Chapter Five
Mission Fulfillment, Adaptation, and Sustainability
Mission Statements

**UA Mission**
The University of Alaska inspires learning, and advances and disseminates knowledge through teaching, research, and public service, emphasizing the North and its diverse peoples.

**UAF Mission**
The University of Alaska Fairbanks, the nation’s northernmost Land, Sea and Space Grant university and international research center, advances and disseminates knowledge through teaching, research and public service with an emphasis on Alaska, the circumpolar North and their diverse peoples. UAF — America’s arctic university — promotes academic excellence, student success and lifelong learning.
Eligibility Requirements

Tables 5.1 and 5.2 provide a summary of evidence that UAF’s operational scale (enrollment, human and financial resources, and institutional infrastructure) is sufficient to fulfill its mission and achieve its core themes. The information provided is for FY08–FY10; FY11 information is not yet available. The totality of the evidence presented in this self-study illustrates that the existing operational scale is sufficient for UAF to fulfill its mission.

Table 5.1

<table>
<thead>
<tr>
<th>Summary of Evidence of UAF Operational Scale for FY08 – FY10*</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal receipts including indirect cost recovery (ICR)</td>
<td>$112,585</td>
<td>$111,236</td>
<td>$116,135</td>
</tr>
<tr>
<td>(in thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition and student fee revenue</td>
<td>$32,131</td>
<td>$34,941</td>
<td>$39,078</td>
</tr>
<tr>
<td>(in thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University receipts**</td>
<td>$39,013</td>
<td>$42,114</td>
<td>$42,983</td>
</tr>
<tr>
<td>(in thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL university-generated revenue***</td>
<td>$212,776</td>
<td>$215,085</td>
<td>$225,697</td>
</tr>
<tr>
<td>(in thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL state appropriation expenditures (in thousands)</td>
<td>$141,415</td>
<td>$149,725</td>
<td>$155,216</td>
</tr>
<tr>
<td>TOTAL expenditures (in thousands)</td>
<td>$382,612</td>
<td>$407,899</td>
<td>$412,060</td>
</tr>
<tr>
<td>Student credit hours enrolled (annual)</td>
<td>172,230</td>
<td>173,517</td>
<td>184,410</td>
</tr>
<tr>
<td>Student headcount (fall semester close)</td>
<td>9,687</td>
<td>9,828</td>
<td>10,446</td>
</tr>
<tr>
<td>Faculty FTE (fall semester)</td>
<td>643</td>
<td>634</td>
<td>645</td>
</tr>
<tr>
<td>Staff FTE (fall semester)</td>
<td>1,532</td>
<td>1,507</td>
<td>1,524</td>
</tr>
</tbody>
</table>

*Information in this table is from UA in Review 2011 and the UAF Performance Report 2010.

**Includes non-federal, non-state-agency grants or contracts (e.g., from Alaska Native corporations, the Corporation for Public Broadcasting, and others); donations; and non-student fee income (e.g., athletic events admission).

***Includes revenue not separately tabulated, such as auxiliary income, inter-agency receipts, interest income, and CIP (capital improvement project) funds. Note that the latter support faculty and staff salaries and can also be termed reimbursable service agreements, which are generally with the state of Alaska.

Table 5.2

<table>
<thead>
<tr>
<th>UAF Facilities Summary (FY09)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
</tr>
<tr>
<td>Fairbanks Campus****</td>
</tr>
<tr>
<td>Bristol Bay Campus</td>
</tr>
<tr>
<td>Chukchi Campus</td>
</tr>
<tr>
<td>Interior-Alutians Campus</td>
</tr>
<tr>
<td>Kuskokwim Campus</td>
</tr>
<tr>
<td>Northwest Campus</td>
</tr>
<tr>
<td>UAF Community and Technical College</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

*Information in this table is from UA in Review 2011.

**Weighted average age is calculated by dividing the sum of the products of each building’s age and gross square footage by the gross square footage in the particular category.

***Estimate of current market value.

****Includes buildings administered by the Fairbanks Campus in Chatanika, Kodiak, Matanuska, Palmer, and Seward.
UAF is a state-supported institution which derived about 45 percent of its operating budget from state general fund (GF) appropriations in FY10. The percentage of GF support was reasonably stable from FY06 to FY10, ranging from 41 to 47 percent. Most of the variation has been caused by two factors:

- Rapidly increasing benefits costs, mainly health care and pension-related, increased the percent of GF support from FY06 to FY09, because a substantial part of these increased costs was funded by the state.
- American Recovery and Reinvestment Act of 2009 (ARRA) research funding, increasing enrollment, and increasing tuition rates resulted in a decrease in proportional GF support in FY10.

As discussed in more detail in the Adaptation and Sustainability section, for the immediate future, continued state support of Alaska public universities at about the current level appears secure. However, if state revenue declines markedly with declining oil production, the state’s support of the university is likely to decrease as well. The Legislature has a stated goal of reducing state general fund support of the university system to 50 percent of expenditures exclusive of federal dollars. Since UAF’s non-federal revenues currently make up only 53 percent of non-federal expenditures, this would require some changes, probably increasing tuition and fee revenue and decreasing operating costs. Nonetheless, UAF could continue to fulfill its mission, albeit with significant reduction in or elimination of some programs or services. However, so far the Legislature has limited its action to funding only 50 percent (rather than the previous 60 percent) of annual salary and benefit increases. While this presents some challenges, UAF has adapted to that reduced level of support without fundamental change. (ER 24)

**Standard 5.A: Mission Fulfillment**

The University of Alaska Fairbanks, the nation’s northernmost Land, Sea and Space Grant university and international research center, advances and disseminates knowledge through teaching, research and public service with an emphasis on Alaska, the circumpolar North and their diverse peoples. UAF – America’s arctic university – promotes academic excellence, student success and lifelong learning.

UAF is fulfilling its mission. Chapter 1 of this self-study elucidates UAF’s mission in terms of five core themes:

- Educate: Undergraduate and Graduate Students
- Discover: Through Research, Scholarship, and Creative Activity including an Emphasis on the North and its Peoples
- Prepare: Alaska’s Career, Technical, and Professional Workforce
- Connect: Alaska Native, Rural, and Urban Communities through Contemporary and Traditional Knowledge
- Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development

Each of the five core themes has been further developed by identifying objectives and indicators of achievement relative to those objectives. Chapter 4 describes the process and results of regular, systematic, participatory, self-reflective, and evidence-based assessment of accomplishments. Some of the indicators, data collection, and analyses have been created for this accreditation review, but many have been in place for some time. The assessments listed below are also those with substantial breadth across different programs and services, and so yield (particularly in aggregate) a holistic assessment of our institution.

- Since 2006, UAF has reported, assessed, and planned to improve its performance on some basic productivity metrics: high-demand job area degrees and certificates awarded, student credit hour production, undergraduate student retention, externally funded research expenditures, and
university generated revenue. These reports were widely distributed and discussed within UAF, and were submitted to the UA Statewide administration and to the state Office of Management and Budget.

- Since 2006 UAF has prepared an annual Missions and Measures report to the state, which includes a variety of indicators including numbers of publications, research addressing state needs, and student pass rates on professional certification examinations.

- Since 2000, UAF has carried out academic program review on a five-year cycle. Programs are reviewed on quality, productivity, and efficiency criteria. While these reviews are not public, they are available to faculty and administration. Programs that are not satisfactory are either given targets for improvement or are recommended for discontinuation.

- In 1998, UAF instituted systematic student learning outcomes assessment, first with the Core Curriculum. Most degree programs developed assessment plans by 2000. Since 2004, regular learning outcomes assessment has been expected of every degree and undergraduate certificate program, and during this self-study nearly all academic programs provided evidence of assessment and of their students meeting the learning outcomes of the program.

- UAF administered the Community College Survey of Student Engagement once and the National Survey of Student Engagement twice during the past five years, and has undertaken improvements based on the results. The most recent NSSE results, analysis, and recommendations for improvement (see National Survey of Student Engagement 2009 in Exhibits) are publicly available.

- A UA Graduate Survey has been administered since 2006. The survey gathers information including graduate satisfaction with UAF programs and employment after graduation.

- UAF was an early adopter in the Association of Public and Land-grant Universities’ Voluntary System of Accountability, and maintains an up-to-date College Portrait.

- UAF has participated in the Survey of Earned Doctorates (SED) for more than two decades.

- Research is subject to constant external review via the peer review process for articles, books, and research proposals, and via external advisory committees which assist several major programs, including the Center for Alaska Native Health Research (CANHR), the IDeA Network of Biomedical Research Excellence (INBRE), and the Experimental Program to Stimulate Competitive Research (EPSCoR). In general, these reviews have found UAF research to be of high quality. The new vice chancellor for research, Mark Myers, intends to institute a regular internal review process for research, akin to program review, beginning in 2012.

- Achievements in outreach and engagement by the Cooperative Extension Service (CES) and the Marine Advisory Program (MAP) are reported to their respective funding agencies, USDA’s National Institute of Food and Agriculture (NIFA) and the National Oceanic and Atmospheric Administration (NOAA), annually. CES and MAP reports are available to the public.

UAF defines mission fulfillment in Chapter 1. A rubric was developed to identify, for each core theme, a subset of indicators of achievement and thresholds indicating when mission fulfillment is surpassed, met, or not met. The indicators are scored on a Likert scale; a score of 5 indicates that the threshold for mission fulfillment is surpassed, 3 that it is met, and 1 that it is not met. We define mission fulfillment as achieving an average index value of 3.0 or better for each of this subset of indicators, and no more than one indicator in each theme may be rated with a score of 1 as insufficient. A subset of indicators is used to define mission fulfillment because some of the indicators of achievement adopted are new, and their utility for assessing mission fulfillment uncertain.

As illustrated in Table 5.3, UAF is fulfilling its mission in all five of its theme areas. The average rating
for indicators is between 3.0 and 4.6 for the five themes, and no rating falls below 3.0. The specifics of the achievements on each indicator are presented in greater detail in Chapter 4. To the extent possible, we have set the standards for achievement by comparing ourselves to national standards, performance of peer institutions, or internal performance goals. National standards include student performance on standardized examinations under the Educate and Prepare themes. Retention rates, graduation rates of minority students, doctoral student employment, publications per faculty member, and workshops per extension faculty member were assessed by comparing UAF achievements with those of peer institutions. High-demand job area awards and noncredit instructional productivity units are compared with internal UAF and UA performance targets.

Table 5.3

<table>
<thead>
<tr>
<th>Theme</th>
<th>Rating</th>
<th>Surpasses Mission Expectation</th>
<th>Meets Mission Expectation</th>
<th>Below Mission Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Likert Scale</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Educate: Undergraduate and Graduate Students</strong></td>
<td>3</td>
<td>More than 95% of programs have direct evidence that students are achieving intended learning outcomes.</td>
<td>75 to 85% of programs have direct evidence that students are achieving intended learning outcomes.</td>
<td>Less than 50% of programs have direct evidence that students are achieving intended learning outcomes.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Average student performance on all programmatic state and national examinations with at least 5 students assessed is above the 75th percentile</td>
<td>Average student performance on all programmatic state and national examinations with at least 5 students assessed is between the 40th and 60th percentile.</td>
<td>Average student performance on some programmatic state and national examinations with at least 5 students assessed is below the 25th percentile.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>First-time full-time undergraduate retention rate of more than 70%.</td>
<td>First-time full-time undergraduate retention rate is 60 to 65%.</td>
<td>First-time full-time undergraduate retention rate is less than 55%.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Average senior ETS proficiency profile score is greater than the 70th percentile for doctoral I and II institutions.</td>
<td>Average senior ETS proficiency profile score is between the 40th and 60th percentiles for doctoral I and II institutions.</td>
<td>Average senior ETS proficiency profile score is less than the 30th percentile for doctoral I and II institutions.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Employment placement of master’s and PhD graduates in degree-appropriate positions within one year of graduation is more than 85%.</td>
<td>Employment placement of master’s and PhD graduates in degree-appropriate positions within one year of graduation is 65 to 75%.</td>
<td>Employment placement of master’s and PhD graduates in degree-appropriate positions within one year of graduation is less than 50%.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Average number of independently reviewed publications is more than 1.5 per PhD graduate two years after graduating.</td>
<td>Average number of independently reviewed publications is 0.75 to 1.25 per PhD graduate two years after graduating.</td>
<td>Average number of independently reviewed publications is less than 0.5 per PhD graduate two years after graduating.</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>3.7</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Evaluation of Mission Fulfillment Rubric by Theme
*Statements describing UAF achievements are shown in blue. When achievements fall between two descriptions, both are blue.*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Rating</th>
<th>Surpasses Mission Expectation</th>
<th>Meets Mission Expectation</th>
<th>Below Mission Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Likert Scale</strong></td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>Discover:</strong> Through Research, Scholarship, and Creative Activity</td>
<td>4</td>
<td>Number of peer-reviewed publications per year per faculty member with research workload is more than 1.5.</td>
<td>Number of peer-reviewed publications per year per faculty member with a research workload is between 0.75 and 1.25.</td>
<td>Number of peer-reviewed publications per year per faculty member with a research workload is less than 0.50.</td>
</tr>
<tr>
<td>including an Emphasis on the North and its Peoples</td>
<td>5</td>
<td>Grant or contract research expenditures per faculty member are more than $200,000 per year.</td>
<td>Grant or contract research expenditures per faculty member are $75,000 to $125,000 per year.</td>
<td>Grant or contract research expenditures per faculty member are less than $50,000 per year.</td>
</tr>
<tr>
<td><strong>Prepare:</strong> Alaska’s Career, Technical, and Professional Workforce</td>
<td>4</td>
<td>Annual direct expenditures in areas of significant importance to Alaska and the North exceed 80% of research expenditures.</td>
<td>Annual direct research expenditures in areas of significant importance to Alaska and the North are 65 to 70% of research expenditures.</td>
<td>Annual direct expenditures in areas of significant importance to Alaska and the North are less than 55% of research expenditures.</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### AVERAGE

**Discover:**
- Number of peer-reviewed publications per year per faculty member with research workload is more than 1.5.
- Grant or contract research expenditures per faculty member are more than $200,000 per year.

**Prepare:**
- Annual direct expenditures in areas of significant importance to Alaska and the North exceed 80% of research expenditures.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Rating</th>
<th>Surpasses Mission Expectation</th>
<th>Meets Mission Expectation</th>
<th>Below Mission Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect: Alaska Native, Rural, and Urban Communities through Contemporary and Traditional Knowledge</td>
<td>3</td>
<td>Partnerships have significant and lasting impacts, are two-sided in terms of shared resources and responsibility, and represent every area of the state where UAF is active.</td>
<td>Partnerships have impact, share resources and responsibility, are lasting, and well distributed geographically</td>
<td>Partnerships lack impact and are one-sided in terms of shared resources and responsibility, short-lived, and poorly distributed geographically.</td>
</tr>
<tr>
<td>Connect: Alaska Native, Rural, and Urban Communities through Contemporary and Traditional Knowledge</td>
<td>3</td>
<td>Alaska Native and rural students are graduating in portion to enrollment at the same rate as other students.</td>
<td>Alaska Native and rural students are graduating in portion to enrollment at 70 to 90% of the rate of other students.</td>
<td>Alaska Native and rural students are graduating in portion to enrollment at less than 60% of the rate of other students.</td>
</tr>
<tr>
<td>Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development</td>
<td>3</td>
<td>Non-credit instructional productivity units earned are greater than 5,500.</td>
<td>Non-credit instructional productivity units earned are between 4,100 and 4,700.</td>
<td>Non-credit instructional productivity units are less than 3,300.</td>
</tr>
<tr>
<td>Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development</td>
<td>5</td>
<td>Non-credit workshops organized by CES, MAP, and AFES have more than 16,000 participants annually, and are well distributed topically and geographically across Alaska.</td>
<td>Non-credit workshops organized by CES, MAP, and AFES have 12,000 to 14,000 participants annually, and are distributed topically and geographically across Alaska.</td>
<td>Non-credit and non-CEU workshops organized by CES, MAP, and AFES have less than 10,000 participants annually or are not well distributed topically or geographically across Alaska.</td>
</tr>
<tr>
<td>Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development</td>
<td>4</td>
<td>Intellectual property procedures and practices result in 4 or more non-disclosure agreements between UAF and private business.</td>
<td>Intellectual property procedures and practices result in 2 non-disclosure agreements between UAF and private business.</td>
<td>Intellectual property procedures and practices do not produce any non-disclosure agreements between UAF and private business.</td>
</tr>
<tr>
<td>Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development</td>
<td>5</td>
<td>Partnerships exist with 4 or more businesses or community based economic development groups.</td>
<td>Partnerships exist with at least 2 businesses or community based economic development groups.</td>
<td>No partnerships exist with businesses or community based economic development groups.</td>
</tr>
</tbody>
</table>

AVERAGE 3

AVERAGE 4.3

Note: The rubric utilizes a 1 to 5 Likert scale index that assigns a value of 5 when the mission is surpassed, a 3 when the mission is met, and a 1 when a component of our mission is not being fulfilled. When an indicator is assessed as falling between the rubric statements for surpassing and meeting mission fulfillment, a 4 is assigned. Similarly, when an indicator is assessed as falling between the rubric statements for meeting mission fulfillment and non-fulfillment, a 2 is assigned.

UAF is more than the sum of its parts, and we consider the synergy among themes in addressing issues of importance to Alaska to be a key strength. To illustrate this point, three examples will be provided: Northern Peoples, Climate Change, and Energy and Cold Regions Engineering. All of these have been identified in strategic or academic plans as key areas of UAF’s mission, which should be a focus for enhancement and improvement. The diagrams show that each mission theme contributes to the success of work in that area. Academic, research, outreach, and engagement programs collaborate and achieve more than would be feasible for stand-alone efforts.
Northern Peoples

Educate
UAF has awarded 298 degrees and certificates in the past five years in Alaska Native studies, anthropology, cross-cultural studies, indigenous studies, linguistics, Native language education, northern studies, rural development, Russian studies, tribal management, and Yup’ik.

Prepare
UAF offers an archaeological field school for training field technicians.
UAF has awarded more than 3,600 degrees and certificates in the past five years in high-demand job areas.

Discover
There were 28 publications in 2008, including four books, related to northern peoples. The Alaska Native Language Center and Alaska Native Language Archive preserve and foster revitalization of Alaska Native languages. The Rasmuson Library Alaska and Polar Regions Collections is an exceptional resource for the study of Alaska’s history, politics, and culture, as well as for international polar research.

Connect
A total of 165 degrees and certificates that focus on Alaska Native communities were awarded during the past five years for programs delivered by distance or offered at a rural campus. Eighteen percent of UAF undergraduate degrees and certificates are awarded to Alaska Natives.
The Festival of Native Arts is held annually on the Fairbanks campus.

Engage
The University of Alaska Museum of the North is Alaska’s only research and teaching museum, and houses 1.4 million artifacts and specimens.

The University of Alaska Press publishes about 15 books per year about Alaska and the circumpolar regions.

UAF has substantial activity in all theme areas around the focus of Northern Peoples, and each of the themes benefits from efforts in the other areas. The research resources of the Alaska and Polar Regions Collections and the Alaska Native Language Archive are also an important asset to faculty and students in teaching and learning about history, political science, anthropology, Russian studies, linguistics, Alaska Native languages, and other fields. The research collections of the UA Museum of the North also benefit instruction and bring many Fairbanks community members and visitors to campus to learn about Alaska’s history and Native culture. The Festival of Native Arts brings faculty, staff, students, and community members together to experience and perform Native music, dance, and visual arts and crafts. The UA Press publishes books by UAF faculty as well as others, which are read by researchers, teachers, and the general public. UAF makes a wide variety of degrees and certificates accessible to rural residents, including those related to languages and cultures of northern peoples, and Alaska Native students are increasingly successful in completing programs of all kinds, including those in high-demand job areas.
Climate Change

Educate
UAF has awarded 636 undergraduate and graduate degrees in the past five years in atmospheric sciences, biological sciences, fisheries, marine biology, natural resource management, oceanography, wildlife biology and conservation, and resilience and adaptation, an interdisciplinary program.

Prepare
UAF has awarded 85 certificates and degrees in the past five years in environmental studies, emergency services (wildfires), and emergency management.

Discover
UAF researchers had 347 climate-related scientific publications and 8,098 citations of those publications from 1999 to 2009.
UAF operates the Bonanza Creek and Toolik Lake long-term ecological research sites.

Connect
The Alaska Native Knowledge Network collects and provides access to traditional ecological knowledge.
The “Seasons and Biomes” program supports teachers, students, and community members investigating climate change issues.

Engage
The Scenarios Network for Alaska Planning provides climate data and projections for Alaska communities.
The Cooperative Extension Service invasive species programs work to minimize impacts in Alaska.
The Science Education Outreach Network provides information on community programs.

UAF has a major research emphasis on climate, a top priority because of the substantial present and even larger predicted future effects of climate change on Alaska communities. In 2009 scienceWATCH ranked UAF climate research 11th in the world (and fourth among US universities) in terms of the number of citations of climate research publications. The climate emphasis extends to all of the themes. Many of UAF’s undergraduate and graduate programs focus on climate and resulting ecological change. Climate change is affecting Alaska’s forests, leading to increased wildfires and a demand for emergency personnel trained in wildlands firefighting. The observations of Alaska Native elders provide insight into environmental change, wildlife, and fisheries. Seasons and Biomes engages K-12 students and teachers in global change research. Invasive species are spreading and the public is being enlisted to assist in control. Outreach was an important component of International Polar Year activities, and the Science Education Outreach Network provides ready access to climate programming for students, teachers, and the general public.
Energy and Cold Regions Engineering

Educate
UAF has awarded 420 degrees in civil, geological, environmental, electrical, mechanical, mining, and petroleum engineering in the past five years.

Prepare
UAF has awarded 272 degrees and certificates in process technology and instrumentation technology, construction trades technology, construction management, and power generation in the past five years.

Discover
Energy-related research is conducted by the Alaska Center for Energy and Power and the Petroleum Development Laboratory. ACEP investigators and ACEP-sponsored workshop participants published 129 papers in 2010.

Connect
The Cooperative Extension Service delivers energy conservation programming in rural Alaska. The Alaska Center for Energy and Power is investigating affordable rural energy sources.

Engage
The Cooperative Extension Service provides programming on energy conservation and solar and other alternative energy sources. The Cold Climate Housing Research Center, a UAF partner, offers many resources on sustainable housing.

Energy is a focus of UAF engineering research, because accessible and affordable energy is a key to economic development in Alaska. Fairbanks, typical of Interior Alaska, has about 14,000 heating degree days per year. In many rural communities that are not accessible by road, fuel can cost two to three times the Fairbanks price. Research focuses on more efficient conventional power generation and on alternative sources, such as wind-diesel, hydrothermal, biomass, and in-river turbines. In addition to cheaper energy, energy conservation is a subject of both research and outreach programs. Undergraduate engineering education provides a solid foundation of fundamentals, but with local examples and opportunities for projects and national competitions, such as the clean snow machine challenge. The construction trades technology program is offered only at rural locations and provides training on the challenges of cold climate construction.
Chapter Five

**Standard 5.B: Adaptation and Sustainability**

UAF regularly evaluates the adequacy of its resources, capacity, and operational effectiveness. The assessments are fully described in Chapter 4. Important components of UAF’s evaluation processes include the academic program review process already discussed in this section. Program review includes an assessment of the adequacy of resources for offering a program. In the program review conducted during FY12, no program was found to have inadequate resources that prevented offering the required courses, with a qualified instructor in appropriate facilities, on a schedule permitting timely graduation of students. Programs presented evidence of effectiveness in terms of graduates, student learning outcomes, and faculty research productivity.

In FY11 the UAF vice chancellor for administrative services conducted an in-depth assessment of administrative staffing. This assessment found some variations in staffing levels across UAF, but no indications that staffing levels were inadequate. In a second phase of this assessment, best practices for administrative units will be identified and implemented across campus. The vice chancellor for advancement reviewed the University Advancement staffing level and found that it is well below that of peer institutions (see Advancement Staffing Comparison Report in Exhibits). UAF has set a goal of substantially increasing philanthropic support, and to that end is increasing funding to Advancement via annual Performance-Based Budgeting allocations.

Campus master plans assess the facilities on each campus, and are required to be updated every five years by Board of Regents policy. The recent update of the 2010 Campus Master Plan found that the quantity of space was comparable to that of peer institutions in most categories, but UAF had significantly less research space than peers with comparable levels of research funding. The Life Sciences Facility and Energy Technology Test Modules currently under construction will significantly improve, but not entirely remove, this deficiency. However, despite the limited facilities, UAF research is notably successful.

UAF’s research and teaching facilities are nearly 40 years old on average, and there is a significant backlog of deferred maintenance. Facilities Services monitors the condition of buildings and infrastructure. Its running list of needed maintenance, renovation, and renewal projects now totals more than $0.6 billion. This list is publicly available. The UA president and Board of Regents have made this a priority, and renovation and repurposing funding was the top priority in the FY12 capital request to the Legislature. As a result, UAF received $22 million for UAF and the authority to bond an additional $33 million.

Chapter 3 describes UAF’s planning processes and provides links to the current plans. These plans are available to faculty, staff, students, and the general public on institutional websites. During the 2000 – 2010 period UAF developed a strategic plan, two academic development plans, a Vision 2017 Task Force Report, and a Campus Master Plan (and an update), all within the context of the UA Strategic Plan 2009. Each dean and director is required to prepare an Annual Unit Plan, which includes sections addressing unit funding needs. During most of the past decade, there has been an annual call for operating and capital budget increment requests. These could be initiated at the department, dean, director, or vice chancellor level, and reviewed by the campus-wide Planning and Budget Committee and the Chancellor’s Cabinet, which set the priorities for the annual request to the Board of Regents. The board, in turn, approves the request that is sent to the state. At each level of review, requests are evaluated in terms of the institutional priorities established via the plans specified above. However, in deference to the “strategic pause” in growth established by the current UA System president, for the past two years, units have been asked to limit requests to only the most important needs of existing programs. Programs can also secure funding through the Performance-Based Budgeting process, by which funds secured through a 1 percent “tax” on unit operating funds are redistributed by the Chancellor’s Cabinet. Redistribution is based on recommendations from the Planning and Budget Committee, either to reward achievements or to improve performance in priority areas identified through planning processes. The annual Performance Reports contain lists of these redistributions.
UAF assesses its planning, assessment, and resource allocation periodically. The schedule and process has changed with leadership over the past decade. Under current Chancellor Rogers, the assessment occurs at a biannual executive leadership workshop, which includes all executives, some senior staff, and Faculty Senate and Staff Council representatives. The inaugural workshop in this series, held two years ago, concluded that administration was relying too much on across-the-board funding cuts to address shortfalls. The participants advised the chancellor to implement vertical cuts instead. Toward that objective, the chancellor instructed each vice chancellor to assess performance within his or her areas of responsibility and to use that information in making strategic, rather than across-the-board cuts. The special, all-program Program Review in FY11 was in response to that instruction, as was the FY11 administrative review and the research review planned for FY12.

The new NWCCU accreditation standards have spurred changes in UAF planning processes. Formerly these were on a five-year cycle, to fit within the 10-year accreditation cycle. Because UAF had only two years to prepare this self-study, the Chancellor’s Cabinet decided to extend the Strategic Plan 2010 through 2012. A new seven-year planning cycle will begin in 2012.

UAF has several mechanisms for monitoring its internal and external environment. Planning, Analysis and Institutional Research (PAIR) compiles and publishes a wide variety of institutional data relating to students, staff, and faculty, and makes that information generally available. UA Planning and Institutional Research also compiles data reports that allow comparisons across the system. Financial Services monitors UAF’s financial condition and makes management reports available on its website. These allow anyone to assess the fiscal status of the institution and the major categories of expenditures.

Each year, UAF produces a Performance Report, which is based on Annual Unit plans submitted by deans and directors and performance data supplied by PAIR. The provost compiles the report, incorporating input from the other vice chancellors. The report addresses UAF performance on major UA System metrics of student credit hours, high-demand job area awards, retention, research revenue, and university-generated revenue. Some of these metrics have been incorporated as indicators for this self-study or are related to adopted indicators. Within that report, UAF is required to assess the internal and external factors that will influence its performance, describe strategies to improve performance, and project performance for the next five years. Some examples of internal and external factors that have been discussed in the annual performance report include the following:

- Western Interstate Commission for Higher Education (WICHE) projects that the number of Alaska high school graduates will decrease by about 1,200 between 2008 and 2014, an average decrease of 2.5 percent per year, before gradually increasing for the remainder of the decade. Compared with other states, an unusually high percentage of Alaska’s students leave the state to attend college. The latest report available indicates that 47.5 percent (or 3,640) of Alaska high school graduates enroll in postsecondary education; 62.6 percent of this population (or 2,277) attends college within Alaska. This, coupled with the fact that Alaska has one of the lowest proportions nationally of high school graduates enrolling in college by age 19, means that the total pool of potential traditional-age freshmen is limited. UAF enrolls many non-traditional students, mainly at the rural campuses. Strategies being pursued include promoting increased state financial aid for students (see the Alaska Performance Scholarship, AlaskAdvantage Scholarships below); increased transfer and international student recruiting; and increased retention efforts (see next paragraph).

- UAF has made concerted efforts to improve retention since the performance reporting process began in 2006. The problems identified included a very permissive baccalaureate admission standard that admitted students who had very little chance of success, and lack of retention programs that have proven successful at other universities. Strategies being pursued include promoting increased state financial aid for students (see the Alaska Performance Scholarship, AlaskAdvantage Scholarships below); increased transfer and international student recruiting; and increased retention efforts (see next paragraph).
performing students by allocating funds to improve the Honors and Undergraduate Research and Scholarly Activity programs.

- Despite the negative demographic trend, UAF saw one of its largest-ever annual increases in enrollment in fall 2009. There was a 6.3 percent increase in student credit hours, after flat enrollment from 2005 through 2008. Fall 2010 had a further 4.2 percent increase, and so far fall 2011 credit hours are up 16.8 percent over the same time last year. Recession and unemployment have historically increased enrollment and are very likely responsible for the increases in 2009 and 2010. However, this year new enrollment is apparently being driven by new financial aid opportunities for students, in addition to increased recruiting efforts and a weak economy in most of the continental US. Until now, Alaska has ranked near the bottom among states in state funding for need-based financial aid. A merit-based program, the Alaska Performance Scholarship Program (similar to Louisiana’s Tuition Opportunity Program for Students), was funded at $2 million by the Legislature for the upcoming academic year. In addition, the Legislature funded $4 million for the AlaskAdvantage need-based aid program. If the double-digit enrollment increase holds, it will lead to additional costs for freshman instruction and place considerable strain on some student services. These will become more acute if the funding and enrollment increases continue in future years. UAF has taken several mitigating actions, including working on a public-private partnership for enhanced dining facilities, allocating operating funds to expand the Student Support Services Program, and planning a capital request for additional large classroom space. Additional tuition revenue will permit hiring some faculty and teaching assistants so that additional course sections will be offered.

- Facilities have been identified as a major constraint on research growth. UAF has placed a high priority on increased and improved facilities for research. Some (the West Ridge Research Building, the Biological Research and Diagnostics Building, and the UA Museum of the North) have been partly or wholly funded by internal reallocation, along with some funding from the Legislature. Others have resulted from concerted campaigns to secure public and legislative support. During the past decade, the Legislature funded the Lena Point Fisheries Laboratory, completed in 2008. In November 2010, after many years of work with the governor and the Legislature, Alaska voters approved a general obligation bond package that included funding for the Life Sciences Facility. In 2009, UAF received $8 million in legislative funding for planning and constructing engineering facilities. Part of that funding is being used for the Energy Technology Test Modules currently under construction. After more than 30 years of effort, UAF at last secured funding for the NSF UNOLS (University National Oceanography Laboratory System) vessel R/V Sikuliaq, which will support arctic and subarctic ocean research.

As of 2009, the UA System requires the UAF Chancellor’s Cabinet to refresh an enterprise risk assessment each year. Cabinet members identify the major threats to UAF’s operations in terms of the likelihood and seriousness of the impact and the effectiveness of any current mitigation strategies. The top three identified risks are:

- Failure of the combined heat and power plant. While the plant is well maintained and to date has operated reliably, it is nearing the end of its 50-year design life and should be replaced within the next 10 years. However, it will be difficult to get legislative funding to cover the estimated cost (about $180 million). Also, there is no cost-effective alternative to a coal-fired plant, and permitting such a plant will be difficult. There is no other choice, because although power could be purchased (albeit at a price about eight times that of our own generated power), only a few campus buildings have any source of heat other than the co-generated steam. UAF is planning a campaign to secure state funding and is taking initial steps in the permitting process.

- Failure of other facilities and infrastructure. The deferred maintenance, renewal, and renovation backlog results in breakdowns. For example, most of the central campus sewers consist of 50-
The fact that storm drainage flows through the same system has spurred plans (see Facilities Services projects 2010150 and 2010001) to replace all of the older parts of the system in the next several years. The other issue that extends beyond single buildings is the electrical distribution system, which is being upgraded (see Facilities Services project 2010098).

- Increasing fixed costs in the face of probable declines (or, at least, insufficient increases) in state and federal support. The state currently funds 50 percent of salary and benefits increases for most employees, and some fuel costs increases, but no other fixed costs. Tuition increases (which are decided by the Board of Regents and which are nearly uniform across all campuses, including community campuses) have ranged between 5 and 10 percent per year in recent years. In FY10, UAF expended 59 percent or $243 million of its total expenditures in salaries and benefits, of which $170 million was unrestricted funds. The 6.5 percent tuition increase slated for FY12 will generate $2.5 million in additional revenue, if enrollment does not change. UAF’s added salary and benefit costs (for individuals paid from unrestricted funds) for FY12 will be $4.8 million, of which $2.4 million is being covered by the state. UAF will have an estimated $2.1 million in other fixed costs increases (for commodities, services, and travel), leaving a net $2 million in cost increases that must be covered by other revenue sources (increased ICR, increased student fees, or increased enrollment) or internal reallocation. Although this financial challenge is very minor compared with those faced by many other universities in recent years, $2 million is equal to the annual expenditures of four to five of UAF’s smallest academic departments, or about 20 faculty and staff positions. Should the trend in limited state support continue or worsen, the smallest academic programs and other university activities outside the core academic, research, and extension programs will be at risk.

More seriously, 90 percent of Alaska’s state tax revenue is dependent on oil and gas production taxes. Production has declined since the early 1980s, with a projected end to sufficient production from Alaska’s North Slope to keep the Trans Alaska Pipeline System flowing within a decade. In recent years, declining production has been offset by high oil prices, but the current budget surplus will certainly disappear soon. At that point, the university will compete with K-12 education and state agencies for funding. The university is likely to suffer from the fact that state spending on postsecondary education is discretionary, whereas much of the rest of state expenditures are constrained by federal regulations, matching requirements, and other factors. In addition, Southcentral Alaska’s population is increasing relative to the Interior, western, and northwestern regions, and communities in those areas are losing representation in the Legislature. There is little that UAF can do unilaterally to change Alaska’s demographics, the tax structure of the state, or oil and gas production, although some research addresses the latter. Mitigating efforts are on two fronts. First, UAF is striving to increase its perceived value among Alaska’s legislators and the general public. In the past, UAF has been supported mainly by the Fairbanks community and Fairbanks area legislators. However, UAF’s research, Cooperative Extension Service, and Marine Advisory Program have important impacts throughout the state. UAF is also working to attract students from across the state, both for in-residence and distance programs. The goal is for Alaskans to identify UAF as Alaska’s university, not just Fairbanks’ university. Second, UAF is seeking to diversify and increase non-state revenue (i.e., increasing philanthropic support, tuition, and fee revenue and federal support of its research and education programs). In addition, the UA president, Alaska governor, and Legislature are firmly resisting university growth that is likely to be unsustainable in the future.

External research funding is also at risk, given UAF’s dependence on federal funding and likely cuts to federal research spending as part of national deficit reduction strategies. We have already weathered a $10 to $15 million per year loss of funding from the Department of Defense, which supported the Arctic Region Supercomputing Center. Although significant layoffs were necessary, a core of research and operations staff is being maintained by internal reallocations of general funds, and the remaining faculty and staff are successfully pursuing external funding. UAF is seeking greater private sector investment in
research, but it recognizes that this is only a limited solution. More broadly, UAF strives to recruit and retain highly capable faculty researchers and support them with adequate startup and matching funds and incentive programs to promote highly competitive research.

UAF has established the core themes, objectives, and indicators for this report over just the past two years, and therefore we have not yet conducted a systematic review, assessment, or revision of them. The university will conduct comprehensive and inclusive strategic planning beginning in 2012 for the NWCCU Year 1 report due in that year. UAF will review its mission, themes, goals, and indicators in light of this report, the new UA strategic plan due in 2012, and the internal and external environment of the institution. Any needed changes will be made.
Conclusion

UAF has been described in a number of different ways over the past decade, and each characterization captures some important strengths and weaknesses of our university.

UAF is Alaska's First University, but since the western European style of education was quite recently introduced in Alaska, the University of Alaska was the last state Land Grant institution (1862 Morrill Act) to be established, as the Alaska Agricultural College and School of Mines, in 1915 (some 1890 and 1994 institutions were established later, as were land grant institutions in some U.S. territories and Puerto Rico). The institution held its first classes in 1922 and had its first graduate in 1923. It grew very slowly during its early years, and more than half of all UAF graduates have completed their degrees since 1994. Altogether, we have about 34,000 graduates (at all levels from certificate to PhD) since 1923. Until 2000, most of Alaska’s high school graduates entering college went to other states. Now, about 60 percent attend UA, but only about 45 percent of Alaska’s high school graduates immediately enter college anywhere. The WICHE Factbook indicates that corresponding averages in 2006 for WICHE institutions are 85 percent in-state attendance and 49 percent college attendance. This history means that relatively few of Alaska’s residents attended UAF or UA in general, and it makes garnering both philanthropic and political support a challenge.

UAF is a Land, Sea, and Space Grant institution. Our Educate, Prepare, Discover, and Engage themes stem from those identities. However, we have a land grant of only 110,000 acres and very limited income from that source. UA statewide holds the land grant, and most of the income is devoted to the UA Scholars program, which benefits all three UA institutions. Alaska looks to its university system to spur economic development and reduce the state’s dependence on oil revenue, but UAF research is mostly federally funded basic research, without direct applicability to business or industry. Land Grant institutions typically have roles in workforce development, tech transfer, and applied research benefitting business and industry, but some Alaskans think the university should take an even larger part in developing the state. UAF is working to define its role in addressing Alaska’s issues, given that the state can provide only limited resources.

UAF is America's Arctic University. As elaborated in the assessment of the Discover theme, our location has led to pursuit of research programs on the Arctic, the subarctic, climate change, the northern seas surrounding Alaska, the volcanoes and earthquakes endemic to our geologically active corner of North America, northern peoples, cold regions engineering, and other directions associated with this place. We have more external research funding per capita faculty than any of our peer institutions, and our researchers have built a strong record of publications. UAF’s small size compared with most public research universities has led to particular strength in interdisciplinary research, such as climate change research. We are building upon our high research productivity/enrollment ratio by increasing undergraduate research opportunities for students through the recently established Undergraduate Research and Scholarly Activity office.

Fairbanks is far from other population centers and has a bracing subarctic continental climate. The only larger municipality in Alaska, Anchorage, is 350 highway miles to the south. Seattle, the closest major US city, is 1,500 air miles away. The annual average temperature is minus 3.5°C (26°F), and occasionally temperatures fall below -50°C (-58°F). In December, the shortest day is only 3 hours and 41 minutes long. These factors make recruiting faculty, administrators, some specialized staff, and nonresident students challenging. Among the effects are that many of our senior faculty and administrators have spent most of their careers at UAF or UA, and some of our higher administrators were drawn from jobs outside higher education. For example, the UA president was a four-star Air Force general and then president of the Alaska Railroad; the UAF chancellor led a private consulting firm; and the UAF vice chancellor for research headed the Alaska Division of Geological and Geophysical Surveys and then the U.S. Geological Survey. Our faculty and administrators avoid isolation by actively participating in many national and
international organizations, especially those related to research. Our biggest difficulty relative to location is that certain important positions can prove almost impossible to fill.

UAF is a 360-million-acre classroom and natural laboratory. As described under the Connect, Discover, and Engage themes, UAF serves all areas of Alaska, and employs faculty in such widely separated locations as Unalaska, Kotzebue, and Ketchikan. Alaska has much less infrastructure per square mile than any other state. Our community campus locations in Dillingham, Bethel, Nome, and Kotzebue, as well as many of the communities served by the Interior-Aleutians Campus, lack both road access and broadband Internet connections. Alaska’s remote rural communities are challenged by a high cost of living, limited employment opportunities, lack of community utilities, limited health care, and struggling K-12 school systems, among other issues. The university is called upon to provide remedies. UAF is making progress in its core mission of providing educational opportunities to Alaska Native and rural students. Enrollment data show that Alaska Natives have recently made gains in their representation in baccalaureate and graduate programs while maintaining a large share of enrollment at the associate and certificate level.

Table 5.4

| Percentage of Alaska Native* Student Enrollment at each Level |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                 | FY06 | FY07 | FY08 | FY09 | FY10 |
| Certificate     | 41%  | 38%  | 31%  | 29%  | 45%  |
| Associate       | 30%  | 30%  | 30%  | 31%  | 31%  |
| Baccalaureate   | 13%  | 14%  | 15%  | 14%  | 16%  |
| Master’s        | 7%   | 7%   | 7%   | 8%   | 11%  |
| Doctoral        | 2%   | 2%   | 4%   | 6%   | 8%   |

*American Indians constitute a small part of the reported percentages. Alaska Natives and American Indians are 15% of the total Alaska population according to the 2010 census. They are 7% of the Fairbanks population and 30.5% of the population of the UAF region, including areas served by rural campuses.

Even more important, Alaska Native student success in completing programs has improved over the past decade and is better than that of other students at the certificate level. However, Alaska Native students should be as successful as other students at all degree levels, and we continue to strive toward that goal.

UAF is Alaska’s Flagship University. We believe UAF deserves that title based on its achievements in the areas encompassed by the Educate, Prepare, and Discover themes. We take pride in our students’ learning as demonstrated on state and national examinations, our unique programs in Alaska Native languages and culture, and the excellent research and creative activities of our faculty and students. Our achievements equal or exceed those of other public research universities on many measures, when scaled to the number of faculty. The clearest exception is timely graduation rates, but our weaker performance in degree completion is largely due to our much more permissive admission standard compared with other Carnegie RU/H institutions. Nonetheless, an improved graduation rate is an important goal for the next decade.

When undergoing external assessments, we are sometimes tempted to say that UAF is unique, and can’t be judged by the same standards as peer institutions. In many respects that is not true. Several years ago UAF described itself as Three Institutions in One. Those institutions are a nationally and internationally prominent research university (the Fairbanks campus), a community college (the Community and Technical College), and an association of tribal colleges (the rural campuses). We no longer emphasize our separate identities because we prefer to highlight collaboration. However, the “Three Institutions” description helps to explain the challenge in developing university-wide planning, assessment, and improvement processes and documenting them in this self-study. As a research university, a community college, or a tribal college, we have many peers. The combination of all three is rare.
Two of UAF’s core themes—Educate and Prepare—apply in some form to all colleges and universities, and were the focus of the old accreditation standards. We trod familiar ground in developing those themes. Research and outreach/extension were little considered under the earlier accreditation standards, but they are key components of our mission and are represented by the Discover and Engage themes. Those themes required substantial work, because planning and assessment in those areas has not been fully integrated and aligned with accreditation processes until now. Connect is an unusual theme and represents the importance of Alaska Native peoples and communities to the state and the university. In that area, also, we needed to develop new approaches to assessment, evaluation, and improvement.

Two particular difficulties emerged as we worked on objectives and indicators for this report. First, Connect and Engage are mission areas in which the objectives and indicators were less concrete and straightforward to work with than those related to other themes. For example, partnerships with businesses, governments, and organizations are important to both community campuses and extension units. However, partnerships are diverse, and therefore it is difficult to report them in ways that make it easy to assess their quality and importance to the mission of UAF. Examples described earlier included partners ranging from Kawarek Reindeer Herders Association to the Fairbanks Memorial Hospital. Partners may provide money, facilities, supplies or equipment, research participants, expertise, or other valued contributions. Public workshops, another Engage indicator, are offered regularly by the Cooperative Extension Service, the Marine Advisory Program, and the Agricultural and Forestry Experiment Station, but these vary dramatically in purpose, scope, and attendance, and they were not recorded consistently until this self-study. The second difficulty was that the themes of Educate, Prepare, and Connect overlapped significantly. Perhaps an expanded Educate would suffice to address them all. On the other hand, Connect and Engage encompass many of the achievements that make UAF different from other colleges and universities.

We would appreciate guidance from NWCCU on a reasonable number of objectives and indicators. As it stands, data collection and management are significant tasks. For purposes of this self-study, UAF had 19 objectives and 37 indicators, some of which included information from more than one source. UAF considered that number minimal to address both quality and quantity of achievements under the five themes, because we have an unusually broad mission. However, in earlier accreditation reports and evaluations, extension, economic development activities, and even research and creative activity, received very little attention compared with their coverage in the present report. The focus of the former accreditation process was on quality of education programs and student services. If such a focus returned, the effort required would be greatly reduced. As it stands, the work required about 50 percent of the time of the accreditation liaison officer for two years; a full-time accreditation assistant; about 0.5 FTE in institutional research; 5 to 10 percent of the provost’s effort, mainly in the last year; and the work of 30 faculty and staff on the campus accreditation steering committee and 45 additional individuals on committees within the schools and colleges, library, and other units. However, UAF employs more than 2,100 FTE faculty and staff. The aggregate effort expressed here is three to four FTE, or less than 0.2 percent of institutional effort, and the cost was about 0.1 percent of total institutional expenditures, or 0.2 percent of unrestricted funds expenditures over the time period.

Despite some difficulties, we have found and implemented appropriate processes and standards of assessment for each of our five themes. We have shown that UAF is using the assessments to improve and that UAF is fulfilling its mission. In addition, we have provided evidence that the teaching, research, and service elements of our mission and the rural, community, and Fairbanks campus units collaborate and benefit from one another. Fairbanks campus strengths include providing students with a small-college experience in the context of a research university. Faculty/student ratios are high, class sizes are small, and students have opportunities to work with faculty in research and scholarly activities. Students receive a quality education, with learning outcomes that are as good as or better than those of peer institutions. Alaska Native people are close to achieving proportional representation in undergraduate program enrollment, and their enrollment at the graduate level is increasing. UAF reaches across Alaska to provide
community campus programs with a focus on workforce development, distance education, credit-earning opportunities for high school students, youth development programs, extension programs to provide research-based information to the public, and other benefits to Alaskans. Although we face some unusual obstacles, we aim to achieve everything that is expected of a public research university and to be a world leader in education and research related to Alaska and the circumpolar North.