transgenic American Chestnut (supplement 51557)	U.S. Endowment for Forestry & Communities, Inc.	33.3%	\$89,890	\$29,963	15.0%	P	26,055	3,908
C	Support for Molecular Lab Position	American Chestnut Foundation	33.3%	\$20,000	\$6,667	15.0%	A	5,797	870
C	Developing Blight Resistance in Transgenic American Chestnut for Agroforestry and Restoration	ArborGen, LLC	33.3%	\$20,000	\$6,667	10.3%	A	6,044	623
Newman									
P	ESF Summer Internships	NYS DEC	66.7%	\$120,000	\$80,000	15.7%	P	69,145	10,855
P	FY 2010 NSRC Research Grants	USDA Forest Service - NSRC	100.0%	\$185,344	\$185,344	0.0%	A	185,344	-
Nowak, C.									
P	Re-establishment of the Long-term Vegetation Management Research on the Volney-Marcy Electric Transmission line Right-of-way	Niagara Mohawk Power Corporation	100.0%	\$10,000	\$10,000	22.0%	A	8,197	1,803
Nowak, D.									
C	WSC-Category 1: Partnerships and Planning to Manage Green Infrastructure in a Changing Climate	NSF	16.7%	\$149,975	\$24,996	21.5%	P	20,567	4,429
Nyland									
P	Establishing a Field Laboratory for Investigating Beech Biology and Management in Northern Hardwood Forest	USDA CSREES Mc Stennis	40.0%	\$84,627	\$33,851	0.0%	R	33,851	-
P	Analyzing Diameter Growth of New Brunswick Sugar Maples	Natural Resources of Canada	66.7%	\$6,500	\$4,333	31.0%	A	3,308	1,025
Stehman									
P	IPA for Dr. Stephen Stehman	USDI-Geological Survey	100.0%	\$25,000	\$25,000	26.0%	A	19,841	5,159
P	MODIS Burned Area Maintenance, Improvement and Validation	Univ. of Maryland	100.0%	\$29,146	\$29,146	26.0%	P	23,132	6,014
P	IPA for Dr. Stephen Stehman	USDI-Geological Survey	100.0%	\$46,422	\$46,422	26.0%	A	36,843	9,579
P	Advancing Methods for Global Crop Area Estimation	South Dakota State University	100.0%	\$61,524	\$61,524	26.0%	P	48,829	12,695
P	Using Global Forest Cover Change 1980-2010 to Refine Estimates of the airborne Fraction	Woods Hole Ocean. Institute	100.0%	\$61,524	\$61,524	26.0%	P	48,829	12,695
Stella									
P	Collaborative Research: Integrating Spatial Variation in Propagule Availability into Riparian Plant Population Models	University of California	100.0%	\$343,518	\$343,518	23.6%	R	277,932	65,586

P	Collaborative Research: Quantifying Feedbacks between Fluvial Morphodynamics and Pioneer Riparian Vegetation in Sand-Bed Rivers	NSF	100.0%	\$218,223	\$218,223	48.1%	P	147,319	70,904
P	A New Tool for Restoration Ecology: Stable Carbon Isotopes in Tree Rings as Indicators (\$8,000) Seed grant	SUNY ESF	66.7%	\$8,000	\$5,333	0.0%	A	5,333	-
C	IGERT: "Helping Forests Walk": Engaging Scientific and Traditional Ecological Knowledge to Build Resilience in Cultural Landscapes Facing Environmental Change	NSF	7.7%	\$3,199,901	\$246,146	6.9%	R	230,352	15,794
Vidon									
P	Greenhouse Gas Emissions from Riparian Zones Across a Regional Hydrogeomorphic Gradient	Indiana University	100.0%	\$32,981	\$32,981	0.0%	P	32,981	-
Volk									
P	New York Energy Policy Institute (NYEPI)	Rochester Institute of Tech.	66.7%	\$64,394	\$42,929	31.0%	R	32,771	10,159
P	Potential Hybrid Poplar Benefits as Biomass Feedstocks in the North Central Region	Iowa State University	100.0%	\$120,389	\$120,389	55.0%	R	77,670	42,719
P	Development and Deployment of a Short Rotation Woody Crops Harvesting System Based on a Case New Holland Forage Harvester and SRC Woody Crop Header	NYSERDA	66.7%	\$250,000	\$166,667	31.0%	P	127,227	39,440
P	Potential Woody Biomass Supply and Economics for the RockTenn	RockTenn	100.0%	\$47,368	\$47,368	59.0%	P	29,791	17,577
P	Willow Biomass Crop Yield Trial in South Carolina	American Forest Management Inc.	100.0%	\$21,590	\$21,590	31.0%	A	16,481	5,109
P	Farm and Forest to Fuel: An Integrative and Experiential Approach to Bioenergy, Biofuels, and Bioproducts Education	USDA - Higher Education Challenge (HEC)	40.0%	\$240,000	\$96,000	28.2%	P	74,883	21,117
P	NE Woody Crops Development Project (Continuation 51689)	South Dakota State University	66.7%	\$110,000	\$73,333	56.0%	A	47,009	26,325
C	Area 1: SUNY ESF Biomass Combined Heat and Power System	US Dept. of Energy	33.3%	\$1,360,000	\$453,333	0.0%	R	453,333	-
C	ReEnergize CNY	U.S. Dept. of Labor	25.0%	\$3,692,794	\$923,199	33.6%	R	690,928	232,271
C	Confronting the Obstacles to Willow Genetic Transformation \$50,591	USDA CSREES Mc Stennis	33.3%	\$50,591	\$16,864	0.0%	A	16,864	-
C	Wood Gasification Tar Reduction	Syracuse University	33.3%	\$5,000	\$1,667	0.0%	R	1,667	-
Yanai									
P	Collaborative Research: Nutrient Co-Limitation in Young and Mature Northern Hardwood Forests	NSF	100.0%	\$375,974	\$375,974	51.6%	A	248,067	127,907
P	MRI -R2: Development of Associated Particle Neutron Scattering for Non-Destructive Analysis of Belowground Elements in the Field	NSF	100.0%	\$4,155,099	\$4,155,099	14.8%	R	3,618,813	536,286
P	Long-Term Ecological Research at Hubbard Brook Experimental Forest	Cornell University	100.0%	\$330,000	\$330,000	23.3%	P	267,690	62,310
P	Forest Health GIS Planner	NYS DEC	100.0%	\$104,275	\$104,275	15.7%	P	90,125	14,150
C	Empirically Validating the Spatial Relationship between Fragmentation and the duration of	USDA Forest Service -	33.3%	\$80,466	\$26,822	20.0%	P	22,352	4,470

	Forest Tent Caterpillar Outbreaks in Sugar Maple Forests	NSRC							
Subtotal - Forest and Natural Resources Management		Credited-	39.52	-Amount:	\$11,317,650	20.0%		9,434,953	1,882,697

Completed and Ongoing Proposals (Taken from Faculty Annual Reports; n = 104):

1. **Abrahamson, L.P.** \$85,000 from Case New Holland support for development and demonstration of a willow harvesting system (2005-2008 with continuing support through 2009-10 with donated use of an FX45 forage harvester for willow harvesting and a FR 9060 forage harvester with new header).
2. **Abrahamson, L.P.** Program for wood bioenergy farming research, development and technology transfer in New York (USDA –CSREES), \$130,000 - 200,000/yr 15 years (1996-2011)
3. **Abrahamson, L.P.** Support for 10th ROW Conference in 2014, \$8,000 (various).
4. **Abrahamson, L.P.** Support for 9th ROW Conference in September, 2009, \$29,000 (various).
5. **Abrahamson, L.P.** Support for willow biomass commercialization: Land restoration, \$398,000 (2/00-12/10) NYSERDA
6. **Abrahamson, L.P.** Support for willow biomass commercialization: Operations, \$380,000 (2/00-12/10), NYSERDA
7. **Abrahamson, L.P.** USDA Forest Service. The economic effects of ambrosia beetles and round headed borers on black cherry blow down at the Kane Experimental Forest, with D. Allen (8/29/2006 – 12/31/2010) \$36,000.
8. **Abrahamson, L.P.** USDA Forest Service. The role of *Glyeobius speciosus* in sugar maple decline, with D. Allen (6/30/2006 – 4/30/2010) \$25,000.
9. **Abrahamson, L.P.** and **T.A. Volk.** Wood Biomass as an Alternative Farm Product. USDA-CSREES. \$125,760. 2009-2010.
10. Amidon, T. and **T.A. Volk.** Center of Excellence in Watershed Applications and Technology – Biomass Gasification Project. USDoe \$150,860, 2009 – 2011
11. Angermeier, P., E. Frimpong, K. Limburg, E. Bennett, **C.M. Beier**, D. Beard. *Spatial Analysis of Relations among Conservation Practices, Aquatic Biodiversity, Ecosystem Services and Human Well-being.* USGS (\$265,500- current).
12. Battles, J. and **J.C. Stella.** Effects of river regulation and climate on sustainability of Fremont cottonwood (*Populus fremontii*) forests in California’s Central Valley. CALFED Bay-Delta Science Program. \$228,750. 2006-2010.
13. **Beier C.M.**, M.J. Mitchell, J.P. Gibbs, D. Leopold, M. Dovciak. 2008. *Importance of Calcium-Rich Substrates for Supporting Refugia of Biodiversity and Productivity in an Increasingly Acidified Landscape.* USDANortheastern States Research Cooperative (\$41,543 - current).
14. **Bevilacqua, E.** “Estimating Periodic Annual Increment on State Forest Lands in New York”. NYS Department of Environmental Conservation. \$15,000. 2009
15. **Bevilacqua, E.** “Integrating Geospatial Information Technologies into Environmental Sciences and Natural Resources Management Curricula.” Hewlett-Packard Company, Technology for Teaching in Higher Education Grant Incentive. \$68,000. 2007-2010.
16. **Bevilacqua, E.** and **R. Nyland.** "Management Effects on Sustainable Wood Production and Carbon Sequestration in Uneven-aged Northern Hardwood Forests." Northeastern States Research Cooperative: Theme 1. 2008-2010. \$92,367
17. **Bevilacqua, E.** and **R. Nyland.** “Modeling Ingrowth and Mortality in Managed Northern Hardwood Stands to Evaluate Sustainability in Forest Production.” USDA, McIntire-Stennis. \$106,687. 2008-2011
18. Bilodeau, L. and **R.D. Briggs.** Agricultural land use effects on water quality in the Skaneateles Lake watershed: A habitat assessment using benthic macroinvertebrates. Environmental Finance Center, Syracuse University. \$5000. May 2010 – Oct. 31, 2010.

19. **Briggs, R.D.** Central NY Watersheds Component 1: Monitoring effectiveness of agricultural BMPs in maintenance of water quality in the Skaneateles Watershed. US EPA. \$400,000 2005-2010. Final report in progress.
20. Chase, L., and **D. Kuehn**. Increasing Farm Profitability through Agritourism Product Development and Marketing. USDA CSREES with UVM Extension. ESF subcontract: \$12,853; (July, 2008 – June, 2010). No GA supported by this grant.
21. **Dawson, C.** and R. Schuster. Carrying Capacity of Water Bodies Study on Adirondack Forest Preserve Lands with NYS Department of Environmental Conservation under MOU agreement; 5/15/08 to 5/14/10; \$75,758; support for April McEwen.
22. **Dawson, C.** and R. Schuster. Roadside Camping Study on Adirondack Forest Preserve Lands with NYS Department of Environmental Conservation under MOU agreement; 5/15/08 to 5/14/10; \$170,072; support for David Graefe and partial support for Ryan Wynne.
23. **Dawson, C.** and R. Schuster. Visitor Use Studies on Forest Preserve Lands with NYS Department of Environmental Conservation under MOU agreement; 5/15/08 to 5/14/10; \$499,037; support for Corey Williams and Lindsey Barker. [extended until September 30, 2010 under additional funding agreement]
24. **Dawson, C.** Training Program for Recreational Visitor and Impact Management on New York State Forest Preserve Lands with NYS Department of Environmental Conservation under MOU agreement; 8/15/07 to 12/31/09; \$164,767; partial support for Blake Propst and Corenne Black.
25. **Drew, A.P.** NYS/UUP Individual Awards Program grant, “Research Visit to SUNY-ESF Costa Rica Field Station”, awarded \$656 for period July 3-15, 2009.
26. **Germain, R.H.** 2009. The impact of wood procurement pressure on sustained yield management on private non-industrial forestland in the Northern Forest. Northeastern States Research Cooperative. \$113,607.
27. **Germain, R.H.** and W. Smith. 2010. New York Forest Community Economic Assistance Program Small Business Administration. \$100,000.
28. Gibbs, J.P. and **J.C. Stella, D. Leopold,** and K. Schultz. Restoring Small, Ephemeral Wetlands in Forested Landscapes of New York State. McIntire-Stennis Research Program. \$89,850. 2009-2012.
29. **Kiernan, D.** Management effects on sustainable wood production and carbon sequestration in uneven-aged northern hardwood forests. Northern States Research Coop.
30. **Kuehn, D.** Outreach and Education. New York State Department of Environmental Conservation, \$42,562, January 1 – June 30, 2009. Employee supported: Gloria Van Duyne.
31. **Kuehn, D.,** and **V. Luzadis.** Constraints and motivations related to bass fishing along the Lake Ontario coast. NY Sea Grant Institute, \$146,698, February 1, 2009 – January 31, 2011. GA supported: Matthew Brincka.
32. **Luzadis, V.A** and D. Nowak, et al. NSF-USFS URBAN LONG-TERM RESEARCH AREA EXPLORATORY (ULTRA-EX) AWARDS COMPETITION. Positioning Rust-Belt Cities for a Sustainable Future: A Systems Approach to Enhancing Urban Quality of Life. \$300,000 funded.
33. **Luzadis, V.A.** 2009-2010. Great Lakes Research Consortium. Research network grant on ecosystem services. \$1,000.
34. **Luzadis, V.A.** and **D. Kuehn.** Sea Grant. Constraints and motivations related to bass

- fishing along the Lake Ontario coast. Supports M. Brincka. \$146,698.
35. **Luzadis, V.A.** and M. Schlaepfer. 2009-2010. CREES, McIntire-Stennis. Assessing private landowner knowledge of and attitudes toward invasive species in the Adirondack Park. Supports Suzanne Conrad. \$48,855
 36. **Luzadis, V.A.**, K. Limburg, and G. Boyer. 2009-2010. SUNY Conversations in the Disciplines. Quantification and valuation of ecosystem services. \$5,000
 37. **Luzadis, V.A.**, K. Limburg, and L. Lautz. 2007-2010. "Modeling Urbanization Effects on Water Resources in Moodna Creek Watershed, NY: Developing a Tool for Community Watershed Management". Water Resources Institute, Water Resources Research Grant Program, \$28,064 funded. Supported Molly Ramsey.
 38. **Luzadis, V.A., T.A. Volk**, et al. 2008-11. Renewable fuels roadmap and sustainable biomass feedstock supply for NY. NYSERDA. With Pace University, Cornell University, and private partners. \$5,000 of \$110,000 to ESF
 39. **Malmsheimer, R.W.** "The U.S. Forest Service in Federal Court: Understanding Judicial Review of National Forest Management Decisions – Stage Two." USDA Forest Service (National Forest System). \$199,200. 2006-2010.
 40. **Malmsheimer, R.W.**, R. Beal, D. Johnson, L. Quakenbush, and C. Spuches. "SUNY Sustainability: A Climate Changes Solutions Course." National Aeronautics and Space Administration (NASA). \$174,500. 2009-2010.
 41. **Maynard, C.A.** and W. Powell, Regenerating Transformation Events into Whole Plants and Expansion of Field Trials. The New York State Chapter of The American Chestnut Foundation. \$300,000 (5/08-6/11).
 42. McNulty S.A., **C.M. Beier**, and W.F. Porter. *Application of GIS to Resource Inventory for Unit Management Planning*. NYS Department of Environmental Conservation (\$115,000 - current).
 43. Mountrakis, G, **C.M. Beier**, B. Zuckerberg, W.F. Porter. *Using LiDAR to Assess the Roles of Climate and Land-Cover Dynamics as Drivers of Changes in Biodiversity*. NASA (\$910,800 - current).
 44. **Newman, D.H.** and **R.W. Malmsheimer**. "Taxation and Sustainable Management in the Northern Forest." Northeast States Research Cooperative. \$43,612. 2009-2010
 45. **Newman, D.H.** NSRC Funded program – Funded for 2008, 2009, and 2010 each year at \$186,000
 46. **Nowak C.A.** A continued partnership for powerline vegetation management in New York: New York Power Authority and SUNY-ESF. New York Power Authority. \$250,000. 2007-2012.
 47. **Nowak, C.A.** A partnership for powerline vegetation management in New York: New York State Electric and Gas and SUNY-ESF. New York State Electric and Gas. \$150,000. 2001-present (2007 contract end date).
 48. **Nowak, C.A.** Development of a viewshed management plan for the Home of Franklin D. Roosevelt National Historic Sites. National Park Service. \$40,000. 2006- 2009; final report accepted by NPS in Spring 2010; project is now closed.
 49. **Nowak, C.A.** Evaluating historic conifer and hardwood plantations on the FDR historic site. National Park Service. \$20,000. 2007-2010; final report due this year.
 50. **Nowak, C.A.** Partnerships for powerline vegetation management in New York. New York Power Authority. \$275,000. 2002-2007; project was formally closed with publication of a willow ID book

51. **Nowak, C.A.** Using FIA data to assess current status and predict future overstory species composition based on current woody understory species composition. U.S. Department of Agriculture Forest Service. \$44,904. 2007-December 31, 2009; project is currently being used by one grad student for MS thesis (J. Hanson) and will be used by another in the fall (W. Van Gorp); final report in about 2011
52. **Nyland, R.** and **Bevilacqua, E.** "Analyzing Diameter Growth of New Brunswick Sugar Maples" Natural Resources Canada. \$6,500. 2010-2011.
53. NYSEG continues to hold 15% of grant until one of eight final report is re-submitted
54. Piegay, H., **J.C. Stella**, M. Kondolf, S. Dufour, and J. Battles. Geomorphic controls and dynamics of riparian forests along meandering piedmont rivers. Projet International de Cooperation Scientifique (PICS, France). 2009-2012
55. Powell, W.A. and **C.A. Maynard**, First and second-generation transgenic American chestnut trees. Forest Health Initiative. ~\$900,000 (8/1/09 – 7/31/12).
56. Powell, W.A. and **C.A. Maynard**, Supplemental funding to examine early flowering genes in transgenic American chestnut. Forest Health Initiative. \$83,000 (6/1/10 – 5/31/12).
57. Powell, W.A. and **C.A. Maynard**, Testing Transgenic Events for Gene Copy Number, Gene Expression, and Blight Resistance. The New York Chapter of The American Chestnut Foundation. \$100,000 (5/08-6/10). Supports summer graduate student in Powell's lab and a technician.
58. Powell, W.A. and **C.A. Maynard**,. The New York Chapter of The American Chestnut Foundation. Supplemental grant for technician support for Chestnut research. \$20,000 (1/1/10-12/31/10).
59. Powell, W.A. and **C.A. Maynard**. Consortium on Plant Biotechnology Research (CPBR). Collaborative research: Developing blight resistance in transgenic American chestnut for agroforestry and restoration. \$67,000 (5/1/10-4/30/11).
60. Powell, W.A., **C.A. Maynard**, T. Horton, D. Parry, and D. Leopold. Evaluating Environmental Impacts Of Transgenic American Chestnut Trees to Chestnut Trees Produced by Conventional Breeding. USDA-Biotechnology Risk Assessment Grant program (BRAG), \$380,000 (10/1/08-9/30/11). Supported one technician in 2010, but will support 5 summer graduate stipends in the last two years of the grant.
61. Smart, L., **L.P. Abrahamson** and **T.A. Volk**. Applying Genomic Approaches to the Improvement of Shrub Willow Bioenergy Crops. USDA-CSREES/McIntire Stennis Program. \$58,720. 2008-2010.
62. Smart, L., **L.P. Abrahamson** and **T.A. Volk**. Demonstrating Improved Yield and Encouraging Adoption of New Varieties of Fast-Growing Shrub Willow. NY Farm Viability Inst. \$125,000. 2008-2009.
63. **Stella, J.C.** Modeling the Geomorphic and Climate Drivers of Cottonwood Forest Habitat: A Landscape-Scale Systems Approach. CALFED Bay-Delta Science Program. \$228,750. 2008-2011.
64. **Stella, J.C.** . Quantifying Feedbacks between Fluvial Morphodynamics and Pioneer Riparian Vegetation in Sand-Bed Rivers. National Science Foundation. \$650,000 (total, 4 institutions); \$218,000 (ESF). 2010-2013.
65. **Stella, J.C.** 2009 ESA Annual Meeting, Albuquerque, NM. SUNY-ESF Research Foundation Travel Grant. \$500. 2009.
66. **Stella, J.C.** and M. Teece). A New Tool for Restoration Ecology: Stable Carbon Isotopes in Tree Rings as Indicators of Ecosystem Change. SUNY-ESF Research Foundation Seed Grant. \$8,000. 2010.

67. **Stella, J.C.** Quantifying riparian zone structure and function to guide management of the northern hardwood forest ecosystem. McIntire-Stennis Research Program. \$81,666. 2008-2011.
68. **Volk, T., R.H. Germain, V.A. Luzadis, R.W. Malmshemer, M. Kelleher, T. Amidon, L. Smart, and C.M. Beier.** “New York State Biofuels Roadmap.” New York State Energy Research and Development Agency (NYSERDA). ESF Share: \$163,500 (Total Grant with external partners = \$750,000). 2008-2010.
69. **Volk, T.A. , L.P. Abrahamson,** and L.B. Smart. New York State Energy Research and Development Authority, “Reducing the cost of willow biomass by improving harvest system efficiency and reducing harvesting costs” Total award: \$126,688, Start date: 8/16/2006; End date: 12/31/2009.
70. **Volk, T.A. , L.P. Abrahamson,** and L.B. Smart. NYC Department of Environmental Protection award to SUNY-Delhi, “Center of Excellence in Watershed Application and Technology - Willow Biomass Project”. Total award for task: \$384,615, Start date: 7/1/2006; End date: 6/30/2010
71. **Volk, T.A. , L.P. Abrahamson,** and L.B. Smart.. NY Farm Viability Institute, Inc, “Demonstrating Improved Yield and Encouraging Adoption of New Varieties of Fast-Growing Shrub Willow Bioenergy Crops” Total award: \$125,000; Current year: ~\$15,000; Research Scientist: Kim Cameron, Start date: 4/1/2008; End date: 9/30/09
72. **Volk, T.A. , L.P. Abrahamson,** L.B. Smart, and E.H. White. USDA Rural Development (USDA-DOE Biomass R&D Program), “Overcoming Barriers to Facilitate the Commercialization of Willow Biomass Crops as a Feedstock for Biofuels, Bioenergy, and Bioproducts” Total award: \$813,415 (\$220,000 of subcontracts; \$324,000 for breeding tasks; current year ~\$100,000) Research Scientist: Kim Cameron, Start date: 11/8/2006; End date: 2/7/2010
73. **Volk, T.A. and L.P. Abrahamson, C.A. Maynar,** and L.B. Smart. USDA McIntire-Stennis Program, “Applying Genomic Approaches to the Improvement of Shrub Willow Bioenergy Crops” Total request: \$58,720, Start date: 8/15/2008; End date: 9/30/2010
74. **Volk, T.A. and L.P. Abrahamson.** Multiple sponsors for harvesting willow, total budget \$8,000, start date 9/2009;
75. **Volk, T.A. and L.P. Abrahamson.** Multiple sponsors, Total budget: \$60,000 plus, Start date: 1/1/2005; End date: 12/31/2010
76. **Volk, T.A. and L.P. Abrahamson.** NYS Department of Transportation, “Developing Living Snowfences in New York” co-PI with **T. Volk**, Total request: \$280,253, Start date: 9/1/2008; End date: 8/31/2011
77. **Volk, T.A. and L.P. Abrahamson.** NYSERDA. Reducing the Cost of Willow Biomass by Improving Harvester Efficiency – Phase II. Co-Principal Investigator with Dr. **Tim Volk** (06/01/2005 – 12/31/09, \$250,000).
78. **Volk, T.A. and L.P. Abrahamson.** NYSTAR – “Development of willow production and harvesting demonstration” with **T. A. Volk** and Catalyst Renewables, \$500,000, Start date: 1/1/09 – 3/30/11.
79. **Volk, T.A. and L.P. Abrahamson.** Accelerated Commercialization and Expansion of Short Rotation Woody Biomass Energy Crops in NYS. NYSTAR. \$500,000. 2008-2010.
80. **Volk, T.A. and L.P. Abrahamson.** Designing, Developing and Implementing a Living Snow Fence Program for NYS. NYS Department of Transportation (Research Foundation of CUNY). \$280,254. 2008-2011.

81. **Volk, T.A.** and **L.P. Abrahamson**. Reducing the Cost of Willow Biomass by Improving Willow Harvest System Efficiency and Reducing Harvesting Costs. NYSERDA. \$128,688. 2006-2009.
82. **Volk, T.A.** and T. Amidon. Center of Excellence in Watershed Applications and Technology – Willow and Forest Biomass. USDoE \$154,820, 2009 – 2011
83. **Volk, T.A.** Availability of Marginal Land and Economics of Scale in the Production of Non-Traditional Energy Crops in Central NY. CNY Land Management. \$41,645. 2009-2010.
84. **Volk, T.A.** D. Daley and **L.P. Abrahamson**. Sustainable Reuse Remedy Demonstration. Honeywell, Inc. \$673,659. 2008-2010.
85. **Volk, T.A.** Development of a Model for the Assessment of Incremental Commercial Biomass Availability on a Regional Biomass. NYSERDA. \$75,000. 2008-2009.
86. **Volk, T.A.** Management and Collection of Willow as a Short Rotation Wood Crop (SRWC) for Biofuel. Consortium for Research on Renewable Industrial Materials. \$20,000. 2009-2010.
87. **Volk, T.A.** Willow Biomass Crop Yield Trial in South Carolina. American Farm Management. \$21,590. 2010-2011.
88. **Volk, T.A., L.P. Abrahamson,** and D. Daley. Growing Willows as an Alternative Cover for the Solvay Wastebeds. (4/1/03 – 12/31/10, \$1,200,000). Honeywell Inc.
89. **Volk, T.A., L.P. Abrahamson,** and L. Smart. Overcoming Barriers to Facilitate to Commercialization of Willow Biomass Crops. USDA-Rural Development/CSREES. \$813,451. 2006-2010.
90. **Volk, T.A., L.P. Abrahamson,** and L. Smart. Regional Biomass Feedstock Partnership- Willow. South Dakota State University (Sun Grant Regional Feedstock Partnership). \$80,000. 2009-2010.
91. **Volk, T.A., R. Germain, V. Luzadis, R. Malmshiemer, C. Beier, M. Kelleher,** Renewable Fuels Roadmap and Sustainable Biomass Feedstock Supply for NY. PACE Energy & Climate Center (NYSERDA). \$110,007. 2008-2011.
92. **Volk, T.A.,** T. Amidon and **L.P. Abrahamson**. Center of Excellence in Watershed Application and Technology – Biomass Production and Gasification. SUNY Delhi (NY City Department of Environmental Production). \$384,615. 2006-2010.
93. **Volk, T.A., V.A. Luzadis, C.M. Beier,** T. Buchholz, T. Amidon, **R.W. Malmshiemer,** and **R. Germain.** *Sustainable Biofuels Roadmap for New York State.* Collaborative project led by Z. Wojnar (Pace University). New York State Energy and Regulatory Development Agency (\$115,300 - current).
94. **Vonhof, S.** UUP Development Award \$649. Subsidized my participation in the 8th Biennial Conference on University Education in Natural Resources. March 25-27, 2010. Blacksburg, VA.
95. Wakefield, M., **E. Bevilacqua,** L. Quackenbush, and C. Spuches. “2009 NYS GIS Conference”. Multiple Sponsors. 2009-2010. \$ 64,981.64
96. Wakefield, M., **E. Bevilacqua,** L. Quackenbush, and C. Spuches. “2010 NYS GIS Conference”. Multiple Sponsors. \$82,492.14. 2010-2011
97. **Yanai, R.,** L. Wielopolski, C. Goodale, I. Fernandez, S. McNulty, and S. Hamburg. Non-Destructive Soil Inventory using Inelastic Neutron Scattering: An Application to Nitrogen Controls on Soil Carbon Storage. Northeastern States Research Cooperative, \$90,745, 7/1/2009-6/30/2011.
98. **Yanai, R., R.H. Germain,** S.Anagnost, W.B. Smith. Predicting the size of discolored hearts of sugar maple, Wood Education and Resource Center, \$100,523, 08/1/2005-7/31/2009.
99. **Yanai, R.,** S. Hamburg, and L. Wielopolski. Non-Destructive Measurement of

- Belowground Carbon and Nutrients, SUNY-ESF Seed Grant, \$6400, 3/18/2009-3/31/2010.
100. **Yanai, R.D.** Forest Health GIS Planner. New York Department of Environmental Conservation; \$299,403. 6/1/2007-9/30/2011
 101. **Yanai, R.D.** and M. Mitchell. Long-term ecological research at the Hubbard Brook Experimental Forest," 2004-2009. National Science Foundation, overall grant is \$4.8 million, the ESF subcontract is \$331,511, and my share is \$163,728. 1/1/06-12/31/09.
 102. **Yanai, R.D.**, D. Parry, L. Lautz, D.C. Allen, J. Carlson, and S. Wilmot. A Decision-Support System for Forest Management under Forest Tent Caterpillar Defoliation. Northeastern States Research Cooperative, \$32,000, 6/1/07-11/20/2009.
 103. **Yanai, R.D.**, D. Parry, L. Lautz, D.C. Allen, J. Carlson, and S. Wilmot. A Decision-Support System for Forest Management under Forest Tent Caterpillar Defoliation. Northeastern States Research Cooperative, \$26,912, 8/13/2008-7/31/2010.
 104. **Zhang, L.** Enhancing HABPLAN by adding new stand growth and yield models for Northeastern forests. Northeast Agenda 2020 Projects. \$132,000. 10/1/2005-12/31/2009.

APPENDIX F: GRADUATE THESES AND DISSERTATIONS

Doctoral Dissertations (n = 2):

- Lu, Junfeng. Spring 2010. Geographically local regression and linear mixed models for tree height-diameter relationship. (Zhang)
- Ma, Zhihai. Fall 2009. Multi-Scale Analysis and Modeling of the Patterns and Changes of Bird Species Richness Using Spatial and Wavelet Methods. (Zhang)

Masters' Theses (n = 10):

- Barker, Lindsey Anne. Spring 2010. FRM-REC. Exploring the Relationship between General and Specific Environmental Attitudes and Environmentally Responsible Behavioral Intention: A Survey of OHV and ATV Riders in the Adirondacks. (Dawson)
- Cheng, Kaity. Fall 2009. FRM-ECO. Role of tao (*Belotia mexicana*) in the Traditional Lacandon Maya Shifting Cultivation Ecosystem. (Drew)
- Ellis, Alexis. Fall 2009. FRM-QUANT. Analyzing Canopy Cover Effects on Urban Temperatures, Baltimore City, MD. (Bevilacqua)
- Kurian, Lisa Marie. Fall 2009. FRM-WATER. Winter Hydrology and Nitrogen Export from a Forested Watershed in the Adirondack Mountains. (Stella)
- Miner, Amanda Marie Anderson. Spring 2010. FRM-NRM. Twenty Years of Forest Service Land Management Litigation. (Malmsheimer)
- Pracha, Ali Shahrukh. Fall 2009. FRM-NRM. An energy return on investment (EROI) analysis of wheat and rice in Pakistan. (Volk)
- Ribaudo, Rachel Elizabeth. Summer 2009. FRM-WATER. Heat and Chemical Tracing of Groundwater Discharge to Ninemile Creek, New York. (Stella)
- Taroli, Alison Marie. Spring 2010. The Twenty-Five Most Influential Clean Water Act Section 404 Opinions: Thirty Years of Section 404 Litigation Examined via Citation Analysis. (Malmsheimer)
- VanBrakle, Joshua David. Spring 2010. FRM-NRM. The Effectiveness of Forest Management Plans in Promoting Best Management Practices and Sustained Yield Management on Nonindustrial Private Forestland. (Germain)
- Young, Vanessa. Spring 2010. Analysis of the National Environmental Policy Act Section 4332: A Look at all Supreme Court and Circuit Court Opinions and the Most Influential Opinions from 1970 to 2006. (Malmsheimer)

Master of Forestry (n = 1):

- Goehring, Kevin Edward. Spring 2010, FRM-NRM (Germain)

Master of Professional Studies (n = 5):

- Brown, Nicholas John. Fall 2009. FRM-REC (Kuehn)
- Glenn, Samantha. Fall 2009. FRM-ENRP (Malmsheimer)
- Oberholtzer, Carrie Elizabeth. Spring 2010. FRM-NRM (Wagner)
- Talucci, Tyler Dominic. Spring 2010. FRM-WATER (Stella)
- Wren, Terri Grace. Fall 2009. FRM-NRM (Germain)