

To: ASMI Board of Directors

Date: May 12, 2022

From: John Burrows, Technical Program Director

RE: FY23 Technical Program Budget

The following is a summary of the FY23 Seafood Technical Program budget activities for each program budget line.

Key Budget Changes FY20-23

- In FY20, the technical program welcomed a new seafood technical coordinator. The communications program gave \$15,000 to the technical program to help cover the new technical program coordinator position. The coordinator position was funded both by technical and sustainability programs. The addition of the coordinator position **results in a loss of \$45,000** to the operating budget to the technical program. In FY20, the operating budget for the technical program was **\$115,000**.
- In FY21, the technical program received added funds to cover the second position. In FY21, the operating budget for the technical program increased by **\$9,000** to **\$124,000**. The addition of **\$50,000** in funding from the Agricultural Trade Promotions was to be applied to FY21, but little was able to be utilized due to the fund's restrictions.
- **From FY18-21, the ASMI technical operating budget decreased by \$156,000.** In this same period, the program gained an additional employee, which improved the ability of the program to meet the expectations of the committees and ASMI programs.
- From mid FY21, the program's dedicated staff was reduced back to a single employee. Due to this reduction, technical was asked to build the FY22 budget with a **budget reduction of \$43,000 or 10% at \$390,000**. While an overall reduction, the elimination of the coordinator position allows for an additional \$101,000 or 89% increase in the operating budget, for a total of **\$225,000**.
- **A grant of \$298,450 has been awarded to ASMI Technical** by the National Oceanic and Atmospheric Association (NOAA) Saltonstall-Kennedy (SK) Grant Program for developing a database housing nutrient/contaminant data specific to

Alaska seafood species. The project is scheduled to run from September 2021 through August 2023, thus spanning from FY22-FY24. These funds are to be utilized solely for this project, and thus are not part of the programmatic budget.

- For FY23, an additional 30k was allocated to the program, representing a roughly 8% increase. 22k of this allocation went to the operational budget, representing a roughly 10% increase.

Comparison of FY20, FY21, FY22 and Proposed FY23 Technical Program Budgets

Program	FY20 Budget	FY21 Budget	FY22 Budget	Proposed FY23
Program Operations				
Personal Services	\$ 217,000	\$ 269,000	\$145,000	\$153,000
Travel	\$ 33,000	\$ 40,000	\$20,000	\$20,000
Total	\$ 250,000	\$ 309,000	\$165,000	\$173,000
Trade Education				
Industry Training/Resource Development	\$ 20,000	\$14,000	\$35,000	\$40,000
Total	\$ 20,000	\$ 14,000	\$35,000	\$40,000
Support Materials				
Content Development	\$ 20,000	\$ 30,000	\$40,000	\$42,000
Outreach and Education	\$ 30,000	\$ 30,000	\$40,000	\$42,000
Total	\$ 50,000	\$ 60,000 + ATP	\$80,000+ ATP	\$ 84,000
Applied Investigations				
Research and Development	\$ 45,000	\$ 50,000	\$110,000	\$123,000
Total	\$ 45,000	\$ 50,000	\$110,000	\$123,000
TOTALS	\$ 365,000	\$ 433,000	\$390,000	\$420,000

ASMI Technical Program

Key Activities

Please see the FY22 Spring Seafood Technical Program report for further information on the activities listed below.

Program Operations

\$173,000, 35% of overall budget

Personal services and travel.

Increase of funds: \$165,000 -> \$173,000

Applied Investigations

\$123,000, 29% of overall budget

OSU utilization study, OSU/UMaine frozen sensory study, UMaine roe-on-kelp and arrowtooth flounder studies, sustainable packaging investigation, matching funds for grant applications, sustainable packaging study, support for product acquisition and shipment for various industry studies, future research projects under consideration.

Increase of funds: \$110,000+SK Grant -> \$123,000 + SK Grant (only to be used on SK Project, FY22-FY24)

Trade Education

\$40,000, 9.5% of overall budget

Seafood technical workshops/trainings with Kodiak Seafood Marine Science Center/Sea Grant, trade presentations, event and educational conference sponsorships (Pacific Fisheries Technologists Conference, OSU Surimi School, etc.) collaborative projects, resource development with research affiliates, and regulatory efforts

Increase of funds: \$35,000 -> \$40,000

Support Materials

\$84,000, 20% of overall budget

Content development and design, contracts with artists, printing fees for all technical material, and website maintenance/development

- Quality, nutrition, and consumer-aimed technical videos
- ASMI publications/technical fact sheets
- Website – nutrition, quality, handling, safety, utilization
- SeaGrant/ASMI technical fact sheets

- In-plant quality control information for industry
- Messaging for technical topics
- Packaging brochure

Increase of funds: \$80,000 + ATP -> \$84,000

Alaska Seafood Marketing Institute

Date: May 12, 2022

To: ASMI Board of Directors

From: John Burrows, ASMI Seafood Technical Program Director

Program Update: Activities from 4/2021

Program Objectives

- Support efforts that ensure safe, quality Alaska seafood products reach the consumer.
- Position program as the lead technical and scientific information source for seafood quality, safety, nutrition and health benefits, and sustainability.
- Encourage projects that incorporate innovative approaches to developing seafood products from Alaska.
- Provide outreach to educate and inform the market, trade, and consumers on the technical aspects of Alaska seafood.
- Promote the developing seafood technical field and promote studies with Alaska seafood.

Background

The goal for the program is to connect with the industry and provide resources to industry, trade and consumers in multiple technical categories including: seafood safety, seafood quality, nutrition, utilization, traceability, sustainability, and promoting innovative opportunities for Alaska seafood. An important component of the technical program is to provide support for the marketing programs on technical matters and to aid in developing technical materials for all of the programs.

Seafood Technical Program Overview



Applied Investigations

Research opportunities related to the quality and value of Alaska seafood

- seafood safety, nutrition, and quality
- quality processing, utilization



Supplied Materials

Outreach and educational material related to Alaska seafood

- develop content, materials and provide guidance for technical topics to industry, trade, and consumers
- develop materials for industry on quality and processing techniques



Trade Education

Outreach and educational opportunities in seafood technical issues for the industry

- support educational opportunities to promote the seafood technical field

Projects

Projects of interest for the technical program were determined by direction from the seafood technical committee and other ASMI committee requests.

Applied Investigations

- **National Oceanic and Atmospheric Association (NOAA) Saltonstall-Kennedy (SK) Grant- Increasing Market Access and Consumer Confidence with Trusted Nutrient and Contaminant Data and Outreach for Alaska Seafood**
 - o The technical program's application for a NOAA SK Grant to collaborate with the Alaska Department of Environmental Conservation (ADEC) in developing a database housing nutrient/contaminant data specific to Alaska seafood species was successful. This multi-year project was awarded \$298,450.00 for the project which began in September in 2021 and will run until August 2023. We will develop a comprehensive, current, and defensible nutrient and contaminant dataset for Alaska seafood and disseminate the results through an extensive outreach strategy. The project will be evaluated by a representative technical advisory committee guiding the project and we will also employ consumer marketing surveys in various markets for Alaska seafood. S-K Grant Program objectives will be fulfilled by increasing consumer and trade confidence in Alaska seafood resulting in increased market demand. Completion of this project will improve global public relations, satisfy trade requests for information, and encourage collaboration between the state of Alaska and federal agencies to share data on Alaska seafood safety and nutrition information. Additionally, the project will generate marketing and outreach opportunities that can position the Alaska seafood industry to better compete in global markets and both positively differentiate and improve confidence in Alaska seafood products. The nutrient and contaminant data will be valuable to the Alaska seafood industry, researchers, public health initiatives, state and federal government agencies, and consumer marketing programs. **Thus far, the project has identified suitable laboratories for contracts, formed and held several meetings of the Technical Advisory Committee (TAC), determined analyses to be performed for both contaminant and nutrition analysis, and identified/begun sourcing species samples for inclusion. After All-Hands, the project's initial laboratory for nutritional analysis backed out of the project due to the State's non-negotiable indemnification clause. A second nutrition lab was identified through an extensive outreach process and has now signed on. Extensive dialogue with the USDA has been had to ensure proper housing of the nutrition data. Similar discussions with DEC leadership has been had regarding the project's potential implications in terms of the fish monitoring**

program budget and establishment of necessary infrastructure to repeat the study's procedures in-house going forward.

- **Oregon State University-Foundation for Food & Agriculture Research Grant: Recovery of Nutritional Food from Seafood Byproducts**
 - The technical program contributed matching funds (**\$10,000 USD**) to the forthcoming study to recover protein from various seafood processing by-products with the purpose of developing viable, marketable food items. The study is set to occur over a span of three years with a total funding of \$667,570, half of which is comprised of matching funds. ASMI's matching fund is one of several being supplied, with other contributing entities including Oregon State University, OSU's Food Innovation Center, Pacific Seafood Group, Seafood Industry Research Fund, Trident Seafoods, and the West Coast Seafood Processors' Association. **The researchers (comprised of experts in food chemistry, nutrition, food processing, product development, and sensory evaluation) will extract, purify, characterize functionality, and assess the nutritional content of the protein isolates of various species. The study will seek to reduce discard of edible proteins from seafood processing, increase percentage of harvest utilization for human consumption, provide additional viable revenue streams to processors/harvesters, and increase protein availability.** The nutritional efficacy and health impact of the generated protein isolates will be assessed in an animal model compared to protein isolates such as whey and soy. Subsequently, seafood protein isolate will be utilized to develop multiple prototype products including dietary supplement products, novel food products, and food aid fortification formulations, with the culinary potential for products containing seafood protein isolates being assessed by a panel. FFAR recently issued full approval and released their funds (October 2021), and results of early stages will be available in the Spring. **Per conversations with Dr. Jung Kwon, the project PI in March, the first results will be available in mid-May.**

- **University of Connecticut/Seafood Industry Research Fund – Alaska Salmon Consumption and Reduced Inflammation for Breast Cancer Survivors –**
 - We collaborated the Seafood Industry Research Fund (National Fisheries Institute) to support a study by the University of Connecticut to gather key information regarding dietary fish consumption patterns in breast cancer survivors experiencing symptoms of persistent pain and fatigue. The 2-year investigation uses the USDA dietary guidelines as a basis to assess the consumption of more fish consumption for improved dietary intake patterns for breast cancer survivors. Consumption of omega-3 fatty acid in fish, and not in supplements, is encouraged as a component of the Nutrition and Physical Activity Guidelines for cancer survivors. A specific

aim of the project will be to look at the effects of high and low DHA diets on inflammatory load and persistent pain and fatigue severity for breast cancer survivors. There are 180+ participants in the study who have personalized meal plans of frozen Alaska salmon fillets 2-3 times a week for a period of 6 weeks. Due to COVID closures from February 2020-December 2020, the study's latest recruitment phase was delayed and the finalization is now expected in May 2022 (a no-cost extension for data synthesis was granted) with a larger sample size than initially scoped (over 180 participants instead of 150). However, due to ASMI's continued support of the project, ASMI will be a named contributor on the secondary follow-up study examining the effects of seafood consumption of the gut microbiome in this same survivor group. **In April, ASMI was informed that the manuscript submitted by the researcher was accepted for publication, and a feasibility article has been published [here](#) (NOTE, feasibility study is only freely accessible until June 7th). The gut microbiome piece is scheduled to begin work this summer.**

- **Oregon State University Food Innovation Center/University of Maine –Chef Sensory Evaluation of Frozen Alaska Seafood**
 - ASMI is partnering with the Food Innovation Center at Oregon State University **to conduct a sensory evaluation of frozen Alaska seafood with chef participants.** Test data will be collected using the Qualtrics and/or Compusense data acquisition systems. Sensory test results will be analyzed at the 95% confidence level and raw and summarized data will be presented in a summary report. Event timing was originally scheduled for Fall of 2019 and delayed due to COVID pandemic. Due to the technical committee's request of avoiding of directly comparing fresh and frozen product, the initial study design is being re-examined to feature solely frozen product evaluation. An event to gather chef responses in Washington DC during September 2021 had been scheduled but was upended by the continuing pandemic. **In the fall, ASMI and OSU set a tentative Spring 2022 timeline to begin, and with an understanding that gathering sufficient chefs was the study's greatest hurdle (n=40) and aiming to partner with a culinary entity in regions less saturated by Alaska seafood. A suitable partnership was found with the Dr. Matthew Highlands Pilot Plant at the University of Maine. This facility features a state of the art commercial kitchen, specialized food product development equipment, a kitchen lab, sensory evaluation stations, and a proven ability to run seafood studies with chefs as the sample size, as they recently completed a study evaluating an umami fish sauce made from invasive green crab. The manager of the plant is a former White House chef accustomed to high quality seafood prep even going so far as to get seafood HACCP certification, and is President of the Downeast Chapter of the American Culinary Federation.**

- **University of Maine-Investigation into New Preparations, Products, and Utilization of Arrowtooth Flounder (*Atheresthes stomias*) and Roe-on-Kelp from Pacific Herring (*Clupea palasii*)**
 - **Two additional studies will also occur at the Highlands pilot plant based on the facilities available and input from species committees for investigation of prep testing and product development of underutilized species and commodities, with herring roe and arrowtooth flounder put forward as products for exploration. For the roe-on-kelp, the scope will begin with simple experimentation of prep/outputs in the kitchen lab, whereas arrowtooth is likely to be not only these, but also identifying and creating products wherein protease is not a concern. These efforts will be collaborative with other ASMI operational programs as we determine suitable messaging and information for distribution based on the study results and feedback. Currently, we are awaiting scoping documents from U of Maine.**

- **Oregon State University- Consumer Acceptability and Shelf-life Assessment of Frozen Seafood**
 - **ASMI technical is supporting a forthcoming study by OSU which is funded by a Saltonstall-Kennedy Grant to determine shelf life (nutrient density, oxidation, texture) and consumer acceptability of three frozen seafood species stored in two different freezer types (commercial/industrial and home), and to develop and pilot educational outreach efforts about frozen seafood. The project timeline is two years from January 2021-January 2023, with the shelf life testing over an 18-month period within that 24 months. ASMI is supporting by serving as a member of the study's Technical Advisory Committee. The three species have been chosen by the advisory committee, two of which (coho salmon and sablefish) are relevant to Alaska seafood. An update in February was provided, stating that the first sensory analysis had occurred in September, with 120 individuals trying the fish and providing sensory and non-sensory survey responses.**

- **Sustainable Packaging Survey and Brochure**
 - Information on sustainable packaging was a consistent ask for the Seafood Technical Program. ASMI Technical created a summary document of our current knowledge and circulated it, but it was based on some dated information. After discussions with other NGOs seeing similar requests, we have begun an exploratory effort into the topic. Through scoping conversation with BBRSDA and packaging entities, we are recommending development of a guidance document for industry members describing the

various types, grades, compositions, and properties of more sustainable packaging material so that industry members have a navigable road map without any pressure to change operations. The first steps for this are exploring what technologies are available or forthcoming, surveying industry as to what if any recyclables are being used and what they would prioritize in packaging decisions, and gathering relevant supplier information.

Supplied Materials

- **ASMI Species Fact Sheets**
 - The technical program is producing a new suite of Alaska seafood species fact sheets for buyers of Alaska seafood. We have completed the majority of Alaska species and will be moving forward to complete the few remaining species for which replacement fact sheets are needed and developing sheets for species not previously covered in this material suite. These are available in print to order as well as a download pdf on the .org website. **This year, Pacific halibut, Alaska flatfish, mentaiko, and weathervane scallops (in final stages) were completed. Forthcoming species will include Pacific herring, sea cucumber, geoduck, and more.**

- **ASMI Technical Fact Sheets**
 - We are developing fact sheets on technical topics that relate to Alaska seafood. These are business-to-business and business-to-consumer fact sheets are for use by ASMI programs as well as industry and trade relations. We have completed hatchery and chalky halibut sheets previously, as well as an internal-only jellied sablefish sheet. **This year a freezing quality fact sheet and a shipping live crab sheet for internal use was also finalized. Work began on a utilization sheet which is now a near-final draft meant for marketing programs, with work continuing on a more academic version in line with other items in this suite.**

- **ASMI Website**
 - This year ASMI performed a significant overhaul of its web domain, consolidating the .com and .org websites into a single website. As part of this, ASMI Technical was tasked with restructuring the layout, user interfaces, formats, and asset management/display of technical information and materials. We also scrutinized and vetted existing materials of many ASMI programs for accuracy as part of this process.
 - ASMI Technical vetted information featured in the forthcoming domestic program Alaska seafood educational tool.

- **ASMI Brochures**
 - We have overhauled the Alaska Seafood 101 Guide (formerly the A-Z Guide) with new branding, photos, and information.
 - We have begun development of an update to the existing roe brochure.
 - We are currently gathering resources and checking information to update the Shellfish Buyer's Guide as Whitefish and Salmon were in FY21.
 - **The output of the sustainable packaging research project will be a brochure of potential options for industry members wishing to switch to more recyclable/re-usable materials.**

- **ASMI Quality Material**
 - We are developing associated tutorials on aspects of quality handling for different gear types and species (i.e. how to bleed, how to ice, how to transport) at the harvester level. The first project for this, a bleed tutorial, has been completed.
 - The latest ASMI technical fact sheet, Frozen Alaska Seafood Quality, is also a part of the ASMI quality materials suite.
 - Quality materials for consumers are in production, with current projects primarily composed of consumer versions of existing quality materials
 - **We are identifying needs for additional in-plant quality materials based on industry requests for additional material in this line. Shellfish quality guides and best practices are a high priority based on dialogues to this point.**

- **ASMI Nutrition Material**
 - We are developing a functional nutrition video addressing the various functional benefits offered by Alaska seafood products, focusing on the types of benefits offered, the nutrients responsible, the species those nutrients are found in, and practical advice on how to incorporate AK seafood into nutritional plans.
 - Developing a 'Healthy Immune System and Alaska Seafood' infographic.
 - As part of the SK grant, the new nutrient data developed will be used to update Alaska nutrition materials to reflect new values. This information will be used in outreach efforts and to differentiate wild, Alaska seafood from competitors harvested or farmed elsewhere.

- **Additional ASMI Materials**
 - Working with other ASMI programs to develop consumer-aimed edits of new technical materials, especially video content.
 - We worked with ASMI domestic to produce H&G salmon POS material highlighting cooking methods and preparation (filleting and steaking).

Trade Education

- Provided support for KSMSC training including:

- HACCP, Better Processing Control School, Alaska Seafood Processor Leadership Institute, Smoked Seafood School, and Sanitation Workshop.
- Participated as a member of Alaska Department of Environmental Conservation's Whole Crab Processing Work Group. This team worked to develop a sampling and monitoring plan for naturally occurring toxins like domoic acid and paralytic shellfish poison in Dungeness crab for safety of whole cooked crab. **The end result of this work is the [Crab Biotoxin Monitoring Plan](#).**
- Provided federal comments:
 - to USDA FAS regarding Indonesia's regulation for the implementation of Halal product assurance and,
 - to USDA FAS China's revised hygienic standard for cooked meat products,
 - to the USDA FAS regarding South Korea's draft revision of the enforcement rule of the special act on imported food safety control, and
 - jointly to the USDA with other groups (Pacific Seafood Processors Association, Alaska Fisheries Development Foundation, and Seafood Products Association) regarding supply chain resilience in context of Alaska seafood,
 - jointly to the USDA with other industry groups (Genuine Alaska Pollock Producers, National Fisheries Institute, At-Sea Processors' Association, and Pacific Seafood Processors' Association) regarding the potential inclusion of wild-capture seafood in the USDA organic label program.
 - To the USDA regarding scientific questions to be examined during creation of *Dietary Guidelines for Americans 2025-2030*.
- Member of the National Fisheries Institute and Seafood Products Association, serving on the latter's Technical Committee.
- In addition to the ASMI technical sheets, we are working to create a suite of collaboratively produced technical fact sheets with entities such as ADEC and Sea Grant for industry outreach. We previously finalized ADEC's shellfish safety sheet and this year completed work on Sea Grant's parasites sheet. Next we will be completing traceability, utilization, frozen shellfish, environmental issues, and various other technical topics that the industry would like outreach material on.
- Pursued actions on industry's behalf collaboratively with ASMI International Program to alleviate trade barriers in Brazil and Indonesia as a result of health certificate disagreements between NOAA and the relevant local authorities.
- Worked with ASMI International to alleviate trade barriers by pursuing satisfaction of new EU requirements of vessel registration for exporters.

- Participant in Alaska Research Consortium's (ARC) *Alaska's Seafood Future* project to develop the seafood workforce and applied research opportunities. Additionally, ASMI Technical is supporting ARC's effort to apply for Good Jobs Challenge/American Rescue Act Plan funds backing seafood, fisheries, and maritime workforce training across Alaska. ASMI Technical is offering support through partnership, outreach, curriculum development, and in-kind time as the project is developed, and a determination is being made on fiscal contribution from the Trade Education budget category.
- Collaborated with ASMI International to engage with potential trade issues in Indonesia as a result of halal requirements, the EU regarding new mercury limits and a new vessel registration requirement, and domestically regarding the FDA's altered histamine limits.
- Engaged with industry members for education regarding new in-plant requirements for control of metal inclusion hazards by NOAA.
- Guest author in *National Fisherman* on an article detailing the Alaska fish tickets/eLanding system in the context of product traceability. This topic was chosen to bolster efforts to mitigate the impacts of potential new but disruptive and duplicative requirements that industry might be subject to if subjected to the FDA's new proposed traceability requirements. The article is available [here](#).
- Provided an interview to Alaska Business Magazine regarding updated information on the warm water event colloquially referred to as 'the Blob' and the trend of smaller salmon size.
- Provided Letters of Support to research effort in food safety innovation based on spectroscopy and to a potential new Master of Marine Policy program in the University of Alaska system aimed at specifically producing State/Federal policymakers for Alaskan fisheries.

Other Activities

- Created new technical species photos for species of previously underutilized flatfish, herring, and sea cucumber species.
- Collaborated with other ASMI programs, industry members, and trade associations to respond to misinformation resulting from a prominent docudrama.
- The technical committee met via Zoom in April 2022 to approve the budget and discuss projects for FY23.
- Created and/or updated internal ASMI talking points on technical topics. Depending on the topic, these talking points were either shared internally only

with market representatives and ASMI staff or distributed to relevant members of industry and/or their supporting NGOs. Topics included:

- Alaska seafood and radiological contamination (Fukushima),
 - decreasing size in salmon species,
 - Seafood Watch downgrade of Alaska crab sustainability rating,
 - closure of Bristol Bay red king crab fishery,
 - Yukon River salmon stock reduction, and
 - Bering Sea opilio crab stock reduction.
 - Jack king salmon
- ASMI Technical supports day-to-day vetting of information utilized and materials produced by ASMI marketing programs.
 - ASMI Technical serves as the primary public contact on technical issues or questions being sought by market representatives, industry members, and the general public.
 - ASMI Technical facilitated discussions with the Technical Committee and new technology developers, several of which are likely to be engaged for pilot programs. Technologies included:
 - New freezing tech (picoscopic silky ice, slush ice, supercooling),
 - Traceability metrics/solutions,
 - Ozone for in-plant sanitation,
 - Quality Solutions,
 - New bioplastics from marine sources.