Prior grants received from the USDA Alaska Native Serving and Native Hawaiian Serving Institutions Educational Grants Program (AN/NH) by the College of Rural and Community Development (CRCD) of the University of Alaska Fairbanks allowed the college’s five ANSI campuses—acting as a Consortium—to engage in regional needs assessment and to develop place-based career certificates in response to identified needs. Each campus in the Consortium developed a certificate in a specific area of concentration in a USDA discipline.

This specialization resulted in the development of courses, certificates and degrees in the following areas: Veterinary Science (VTS), Ethnobotany (EBOT), Environmental Studies (ENVI) and High Latitude Range Management (HLRM). A general Associate of Science (AS) degree was also developed, into which the content-specific certificates articulate. All of the certificates/degrees have been approved by the UA Board of Regents and all have students enrolled as of the subject academic year.

This round of Drumbeats funding has been directed at continuing these certificate and associate degree programs, strengthening the Consortium by inviting other ANSI institutions to join and supporting planning and resource sharing among Consortium members. Because Consortium staff had been in place for over a year and because the developmental work on the new degrees and certificates had been accomplished, much of the work at both the Consortium and campus levels during this grant period built on prior accomplishments rather than charted new directions.

The three program goals for this funding cycle were a continuation of the original Drumbeats 6 proposal:

**Goal 1:** To increase ANSI capacity to assess and respond to community-identified training, educational and research needs as they relate to the subsistence sciences.

**Goal 2:** To create career pathways into the subsistence sciences for Alaska Natives through the development and delivery of post-secondary certificates and the Associate of Science degree.

**Goal 3:** To increase the number of Alaska Natives enrolled in courses leading to a certificate or degree in the subsistence sciences.
To obtain information for this evaluation, the evaluator participated in Consortium teleconferences, reviewed materials and student data and interviewed key Consortium members. The report follows the Outcomes and Measures found in the grant application. Each goal and its related objectives are discussed, with information and data presented to indicate the extent to which the objectives have been achieved.

**Goal 1: Increase ANSI Capacity.**

*Objective 1: Increase the effectiveness of the ANSI Consortium by providing opportunities for shared planning and progress review.*

The activities associated with this objective included inviting the other ANSI campuses in Alaska to join the Consortium; holding regular meetings among CRCD campuses, ANSI campus directors and the *Drumbeats* Advisory Council; collaborating with the AN/NH program in Hawaii; and engaging in region-wide promotion of and recruitment for CRCD certificates.

Early in the grant year, the Drumbeats Project Director wrote all of the UA ANSI campuses, inviting them to participate in the Consortium. Although several of the program-level staff/faculty at the campuses did indicate some interest, it became clear that a commitment to join the CRCD campuses in a meaningful Consortium for the purposes of joint planning and program sharing would need to be made at the campus director level. Bernice Joseph, Executive Dean of CRCD and the UAF Vice Chancellor for Rural, Community and Native Education then extended the invitation to the directors of the UA ANSI campuses and of Ilisagvik College, the state's only tribal college in Barrow. Although several expressed interest, to date none have formally accepted the invitation.

However, all of the ANSI campuses were invited to the quarterly ANSI teleconferences sponsored by *Drumbeats*. Four such meetings were held during or immediately after the grant period: November 24, 2009 and February 16, May 18 and September 16, 2010. Directors and/or project faculty from the non-CRCD ANSI campuses participated in each of these teleconferences. Each quarterly meeting provided information about federal-level funding programs of interest to the ANSI campuses and updates on federal legislation and budgeting. This year, the teleconferences also allowed the campuses to engage in joint planning of the Alaska presentations at the annual AN/NH meeting allowing for a more coordinated and coherent story of AN/NH funding impacts on the state as a whole.

In addition to the quarterly teleconferences for all ANSI campuses, the project director held meetings of *Drumbeats* Consortium with campus directors and project faculty monthly, with the exception of July 2010, when few people were available. The teleconferences covered a variety of topics, including budget review, planning for the next grant, expansion of the CRCD Consortium to include other ANSI campuses and student recruitment. Attendance at the meetings averaged about nine persons. A majority of the campus directors were in attendance for all but two of the meetings.

The monthly teleconferences were supplemented by one face-to-face meeting in November, 2009 at which the group developed narratives and budgets for the coming grant year.
Feedback from participants indicated that this meeting was very beneficial and greatly contributed to the smooth preparation and relatively rapid approval of the 2011 Drumbeats proposal.

The grant narrative committed the Consortium to holding one advisory council meeting during the grant year. This was held in Anchorage in February 2010, with 15 persons in attendance, including one representative from each of the USDA certificate program advisory councils. Included on the agenda was a discussion, lead by Dr. Beth Leonard from the UAF School of Education, on ways of incorporating Native Ways of Knowing into the curriculum. Based on the February meeting, the directors had several suggestions for future interactions with the Advisory Council, should the Consortium decide to continue to have such a body. The suggestions included:

- allowing more time for networking among the council members and between members and program faculty/staff
- distributing materials before the meeting so that attendees come prepared to discuss topics and
- scheduling a full rather than half day.

Even with these changes, however, there was considerable discussion by those interviewed for this report as to whether a CRCD-wide council was the best mechanism for assuring community input into programs or whether the local advisory council for each certificate was sufficient. The general consensus was that the local councils were much more effective, as the participants had the opportunity to get involved more deeply in a particular program rather than try to keep current with four different programs.

Collaboration with the Hawaiian AN/NH Consortium was strengthened this past grant year through the coordination of posters and presentations for the annual AN/NH meeting in Washington, D.C.

The final activity under this objective was continuation of a coordinated student recruitment effort. This included ads in all of the region's newspapers prior to the start of Fall 09 and Spring 10 semesters, distribution of posters for all four programs to each of the campuses, and a booth at the Elders and Youth Conference prior to the Alaska Federation of Natives Conference in October 2009. Feedback from students as to how they learned of a course or program appears to indicate that newspaper ads may not be cost-effective. The Consortium is considering radio ads for the future, as radio is the most popular news medium in rural Alaska.

Findings

The evaluator finds that the Drumbeats Consortium and staff did engage in the activities outlined in the grant proposal under this objective. Because the Consortium project director had come on board the prior grant year, several on-going activities, such as the monthly and quarterly teleconferences, budget monitoring and grant preparation continued to be carried out. One result was a smooth and successful grant submission and approval for the coming grant cycle.
Although the day-to-day operations of the Consortium are proceeding well, several of the other activities appear to be less successful. For example, the Consortium has yet to successfully expand to include other ANSI campuses. It is apparent that this expansion rests on the approval of other ANSI campus directors whose willingness to partner with the CRCD campuses in turn depends on whether or not their campuses can be seen to benefit from such cooperation.

Because most of the ANSI campuses share common concerns about recruitment and distance delivery of lab science programs, these might be areas where a unified effort by ANSI campuses could be mutually beneficial. ANSI campuses also share common concerns about the continuation of federal earmarks for Alaska Native-serving institutions and of stable funding from state sources for some of the programs and student support activities that have been developed with soft money. A coordinated voice advocating on those issues can be more effective than any single campus.

Given the experience the past several years with the Consortium Advisory Council, it may be time to re-examine the need for such a body. Originally intended as a means of assuring community input into AN/NH activities, the Council as currently instituted and supported has been less than effective. Local advisory councils already guide the development and delivery of each of the four certificate programs, including the inclusion of traditional and local knowledge into the curriculum. Some local advisory council members also teach in the program. With one meeting a year, and with inconsistent membership, it is difficult if not impossible for a region-wide council to gain enough knowledge of each of the programs to provide advice and/or direction.

While collaboration with the Hawaii AN/NH Consortium was strengthened this past academic year particularly through joint planning for the annual meeting presentations, there appears to be room for more effective interaction. It has been suggested that the collaboration take place on two levels: administrative and faculty. Collaboration among CRCD and UH project administration and including the federal USDA AH/NH project director could address issues such as federal funding levels and administrative support for more cooperative program planning and delivery. Faculty collaboration would focus on the programmatic areas, with the aim of increasing student/faculty interactions and exchanges. The annual Alaska/Hawaii face-to-face meetings could be structured around these two tracks, increasing the effectiveness of the time and resources expended.

**Objective 2: Provide support for cross-regional program delivery and review.**

The grant proposal had two activities under this objective: cross-regional audio-conferences for CRCD Natural Sciences faculty and support for students to attend lab intensives in biology and chemistry.

The planned science faculty teleconferences failed to materialize this academic year, due mainly to a change in the leadership of the group. However, the group has been re-energized and, according to several of those interviewed, will be interacting on a regular basis for the current academic year.
One of the issues facing USDA-program science faculty is delivering lab sciences via distance. Although the campuses have used on-site intensives to provide lab experiences for science courses developed for the certificates, there is still some difficulty in finding appropriate distance-delivered biology and chemistry courses beyond the basic introductory level that are needed for students who are pursuing the associate of science degree. Some movement on addressing this issue was made early this current academic year with a UAF-wide Distance Science Education Conference that included faculty from the main Fairbanks campus as well as the extended campuses. This conference at least began a larger discussion of how high-quality lab science instruction can be delivered via distance technologies.

This issue of distance science coursework is not confined to CRCD or to UAF. In the evaluator's experience, every unit of the UA system is struggling with this problem and many campuses are independently devoting considerable resources to course development. It appears that this is one issue around which an ANSI Consortium could coalesce and make a meaningful contribution to the system as a whole.

The second activity under this objective was to fund 10 students to science intensives. According to interviewees, students did participate in intensives; however, few of the dollars devoted to this activity in the 2009/2010 budget were used because campuses had other means of support. In future grants, money that had been devoted to this activity might be better spent in increasing the number and quality of distance delivered lab sciences.

Findings

Although there was some cross-regional interaction among faculty, particularly at the end of the academic year, the expected outcomes of more coordinated course delivery and development do not seem to have been achieved. However, the dialog between CRCD and Fairbanks campus science faculty that was opened with the distance science conference is a very hopeful sign. A similar system-wide faculty meeting—including the appropriate deans and campus directors—could result in more coordinated and effective course planning and delivery.

Intensive labs will no doubt continue to be one means by which distance students gain hand-on experience for some science courses. However, it appears that there may be sufficient funding from other sources to support students in these experiences. Future grants may wish to consider devoting funding to developing alternative ways of providing these experiences including simulation and virtual labs.

Objective 3: Enhance the ability of Consortium members to respond to community needs as they relate to subsistence sciences by utilizing the results of the community dialogs for future program development.

The intent of this objective was to partner with Cooperative Extension Services (CES) to follow up on the community dialogs conducted in the 2008/09 grant year. However, the campus directors indicated that they were working closely with their local campus advisory councils on future program development and that information from the dialogs simply provided confirmation of what the councils had already been considering. Therefore, this activity did not take place.
Bristol Bay Campus did pilot a community survey that was intended to provide more in-depth information at the community—as opposed to the regional—level. The survey was administered to 40 participants. However, it was found that the instrument was far too long and it is now being refined. The results of the survey indicated that the campus should continue with the programs it already had in place, particularly in environmental monitoring and renewable energy.

*Findings*

Based on the results of the community dialogs in the 2008/09 grant year and the Bristol Bay experience, CRCD extended campuses already have in place mechanisms to solicit information about community needs as they relate to the subsistence sciences. The challenge is to provide appropriate responses to the expressed needs.

**Objective 4: Continue to provide avenues for incorporating Native Ways of Knowing into university programs through one Advisory Council meeting per year.**

As reported above, the February Advisory Council meeting agenda did contain a presentation by Dr. Beth Leonard on this topic, which sparked some discussion among participants.

*Findings*

It is doubtful that a short discussion once a year is sufficient to address this important topic. All campus directors and faculty interviewed for this report indicate that local advisory councils and elders have been involved in program development and in identifying ways in which traditional knowledge can be incorporated into the curriculum. This appears to be a more effective means of achieving this objective.

**Goal 2: To create career pathways into the subsistence sciences.**

Early in the 2009/10 grant cycle (September, 2009), the last two certificates were approved by the UA Board of Regents, completing the program development work begun under Drumbeats 5.

As the certificates/degrees are being delivered, campuses are beginning to find that some adjustments may need to be made. For example, Northwest Campus has begun the development of an occupational endorsement to accommodate students who want the practical experience but do not need or want a higher-level certificate or degree. In contrast, the ethnobotany program at Kuskokwim Campus is receiving considerable inquiries from persons who want higher level courses to supplement a master's of teaching degree or even the UAF Ph.D. in Indigenous Studies.

In addition to developing an endorsement in HLRM, Northwest Campus is providing economic and career development in the region in the area of meat processing and marketing.
The portable slaughter/meat cutting facility is now operational and the campus has obtained the necessary licenses from the Alaska Department of Environmental Conservation. A highly-skilled consultant with experience with reindeer herding and processing in Finland has been retained to develop the meat cutting curriculum and to provide demonstrations. A meat cutting demonstration in Savoonga in January 2010 attracted about 25 community members. A similar demonstration was held in Nome in conjunction with the annual Reindeer Herders Association meeting in March. The campus is working with Kapiolani Community College in Hawaii on ways of marketing the processed reindeer meat to Japan and other Pacific Rim countries. As markets are developed, new career opportunities in both meat processing and product marketing could arise in the region.

Findings

Now that the original certificates have been approved and are being delivered, some unanticipated results are being experienced with respect to student need and demand. These demands indicate that further development work may be needed to assure that the coursework and degrees are at the appropriate level.

Another pathway into subsistence science careers is being provided by the Northwest Campus meat cutting classes and mobile facility.

Goal 3: Increase the Number of Alaska Natives in Subsistence Sciences.

The objectives for this goal are tied to the individual certificate programs and will be discussed by program.

Ethnobotany

The ethnobotany program completed its first year as an approved program and with a full faculty component. Its objectives for the year were to foster collaborative research with natural resource public and tribal agencies, provide summer camps and exchanges, build enrollment in the program and continue working with Elders on the Yup'ik Manual of Ethnobotany.

The collaborative research objective has been somewhat delayed, due to the fact that the full-time ethnobotany faculty only recently (March 2010) moved into the community. It is anticipated that as he becomes more familiar with the agencies and resources available in the region, research opportunities will emerge.

The Ethnobotany Summer Camp (EBOT 100 – Introduction to Ethnobotany) was held in July 2010, with 10 students enrolled and supported, which met the grant performance measure for this objective. One course each in Fall and Spring had enrollments each of four students. In all, 16 students received USDA assistance to take courses in AY 2009/10. Three students are officially enrolled in the certificate program and one additional student has successfully completed three courses but has yet to enroll. Of the 16 students, 13 are making satisfactory academic progress; three in the summer program have incompletes.
The campus participated in the joint Consortium student recruitment efforts and the program was highlighted at the Girls in Science program held annually at the campus. As the ethnobotany faculty travels around the region in the coming year, he will conduct more intensive student recruitment, including high school visits.

The exchange with Windward Community College in Hawaii did not take place this past year, but is scheduled for Summer 2011. The Yup'ik material for the ethnobotany manual is in the final stages of translation into English. Permissions for use of the information are being collected from Elders and tribes. Once the translation has been reviewed the manual will be published in bi-lingual format this coming academic year.

Environmental Studies

The environmental studies program this grant cycle sought to increase the number and quality of undergraduate students in environmental studies and sustainable energy.

The Environmental Studies program had 21 students formally enrolled in the 2009/10 academic year. Of these, 15 were supported by USDA funds. The grant performance measure called for 10 enrolled and supported students. Three of the supported students have been taking courses for three academic years; an additional five for two years. Three Bristol Bay students enrolled in a Spring 2010 UAS Sitka Marine Science course and received support from that campus to travel to Hawaii. Spring 2010 saw two program graduates. One had begun taking ENVI courses in high school and now works for Bristol Bay Native Association in fisheries education. The second graduate is a non-traditional student who started university later in life and now works for her tribe's environmental program.

In addition to the 15 program students, the campus supported an additional 106 regional residents, primarily in short-term courses such as Residential Wind Power, Residential Weatherization for Alaska, Home Energy Basics and Water Quality Recertification, all of which had strong enrollments. Several certificate courses were offered in both Fall 2009 and Spring 2010. Enrollments in these courses ranged from three (ENVI 293, Introduction to Sustainable Energy) to eight (ENVI 193, Introduction to Survey Research).

Veterinary Science

The Veterinary Science certificate is offered jointly by the Interior-Aleutians and Chukchi campuses. The program had the following objectives:

- Continue support for 20 current VTS students
- Recruit five new students each from IA and Chukchi during the program year
- Support two students through the practicum experience
- Provide research experiences for at least two students

The VTS program supported a total of 16 students in AY2009/10, slightly less than the goal of 20 students. Of the supported students, six were continuing students and eight were new. Fifteen additional students took VTS courses, but were not supported by USDA funds. Fifteen
new students entered the program in Fall 2009, all from the I/A campus region. One student completed her degree in Spring 2010.

Of the 29 students taking VTS courses, 16 took more than one course. Six students took incompletes or deferments in one or more courses. The remaining students are making satisfactory progress in their courses. One student was supported for the practicum.

High Latitude Range Management

The HLRM objective under Goal 3 was to increase accessibility to HLRM programs, courses and workshops.

Six students were supported in the program over the course of the year, five of whom were continuing students. One student received her certificate in Spring 2010. Of the six students, four were experiencing difficulty in completing the coursework, due primarily to health or other personal reasons. As mentioned earlier, approximately 25 community residents participated in the meat cutting demonstration in Savoonga. Now that the physical plant is operational, additional demonstrations and classes will take place.

Findings

Based on the above information, the evaluator concludes that Goal 3 has been only partially accomplished. On the plus side, all of the USDA certificates have now been approved by the Board of Regents. All of the certificates have students enrolled in courses. Overall, a non-duplicated count of 172 students took coursework in the grant year; 158 of those received USDA support.

Much of this enrollment is in short-term courses offered at the Bristol Bay campus. These courses are often job-related, such as the Water Quality Certification or Recertification, or of immediate practical use, such as Home Energy Basics. One of the issues raised in the interviews was that while village, regional and state natural resource agencies and programs had paid employment for environmental monitoring, there was no similar, ready-made local jobs for the other certificates; for example, in animal health or control. Without these local employment opportunities, other degrees appear to have less relevance to village residents.

The HRLM program highlights another aspect of the interplay between economic development and education. The largest impact from this program most likely is the establishment of a meat processing facility in the region, with the related meat cutting demonstrations and short courses held in various communities. While this activity can have a large impact on the economic stability of the region, this community benefit is not easily captured in the student numbers used for grant reporting.

Another issue that is becoming more evident is that the certificates, as constructed, may target the wrong level. For example, the immediate audience for the HRLM certificate—reindeer herders—want the practical knowledge but have little interest in sitting through the communications and computational courses that are required for certificate completion. At the
other end of the scale, many of the students who inquire about the ethnobotany program are interested in using the courses as a concentration in a master's or even doctoral program and are not willing to take 100 and 200 level courses. Two of the three VTS graduates held master's degrees and the HLRM graduate held a teaching degree. About half of the current active student body in VTS and several of the enrolled ethnobotany students have already earned a four-year degree.

There are few traditional-aged students enrolled in the programs. Most students are persons who are entering or returning to postsecondary education after a pause in their educational careers often of many years. In some cases, returning students are finding the math and English requirements of the certificates and degrees difficult to complete successfully.

A final and very important concern is the low number of Alaska Native students who are enrolled in the programs. Conversations with faculty revealed that for both the VTS and the EBOT programs, most of the students who are formally enrolled are not Alaska Native and, in the VTS program, an increasing number are from Fairbanks.

Summary and Recommendations

The 2009/2010 grant year was a time of consolidation and maintenance for the USDA AN/NH program at CRCD. Because the project director had already had a full year of experience with the program, the day-to-day operations of the Consortium functioned well, and the 2011 grant preparation and approval process went very smoothly. Efforts to involve other UA ANSI campuses in Consortium activities were partially successful in that representatives from other campuses did participate in the quarterly teleconferences and engaged in joint planning of the Alaska presentations at the annual AN/NH meeting in Washington, D.C.

Several of the planned activities did not take place. The CRCD-wide science faculty meetings failed to materialize, due in large part in a change in faculty leadership. However, there are indications that the group is becoming more active and intends to engage in coordinated course planning and program development in the current academic year. The proposed follow-up on the community dialogs conducted in the 2008/2009 grant year was deemed unnecessary by campus directors, who felt that they already had an efficient mechanism for engaging the community though their local advisory councils.

Although intensive labs were held for students in several science courses, the funds that had been allocated to that activity were not fully expended, primarily because campuses had other means of funding the student tuition, travel and associated costs. In Fall 2010, UAF held a Distance Science Education Conference to explore issues surrounding distance science education. Discussions begun at this conference may identify alternative, less-costly ways of providing science lab experiences.

With the approval of the environmental studies and ethnobotany certificates in September, 2009, the program development work was largely complete. However, HRLM did begin work on an occupational endorsement in meat cutting.
With a fully-functioning slaughter house and meat processing facility and the expertise retained by the campus, the HLRM program is embarking on a new phase, one that is less oriented to the traditional certificate/degree and more directed at job creation through processing and marketing of value-added reindeer herd products.

Each of the certificate programs has students who are formally enrolled and a greater number who are taking course work. Three of the four programs have had one or more students complete the certificate or associate degree. Cadres of students are persisting from year to year in most programs and are making satisfactory progress in the content courses. However, some are struggling with the GERs associated with the certificate/degree. With the exception of environmental studies, all programs have less students than anticipated. A considerable number of enrolled students have already earned a four-year or higher degree, are non-minority and live in urban areas.

The experience of the past year sparks several recommendations.

**Recommendation 1:** Increase efforts to develop a working Consortium of ANSI campuses. Several of the following recommendations either depend upon or can more easily be carried out on a system-wide basis and would be beneficial for all involved campuses as well as students throughout the state.

**Recommendation 2:** With other extended campuses, attack the problem of science education delivery, including issues such as meaningful curriculum for rural residents, lab experiences for distance courses and transferability of credit among MAUs and programs.

**Recommendation 3:** Explore additional methods of student recruitment, especially outreach to high school students and rural communities. Radio advertising, summer camps, orientation programs and high school visitations can be effective tools.

**Recommendation 4:** Cross-market USDA funded programs among ANSI campuses. CRCD programs should have appeal to students in other parts of the state. The UAS fisheries and marine science programs could also serve interested students in the CRCD region. Bristol Bay students have already participated in some of the Sitka courses. Additional student exchanges would boost enrollment on all campuses.

**Recommendation 5:** Work with the Hawaii AN/NH USDA counterparts to find more efficient ways of networking and cooperation. The suggestion of a two-track approach—administrative and programmatic—to the annual meeting is a good one that should be explored more fully.

**Recommendation 6:** As more experience is gained in delivering the USDA degrees, adjust the coursework where necessary to better fit the needs of the student population. For example, the enthobotany degree may need to add advanced coursework. The HLRM program may be more successful at the endorsement rather than the certificate/degree level. Entrepreneurship and small business management skills may need to be added to the curriculum.
Recommendation 7: Reconsider the necessity of a Consortium Advisory Council. It appears that the local program and campus advisory councils are operating effectively in providing community input into program development. At this point in time, the broader council does not appear to have any function other than information sharing, which could be achieved by other methods.

The evaluator wishes to thank those who have contributed information to this evaluation: the CRCD Executive Dean, the Drumbeats project director, the campus directors and program faculty and administration.