Review Report

Contributing Organizations

University of Alaska Fairbanks

Directors

Jodie Anderson (University of Alaska Fairbanks) Signed

Executive Summary

Overview

Alaska is recognized for its immense size and sparse population and its varied languages, geography and environmental factors. The state represents a major region of renewable and nonrenewable natural resources in the United States. Its 365 million acres include the nation's largest oil reserves, coal deposits and the two largest national forests. Alaskans harvest many non-timber forest resources including berries, mushrooms, saps, oils, chaga, roots, wildflowers and more. Alaska's geography offers soils for production of food, fiber and biomass fuels as well as a multitude of recreational and tourism activities. The vast stretches of boreal forest offer insight into arctic ecology, tree growth trends and the effects of severe weather.

Alaska's natural resources continue to be the foundation of the state's economy. IANRE assumes the use and management of these resources will continue to be a predominant force in the FY26 needs of Alaskans. Promoting awareness and stewardship of Alaska's natural resources is therefore central to the FY26 planning of IANRE's teaching, research, Extension and engagement programs. The University of Alaska Fairbanks (UAF) in general and its Agricultural and Forestry Experiment Station (AFES) and Cooperative Extension Service (CES), in particular, are looking forward to meeting the challenges of increasing demands for research, education, outreach and community engagement that are relevant to utilization of Alaska's resources and to bringing community ideas to the university for further development of the state's resources.

In FY26, Alaska is projected to continue importing a high percentage of foods and other agricultural products. The small scale of local markets mean emerging growers in the agricultural sector will continue to need support producing and marketing potatoes, specialty crops and herbs; cut flowers including peonies; vegetables and fruits; forages, grains and manufactured livestock feeds; controlled environment products, and a variety of niche market crops. Livestock enterprises in Alaska are varied in size and species of animal in production. In FY26, producers are expected to request information specific to northern latitudes that will ensure long-term production practices and create an abundant and safe food supply for both humans and animals.

The Alaska Department of Labor and Workforce Development projects that Alaska's population will increase by almost 25,000 people by 2050. As the population grows, more locally and regionally produced food will be needed to provide greater food security. Many Alaskans live a subsistence lifestyle or supplement their diets with wild fish and game meat. Alaska also

has a large military population, and most have not previously preserved game meat or fish. Alaska has one of the nation's highest rates of botulism, so it is imperative to continue providing much-needed information on safe preservation of dietary staples in FY26. Alaska also has one of the fastest growing senior populations, which faces the challenge of remaining active and healthy in a demanding environment. Other concerns that are expected to define health and nutrition programming in FY26 are continued high rates of child and adult obesity and diabetes. Due to high levels of fine particulate matter that occurs during Alaska's cold winters, and high levels of radon detected in some areas, indoor air quality will also remain a particular Alaska concern.

High energy costs remained a critical issue, particularly in rural Alaska, where fuel oil continued to run $8 or $9 a gallon. Research and outreach plans in FY26 related to energy will continue to focus on new and alternative sources of energy, wood and biomass and energy conservation. AFES will work to provide information to manage renewable resources and to improve technology for enhancing the economic well-being and quality of life at high latitudes. When foresters, farmers and land managers use research results, all Alaskans benefit from the wise use of land resources. Research projects are therefore expected to respond to requests from producers, industries, and state and federal agencies for information on plant, animal and soil sciences, forest sciences and resources management.

AFES priorities, like national priorities, are to enhance the stability of food and agricultural systems; adapt to and mitigate the impacts of weather; support energy security through the development of diversified energy sources; ensure a safe, secure and abundant food supply; improve human health, nutrition and wellness; ensure effective land management through adoption of best practices; and strengthen individual, family and community development and resilience. Experiment station researchers plan to continue publishing research in scientific journals, conference proceedings, books, and other public facing outlets that may include experiment station bulletins, circulars, newsletters, research progress reports and miscellaneous publications. Scientists will share their findings through conferences, public presentations, workshops, field days and mediated platforms like websites and blogs to reach a wide audience.

The mission of CES is to use research-based knowledge to educate, engage and support the people and communities of Alaska, connecting them with their university. In FY26, CES plans to continue providing factual and practical information while bringing Alaskans' issues and challenges to the university. CES is committed to promoting the sustainability and economic security of individuals, families and communities by providing practical, non formal education, including conferences, workshops, consultations and cooperative work with community, regional and tribal partners. Outreach will occur through numbered publications, faculty consultations, newsletters, blogs and social media platforms like Instagram, Facebook pages, YouTube channels and Twitter feeds.

CES priorities will continue to address expected national priorities in FY26 by helping families, youth and individuals be physically, mentally and emotionally healthy; enhancing workforce preparation and life skills; strengthening food safety and security; and fostering greater energy independence. Programs will be informed by client requests, various regional and subject matter advisory groups, surveys and needs assessments, to best serve all Alaskans. Collaborations are planned to continue with other universities and with other units within UAF, the University of Alaska statewide system, federal and state agencies, nongovernmental organizations and private industry.

Stakeholders to be consulted in FY26 include K-12 students, higher education students, researchers, individuals, businesses, industry, government, nongovernmental organizations, and families and communities throughout Alaska, the circumpolar North and the nation. The combined efforts of AFES and CES are intended to bring the university to Alaskans while bringing community concerns and issues back to the university. CES and AFES together form the Institute of Agriculture, Natural Resources, and Extension. For the remainder of this plan of work, integrated programs will be referred to as work planned by IANRE. State-defined critical issues link specific public needs with our broad mission in order to allow the concentration of resources (money and people) that promote high-quality work. Critical issues will be used to provide guidance for faculty, staff and administrators to direct current and new programs and find or retain employee expertise.

Critical Issue: 4-H & Youth Development

Research shows that youth need sustained, healthy relationships with adults in order to thrive. CES plans to continue promoting positive youth development through education with a focus on leadership skills while using the 4-H mission mandates of science, citizenship and healthy living. Organized 4-H clubs, school enrichment programs, after-school activities and summer camps are methodologies through which educators and leaders plan to achieve youth development goals in FY26.

The focus of Alaska's 4-H program has been supporting the healthy maturation of youth from childhood to adulthood. Training throughout the state, promoting life skills and using the 4-H model of youth development will continue to be the foundation of FY26 youth development programming.

Critical Issue: Agriculture & Food Security

Alaska imports over 90 percent of foods and other agricultural products consumed in the state. Growers' products are primarily for in-state consumption and use, including fresh market potatoes, forages, grains and other livestock feeds, greenhouse flowers and vegetables and a variety of "niche market" crops and products. Commercial horticulture includes cut flower and peony production, greenhouse operations, turf management, lawn maintenance and sod production. Proper knowledge and planning of soil-disturbing activities can prevent major impacts on other resources. In FY26, based on stakeholder feedback, IANRE will continue to have a larger focus on soil health work including soil amendments.

Identification of and collaboration with food networks across Alaska is a pathway to local food security. Equipping key players of local food systems to work toward lasting and balanced local food structures results in increased food security and healthy food systems. IANRE plans to continue partnerships with groups like the Alaska Food Policy Council, the Alaska Farmers Market Association, and the State of Alaska Division of Public Health. IANRE will continue to partner with the Alaska Department of Environmental Conservation for on-farm and classroom produce safety training as well as cottage food development, policy development, and education, delivering educational programming that supports farming for all Alaskans.

Animal enterprises in Alaska include dairy, beef, swine, reindeer, poultry and nontraditional livestock such as muskox, yak and bison. Agriculture researchers in Alaska plan to continue investigating areas of animal agriculture, home animal production, agronomic crops including oil seeds and cover crops, and home and commercial vegetable production. Agricultural soils, fertilizer and compost research and outreach are also part of this program area. IANRE provides pesticide applicator certification courses and Master Gardener courses. Alaska Extension's statewide Integrated Pest Management (IPM) education program has operated since 1981, and technicians plan to continue site visits in FY26 to assist individuals in understanding invasive pests and control options.

Critical Issue: Healthy Individuals, Families & Communities

Concerns for Alaskans in FY26 continue to include high rates of obesity and recurring food safety issues such as botulism. Nutrition outreach through EFNEP and SNAP-Ed will address childhood obesity with nutrition education in after-school programs and nutritional programs in community venues, including information on efficient use of dollars, and cooking programs that emphasize preparing healthy foods. IANRE will continue educational outreach to teach best practices for the harvesting, preserving and storage of locally grown and gathered food as well as participating in regional and multi-state collaborations in long-term agricultural systems and precision nutrition research.

Food safety programming planned for FY26 will encompass food preservation, safety, and preparation. Food safety education will utilize various resources and strategies to ensure that all types of foods, including Indigenous foods, are properly stored, prepared and preserved so that food is safe for consumption. IANRE will continue to offer food protection management courses as well as workshops on standard preservation methods like canning, pickling, drying, fermenting, and freezing. Rural locations will be supported by the maritime Extension program, which continues to plan routes that will bring canner gauge testing and preservation education to remote communities by boat. Strength training groups and diabetes education are planned to help community members increase their physical activity and manage chronic illnesses.

Home and energy Extension programming will address indoor air quality, home maintenance, energy use and conservation. The state records frequent earthquakes, flooding and other natural disasters, which underscores a need for emergency preparation education in FY26 as well as periodic radon testing related to ground shifts.

Critical Issue: Natural Resources Management

Communities increasingly depend on Alaska's natural resources for viable economic development. Policies to sustain this growth that mirror sociological and technological change will be critical. Major Alaska resource development activities have been centered in the oil and gas industries. Headquarters for these industries are located in the urban centers where there is access to transportation and advanced communication systems. In FY26, Extension plans to continue offering demonstrations of biomass options to assist communities in exploring new energy sources, as well as continue the success of its lumber grading certificate program.

IANRE will also continue outreach to rural population areas to support real options for economic development and improved quality of life. Outreach will be conducted or facilitated to address stakeholder needs for unbiased, science-based information about natural resource management issues in forestry, mining, recreation, lumber grading and viable energy sources.

The economic potential of Alaska's forests is under-realized in timber and non timber products. The forest ecosystem and agricultural lands can play a role in strengthening the economy of Alaska. Concern for the health and survival of resource bio-diversification is expected to remain a central issue in resource management in Alaska and elsewhere. As energy continues to become a growing concern throughout the world, the boreal forest has the potential to provide products necessary for fuel alternatives. The RREA team and some Hatch projects in FY26 will continue to investigate how best to utilize Alaska's lands and its resources.

Merit and Scientific Peer Review Process

AFES uses a scientific peer review to evaluate proposals and publications. AFES complies with sections 3(c)(1) and (2) of the Hatch Act and section 1445 of NARETPA (Hatch Regular Capacity Funds) and the amendment to the Hatch Act of 1887 to Section 104 by AREERA for programs funded under section 3(c)(3) of the Hatch Act (Hatch Multistate Research Funds) by using its established scientific review process for all proposals and publications. All new and revised Hatch and McIntire-Stennis project proposals undergo this peer review. IANRE's director updated the review process for research project proposals in 2024 such that primary investigators must have a minimum of three reviewers. The panel consists of competent authorities from the discipline of the proposal/publication or related disciplines, generally at other land-grant universities.

Each reviewer completes a peer review form that includes specific criteria, provides for other comments and suggestions, and makes a recommendation to the director. Reviews are returned to the author(s) for revision if needed. The director reviews all comments and recommendations from the reviewers along with the revised proposal/publication before it is sent to USDA.

For Hatch projects, the director confirms that proposals are sent out to three related content experts. Principal Investigators (PIs) are asked to submit names of reviewers who are experts in the applicable field, preferably from another land grant. The director reserves the right to select reviewers that are not on the list submitted by the author(s). Either the director or a reviewer may request a re-review after modification. Then the PI is cleared to work with the site administrator to submit the proposal to NIFA for approval.

For Hatch Multistate, the PI identifies a project they wish to participate in, and submits a request for director approval. The director signs the Appendix E in NIMSS and the PI works with the site administrator to enter project participation in the

relevant databases. Each multistate PI also submits projected budgets that include expected costs for research and travel to the multistate meetings.

Extension uses a merit review process and a general review process for the joint annual report and Plan of Work (POW). Review of CES components of the POW consists of internal review by a panel of faculty and administrators, including program leads. The group assesses how well the listed activities and projected resources proposed in the plan contribute to the probability of achieving the proposed goals and established emphases on food security, food safety, energy efficiency, community preparedness, health including disease management, positive youth development and effective natural resources management as priorities for the future. Collective feedback is incorporated into each iteration of the POW.

Stakeholder Input

Actions to seek stakeholder input that encourage their participation

Methods of soliciting stakeholder input may include using television, radio, newspaper, newsletter and social media ads to announce public meetings and listening sessions; sending targeted invitations to stakeholder groups and key community members; engaging stakeholders at community meetings; conducting surveys and collecting feedback on public priorities during open houses and local and state fairs; and providing online platforms for engagement including blogs, Facebook pages, Instagram feeds and YouTube channels. As required by the AREERA of 1998, these points of contact for public input will be advertised as broadly as possible. CES also sponsors agricultural and horticultural conferences and outreach activities with AFES participation where the units will gather formal and informal stakeholder input. Outreach faculty and staff will also identify ways to overcome barriers like income, transportation, literacy, etc. when reaching out to all populations.

CES utilizes advisory groups as an important part of the stakeholder needs assessment process. In addition to traditional feedback options including email, surveys, open houses and discussions, IANRE will utilize citizen science activities to engage stakeholders in local agriculture topics. Such activities make use of Extension-designed phone applications to enhance the experience, such as Alaska Weeds ID. Smartphone apps are a contemporary way to attract stakeholders to participate in pest mapping and variety testing while IANRE gains insight into lay understanding of Alaska's critical issues.

CES and AFES will meet with audiences on demand throughout the state in both formal and informal settings each year. Examples of these audiences include agriculture associations, livestock associations and reindeer herders, villages, tribal organizations and regional corporations, borough and city governments and municipalities, grower groups meeting at regional and statewide conferences, industry stakeholders involved in food, fiber and fuel/energy production, soil and water conservation districts (SWCDs), and state and federal partners including but not limited to USDA, NRCS and the Forest Service.

Methods to identify individuals and groups

CES and AFES plan to engage with advisory committees as well as continue to review U.S. Census Bureau and Census of Agriculture data, conduct needs assessments and use stakeholder surveys as methods to identify groups and individuals from whom to collect input. AFES relies on stakeholder input from agricultural groups, collaborators, federal and state agencies, colleagues, faculty and students for assistance in establishing priorities and developing project directions.

Members from the public who have participated in or who have an interest in CES program offerings represent an important segment of the organization's stakeholders who can be contacted after their experience to offer feedback on program improvement and interest in future programming. Stakeholders often identify themselves by emailing or calling Extension faculty or staff. Other significant stakeholder groups are public and private agencies and organizations that have professional and programmatic relationships with Extension or direct interest in CES programming.

IANRE has built strong relationships with rural groups across the state, from Fort Yukon to Dutch Harbor, and has multiple FRTEP agents that advise the unit on tribal community needs. IANRE has been proactive over the past several decades providing relevant and responsive programming, including but not limited to: advising on cold climate housing and indoor air quality; providing research-based publications on traditional foods like walrus and bullwhip kelp; offering relevant youth activities like dancing and trapping; gathering survey data on use of public lands; and teaching hands-on skills for community gardening, reindeer processing, and more.

Methods for collecting stakeholder input

IANRE plans to continue using the following methods to collect stakeholder input, including but not limited to: Meetings with current and potential stakeholder groups; surveys of current and potential stakeholder groups; surveys of the general public; and meetings with key community members from the general public. CES and AFES will continue generating a feedback loop that provides information to research and outreach programs and from research and outreach programs to stakeholders and individuals. Conferences, meetings and workshops are scheduled around themes relevant to stakeholder concerns. Post-activity surveys and debriefing opportunities will establish how well information needs are addressed.

Survey results, meeting minutes, videoconference archives and other records of stakeholder engagement and input will be used in planning of IANRE programs. Extension collects stakeholder input through in-person surveys following conferences and workshops, by email surveys and through public presentations with discussion opportunities made available to a variety of groups and agencies. The reporting and compliance specialist will work with district agents and program assistants to determine the best methods for documenting knowledge and behavior changes experienced by stakeholder groups. Input is also collected individually by employees who work with stakeholders, and through meetings with advisory groups. Blogs and more than 20 social media pages also provide venues for stakeholder input.

A statement of how the input will be considered

Stakeholder input will be considered in program planning to: identify emerging issues; redirect Extension and research programs; guide employee hiring and action plans; and set district and institute-wide priorities. AFES and CES will continue to serve the needs of the people of the state of Alaska. Input will reflect ideas and advice given by client user groups, students, expert advisors, state and national peers and collaborators, and UAF administration.

The four critical issue areas identified reflect the concerns of all major stakeholder groups, and will continue to be the highest priorities in workload planning and resource allocation. Requests for specific speakers and topics guide conference and series agendas. Requests for programming help shape what is offered. Needs assessments will continue to help CES and AFES faculty and staff identify emerging issues. Community needs are an important consideration when assessing how to create or fill staff and faculty positions. Stakeholder needs will continue to be a driving factor in determining CES priorities for programming and AFES priorities for research.

Critical Issues

Active

4-H & Youth Development

Last Updated: 2025

Initiated on: 11/26/2019

Term Length: Long-term (>5 years)

Research shows that to increase resilience and reduce risky behaviors, youth need connections to caring adults. Faculty and staff will continue to provide programming to youth focused on achieving the outcomes described in the most current 4-H positive youth development model. CES seeks to increase participation in STEAM activities as well as provide youth with local and statewide opportunities for community involvement. 4-H educators will continue to offer relevant activities for all groups in Alaska while providing learning experiences aligned with the national mission mandates of science, healthy living and civic engagement.

Science Emphasis Areas: Education, Youth Development

Research Projects: 0 Extension Programs: 1

Active

Agriculture & Food Security

Last Updated: 2025

Initiated on: 11/26/2019

Term Length: Long-term (>5 years)

Alaska's agricultural opportunities and their relationship to food security are a critical issue because Alaska imports over 90 percent of its food. To become adaptable to economic and weather variability and other changes, it is critical to provide support to growers in the state. IANRE is well positioned to provide information about high-latitude agriculture and horticulture. Areas emphasized in the close collaboration of CES and AFES include agronomic crop and livestock production, commercial and home horticulture best practices, new technology applications, IPM and control of invasive pests, citizen involvement in agriculture, best practices for controlled environments small-scale agribusiness, and cultivar testing for weather-adapted crops.

Science Emphasis Areas: Meteorology, Sustainable Agricultural Production Systems

Research Projects: 19 Extension Programs: 1

Active

Healthy Individuals, Families & Communities

Last Updated: 2025

Initiated on: 11/26/2019

Term Length: Long-term (>5 years)

Alaska faces challenges such as high rates of botulism, obesity, food insecurity and other risks to public health. Cold climate housing also presents challenges in balancing fresh air flow with energy conservation. To address such concerns, CES faculty and staff will offer educational opportunities regarding nutrition and physical activity, chronic disease prevention and management, home modifications, air quality and energy efficiencies, food safety practices and food preservation techniques.

Science Emphasis Areas: Family & Consumer Sciences, Food Safety, Human Nutrition

Research Projects: 0 Extension Programs: 1

Active

Natural Resources Management

Last Updated: 2025

Initiated on: 11/26/2019

Term Length: Long-term (>5 years)

Collaborative efforts are key to ensuring proper stewardship of Alaska's complex ecosystems. CES and AFES faculty and staff will maintain partnerships and participate in multi state and integrated activities with stakeholder groups, government agencies and other institutions that enhance outreach regarding natural resource management and renewable energy sources. AFES faculty and staff along with RREA personnel will work to expand capacity for public involvement in natural resource, ecosystem and sustainable energy issues, including maintaining online platforms for education and engagement. Public workshops, presentations and consultations will offer opportunities for stakeholders to increase their awareness of biomass and other energies relevant to Alaska resources.

Science Emphasis Areas: Bioeconomy, Bioenergy, and Bioproducts, Environmental Systems

Research Projects: 5 Extension Programs: 1

Report Status

Approved as of 07/30/2025

Comments

Executive Summary

The FY26 Executive Summary provides a good overview of the vast natural resources available in Alaska. The challenges, opportunities and priorities for Alaska and the Institute of Agriculture, Natural Resources and Extension (IANRE) are well-documented. The four Critical Issues remain unchanged for FY26. We appreciate the key updates for each of the critical areas, including alignment with national priorities.

Merit and Scientific Peer Review/Stakeholder Input

We appreciate the detailed description of the Merit review and Stakeholder Input processes. This section adequately presents details regarding the process for evaluating research and Extension proposals. The internal and external aspects of the review process are to be commended. The process for soliciting and using stakeholder input is adequate. IANRE is to be commended on the various methods for engaging stakeholders.

Critical Issues

IANRE did a great job of identifying critical priorities impacting the citizens of Alaska and developing relevant programs and research projects to address those challenges. Again, we appreciate IANRE highlighting the key updates for each critical issue.

General Comments and Recommendations

The Alaska Annual Report is informative and well-written. IANRE is to be commended for their continued level of community/stakeholder engagement and visibility. The programs continue to address the needs of a wide audience, including youth, farmers, foresters, families, individuals, and policymakers. The programmatic efforts reflect good partnerships and collaborations.