

Unit: School of Natural Resources and Agricultural Sciences
Agricultural and Forestry Experiment Station
Date: September 10, 2007

University of Alaska Fairbanks **Enrollment Management Plan**

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A. General Information:

Unit Mission Statement: The mission of the School of Natural Resources and Agricultural Sciences and the Agricultural and Forestry Experiment Station is to generate and provide knowledge and train students for the successful long-term management of natural, renewable resources in Alaska and the circumpolar world, and to discover, describe, explain, and interpret the spatial characteristics of the northern regions of the Earth.

Core Services:

The School and the Experiment Station are administered by the Dean and Director and have a statewide responsibility. The office of the Dean and Director is located on the UAF Fairbanks campus. Research and outreach are a part of the Experiment Station that includes two experiment farms located in Fairbanks and Matanuska, research sites in Delta and Nome and south-central Alaska administrative offices at the Palmer Research and Extension Center. The School delivers baccalaureate and advanced degree programs in Geography and Natural Resources Management (NRM) through four departments: Geography, Forest Sciences, Plant, Animal, and Soil Sciences, and Resources Management. The NRM Plant, Animal, and Soil Science Option is offered at the Palmer Research and Extension Center (PREC).

We have combined the economic, social, biological, physical and geospatial aspects of natural resources to address issues and provide sustainable solutions to natural resource management concerns in the circumpolar international community, the nation, and the state of Alaska. Our Strategic Plan 2004 identifies five emphasis areas: geographic information, high-latitude agriculture, high-latitude soils, natural resource use and allocation, and management of ecosystems. These are integrated with the USDA Roadmap for Agriculture's seven steps that mirror the changing role of the United States in the world's agricultural economy. The seven steps are the backbone of our federally mandated Plan of Work (2007-2011), prepared cooperatively by the Agricultural and Forestry Experiment Station and the UAF Cooperative Extension Service. The Plan of Work reflects a paradigm-shift in the definition of the word 'agriculture' to include multiple resources, communities, the environment, and people. Thus we, along with CES, as the core of the UAF land-grant mission embrace research, education and outreach addressing healthy people (nutrition, disease control, food safety), a healthy environment (energy, renewable resources, soil, water), and a healthy economy (sustainable growth, technology transfer, new products, new knowledge).

B. Unit Enrollment Snapshot:

1. Provide a brief description of current enrollment.

PAIR data indicates we are above the UAF average for undergraduate retention with a three year average of 77% since 2004. Our graduation rates of students in high demand job degrees were high in FY06 at 28. Our HDJ graduation rates are cyclic but the trend is upward. Review of data on student credit hours from 2000 indicates an upward trend through FY 04. PAIR indicates that the drop from AY 05 to AY 07 was in our undergraduate courses. A cursory analysis indicates that NRM 101 enrollments have dropped over the last five years and GEOG 101 enrollments are also down. There is an upward trend in upper level and graduate SCH. All SNRAS declared undergraduate major numbers dropped by 20 from 2006 to 2007. The three year average of graduate students in all programs in SNRAS was 40 with a high of 43 in 2005.

2. Based on current enrollment, discuss trends and issues (e.g. gaps in EM data, known challenges in recruiting and/or retention, persistence, etc.) facing the unit.

The School and the Experiment Station have serious constraints that will affect meeting our long-term goals in our measurements of success when we take the actions we propose to carry out our strategies in our target markets. The first is space and the second is faculty numbers.

Space on the UAF campus in Fairbanks has been addressed in our Annual Unit Plan for 2007 in Section C.4.3. We are increasing our faculty numbers and are using a variety of buildings both on and off the UAF campus. While we can use a variety of classrooms on the Fairbanks campus, our need for distance delivering courses is intensifying and our need for classrooms dedicated to distance delivered courses and classrooms dedicated to include multiple computer stations for both portable and permanent equipment is immediate.

Our space needs in southcentral Alaska are stated in Section C.4.2. of our 2007 Annual Unit Plan. At the PREC, faculty numbers have decreased while demand for their services is increasing. The draft Master Plan for the PREC calls for at least four new faculty. These faculty will be necessary as we expand our offerings of the NRM degree in southcentral Alaska. Space is a problem; both faculty offices and general and special-use classrooms. Section C.4.2. addresses our solution to the space problem.

Facilities and Critical Courses That Will Face an Enrollment Cap

	2007-08	2008-09	2009-10	2010-11
Facilities ^{1/}	5	5	5	5
<u>Courses</u>				
GEOG 205 & 205X ^{2/}	30	35	35	35
NRM 290 ^{3/}	21	21	21	21
NRM 304 ^{4/}	20	20	20	20
NRM 303 ^{5/}	30	30	30	30
NRM/GEOG 338 ^{6/}	40	40	40	40
GEOG 401 ^{7/}	10	15	20	20
NRM 405-406	^{8/}	^{8/}	^{8/}	^{8/}
Distance Courses ^{9/}	25/12/12	25/12/12	25/12/12	25/12/12

1/ Specialized facilities controlled by SNRAS: AHRB 183 has a polycom real-time video system; AHRB 174 has internet access and audio cart; O'Neill 307 has internet access and audio access; cart; O'Neill 332 is a GIS laboratory; O'Neill 357 is a combination computer laboratory, general purpose class area and soils laboratory in a single open space. All projections assume no additions to facilities now available.

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- 2/ A distance delivered course in 2007-08 that is taught in fall and spring semesters that also requires a dedicated use classroom for multiple computer stations. Course has two sections of a laboratory. Figures are for one semester.
- 3/ Assumes two faculty leads, one expediter, and capacity of three vans and one pick-up. Increase would mean increased cost for buses to replace the vans.
- 4/ Capstone course, team taught, increased cap would mean extensive changes and value as capstone would be lost.
- 5/ Two sections of 15 each. Increased capacity would require a TA.
- 6/ Four sections of 10 each and laboratory determined by capacity of O'Neill 357.
- 7/ Course has a new instructor who is adopting an electronic format with need to access existing data bases on weather and climate and will require a dedicated use classroom with multiple computer stations.
- 8/ Capacity depends on faculty numbers. Each student thesis requires a committee of three and three chairmanships are considered capacity for one faculty.
- 9/ Capacity limits in AHRB 183 (25)/ AHRB 174 (12) [audio only]/ O'Neill 307 (12) [audio only].

C. Five-Year Unit Enrollment Management Goals, Strategies and FY2008 Actions

1. A. Unit Goals: List the unit enrollment goals, associated strategies, and required yearly actions.

Goal A. Increase Number of Transfer Students from Two-Year Programs and Institutions

Numerical Goal: Increase the number of students by 3% annually beginning in 2008-2009 using 2006-2007 as a base year.

Strategy:

The Performance Based Budgeting (PBB) metric for Student Credit Hours (SCH) for SNRAS indicates an increase in our upper-division class enrollment. However, classes are still under-enrolled. We have had reasonable success in recruiting students from two-year programs and institutions, retaining them, and advising them so they can complete their baccalaureate degree in a total of five years. Approximately 50% of our majors in all degree programs are transfers and the high school population in Alaska presents a limited market. Recruiting in high schools outside Alaska is an expense we cannot afford unless it is a part of the UAF recruiting effort. Our academic information is included in the materials UAF uses for recruiting.

Actions	Timelines	Lead	Budget
Contact programs with appropriate certificate and associate degrees for potential transfer to UAF. We will focus especially on community colleges in the Pacific Northwest.	On-going but will be expanded in 07-08.	Student Recruiter	None additional required
Continue to work with the College of Rural and Community Development (CRCD) at UAF on development of 2-year curricula for Range Management, Environmental Science and Ethnobotany.	On-going with the High Latitude Range Management certificate submitted to the UAF Faculty Senate for approval, the	Student Recruiter Associate Dean	None additional required

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	Environmental Science certificate in preparation, and contact made with the Ethnobotany faculty.		
Continue to work with the Matanuska Community Campus (UAA) in the development of a certificate in Horticulture and strengthen the MCC ties with the NRM Plant, Animal, and Soil Science option offered through our Palmer Research and Extension Center (PREC).	On-going with hire of an Instructor of Horticulture to be stationed at the PREC.	Horticulture Instructor	None additional required
Coordinate all efforts with the UAF Office of Admissions.	On-going	Student Recruiter	None additional required
Continue to work with UAF Office of Admissions to provide information concerning the core curriculum requirements as they pertain to SNRAS degree programs to community colleges outside Alaska.	On-going	Student Recruiter	None additional required

Challenges:

- Contacting 2-year program leaders and community colleges that are outside of Alaska with a limited budget.
- Appropriate advising in the community campuses within the UA system.

Evaluation (Measures of Success):

- Increased enrollment from community colleges in the Pacific northwest.
 - Long-term
- Increased enrollment from two-year campuses in the University of Alaska system.
 - Long-term

Goal B. Increase Number of UA Scholars, Students from Rural/Alaska Native Communities, and Students and Teachers in K-12 programs statewide.

Numerical Goal: UA Scholars and Rural/Alaska Native Students 2% annually beginning in 2008-2009 using 2006-2007 as a base year. No numerical goal set for K-12 until the Appropriate metric is determined.

Strategy:

SNRAS degree programs are severely under-enrolled in the UA Scholar and Rural/Alaska Native Community target markets. There is a critical need in the work-force in Alaska and nationwide for graduates who have a broad base in natural resource management that is based in science as well as economics and policy and are skilled in geographic information science and technology coupled with broad knowledge of geography. Importantly, rural and Alaska Native communities are asking for opportunities to train their own youth who are interested in returning to their homes to help their communities grow and strengthen their economic base. Rural and Alaska Native high school graduates make up approximately 20% of the undergraduate student population at UAF and have a strong

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representation in the UA Scholar pool; thus are a logical target market to increase enrollment in our courses and majors in our degree programs. Early and sustained exposure and active participation in learning activities will encourage and help develop early student interest in natural resources, geography, and related disciplines. We will enhance and expand our K-12 outreach programs to bring experiential learning to the K-12 classroom and activities roster and assist teachers in developing methodology to include these subject areas in their existing curricula.

Actions	Timelines	Lead	Budget
Continue to work with the statewide programs within FFA and begin to work with CES/4H youth development.	FFA collaboration is on-going. The FFA State Director is an employee of the School and the Agricultural and Forestry Experiment Station. CES/4H connections will be formally implemented in AY 07-08. The current connection we have with 4H is through the Georgeson Botanical Garden and it is an informal collaboration.	FFA State Director Recruitment Coordinator Associate Dean	\$75,000 annually for a FFA State Director
<ul style="list-style-type: none"> • Maintain link with Alaska Geographic Alliance and K-12 teachers. • Collaborate with GLOBE and TASK teachers and associated teacher training programs. • Sponsor MapTeach program in rural Alaska. • Strengthen collaboration with the Mathematics in a Cultural Context program. 	On-going at UAF through the University of Alaska Geography Program (UAGP)	Director, UAGP	\$100,000 one position in geography
Prepare NRM 101: Introduction to Natural Resources Management and Policy for delivery in Nome, Dillingham, Palmer with potential for distance delivery sharing of course instructors and participants.	Prepared for Palmer and Nome delivery in spring 2008 as trial courses delivered independently at each site. Further development of the course in out years.	Susan Todd NRM 101 Instructor	None additional required

Challenges:

- Facilitating a closer relationship of FFA and 4H.
- Obtaining funding for an additional geography position.

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Evaluation (Measures of Success):

- Increased number of students from Alaska rural and Native populations majoring in NRM and Geography.
 - *Long term.*
- Increased number of Alaska Scholars majoring in NRM and Geography.
 - *Long term.*
- Increased number of first-time freshmen from target market.
 - *Long term.*
- Increased number of NRM and Geography students enrolling in non-developmental mathematics courses.
 - *Long term.*
- Increased number of NRM and Geography students enrolling in chemistry and/or biology in their freshman year.
 - *Long term.*

Goal C. Increase Number First-Time Freshmen from Urban and Road-System High Schools.

Numerical Goal: Increase the number of students by 2% annually beginning in 2008-2009 using 2006-2007 as a base year.

Strategy:

Outside of our contacts through FFA with high schools in urban areas and on the road system, it appears there is a paucity of knowledge about natural resource management in both student and teacher populations. Because geography is now a mandatory part of the high-school curriculum, students are being exposed to this body of knowledge on some level but there is a need to continue to increase this exposure. At the same time, jobs in both NRM and geography are coming available in federal, state, and regional agencies as upper-level employees retire and these jobs are filled from lower-level employee pools. Salaries are rising for these entry-level positions as jobs available exceed applicants and a higher skill level in GIS technology and field survey and data management training becomes increasingly important. This information is not well known at the high school or early post-secondary college level. To additionally capitalize on this potential student target market, the action items in B. will be an asset to provide post-secondary entry options for graduating seniors and for those not interested in obtaining a baccalaureate degree.

Actions	Timelines	Lead	Budget
Develop a stronger connection with the "Ag in the Classroom" program offered in Matanuska Valley schools. <ul style="list-style-type: none"> ○ 	On-going with a field day for teachers conducted in August 2008.	Instructor & Asst. Professor in Horticulture	None Additional Required
Offer a 'Student Day at the Farm' and a 'Teacher Day at the Farm' at the Matanuska Experiment Farm through the "Ag in the Classroom" program.	Initiate during the spring semester 2008.	Instructor & Asst. Professor in Horticulture	None Additional Required
Create a summer program at the Matanuska Experiment Farm that would allow high school students to attend a	Initiate during the summer 2008 and	Instructor & Asst.	None Additional

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summer research camp to participate and learn about agricultural and natural resources research and jobs associated with these fields.	explore potential of a credit course at UAF.	Professor in Horticulture	Required
Offer a 'Student Day at the Garden' opportunity at the Fairbanks Experiment Farm.	Initiate in the spring semester 2008.	Recruitment Coordinator and GBG personnel	None Additional Required
Offer a 'Teacher Day at the Garden' opportunity at the Fairbanks Experiment Farm and a 'Teacher Day at the Farm' at the Matanuska Experiment Farm.	Initiate during the summer or early fall of 2008.	Horticulture faculty in Palmer & Recruitment Coordinator	None Additional Required
Develop a geography course and an environmental law course for ASRA.	Explore the need or desire to add these courses to the ASRA offerings in the fall of 2007. If ASRA is interested, develop at least one course for summer 2008.	Director, UAGP	\$100,000 one position in geography (same as that listed above)
Continue to work with the King Career Center, FFA, Geography Alliance, CES/4H youth program, GLOBE and TASK, and Mathematics in a Cultural Context.	On-going	Coordinated by Recruitment Coordinator	None Additional Required
With King Career Center, develop NRM 101: Introduction to Natural Resources Management and Policy, as a high school course for UAF credit.	Anticipate delivery in 2008-09.	Coordinated by Recruitment Coordinator	None Additional Required
Participate in College and Career Fairs in Alaska.	On-going	Recruitment Coordinator	None Additional Required

Challenges:

- Initiating the contacts with the "Ag in the Classroom" program.
- Development of NRM 101 as a high-school/college-entry course.

Evaluation (Measures of Success):

- Increased number of students from urban and road system high schools majoring in NRM and Geography.
 - *Long term.*
- Increased number of first-time freshmen from target market.
 - *Long term.*

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- Increased number of NRM and Geography students enrolling in non-developmental mathematics courses.
 - *Long term.*
- Increased number of NRM and Geography students enrolling in chemistry and/or biology in their freshman year.
 - *Long term.*

Goal D. Increase interaction with International Higher Education Program

Numerical Goal: None set; see strategy below and challenges.

Strategy:

We have developed numerous contacts with other universities and research institutions in circumpolar regions, and continue to work on formal and informal opportunities for student exchange programs. European students are encouraged to study abroad, while UAF students are more reluctant to travel. This is a concern when we do recruit students to participate in exchange programs. Therefore, we are also looking at the potential for recruiting students for our programs, particularly our graduate programs, without the need for an exchange. While we do not expect a large number of undergraduate degree seeking students from circumpolar regions in the near future, we believe it is a potential market for prospective graduate students.

Actions	Timelines	Lead	Budget
Continue to pursue UAF agreements with International Programs Office to develop international visibility.	<i>Ongoing.</i>	Recruitment Coordinator	None Additional Required
Work with the University of the Arctic thematic programs in ecosystems management and sustainable development.	<i>Pursue more aggressively beginning AY 07-08.</i>	Recruitment Coordinator	None Additional Required
Pursue 2+2 program exchanges with institutions involved in northern resource related issues.	<i>Begin in AY 07-08.</i>	Recruitment Coordinator	None Additional Required

Challenges:

- Encouraging SNRAS students to participate in international exchange programs.
- Measuring success.

Evaluation (Measures of Success):

- Increased enrollment in graduate programs.
 - *Long term.*
- Increased enrollment in SCH in undergraduate courses.
 - *Long term.*

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The enrollment management program we propose is ambitious. This is for a reason. There is an increasing need in the workforce in Alaska, nationwide, and internationally for professionals trained in the management of natural resources on public and private lands, the use of geographic information science and technology (GIS) to couple remotely sensed information with land-based data, and knowledge in geoeconomics, geopolicy, and geodefense. The School of Natural Resources and Agricultural Sciences (SNRAS) and the Agricultural and Forestry Experiment Station (AFES), with its closely coupled educational programs, basic and applied research and close association with the Cooperative Extension Service (CES) and its outreach programs, is poised to fill this need.

It is critical that knowledgeable managers and technical support personnel be available to provide direction for conservative consumption of resources such as timber from our forests, agricultural products for food from our lands, and a sustainable energy supply from both forest and agricultural production. It is also critical that this support is available for non-consumptive uses of our resources including recreation, harvest of non-timber forest products, and management of lands at the urban/wildlands interface as the demographic of the U.S. population changes from a traditional agricultural and forestry landscape to one that is more regionally directed and centered on movement of urban-oriented occupants onto lands that were traditionally in agricultural or forestry production. These new land owners have little or no knowledge of management of small tracts of land for production of agricultural crops, use by livestock, woodlot management, or for personal or commercial sustainable recreational use. Expertise in geographic information science and technology coupled with knowledge of the land and its resources are essential to provide relevant and timely information to land managers and cooperative extension agents as they interact with new residents of rural lands and policy makers who are concerned about energy sustainability, community economic stability, cultural diversity and homeland security/defense.

The School of Natural Resources and Agricultural Sciences and the Agricultural and Forestry Experiment Station, in cooperation with the Cooperative Extension Service can fill the need for natural resource management professionals versed in areas of expertise relevant to Alaska and the national and international community. This is in keeping with the fulfillment of the land-grant mission of the University of Alaska Fairbanks in the 21st Century. This critical need dictates that our enrollment plan is ambitious and that it receive support that will allow us to meet our goals.