

# ***Drumbeats Consortium 2005-2020***

U.S. Department of Agriculture  
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*Drumbeats Collaborative Project 2018-2020*  
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## **Evaluation Report**

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Evaluation Research Associates  
Fairbanks, Alaska

# ***Drumbeats Consortium 2005-2020***

*In Memory of  
Bernice Joseph and  
Mary Ciuniq Pete*

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## *Introduction*

The United States Department of Agriculture Alaska Native Serving and Native Hawai'ian Serving Institution Education Competitive Grants Program (USDA ANNH) purpose is to promote and strengthen the ability of eligible Alaska Native-Serving Institutions (ANSI) and Native Hawaiian-Serving Institutions to carry out education, applied research, and extension community development programs within a broadly defined area of the food, agricultural, natural resource and human (FANH) sciences. Each institution can determine how to address education within the FANH sciences.<sup>1</sup>

The *Drumbeats Collaborative Project 2018-2020* is the title of the award to the five Alaska Native Serving Institutions (ANSI) of the College of Rural and Community Development (CRCDD) at the University of Alaska Fairbanks (UAF). It is the last award to the UAF ANSI under the *Drumbeats* titled series of grants.

The *Drumbeats Collaborative Project 2018-2020* was implemented while a myriad of changes are being made and under the uncertainty of proposed changes at the University of Alaska due to ongoing budget cuts from the State of Alaska. Further changes include outcomes from the COVID-19 pandemic restrictions on University functions, and course delivery. Given these changes, it is an appropriate and necessary time to look back and document the long-term project history, its outcomes and impacts. The table in *Attachment A- Drumbeats Consortium Awards 2005-2020*, provides details of titles of these Projects, the PIs and CoPIs, the evaluators, project goals and objectives.<sup>2</sup>

This evaluation report provides an historic to current day overview of the 14 funded *Drumbeats Collaboration* awards, 2005-2020, through a meta-review of 15 years of evaluation reports. The process of *looking back* will help current administrators and new faculty understand the program roots and growth as the history identifies what was working and what was not in the *Drumbeats* programs. Evaluation findings and addressing the questions posed can be used as a sounding board for planning and decision making as each *Drumbeats* program *moves forward* into the future.

This report is a story of the *Drumbeats Consortium*, likened to an edible plant. It begins with *The Roots*, or how the *Drumbeats* programs started in 2005 through 2011, and continues with *The Stem*, how the programs grew over time from 2011 to 2018. Next is the evaluation of the *Drumbeats Collaborative Project 2018-2020*. In the following section are *Fruits*, or examples of changes in knowledge, actions and conditions for students and community members accumulated from all the *Drumbeats* awards. The report concludes with Findings, a conclusion and evaluation methodology.

**---Looking Back---**  
**The ROOTS**  
**2005-2011**

The University of Alaska Fairbanks is the State of Alaska's land-grant university and has the distinction of being the northernmost land, sea and space grant university. Land grant universities are challenged to become: 1) more accessible to a wider range of students; 2) more learner focused; 3) more engaged in applied research to discover information that can be used to help solve real life problems; and 4) more engaged in partnerships with people, their leaders, and community organizations and agencies to identify and resolve critical issues.<sup>3</sup>

The *Drumbeats* programs grew out of a series awards originating with USDA Cooperative State Research Education and Extension Service grants to the Alaska Cooperative Extension Service (ACES). Four awards entitled, *The Extended University: A Continuing Collaboration between the College of Rural Alaska Extended Campuses and the Alaska Cooperative Extension Service*, were funded from 2003 to 2007. *The Extended University* project offered mini-grants for science-based activities by application to K-12 teachers in Rural Alaska. In 2004, the *Extended University* project conducted a needs assessment to identify regional priorities in natural resources, science and math education and included a review of the educational approaches to higher education. An assessment was conducted in the regions served by the five CRCD campuses: Chukchi Campus in Kotzebue; Northwest Campus in Nome; Kuskokwim Campus in Bethel; Bristol Bay Campus in Dillingham, and the Interior Aleutians Campus centrally located in Fairbanks. In fall of 2006 the project was moved to CRCD under the leadership of Bernice Joseph, Koyukon Athabascan, the CRCD Executive Dean and Vice-Chancellor of Alaska Native Education, and the mini-grants were closed out.

***Drumbeats Early Years 2005-2011***

In 2005 a request for applications was issued in the Federal Register for the first USDA Alaska Native and Native Hawai'ian Serving Institutions Education Program grant. The five CRCD ANSI campuses formed a consortium and applied for the initiative with a proposal entitled *Drumbeats: Place Appropriate Careers and Higher Education Preparation for Alaska Native Students*. In 2005, rural campuses were recipients of multiple federal awards targeted at ANSI, and Clara Anderson, Koyukon Athabascan, was Campus Director and first Project Principal Investigator (PI, 2005-2008) of the USDA ANNH Program grants; she was key in asserting the need for relevant program development for Alaska Natives. Subsequently, four 30-credit Certificate programs in the USDA sciences were designed to meet regional needs as identified in the 2004 ACES regional assessments.

In September of 2005, the first *Drumbeats* grant was awarded, and development began on four 30-credit certificates: Ethnobotany (**EBOT**) and Horticulture in the Plant Sciences; Environmental Sciences (**ENVI**) in Conservation and Renewable Natural Resources; High Latitude Range Management (**HLRM**) in Animal Sciences; and Veterinary Science (**VTS**) in Veterinary Medicine/Science. A 60-credit Associate of Science (AS) degree was also developed.

Anderson also created the *Drumbeats* title. She has described how, in Indigenous communities, the drum calls people together, and *Drumbeats* programs call students to the first relevant, place-based, science-based programs in rural campus regions. The *Drumbeats* title continues to be relevant. In fall of 2019, Project faculty agreed to use the term *Drumbeats Consortium* to represent the collaboration of the five UAF ANSI supported with USDA ANNH funding regardless of changing grant titles.

#### *Hiring Program Faculty*

When the first *Drumbeats* grant was awarded, the campuses did not have faculty who could fully develop and oversee the proposed programs. However, each campus director who participated in writing their consortium narrative knew of potential faculty and/or had staff who began work on the curriculum. Hiring faculty with requisite credentials to develop curriculum for a program targeted at a diverse yet distinct Alaska Native population was a challenge. Adding to that challenge was to find faculty who were also willing to move to the rural and geographically remote campuses off the road system (only one campus of five is connected). Eventually faculty with content area expertise and credentials were hired for each program.

#### *Academic Program Review & Approval*

After curriculum was developed, courses were piloted as special topics. Eventually the Certificate programs and the Associate of Science were developed and the required format to submit programs through the University process for approval were completed. The next barrier was convincing faculty sitting on the UAF curriculum committees and UAF Faculty Senate that the extended campuses had the resources to deliver rigorous science courses. The gatekeepers were the relative lack of experience and knowledge about rural Alaska and Alaska Native peoples, and the growing status of the branch campuses. In addition, the fact that many of the courses were slated for distance delivery raised further concerns among faculty who were more familiar with face-to-face instruction, particularly in the lab sciences. A last stumbling block for some faculty serving on curriculum review committees was the lack of familiarity of the proposed course content. UAF did not have degrees in either veterinary science or ethnobotany and although UAF did considerable research on reindeer husbandry, the HLRM certificate has

had a focus on range management rather than research. In addition, many of the proposed courses sought to integrate local knowledge and Indigenous Ways of Knowing with course content, often through faculty-developed course materials. Because curriculum review committees did not have faculty representatives with experience in these subject areas, they had difficulty evaluating the appropriateness of the proposed course content, sequence and materials. <sup>4</sup>

### *Academic Program Approval*

Through tenacity, faculty began attending meetings, and speaking up for the programs which were eventually approved by the UAF Faculty Senate and the University of Alaska Board of Regents. Following are the *Drumbeats* programs by academic designator, *the year of program approval* and the supporting campus during the early years of the *Drumbeats* projects:

- ENVI: 2007 housed at the Bristol Bay Campus (BBC)
  - 2011 Sustainable Energy courses were added to the ENVI program
- EBOT: 2009 housed at the Kuskokwim Campus (KuC)
- HLRM: 2007 housed at the Northwest Campus (NWC)
- VTS: 2007 housed at the Interior Aleutians Campus (IAC)
- Associate of Science: 2007 housed at the Interior Aleutians Campus
- The horticulture certificate has been referred to a system-wide committee and is being developed (using other fiscal resources) for adoption by the entire UA system.

Chukchi Campus (CC) in Kotzebue partnered with IAC for delivery of VTS courses and later with KuC for delivery of EBOT courses. *Drumbeats* Certificate programs were designed to articulate into the Associate of Science degree.

### *Introducing Subsistence Science*

Although *Drumbeats* Certificates relate to the agricultural sciences, the Consortium, in its Fiscal Year 2009 grant application acknowledged that *agricultural* activities were not customarily and traditionally practiced by Alaska Natives<sup>5</sup> and a more culturally appropriate definition was needed. Therefore, the Consortium adopted a focus on *Subsistence Sciences*, similar to USDA target sciences that assist individuals and communities to better understand and improve food, shelter, fuel, transportation and other material aspects of rural/village life. <sup>6</sup> This definition allowed Bristol Bay faculty to meet the community and statewide need for energy efficiency and renewable energy through developing an additional focus and courses in Sustainable Energy under the ENVI Certificate.

The term *Subsistence Science* is based on the legal definition used in Title VII of the 1980 Alaska

National Interest Lands Conservation Act:

*The term Subsistence Science means the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for consumption; and for customary trade.*

HLRM is the only program that does not fit under this definition because reindeer herding, and husbandry is not being taught as a subsistence activity but as a commercial activity.

#### *Summary Evaluation Results 2005-2011*

A summary evaluation was requested by Consortium members for project years 2005-2011 to examine the institutional changes accomplished during this funding period.

Results show:

- A functioning Consortium membership was developed
- Consortium members show commitment to *Drumbeats* by sharing funds and a support position for science faculty
- The four *Drumbeats* programs are established and delivering coursework
- Enrollments in *Drumbeats* programs is less than anticipated and Alaska Native student enrollments are low. VTS had an increasing number of students from Fairbanks while students from Canada and the Lower 48 enrolled in EBOT
- Institutional barriers to sharing courses and faculty were identified, and the barriers continue to exist primarily in the metrics used by the UA system for budgeting and for reporting to external audiences<sup>7</sup>
- A variety of marketing efforts increased yet most students indicate they learned about the program by word of mouth
- Collaborating with other ANSI and Alaska Native Education entities for program sustainability was not successful
- Federal Program Officer, Dr. Afele-Faamuli, encouraged the *Drumbeats* faculty to collaborate with the Native Hawai'ian Serving programs, a few collaborations occurred with EBOT having had the longest running student exchange with Hawai'ian institutions
- Evaluations show the individual program councils were far more valuable for local community input, especially in sharing Indigenous knowledge and being easier to convene than a *Drumbeats* Advisory Council
- In 2010, Dr. Beth Leonard from UAF School of Education gave presentation on ways to incorporate Native Ways of Knowing into the curriculum to representatives from each program's Advisory Council. However, a half-day session on using Native Ways of knowing in *Drumbeats* curriculum is inadequate for the size of the task at hand.

*---Looking Back---*

*The Stem*

**2011-2018**

Over the next seven years, 2011-2018, *Drumbeats* Consortium and programs continued to expand, change and morph. Collaborations and partnerships increased, as did outreach, recruitment, course delivery methods and campus visibility. *Drumbeats* program delivery expanded statewide and beyond. This section details changes in *Drumbeats* programs and leadership germane to the Project, student enrollment, and efforts to integrate Indigenous knowledge into the curriculum, and it touches on partnerships, Consortium collaborations, outreach, and dissemination.

*Drumbeats Program Changes:*

- In 2012 the University Southeast (UAS) Certificate and Associate of Applied Science in Fish Technology was articulated for delivery at UAF Bristol Bay Campus
- In 2013 the Interior Aleutians Campus program, Vet Science, was discontinued by UAF and a new veterinary program was organized on the Troth Yedd'ha Campus
- In 2013 Tribal Stewardship (originally Tribal Natural Resource Management) courses were developed under the Tribal Management program at the Interior Alaska Campus (the name changed from Interior Aleutians Campus when the Aleutians region was assigned to BBC)
- The UAS ANSI Ketchikan and Sitka Campuses joined CRCD (2014-2017), temporarily adding two programs to the *Drumbeats* Collaborative, Coastal Resources and *Getting Rural Alaskans into Science Professions (GRASP)*, respectively
- UAF documented Occupational Endorsements (OE's at 9-18 credits of content courses only)
- ENVI developed two OEs
- EBOT developed a series of courses for a bachelor's degree minor and received UAF approval
- HLRM, when taught through UAF, would then be under the School of Natural Resource Management and Extension
- With the FY18 USDA NIFA ANNH request for proposals, the funding application changed to one Collaborative and one individual application for the Alaska and Hawai'ian serving institutions

*Leadership Changes:*

- In project years 2018-2020 and 2019-2021, there were two *Drumbeats* Principal Investigators or four PI's over four years
- In 2018-2019, the *Drumbeats* Collaboration was led by four new UAF Consortium Project Directors hired as ANSI Campus Directors (with one Interim) at four of the five campuses
- In 2016, Federal Program Officer, Dr. Saleia Afele-Faamuli retired (2005-2016)
- In 2014, Evon Peter, Gwich'in, was hired as CRCD Vice Chancellor

- In 20XX, Interior Alaska Campus became the new name of the smaller branch campus located in Fairbanks to serve rural villages in the Interior, after the Aleutians service area was transferred to the Bristol Bay Campus

*Details on Program Additions and Changes*

**TS: Tribal Stewardship** courses grew out of community and student concerns of finding cysts and worms in wild meat. The concern was broader than food safety, what today would be considered food security and access to wild foods. TS is a series that aims to protect food security for Alaska Native Tribes through traditional territory stewardship plans, hunting and fishing regulatory advocacy, and youth leadership. Tribal Stewardship courses have had over 90% Alaska Native participation. The program hosts a bi-annual Tribal Symposium which regularly attracts 200 participants statewide. TS courses articulate into the Tribal Management (TM) academic program Certificate and Associate Degree. This program is housed at the Interior Alaska Campus in Fairbanks and began delivery in 2013.

Over four years, 2014 through 2018, two ANSI under the University of Alaska Southeast, in Ketchikan and Sitka, were included in the Drumbeats Consortium. The following two programs were:

**Coastal Resources** focused on the expanding local knowledge and skills in utilizing the food resources available in the intertidal and coastal regions of Southeast Alaska. For credit courses were delivered on such topics as Traditional Uses of Beach Foods, Preparation of Coastal Foods, and Food Resources of Coastal Alaska and included dual-credit courses, for Ketchikan Indian Community Tribal Scholars that combined Indigenous and Western science. This program is housed at the Ketchikan Campus.

**GRASP: Getting Rural Alaskans into Science Professions by Enhancing Education in Fisheries, Aquaculture and Marine Science for Underserved Alaskans**, through the Scientists in the Schools (SIS) was an effort with the Sitka School District that brought practicing scientists into the schools to speak to students and work with them on an exploratory activity. The program also partners with the Sitka Sound Science Center for outreach and education and hosts students to attend the Sitka Whale Fest science symposium. This program is housed at the Sitka Campus.

**ENVI Occupational Endorsements:** Rural Waste Management Spill Response and Sustainable Energy.

**EBOT Minor:** A series of courses approved for undergraduate selection as a bachelor's degree minor.

### *Student Enrollment and Awards*

The years of 2011-2018 were years of growth in program delivery and enrollment. According to the UA Banner System, *the first years Drumbeats courses were offered are:*

- FY06 for the VTS program
- FY08 for ENVI, HLRM and EBOT
- FY13 for Sustainable Energy (under ENVI)
- FY14 for TS

During the four Project years of growth, 2011-2018, program enrollment trends continued to increase or hold steady. In 2018-19, the duplicated enrollment was 426 students; in 2017-18, the duplicated enrollment was 696 students.

Mary Ciuniq Pete, Yupik, Project CoPI and PI (2010-2017), stated:

*Drumbeats programs have a focus to meet community needs, but they have moved beyond subsistence science and the way academicians define science. The Drumbeats programs should be more user friendly. People want information, not necessarily a degree or to enroll in a Certificate program. Further, I've had conversations with the UAF Provost...and she is mostly concerned about Northwest Commission accreditation issues...[A limiting factor] is that if a student at a location [a CRCD campus] cannot get 51 percent or more of their courses from that location, then you can't list that location as a site for the program.<sup>8</sup>*

While enrollment in *Drumbeats* programs steadily increased during 2011-2018, statistics indicate that students do well in the *Drumbeats* program content courses, but few students enroll in the general education courses in writing communication, computation and science required for a 30-credit Certificate. This is illustrated through two different levels of student awards:

- 31 *Drumbeats* program Certificates (30-credits) earned 2005-2018 or over 13 years
- 90 Occupational Endorsements (9 to 18 credits) earned 2012-18 or over six years

The tables in *Attachment B - Drumbeats Student Statistics* provide details of student course enrollment and awards from 2005 through 2019.<sup>9</sup> All student statistics presented in the report come from UAF Institutional Research and Planning.

### *Integrating Indigenous Knowledge into the Curriculum*

Indigenous knowledge is integrated into some *Drumbeats* programs; the level of inclusion often depends on the subject matter, the course content and the willingness of faculty to seek out input from Alaska Natives. In the early years, goals specifically addressed the inclusion of Alaska

Native students and in 2011 integrating Indigenous knowledge was an objective of the project. For the next few years, the focus moved to strengthening the Consortium and *Drumbeats* programs. In 2016, Alaska Natives were specifically included in the Project goal, and Indigenous knowledge in an objective. See Attachment A, *Drumbeats* Projects 2005-2020.

According to the evaluation reports, as the *Drumbeats* programs developed and grew, the use of program Advisory Councils were key to integrating local and Indigenous knowledge into course content. However, over time, only one program maintained an Advisory Council, HLRM, with the Kawerak Inc. Reindeer Herders Association board. In the Tribal Stewardship courses, Tribal partnerships remain key to recruiting students, curriculum is tailored for the attending Tribal citizens and an Alaska Native Elder attends every intensive session, serving as a visiting Elder Professor.

Most *Drumbeats* faculty have lived or worked for years in the Alaska Native communities they serve. This builds relationships, trust and understanding between Western and Indigenous cultures. However, integrating Indigenous knowledge into course content requires additional effort and know-how. The *Drumbeats* Project has not specifically offered methods to help faculty integrate Indigenous knowledge nor has it been a consistent goal or objective in the 2011-2018 project years.

### *Partnerships*

Generally speaking, during *Drumbeats* Project years of 2011-2018, programs and campuses gained recognition locally and regionally, and many partnerships were gained, strengthened and expanded. The partnerships helped to build the credibility and relevance of *Drumbeats* programs in the region and state. Partnerships and other external funding sources were also critical to provide partial faculty funding and to support courses and students. Some faculty were also funded a percentage by State of Alaska funds to UA. Most *Drumbeats* faculty received only partial funding from the ANNH grant, with FTE varying from 20% to 60%. However, faculty continued to perform duties directly related to *Drumbeats* programs such as giving conference presentations, providing energy tours or teaching *Drumbeats* courses. Through supplemental funding, the work in the food, agricultural, natural resource and human sciences NIFA was extended, enhanced and supported.

Program faculty have partnered with a wide variety of entities such as: Tribal governments and Tribal entities; non-profit organizations; for profit businesses; local, state and national agencies; and educational institutions such as K-12 school districts, university programs, within and outside of the University of Alaska system, and Hawai'iian Serving post-secondary institutions. When businesses, Tribal Governments, state, and local agencies call on faculty to assist with

content area special requests, or to partner and support students. These *Drumbeats* students have made the campus more visible through sharing content information with residents in rural communities after courses are completed.<sup>10</sup> The Northwest Campus maintains a unique and valuable agreement with the Sámi Education Institute in Inari, Finland (a University of the Arctic partner institution) to share faculty, curriculum, and Sámi expertise that is more advanced scientifically and practically.

If a campus is a leader in workforce development, however defined, then their visibility and value increase to regional employers and potential students/future employees. If a campus extends to meet nonwork force needs, such as food security and energy efficiency, these activities will also increase the campus visibility and value to local residents.<sup>11</sup>

#### *The Drumbeats Consortium Collaborations*

The *Drumbeats Consortium* met monthly, and in-person annually for planning and collaboration, and some faculty and PD's attended the ANNH National meetings. Collaborations were made between these programs: EBOT has been sharing curriculum and assisting Chukchi Campus in delivering the field EBOT course; ENVI courses were offered at Northwest Campus; and Sustainable Energy and Tribal Stewardship courses were offered across the state. Collaborations between ANSI at UAF and UAS, from 2014-2017, provided familiarity and collegiality between program faculty, even though collaborations did not materialize.

#### *Outreach and Dissemination*

*Drumbeats* programs have been participating in outreach through local workshops and symposiums that also serve to recruit students. Faculty have been attending and presenting at regional and national conferences, increasing the awareness of issues in rural Alaska Native communities and of plausible solutions. Faculty have worked hard to build leadership skills among students. Students have been gaining confidence to stand up and speak about what they have learned, knowledge to earn authority in their communities to make decisions, and experience enough to have begun running their own businesses. These students are the grassroots disseminators of knowledge gained through *Drumbeats* programs and are its best recruiters.

*---Looking Back---*

**The Drumbeats Collaborative Project 2018-2020**

The *Drumbeats Collaborative Project 2018-2020* is the current award under evaluation and is the last round in the 15-year analysis of the *Drumbeats* USDA ANNH programs. The implementation of this grant has experienced unprecedented challenges. Over the past three years, the State of Alaska has made deep budget cuts to the University of Alaska. The suspension of the UA Scholars program, which funds the top 10% of high school graduates across Alaska to attend an Alaska post-secondary institution, was announced in July 2019. Although the program was reinstated that August, the notification of award was so close to the beginning of the university semester, that it resulted in lower than anticipated enrollment in fall 2019. Lastly, the COVID-19 pandemic in the spring semester of 2020 resulted in an extended break from school that turned into unexpected campus closures, and all courses then delivered solely by distance.

The goal and objectives of the *Drumbeats Collaborative Project*:

**Goal:** *Enhance educational equity while strengthening the sustainability and development of Alaska Native and Rural Alaskan communities*

Objective 1: Advance Indigenous and Western knowledge and its application to food and energy security and sustainable livelihoods

Objective 2: Increase leadership in resource stewardship and civics

Objective 3: Facilitate collaborations to strengthen place-based subsistence knowledge and practice

In this section, the evaluation of the *Drumbeats Collaborative Project 2018-2020* includes program changes, methods faculty are using to deliver education in the FANH sciences equitably, and the outcomes of the cost analysis for *Drumbeats* programs.

*Drumbeats* program changes include:

- The two UAS ANSI campuses are no longer a part of the Collaborative
- Chukchi Campus has developed the Food Sovereignty and Security project
- After program review at UAF, the ENVI and EBOT Certificate programs will be discontinued
- ENVI's Sustainable Energy courses are collaborating with Tribal Management to be included within that academic program

*New Program Description*

The *Drumbeats Collaborative Project 2018-2020* award includes one new project:

**FSS: Food Sovereignty and Security** is a project that works with a diverse coalition of community partners to develop sustainable food production in the short Arctic growing season and in a controlled container environment using renewable energy resources. This project will enable Chukchi Campus to promote sustainable food production in the Northwest Arctic and provide a model of food-related economic development. This project is housed at Chukchi Campus in Kotzebue and it began project activities in 2018.

*Evaluative Assessment:* This project has potential for growing greens in an arctic community using a conex container box with renewable energy resources. The project has been operating for the past two years. There is a need to attract and maintain consistent staff as the current staff are seasonal; in addition, participants are recruited as volunteers which adds to the inconsistency in project implementation. There has been few if any Alaska Native participants which is a concern given the goal to enhance educational equity.

*Results of the 2018-2019 Cost Base Analysis*

An interim evaluation report for the *Drumbeats Collaborative Project provided a cost analysis assessment of the 2018-2019* academic year by program. Due to the wide range of activities and content in the implementation of the six *Drumbeats* programs, it was difficult to identify and quantify variables that were shared by all programs. Consequently, the analysis focused on the cost per student as determined by direct, expended program costs (not including indirect costs) divided by the number of students enrolled by program. The limitation of using one variable has been noted, however, with student enrollment as the one consistent variable across all programs. The new FSS project is the exception with costs based on the duplicated number of participants. Costs per duplicated/unduplicated student by program are listed below:

- ENVI=\$2,176/\$2,221 (includes SE)
- EBOT=\$6,773/\$10,419
- HLRM=\$1,848/\$3,806
- TS=\$1,552/\$1,950
- FSS=\$1,081 (only duplicated participant figures are available)

Note that some courses have faculty and/or students supported by other external funding sources such as other federal grants and partnerships. Further details on how these costs were

determined, and evaluation outcomes can be found in the *Drumbeats* Interim Evaluation Report 2018-19.

In addition, the *Drumbeats* Interim Evaluation Report 2018-19 included the costs of each faculty by program, with FTE and activities reported, as listed on the annual Project REEport (Research, Extension, and Education online project reporting tool) system. In collecting and reporting on data for this report, it became clear that activities attributed to USDA NIFA ANNH funding, as reported by faculty, included work that was supported by other resources. The key to this clarification came from comparing project activities to the percentage of faculty FTE as discussed in the previous section. This does overstate project activities and outcomes and leads to the need to report out on the partnerships and external supports which positively show the integration the program into the larger society, and its ability to leverage and maximize resources to increase activities and impacts.

*Delivering Education Equitably*

A *Drumbeats* Consortium faculty only meeting was held in November 2019 for evaluation purposes. Discussions included differences between equality and equity, the future of the Consortium and *Drumbeats* programs, and discourse to identify criteria of *what works* to deliver educational equity in the subsistence/FANH sciences in a rural Alaska context. Harris & Wasilewski Four R's<sup>12</sup> – relationship, responsibility, reciprocity and redistribution are the axioms that form the core of the emerging concept of indigeneity. The concepts are defined below:

<b>Concept</b>	<b>Description</b>
Relationship	Relationship is the kinship obligation, the profound sense that we human beings are related, not only to each other, but to all things. Our societal task is to make sure that everyone feels included and feels that they can make their contribution to our common good.
Responsibility	Responsibility is the community obligation. This obligation rests on the understanding that we have a responsibility to care for all of our relatives. Our relatives include everything in our ecological niche. Responsible Indigenous leadership is based on an ethos of care, not of coercion. The most important responsibility of a leader is to create the social space in which productive relationships can be established and take place.
Reciprocity	Reciprocity is the cyclical obligation. It underscores the fact that in nature things are circular. For example, there are the cycles of the seasons and the cycle of life, as well as the dynamics between any two entities in relationship with each other.
Redistribution	Redistribution is the sharing obligation. Its primary purpose is to balance and rebalance relationships. This obligation means sharing not only material wealth, but information, time, talent and energy, one's total self.

These four concepts can be considered the axiology of indigeneity. Axiology is a branch of philosophy that studies the principals and values in human behavior and how that relates to the quality of life. One can apply the 4 R's as lived values to adhere to in life. Following are quotes showing how faculty have used each of the 4R's to build relationships across cultures, provide access, decide the distribution of resources and more.

### Relationship

To have a relationship you first need to build a relationship. Faculty respond how they do this in their programs and in Alaska Native communities:

*We spend a lot of time with people. A lot. You go to them. You go to their homes. You invest the time. Building relationships and trust so they come to us.*

*How it worked for me is first you go to the kids. And then you go through the kids telling some of the parents and elders. That's how it worked for me. I did not go and just start teaching curriculum to men. They did their own talking amongst each other, then it went back to Northwest Campus and then we got invited back. That's been five trips ago now.*

*We don't just spend time building relationships within tribal communities and with tribal organizations that fund the majority of our coursework. We spend time and build relationships with other UAF programs.*

*'What have you done to build relationships so that people are calling you to ask for classes?' We've built tools that are responsive to needs.*

### Responsibility

*Our students come to our programs, not necessarily for job advancement. If they pick a job, it's a job that's meaningful to their community. They engage in our programs because they have a sense of responsibility to their community, and we give them the skills to be successful at that through these programs.*

*The students have responsibility to be part of the education system. They need to learn, but it's more than that. If they take a class, they have a responsibility to do the work in the class and learn and then share that knowledge.*

*We use our responsibility to leverage resources for those that don't have access to them.*

*Being here together, faculty being responsible to one another, is what we are missing out within our own consortia. It's our responsibility to provide access to the resources that are inaccessible.*

## Reciprocity

*I have the education and privilege to make the education system work for community and vice versa.*

*Everybody has to give something. Everybody. The student. The teacher. The administrator. Everybody's giving. It's very reciprocal. I think that's why all of our programs even exist in the first place. That's why they're different than everything that's in a box on the hill. Because they were born out of reciprocity.*

*When I have the knowledge from people who share it with me from the communities who need it, I, of course, just give it back to them. Plant a seed on fertile ground and so that knowledge and our programs teach students to succeed in the other world.*

*We had elders in our class just the other week that were almost in tears because in their lifetime, they were abused if they expressed themselves in an educational institution. And to see their culture now celebrated in an educational institution through these programs, is overwhelming to our elders.*

## Redistribution

*Redistribution, that is a common value and thread of the indigenous world view. Our direct route of providing educational equity is tuition, and scholarships, and travel scholarships providing access. We're giving people access that don't have it.*

*Students and participants redistribute the knowledge that they're learning. If I ask why are you here? What motivates you? I hear, I want to give back to my community.*

*The most important things for redistribution are not just the education or the outreach. Our students want dollars, they want jobs. They want to help their natural resources. Our students see our program as a way for them to help themselves to create jobs with their resources and their effort. We don't run our program in the subsistence context but in a commercial context. We want jobs and the economic development for our students.*

*Our students want the knowledge to study the environment and find resources within the environment as well as how to protect and maintain it. In Bristol Bay region, it's continuing the commercial fishery and the subsistence fishing. It's both for filling up your refrigerator and it's for filling up your bank account.*

In summary, although the comments are unattributed to specific faculty, the evaluator notes that some faculty commented with more frequency than others. Past interviews reveal that some faculty have been well connected with the Alaska Native peoples and Tribal organizations, some faculty have years of experience working, living and being a friend and colleague with Alaska Natives, and other faculty, not so much. Only one program, HLRM, has

and Advisory Council, and Tribal Stewardship seeks input from Tribal governments and Councils on Indigenous matters; other programs struggle with connections to Alaska Natives and Native organizations. Clearly, in *Drumbeats*, and anecdotally at the University at large, there is a dichotomy of views on the need for indigeneity. This is clearly noted in two faculty comments, the first from the November discussion on equity and the 4R's, and the second from May 2020 individual faculty interviews:

*I have a responsibility to the students to deliver the best educational experience that I can. But I also have a responsibility to the university and the grant to do the things a certain way. And the two aren't always compatible. I feel many times I can't deliver the best educational experience I can because I have these other responsibilities that the university requires. Two very different cultures. Different sets of responsibilities.*

*Regardless of what your ethnic background, you're wanting education that's based on Indigenous knowledge and Western knowledge which complement each other and work together. This is an inclusive view. And, and instead, the Indigenous based education model that is being supported is only for Indigenous people.....what's happening is a siloing process versus an opening of educational opportunities.*

While the 4R's reveal the emerging values of indigeneity, the use of the 4R's by *Drumbeats* faculty is left up to each faculty. To the evaluator's knowledge, the 4R's have not been presented to faculty in a workshop or discussed at meetings. Further, use of the 4R axioms do not provide for nor guarantee the use of culturally appropriate educational methods, the integration of Indigenous knowledge, or the sharing of traditional and customary knowledge in courses or curriculum.

*---Looking Back---*  
*The FRUITS*

The *Fruits of Drumbeats* awards are changes in knowledge, actions and conditions, for students, community members and the University, that could be attributed to the actions of *Drumbeats* Consortium activities. Following is only a sample of the multiple outcomes and impacts of *Drumbeats* programs and faculty activities:

**Changes in Knowledge...**

A change in knowledge can occur over a short period of time as shown through opinions, skills, decision-making and positive life choices, as well as an increase in the ability to discuss a subject's content and state reasons for taking action.

*...with students and participants*

Student enrollment and awards are key indicators that learning has taken place. From 2005 to 2019:

- 5,178 duplicated students and 3,280 unduplicated students enrolled in *Drumbeats* academic courses
- Thirty-four Certificates were earned with 35% (or 12) earned by Alaska Native students
- 105 Occupational Endorsements were earned, including 51% (or 52) earned by Alaska Native students

While student measures are good to monitor educational process and to measure project objectives, student statistics often overshadow the broader impacts of *Drumbeats* programs and the value of faculty involvement in remote Alaska Native communities.<sup>13</sup>

*...with Drumbeats*

Over the past 15 years, six academic programs were developed with Certificates and two Occupational Endorsements: ENVI (which expanded to include SE); EBOT, Tribal Stewardship (under Tribal Management); VTS; the Associate of Science Degree; and Horticulture. The VTS and Horticulture programs were moved to UAF. In addition, a Food Security and Sovereignty project was developed.

There is the publication of an EBOT manual, *A Guide to Ethnobotany of the Yukon-Kuskokwim Region*, by K. Jernigan, a group of local anthropologists, and regional elders.

Numerous dissemination activities have been conducted by faculty of *Drumbeats* programs, and through applied research at local, regional and national conferences, including publications in peer reviewed journals and popular media.

*...at the University*

There is an increased ability of Consortium campus faculty to develop curriculum that is relevant to rural Alaska.

Fairbanks-based faculty and administrators are more knowledgeable about UAF's ANSI campuses, benefits and challenges, and have had increased exposure to Alaska's Native population and their educational needs.

**Changes in Actions...**

A change in behavior is shown through acting upon content knowledge learned. Actions can include using new methods such as advocacy, the stewardship of plants and animals, goal setting, making choices that help to improve society and the ability to apply policy and decision making in different situations.

*...with students and participants*

Tribal Stewardship students advocate with and sit on the Alaska Board of Game and the Federal Subsistence Board.

A Sustainable Energy student works with the Village of Solomon to develop a strategic energy plan.

A Tribal Stewardship student starts a business to help Tribes develop Land Stewardship plans.

*...with Drumbeats*

The *Drumbeats* proposal evolves from an internal focus on program development and sustainability, to an outward focus on Alaska Native and community benefits in food and energy security.

Evaluations change reporting emphasis from reporting by campus to reporting by *Drumbeats* program. This follows with the change of the *Drumbeats* proposal focus from campus to program outcomes and impacts.

*...at the University*

*Drumbeats* students bring learned content knowledge and Indigenous knowledge into the University system.

*Drumbeats* is a model for how ANSI campuses can work together to engage faculty and deliver science by distance.

### **Changes in Condition...**

Conditions are impacts or changes in society that often take years to materialize through continued use, and the distribution of knowledge learned. Examples of changes in conditions are an increased number of community members showing stewardship for the land that results in safer or more accessible food supplies, higher water quality, a cleaner environment, and increased abilities for business opportunities that ultimately lead to a better quality of life, for youth and adults in rural communities.

#### *...with students and participants*

White Out Reindeer Ranch, a business in Savoonga on St. Lawrence Island, is established and has had its first substantial sale of reindeer meat commercially.

Past students/graduates sit on the Alaska Board of Game and the Federal Subsistence Board influencing and making decisions that directly affect Alaska Native communities.

In 2014, the City of Dillingham passed a resolution (2013-11) acknowledging the benefits of the sustainable energy outreach activities for the community, namely, making it a better place to live.

#### *...with Drumbeats*

While developing and delivering a VTS program to rural Alaska was challenging, anecdotally, the program has had positive impacts on animal care in the state. VTS staff may have been an impetus for raising awareness of the need for vet services in rural Alaska, through the discussion of statewide animal care standards. The program also supported a non-profit organization, Golden Heart Pet Assistance League, with supplies for onsite vet services in rural Alaskan villages, and it partnered with several 501c3 veterinary outreach groups and organizations that continue to deliver services and information on animal care to villages in rural Alaska.

As the result of collaborations, a *Drumbeats* Sustainable Energy faculty has joint assignments with the Cold Climate Housing Research Center, the Alaska Center for Energy and Power, and with *Drumbeats*.

In 2020, *Drumbeats* got its first faculty as PI. Previously, the *Drumbeats Consortium* had been initiated by administrators, Campus Directors and faculty who were hired to develop programs when the proposal was awarded.

#### *...at the University*

The UAF Strategic Plan 2019-2025 directly addresses the inclusion of Alaska Native and Indigenous programs under Goal 2: To Solidify our global leadership in Alaska Native and Indigenous programs. The vision of this goal is to build and enhance global leadership in Alaska

Native and Indigenous programs, research and workforce development. Our vision is that we are a global leader throughout the circumpolar North, the Americas and the Pacific.

The ability of the ANSI campuses to support science faculty, leads to a functioning science program in rural Alaska.

Through the subsistence science projects and programs, the rural campuses are becoming more visible outside the region.

*Drumbeats* programs and/or faculty are breaking through the urban university – rural branch campus barrier and gaining recognition and visibility in the broader, urban University community.

The Associate of Science degree developed under *Drumbeats* can be entirely done at a distance. In addition, EBOT, HLRM, ENVI and SE courses have all been used toward the 5 credits of science/math concentration course credits in the AS degree.

Faculty in Sustainable Energy conducted research to monitor performance of a combined heating and ventilation system that is expected to affect over 10,000 homes in rural Alaska. The BBC received LEED Certification for their campus facility.

The increase in herding and corralling of reindeer is a sign of community impact from HLRM courses followed by a recognition of Northwest Campus.

The partnership BBC has developed with BBNA to advance gardening has impacted the region anecdotally with an increase in gardening, greenhouses, and curiosity about food self-sufficiency.

In the early *Drumbeats* years, evaluation found that students and faculty were shared but there was no mechanism for sharing headcount or tuition. Today, some *Drumbeats* faculty have less regard for headcount and more regard for meeting community needs. Following is an explanation of the tuition/headcount sharing among UAF campuses in 2020.

*Cross-regional course sharing* - If a course is supported by *Drumbeats* (meaning the faculty member is financially supported for that course to be taught as a *Drumbeats* objective) the campus that is paying the faculty member will receive 100% of the tuition if the student is from their region. If the student is from another campus region, the campus paying the faculty will receive 80% of the tuition. Regardless of the tuition, 100% of the headcount and credit hours will go to the campus that is paying the faculty member.

If the course is local, not cross-regional, the campus paying the faculty member will receive 100% tuition, headcount and credit hours. Where it becomes different for local courses is if a faculty member teaches a course for another campus. For example, if an IAC faculty was to teach a local TM *Drumbeats* course for Northwest Campus, IAC would receive 80% of the tuition (because IAC pays the faculty salary through *Drumbeats*), but 0% of the headcount and

credit hours. Northwest Campus will receive 20% of the tuition and 100% of the headcount and credit hours.

An easier way of looking at it is that headcount and credit hours are tied directly to course section numbers. Whichever campus has a course with their particular section number, they will receive 100% of the credit hours and headcount.

*---Moving Forward---*

**Findings**

This evaluation covers fifteen years of program review and identified implementation activities that worked or was less successful over the years. This report has two intentions in providing a history of *Drumbeats*, a better understanding for those involved in current ANNH projects, and for use in future planning. To this end, five findings are reported: *Falling Enrollments in Drumbeats Courses; Develop Occupational Endorsements for All Programs, Keep Track of External Support for Drumbeats Programs, Drumbeats Comes Full Circle, and Indigenizing Curriculum-Who, When and How?*

*Falling Enrollments in some Drumbeats Courses*

During the Project academic years of 2011-2018 *Drumbeats* courses were experiencing fairly consistent growth with the highest enrollments in 2017-18 of 733 duplicated students and 534 unduplicated students. The last Project academic year with data available, 2018-19 saw a considerable drop in unduplicated students enrollment for some programs: ENVI went from 165 to 66 students; EBOT enrollment for the two years was 24 and 26 respectively; HLRM had 9 and 7 students during those two years and SE went from 38 students to 7. The low enrollments put the programs at risk of being discontinued by the UA as budget cuts are considering cutting programs as a way to save funding. Further, in consideration of educational equity for Alaska Native peoples, the target population for the ANNH and for future planning, during 2018-19 EBOT only 4 (of 26) unduplicated Alaska Native students enrolled in EBOT courses, only 7 (of 26) were enrolled in SE courses and less than half 29 (of 66) unduplicated Alaska Native students enrolled in ENVI courses. Caveat: the ENVI program has a high number of students that have not reported a race and are therefore reported as unknown. In contrast, the TS program have seen increasing enrollments with a high percentage of Alaska Native students.

*Develop Occupational Endorsements for All Programs*

This report documents that most students take *Drumbeats* courses for their job or personal knowledge and do not go on to earn a Certificate with its general university requirements. This is shown in the low number of Certificates earned, in contrast to the higher number of Occupational Endorsements. Since students are taking University coursework, it makes sense to provide a series of content courses that result in an endorsement that is documented in the UA system and can be built upon for further credentials. Student awards earned 2008-2019 in *Drumbeats* programs:

- 34 Certificates earned 2008-2019
- 102 Occupational Endorsements (9 to 18 credits) earned 2012-19 or over seven years

Further, to live in “both worlds” some Alaska Natives choose to earn university credentials and go on to work in a university setting, changing the institution from the inside out. Maori in Aotearoa (New Zealand) set a goal to have 500 Maori PhD’s. They have surpassed this number. The Occupational Endorsement just may be a first accomplishment or an end in itself, but it is a documented step. HLRM and TS should consider developing an OE.

*Keep Track of External Support for Drumbeats Programs*

A key impact of the *Drumbeats Consortium* programs is the support they have garnered from the larger society. This support should be documented and reported to USDA NIFA as a key impact of the importance of the programs in local, regional, Tribal and statewide Alaska. Further, it will help faculty track their responsibilities to the Project and provide clarification for reporting and evaluation.

*Drumbeats Comes Full Circle*

The list of *Drumbeats* programs with goals and objectives, in Attachment A, shows the gradual change in focus from the Consortium to the community. Over the years and across two evaluators, the evaluation also shifted focus, from looking at the consortium, its campuses, and the university system, to reporting on *Drumbeats* by programs and the subsequent changes at the student and community level. Parallel changes are happening with project administration as faculty discussed a move away from an administration lead to a faculty lead and determined that campus directors would remain as Project Directors (PD). In addition, Carrie Stevens became the first faculty member to be a Principal Investigator in 2020.

Operations at the University of Alaska have always impacted *Drumbeats* programs. This surfaced with initial struggles for program approvals from faculty who knew little if anything about the rural campuses and their federal status as ANSI organizations, in a time when distance education was delegated to delivery via phones and correspondence courses. Anecdotally, over the past 20 years, the University has been renewed through a younger generation, as often a first generation of Alaska Natives enroll in courses and complete degrees, a few to the doctoral level. The rural campuses through ANSI federal funding are a big part in this change.

Western education became more attainable for village-based Alaska Natives. The steppingstone credentials of the Occupational Endorsement and the Certificate were brought to the students with place-based and intensive-based delivery. Further, University faculty have been including Alaska Native Elders in classrooms and integrating Indigenous knowledge into the curriculum. *Drumbeats* is a part of that movement.

Now in 2020, with the budget cuts and the pandemic, there come challenges to take what works from the past and look forward to what *Drumbeats* can be for Alaska Native education. It is a time that comes full circle to focus on the *Drumbeats Consortium* and define what that means for the future. While the University, through program review and budget cuts, may cancel the ENVI and EBOT Certificates – there are other choices. On the PD teleconference in May, this evaluator heard that the Certificates may go away, but the courses of Occupational Endorsements may continue to be taught and developed. Regardless of past and current efforts, there are choices to be made.

### *Indigenizing Curriculum-Who, When and How?*

The number of Alaska Native faculty, staff and administrators at UAF is increasing as more Alaska Natives earn Master's and Doctorate Degrees. The "Main" Campus of UAF is now referred to as the Troth Yeddha' Campus, named after a high hill on upper campus, an historic gathering place for regional Alaska Natives. This scenic place is where the wild potato, the troth yeddha', grows.<sup>14</sup> In addition, a current focus of UAF fundraising is for the future home of the Troth Yeddha' Park and Indigenous Studies Center, and there is the recent addition of an Indigenous Studies PhD program offered at UAF.

The emerging shift at the University of Fairbanks, with the 2019-2025 Strategic Goal 2: Solidify our global leadership in Alaska Native and Indigenous programs, and with the moves to be more inclusive of the statewide Alaska Native population, adds to a growing interest to Indigenize the curriculum. A review of past *Drumbeats* goals and objectives shows integrating Indigenous knowledge and specifically serving Alaska Natives has not been a consistent objective. However, with the emerging depth and breadth of Alaska Native leadership within the University and at Tribal partner organizations, the *Roots* of the next 15 years will look very different than the *Roots* in 2005.

University faculty outside of the CRCD system of ANSI campuses, and Tribal entities are seeking partnerships with and providing support to the Tribal Management/Tribal Stewardship and HLRM programs. Both of these *Drumbeats* programs are now well known at UAF for their ability to engage and provide culturally appropriate education to Alaska Native students. The *Drumbeats* programs have broadened the conversation of indigeneity and helped to change the landscape of education at the University level.

As an Alaska Native serving federal program, ANSI's are required to show 20% Alaska Native enrollment. The rural campuses meet, and some exceed this percentage by 30 to 40 percent or more. A few years ago, UAF reached this milestone and is now also considered an ANSI, and is eligible to apply for ANSI funding. The ANNH funding purpose stated earlier is *to promote and*

*strengthen the ability of eligible Alaska Native-Serving Institutions (ANSI) and Native Hawaiian-Serving Institutions to carry out education, applied research, and extension community development programs within a broadly defined area of the food, agricultural, natural resource and human (FANH) sciences. The details as how that is to be accomplished is up to each institution funded.*

One faculty member stated it well in the discussion of the 4R axioms:

*You are the stewards of this money. You are deciding who's getting it and who's not. There's a lot of decisions that you're making. Where you're going. What you're going to teach. Who's going be involved. How to get those people involved. How to best spend that money or not spend that money. You're the person responsible for that. If you're not there, the money probably won't get spent and it wouldn't be redistributed.*

### **Conclusions – What now?**

The conclusion is offered through questions. As an evaluator, my preference is not to offer recommendations which may come from a bias or agenda, but to provide evidence and thought-provoking questions to assist clients to make decisions and choose directions. Ultimately, the client is the responsible party, as they, and others they work with must live with their choices.

Regardless of past and current efforts, there are choices to be made and some are pedagogical choices and others are ideological.

- On what basis will the Consortium operate? By consensus? By leadership? How will you facilitate and support pedagogical and ideological freedoms?
- What is most important? Delivering science in rural communities? Focusing on indigenizing curriculum? Head counts? Awards? Serving the communities and Tribes? Renewing the University?
- Should pedagogical differences be addressed? If so, how?
- Should education be provided on Alaska Native sovereignty? If so, how and when and with whom?
- What is indigenizing curriculum? Who should define it? What is the process to indigenize curriculum? Should it be taught? Who should take the lead?

The conversation is just starting, and the answers are yours to find.

## **Evaluation Methodology**

A qualitative, meta-analysis process was used for the longitudinal reporting on *Drumbeats* program, activities, outcomes and impacts. Data sources for the analysis include all the evaluation reports written since the inception of *Drumbeats* and include reports from Madden Associates (2007-2011 and 2014-2018) and Evaluation Research (2011-2019). In addition, select interviews were held with faculty, and administrators who have present or past experience with *Drumbeats*, and the CRCD Fiscal Manager, Sheena Tanner, who was with the project since the transference from CES to CRCD in 2006. For the current evaluation, *Drumbeats Collaborative Project 2018-2020*, surveys on educational equity were developed and deployed to project faculty in 2018, interviews were held with faculty in August, and an in-person faculty meeting was held in November of 2019. Lastly, all *Drumbeats* Project Directors and faculty members were asked to review and specifically participate in adding outcomes and impacts to *The Fruits* section.

Data from all sources is analyzed, coded using HyperResearch, and synthesized into emerging themes organized by project year groupings for reporting on the early years of *The Roots* (2005-2011), and the growing years of *The Stem* (2011-2018) including reporting on the current award (2011-2018). The *Fruits* section includes impacts from all project years.

*Evaluator bias:* I recognize Alaska Natives as a sovereign people with rights allowed to no other cultural group. Indigenous peoples, within a federally recognized tribe, have a political position of nation to nation in the United States; it is not based on a racial, cultural or any other designation. However, I also believe that self-determination activities and indigenizing curriculum is work that should be done by Alaska Native peoples. Non-indigenous peoples who support Indigenous sovereignty provide support as requested.

The evaluator thanks all the faculty, and staff administrators who have participated in evaluations over the years, and appreciates the years of evaluations conducted by Dr. Madden. Her assessments of *Drumbeats* projects made this report possible. Following are evaluator biographical sketches:

### *Evaluator Bios*

kas aruskevich, Principal Associate of Evaluation Research Associates located in Fairbanks, Alaska, has conducted evaluations since 2008 for clients located in rural Alaska. For over 20 years Dr. aruskevich has worked with federal discretionary initiatives from a variety of federal departments that target Alaska Native peoples. Her years of experience as a grant writer, manager, CRCD Development Director, planner and doctoral researcher on Indigenous evaluation, across four post-settler states, have provided a sound foundation for her evaluation practice. Dr. aruskevich privileges Indigenous knowledge in her practice and mentors Alaska Native students and graduates into the evaluation field. Clients, present

and past, include the University of Alaska and its ANSI, regional vocational schools, K-12 school districts, Tribal non-profits and Tribal Consortiums.

Mary Lou Madden, operating as Madden Associates, has provided evaluation and program development services to a variety of clients since 2002. A long-time resident of Alaska, Dr. Madden has held administrative positions with the Alaska Department of Education, the University of Alaska and Sheldon Jackson College. She has conducted evaluations of the USDA Alaska Native and Native Hawaiian grant programs for both the University of Alaska and the University of Hawaii. Additional current and recent clients include Alaska Pacific University, Community College of American Samoa and the Sitka Sound Science Center.

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  - <sup>6</sup> Madden & Associates. 2011 Evaluation Report
  - <sup>7</sup> Madden & Associates. 2011 Evaluation Report
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  - <sup>10</sup> Evaluation Research Associates (2013-14). Evaluation Report.
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## Drumbeats Consortium Projects 2005- 2020

<b>Award Years</b>	<b>Title</b>	<b>Goals</b>
2005-2007	<i>Drumbeats: Place Appropriate Careers and Higher Education Preparation for Alaska Native Students (Part A and B)</i> <i>PI: Clara Anderson; CoPI: Lincoln Saito &amp; Tony Nakazawa</i>	<b>Goal 1:</b> To promote rural Alaskan community and K-12 student interest in the food and agricultural sciences through outreach and education. <b>Goal 2:</b> To create a career pathway into the food and agricultural sciences for Alaska Natives through the development of four new post-secondary certificates and a new Associate of Science Degree. <b>Goal 3:</b> To Increase the number of Alaska Natives enrolled in courses leading to a Certificate or Degree in the food and agricultural sciences. (Objectives by program for all 3 objectives).
2006-2008	<i>Lincoln Saito &amp; Tony Nakazawa</i> <i>Eval: Madden Assoc.</i>	<b>Part B Adds Goal 4:</b> Through scholarships, provide access to education for rural Alaskans <i>in the USDA disciplines.</i> (Objectives by program).
2008-2009-2010-2011	<i>Drumbeats 6— HaaghezetoIno'- We Will Live Well</i> <i>PI: Bernice Joseph; Co-PI Debbie McLean (2 yrs), CoPI: Mary Pete (1 yr)</i> <i>Eval: Madden Assoc.</i>	<b>Goal 1:</b> To increase ANSI capacity to assess and respond to community-identified training, educational and research needs as they relate to the subsistence sciences. <b>Goal 2:</b> 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 (Objectives by program). <b>Goal 3:</b> To increase the number of Alaska Natives enrolled in courses leading to a certificate or degree in the <i>subsistence sciences</i> (Objectives by program). 2008-Project Manager hired 2010 ANNH <i>National Meeting in Washington DC</i>

## Drumbeats Consortium Projects 2005- 2020

2011-2012	Drumbeats 7 Yr 1 PI: Bernice Joseph; CoPI: Mary Pete Eval: ERA	<p><b>Goal 1:</b> To strengthen CRCDC ANSI capacity to assess and respond to community-identified needs as they relate to the subsistence sciences. (<i>Objective 1.1:</i> Provide avenues to incorporate Traditional Ecological Knowledge (TEK) into university programs.)</p> <p><b>Goal 2:</b> To strengthen career pathways into the <i>subsistence sciences</i> for Alaska Natives (objectives by program).</p> <p><b>Goal 3:</b> To support Alaska Native students through postsecondary education and training in the <i>subsistence sciences</i> (<i>Objectives by program</i>).</p>
2012-2013	Drumbeats 7 Yr 2 PI: Bernice Joseph; CoPI: Mary Pete Eval: ERA	<p><b>Goal 1:</b> To strengthen CRCDC ANSI capacity to assess and respond to community identified needs as they relate to the subsistence sciences.</p> <p><b>Goal 2:</b> To strengthen career pathways into the <i>subsistence sciences</i> for Alaska Native and <i>rural students</i> (<i>Objectives by program</i>)</p>
2013-2014	Drumbeats 7 Yr 3 PI: Pete Pinney; CoPI: Mary Pete Eval: ERA	<p><b>Goal 1:</b> Plan for sustainability of <i>subsistence science</i> curriculum.</p> <p>Obj 1.1 – Respond to community and employer identified needs as they relate to the Subsistence Sciences.</p> <p>Obj 1.2 – Coordinate efforts among ANSI campuses and CES.</p> <p>Obj 1.3 – Broaden Subsistence Science impacts through meaningful promotion, collaboration and review.</p> <p><b>Goal 2:</b> Strengthen career pathways into the subsistence sciences for Alaska Natives.</p> <p>Obj 2.1 – Fortify support for Alaska Native and rural students and community members.</p> <p>Obj 2.2 - Expand delivery of Subsistence Science curriculum.</p> <p><i>EBOT Gathering in Sitka 2013-14</i></p> <p><i>2013 &amp; 2015 ANNH-Washington DC</i></p> <p><i>2016 ANNH National Meeting @ University of Hawai'i Manoa</i></p>
2014-2015	Drumbeats Alaska: <i>Traditions in Science (8)</i> Yr1- PI: Pete Pinney; CoPI: Mary Pete Eval: ERA; Madden Assoc.	
2015-2016	Drumbeats Alaska: <i>Traditions in Science Yr2</i> PI: Pete Pinney; CoPI: Mary Pete Eval: ERA; Madden Assoc.	

Dr. Saleia Afele-Faamuli, Federal Program Officer, USDA NIFA 2005-2016

## Drumbeats Consortium Projects 2005- 2020

2016-2017	<p><i>Drumbeats Alaska</i>  <i>PI: Pete Pinney;</i>  <i>CoPI: Mary Pete</i>  <i>Eval: ERA; Madden Assoc</i></p>	<p><b>Goal 1:</b> Strengthen the sustainability of rural Alaska communities.  Objective 1.1 – Increase capacity for local enhancement of food and energy security  Objective 1.2 – Increase the application of formal, informal, and indigenous learning in communities  <b>Goal 2.</b> Strengthen Alaska Native stewardship of local resources.  Objective 2.1– Develop and deliver formal and informal curriculum founded on indigenous knowledge and Western science systems  Objective 2.2 – Broaden program impacts through promotion, collaboration and review  <i>2017 ANNH National Meeting @ Purdue University</i></p>
2017-2018	<p><i>Drumbeats Alaska</i>  <i>PI: Mary Pete</i>  <i>CoPI: Bryan Uher</i>  <i>Eval: ERA; Madden Assoc</i></p>	<p><b>Goal:</b> Strengthen the sustainability and development of rural Alaska communities.  Objective 1 - Enhance local food and energy security  Objective 2 - Enhance formal, informal and/or indigenous knowledge and its application to rural and subsistence living  Objective 3 - Increase rural leadership in resource stewardship  Objective 4 - Increase collaborations to strengthen subsistence knowledge and practice  <i>2018 ANNH- Guam</i>  <i>2019-No ANNH National Meeting</i></p>
2018-2020	<p><i>Drumbeats Collaborative Project 2018-2020</i>  <i>PI: Mary Pete;</i>  <i>PI: Sandy Kowalski</i>  <i>CoPI: Bryan Uher</i>  <i>Eval: ERA</i></p>	<p><b>Goal:</b> Collaborate to promote educational equity that strengthens and sustains the development of Alaska Native and Rural Alaskan communities.  Objective 1: Advance Indigenous and Western knowledge and its application to food and energy security and sustainable livelihoods  Objective 2: Increase leadership in resource stewardship and civics  Objective 3: Facilitate collaborations to strengthen place-based subsistence knowledge and practice  <i>2020 ANNH National Meeting Cancelled due to COVID-19</i></p>
2019-2021	<p><i>Strengthening Alaska Native Stewardship</i>  <i>PI: Sandy Kowalski;</i>  <i>PI: Carrie Stevens</i>  <i>CoPI: Bryan Uher</i>  <i>Eval: ERA</i></p>	<p><b>Goal:</b> Collaborate to promote educational equity that strengthens and sustains the development of Alaska Native and Rural Alaskan communities.  Objective 1: Advance Indigenous and Western knowledge and its application to food and energy security and sustainable livelihoods  Objective 2: Increase leadership in resource stewardship and civics  Objective 3: Facilitate collaborations to strengthen place-based subsistence knowledge and practice  <i>2020 ANNH National Meeting Cancelled due to COVID-19</i></p>

USDA Drumbeats Programs  
Degrees Awarded by Degree, Major, and Race

Degree	Major	Race	Academic Year										2018- 2019**	Grand Total		
			2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018				
Certificate	Environmental Studies	Alaska Native/American Indian				2	1									3
		Other Race			1		1	2	1				2			7
	<b>Environmental Studies Total</b>			<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>				<b>2</b>			<b>10</b>
	Ethnobotany	Alaska Native/American Indian									1		1	2	1	5
		Other Race								1	2	2		4	2	11
	<b>Ethnobotany Total</b>								<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>16</b>	
	High Latitude Range Management	Alaska Native/American Indian		1		1				1						3
		Other Race								1						1
	<b>High Latitude Range Management Total</b>			<b>1</b>		<b>1</b>				<b>2</b>						<b>4</b>
	Veterinary Science	Alaska Native/American Indian			1											1
		Other Race	1	2												3
	<b>Veterinary Science Total</b>		<b>1</b>	<b>2</b>	<b>1</b>											<b>4</b>
<b>Certificate Total</b>			<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>3</b>		<b>34</b>	
Occupational Endorsement	Rural Waste Mngmnt Spill Resp	Alaska Native/American Indian										15	5	8	9	37
		Other Race										1				1
		Unknown										1				1
	<b>Rural Waste Mngmnt Spill Resp Total</b>											<b>17</b>	<b>5</b>	<b>8</b>	<b>9</b>	<b>39</b>
	Sustainable Energy	Alaska Native/American Indian							3	2	3	3	3	3	1	15
		Other Race							4	10	9	9	6	4	2	44
		Unknown								1	1	1	1			4
<b>Sustainable Energy Total</b>							<b>7</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>10</b>	<b>4</b>	<b>3</b>	<b>63</b>		
<b>Occupational Endorsement Cert Total</b>							<b>7</b>	<b>13</b>	<b>13</b>	<b>30</b>	<b>15</b>	<b>12</b>	<b>12</b>		<b>102</b>	
<b>Grand Total</b>			<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>9</b>	<b>18</b>	<b>17</b>	<b>32</b>	<b>16</b>	<b>20</b>	<b>15</b>		<b>136</b>	

An academic year begins with a fall semester and includes the following spring and summer semesters. For example, academic year 2008-2009 includes fall 2008, spring 2009, and summer 2009.

\*\*Academic Year 2018-2019 includes only fall 2018 and spring 2019.

If a student earned multiple awards, each award is counted.

Source: Banner closing extracts.

USDA Drumbeats Programs  
Course Enrollment by Subject - Duplicated Counts

Subject Title	Student Race	Academic Year														2005-2019	
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	DUP Grand Total	UNDUP Grand Total
Environmental Studies	AK Native			36	59	126	98	142	105	125	170	172	128	130	30	1321	862
	Other Race			9	29	65	59	82	46	37	32	104	103	76	13	655	237
	Unknown			2	6	11	16	21	26	28	18	30	33	37	25	253	176
<b>Environmental Studies Total</b>				<b>47</b>	<b>94</b>	<b>202</b>	<b>173</b>	<b>245</b>	<b>177</b>	<b>190</b>	<b>220</b>	<b>306</b>	<b>264</b>	<b>243</b>	<b>68</b>	<b>2229</b>	<b>1559</b>
Ethnobotany	AK Native			4	13	6	6	8	15	10	9	18	32	11	6	138	99
	Other Race				8	9	10	10	13	24	28	33	43	27	28	233	137
	Unknown			3	4	3	1	2	2	15	8	15	5	9	6	73	55
<b>Ethnobotany Total</b>				<b>7</b>	<b>25</b>	<b>18</b>	<b>17</b>	<b>20</b>	<b>30</b>	<b>49</b>	<b>45</b>	<b>66</b>	<b>80</b>	<b>47</b>	<b>40</b>	<b>444</b>	<b>290</b>
High Latitude Range Mgmt	AK Native			23	7	6	11	25	12	35	22	5		14	15	175	96
	Other Race						1	6	2	2	1					12	6
	Unknown							6	2	8	14	1		4	2	37	30
<b>High Latitude Range Mgmt Total</b>				<b>23</b>	<b>7</b>	<b>6</b>	<b>12</b>	<b>37</b>	<b>16</b>	<b>45</b>	<b>37</b>	<b>6</b>		<b>18</b>	<b>17</b>	<b>224</b>	<b>130</b>
Sustainable Energy	AK Native							31	43	56	51	40	101	40	7	369	310
	Other Race							28	30	45	53	40	90	66	14	366	260
	Unknown							6	18	13	16	13	30	28	5	129	111
<b>Sustainable Energy Total</b>								<b>65</b>	<b>91</b>	<b>114</b>	<b>120</b>	<b>93</b>	<b>221</b>	<b>134</b>	<b>26</b>	<b>864</b>	<b>681</b>
Tribal Management	AK Native									33	89	161	152	218	171	824	420
	Other Race										2	16	12	29	7	66	33
	Unknown									1	4	15	4	7	8	39	26
<b>Tribal Management Total</b>										<b>34</b>	<b>95</b>	<b>192</b>	<b>168</b>	<b>254</b>	<b>186</b>	<b>929</b>	<b>478</b>
Veterinary Science	AK Native	41	44	24	8	18	12	26	10							183	48
	Other Race	50	36	21	14	23	29	21	23							217	73
	Unknown	31	11	3	4	8	7	12	12							88	21
<b>Veterinary Science Total</b>		<b>122</b>	<b>91</b>	<b>48</b>	<b>26</b>	<b>49</b>	<b>48</b>	<b>59</b>	<b>45</b>							<b>488</b>	<b>142</b>
<b>Grand Total</b>		<b>122</b>	<b>91</b>	<b>125</b>	<b>152</b>	<b>275</b>	<b>250</b>	<b>426</b>	<b>359</b>	<b>432</b>	<b>517</b>	<b>663</b>	<b>733</b>	<b>696</b>	<b>337</b>	<b>5178</b>	<b>3280</b>
Non Credit Activity	AK Native													22	15	37	30
	Other Race													6	13	19	14
	Unknown													2	6	8	7
<b>Non Credit Activity Total</b>														<b>30</b>	<b>34</b>	<b>64</b>	<b>51</b>
Applied Arts	AK Native														2	2	2
	Other Race														1	1	1
<b>Applied Arts Total</b>															<b>3</b>	<b>3</b>	<b>3</b>

An academic year begins with a fall semester and includes the following spring and summer semesters.  
 \*\*Academic Year 2017-2018 includes only fall 2017 and spring 2018. Summer 2018 data will be available in September 2018.  
 A student enrolled in multiple semesters in a year is counted multiple times in that year.  
 Source: Banner closing extracts.

USDA Drumbeats Programs  
Course Enrollment by Subject - Unduplicated Counts

Subject Title	Student Race	Academic Year														Grand Total
		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018**	2018-2019	
Environmental Studies	AK Native			26	57	84	85	111	92	76	93	82	78	78	29	862
	Other Race			9	27	46	48	72	35	27	26	87	87	63	12	527
	Unknown			2	6	10	16	21	22	12	14	24	25	24	25	176
<b>Environmental Studies Total</b>				<b>37</b>	<b>90</b>	<b>138</b>	<b>149</b>	<b>204</b>	<b>148</b>	<b>115</b>	<b>133</b>	<b>190</b>	<b>190</b>	<b>165</b>	<b>66</b>	<b>1559</b>
Ethnobotany	AK Native			4	12	6	6	7	11	8	7	14	20	4	4	99
	Other Race				7	7	9	9	7	19	18	22	24	15	18	137
	Unknown			3	4	3	1	2	2	12	7	12	4	5	4	55
<b>Ethnobotany Total</b>				<b>7</b>	<b>23</b>	<b>16</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>39</b>	<b>32</b>	<b>48</b>	<b>47</b>	<b>24</b>	<b>26</b>	<b>290</b>
High Latitude Range Mgmt	AK Native			6	7	5	10	12	8	16	18	5		9	7	96
	Other Race						1	2	1	1	1					6
	Unknown								6	2	4	14	1	3	1	30
<b>High Latitude Range Mgmt Total</b>				<b>6</b>	<b>7</b>	<b>5</b>	<b>11</b>	<b>20</b>	<b>11</b>	<b>21</b>	<b>33</b>	<b>6</b>	<b>0</b>	<b>10</b>	<b>8</b>	<b>130</b>
Sustainable Energy	AK Native							27	41	49	42	27	86	38	7	310
	Other Race							22	26	34	31	27	64	56	14	260
	Unknown							6	16	10	10	11	30	28	5	111
<b>Sustainable Energy Total</b>								<b>55</b>	<b>83</b>	<b>93</b>	<b>83</b>	<b>65</b>	<b>180</b>	<b>122</b>	<b>26</b>	<b>681</b>
Tribal Management	AK Native									27	63	90	106	134	131	420
	Other Race										1	10	8	14	7	33
	Unknown									1	4	11	4	6	8	26
<b>Tribal Management Total</b>										<b>28</b>	<b>68</b>	<b>111</b>	<b>117</b>	<b>154</b>	<b>146</b>	<b>478</b>
Veterinary Science	AK Native	31	22	11	5	10	6	13	3							48
	Other Race	37	27	12	10	13	19	11	8							73
	Unknown	25	7	3	2	3	4	6	3							21
<b>Veterinary Science Total</b>		<b>93</b>	<b>53</b>	<b>26</b>	<b>17</b>	<b>26</b>	<b>29</b>	<b>30</b>	<b>14</b>							<b>142</b>
<b>Grand Total</b>		<b>93</b>	<b>53</b>	<b>76</b>	<b>137</b>	<b>185</b>	<b>205</b>	<b>327</b>	<b>276</b>	<b>296</b>	<b>349</b>	<b>420</b>	<b>534</b>	<b>475</b>	<b>272</b>	<b>3280</b>
Non Credit Activity	AK Native													15	15	30
	Other Race													4	12	14
	Unknown													1	6	7
<b>Non Credit Activity Total</b>														<b>20</b>	<b>33</b>	<b>51</b>
Applied Arts	AK Native														2	2
	Other Race														1	1
<b>Applied Arts Total</b>															<b>3</b>	<b>3</b>

An academic year begins with a fall semester and includes the following spring and summer semesters.  
 \*\*Academic Year 2017-2018 includes only fall 2017 and spring 2018. Summer 2018 data will be available in Septer  
 A student enrolled in multiple semesters in a year is counted only once in that year.  
 Source: Banner closing extracts.  
 1, 2, 3 credit courses carry same enrollment rate