

## A. COVER PAGE

<b>Project Title:</b> Sustaining and Expanding Capacity for Fishermen First Aid and Safety Training	
<b>Grant Number:</b> 1T03 OH011925-01	<b>Project/Grant Period:</b> 09/01/2019-08/31/2022
<b>Reporting Period:</b> 09/01/2019-08/31/2022	<b>Date Submitted:</b> 10/31/2022
<b>Program Director/ Principal Investigator</b>  Laurel Kincl, PhD (541) 737-9493 Laurel.Kincl@oregonstate.edu	<b>Administrative Official Information</b>  CINDY L TAITWITHROW 312 Kerr Administration Building Corvallis, OR 973312140 (541) 737-4933 Cindy.Tait-Withrow@oregonstate.edu
<b>Change of Contact PD/PI:</b>	
<b>Human Subjects:</b>  N/A	<b>Vertebrate Animals:</b>  N/A
<b>hESC:</b>  N/A	<b>Inventions/Patents:</b>  N/A

## B. ACCOMPLISHMENTS

### B.1. What are the major goals of the project?

1. Identify and implement best practices in delivering commercial fishing-specific first aid training. The project proposed to convene a consortium of groups currently providing commercial fishing-specific first aid training to identify and share best practices.
2. Increase capacity to deliver commercial fishing-specific first aid training by training instructors and developing the infrastructure to support them. The project proposed to train first aid instructors to deliver state-of-the-art, evidence-based, USCG-certified first aid instruction, and develop a sustainable model for supporting instructors.
3. Deliver evidence-based, field demonstrated, USCG-certified first aid training to commercial fishermen across the United States, demonstrating its effectiveness, scalability, and acceptability. The project proposed to deliver first aid training to fishermen in three US regions, following agreed-upon best practices but regionally tailored, and will assess its effectiveness in minimizing injuries and preventing disability, its ability to be scaled and sustained nationally, and its acceptability and relevance to fishermen.

### B.2. What did you accomplish under these goals?

We successfully met the aims of the project. The training project identified and implemented best practices, increased training capacity, demonstrated the scalability of our approach and delivered the Fisherman First Aid and Safety Training (FFAST) to commercial fishermen in three regions (West Coast, Alaska, and New England). In this report we summarize the major accomplishments for three related, sequential aims:

#### Aim 1: Identify and implement best practices in delivering commercial fishing-specific first aid training.

- Updated FFAST training materials:
  - o Instructor resources:
    - Full presentations for each unit of FFAST training
    - Instructor manual that includes skill sheets, evaluations and training scenarios
  - o Student resources:
    - Participant manual that includes all the training content and room for notes
    - Treatment charts, a one-page reference, for each unit of FFAST
    - 6 micro lessons, short videos, that reiterate the skills and steps for primary assessments, wound treatment, burn treatment, orthopedic splinting and stabilizing and clearing the C-spine (this one had two micro lessons). <https://bit.ly/3D15Aef>
- Delivered relevant training to fishermen during the pandemic, we converted the FFAST course into a shorter (8-hour) FFAST Basics. FFAST Basics retained the crucial elements required for USCG approved first aid courses, and the course was reviewed and approved by the USCG. FFAST Basics was delivered in a hybrid format that consists of synchronous lecture content remotely for 6 hours, then 2 hours in-person. We developed online content available through a FFAST Course website (<https://flipp.thinkific.com/courses/ffast-complete>) that provides fishermen with access to all of the course materials including the additional sections that are included in the 16-hour course. Each fishermen registers through the FFAST course website before the start date and are provided a training kit to pick up before the course starts. The training kit included a printed copy of the FFAST student workbook, FFAST treatment charts, a commercial fishing-specific first aid kit (1 per vessel) and other training materials including a CPR manikin and AED trainer. Fishermen receive 6 hours of online instruction via Zoom, either individually or with members of their crew and/or COVID bubble. After completing the zoom session, fishermen met outside either on their fishing vessel or at the docks in their port in small groups of 1-6 people (depending on their COVID bubble size) with COVID precautions in place for 2 hours of practical skill assessment and a written examination with the course instructor.

- Conducted regular monthly meetings with our partners and through these meetings have identified additional training materials and supplemental materials such as ergonomics, opioid abuse prevention, marine life encounters, and mental health first aid.
- Developed a clearinghouse for instructor materials. After reviewing FFAST content, additional resources were gathered from key partners and we are combining with FFAST resources as they are developed. The clearinghouse is currently a box folder that is shared with our partners.
- Developed a webpage for FFAST that includes public information about the course and access to videos. (<https://health.oregonstate.edu/labs/osh/resources/ffast>).
- FFAST resources that are not reliant on the training of specific skills and that could be “stand-alone” are housed on Oregon State University’s website for commercial fishing resources. (<https://health.oregonstate.edu/labs/osh/resources/flipp>) . These include:
  - o Crew Agreement Information
  - o Tips and tricks from experienced fishermen for new fishermen
  - o First Aid Kit resources for commercial fishing vessels
  - o Protocol for calling the U.S. Coast Guard from fishing vessel
  - o Scene Safety Assessment
- Our partners at the Fishing Partnership Support Services (FPSS) and Alaska Marine Education and Safety Association (AMSEA) were able to build upon and expand their current First Aid classes to include information from the wilderness first responder training, and the resources and information shared by Oregon State University and its FFAST curriculum.

Aim 2: Increase capacity to deliver commercial fishing-specific first aid training by training instructors and developing the infrastructure to support them.

Identified FFAST instructors for each region including two in Alaska, five in New England, one in Washington and one in California for a total of 9. We already had one instructor in Oregon and trained 2 more. All instructors have either completed instructor training. As of the end of this funding cycle there are a total of 12 trained FFAST instructors:

*West Coast:* Angee Doerr, OR Sea Grant; Joe Tyburczy, CA Sea Grant; Kevin Buch OSU; Jody Pope, Washington Department of Fish and Wildlife, Westport, WA; Amelia Vaughan, OSU

*Alaska:* Jerry Dzugan and Rob Emley, AMSEA

*New England:* Shannon Eldridge, Russell Kingman, Ed Dennehy, Luis Catala, and John O’Leary FPSS

- Industry Partners:
  - o Rapid Rescue, Newport OR
  - o Brown & Brown Insurance, Newport OR
  - o Newport Fishermen’s Wives, Newport OR
  - o Englund Marine, Astoria OR
  - o WEfish, Westport WA
  - o Charleston Fishing Families, Charleston, OR
  - o Life Raft and Survival Equipment, Inc, Tiverton RI
  - o Hercules SLR, New Bedford MA
  - o Marine Safety Consultants, Inc, Fairhaven MA
  - o Commercial Fisheries Center of Rhode Island, Kingston, RI
  - o Individual commercial fishing vessels (Joe Conchelos, Newport, OR Captain; James Seitz, Astoria, OR Captain; Ray Graves, Astoria, OR Captain; Dan Albert, Newport, OR Captain; Bob Kemp, Newport, OR Captain; Jimmy Clemmons, Charleston, OR Captain)

- Tailored training to meet experience of potential instructors. Instructors who were able to complete the Wilderness First Aid Training (WFR) training found it helpful. It was challenging for all instructors to complete the WFR with the pandemic due to length of time and nature of activities. But ultimately all were able to receive the training.
- Purchased training materials for West Coast instructors and provided a list of supplies to partners in other regions to purchase with their sub award funds.

Aim 3: Deliver evidence-based, field demonstrated, USCG-certified first aid training to commercial fishermen across the United States, demonstrating its effectiveness, scalability, and acceptability.

- In the Pacific Northwest, despite COVID, we were able to hold two first aid kit building parties in Astoria and Garibaldi. We also provided first aid kits to all fishing vessels that took part in our first aid trainings for a total of over 55 first aid kits distributed in the Pacific Northwest. In Alaska, AMSEA were able to hold two first aid kit parties in Sitka, AK and supplied 108 first aid kits to fishermen either as part of their training or at the parties. FPSS provided supplies for first aid kits at all of their first aid courses in the final year of the project and will continue to build upon that in the next funding cycle (2022-2025).
- Successfully conducted 67 First Aid trainings across 3 distinct geographical regions.
- In the Pacific Northwest the FFAST course has been presented in Newport, Astoria and Charleston, Oregon, and Westport, Washington. During the pandemic, we developed a “hybrid” version of the course, in accordance with COVID-19 measures in place at the time. A total of 83 participants have completed training in the revised course, of which 47 completed the in-person training and 36 completed the hybrid training. All participants rated the course as either “very useful” (86%) or “useful” (14%), reported they were either “extremely likely” (78%) or “likely” (22%) to recommend the course to others, and rated the instructor as “very good” (91%) or “good” (9%).

In open-ended comments, participants most often reported favorably about the active nature of the course: the most common responses reflected our intended focus for the course on skill development and training specific to commercial fishing, and included “hands on training,” that the training reflected real scenarios, and that some training took place on fishing vessels. Fishermen appreciated that the course was specifically tailored to them. Several participants suggested that more time (e.g. another day) to learn and practice would improve the course; while we don’t feel it is realistic to add a day to the course, these recommendations suggest that we should find yet more time in the curriculum for hands-on training. Other suggestions included providing easily used on-board materials (e.g. waterproof “SOAP” notes, patient care flowcharts), which we have since developed. Many fishermen indicated that they were more confident of their abilities to handle emergencies at sea, and that they would be better prepared when next they put to sea. Among those completing the hybrid course, there was an overall preference for the course to be conducted in-person when possible, but participants felt that the hybrid materials were effective and prepared them for the hands-on portion of the training and evaluation, and appreciated the ease of online access. All students passed the hands-on skill tests, which are based on specific tasks (e.g. “control bleeding”) and sub-tasks (e.g. “place pressure bandage”), similar to skill sheets commonly used in CPR and EMS training.

The course average on the final first aid knowledge test was 87.8%, suggesting that participants took in the vast majority of the crucial first aid information. There was no significant difference in mean knowledge scores between the in-person participants (87.7%) and hybrid participants (88.0%). All students passed the CPR training, and are AHA-certified in cardiopulmonary resuscitation, including AED use.

- FPSS, despite COVID delays, conducted 30 first aid courses adopting FFAST materials and trained over 270 participants with excellent feedback. One fisherman in their region said, *“Took a great new First Aid training program in Feb 2021 in Plymouth, MA with Fishing Partnerships—learned a lot especially since I have been taking a similar but not as robust class regularly since 1995 across the country.”* FPSS instructors provide the FFAST First Aid Kit List to each fishermen at every training. Throughout the class, instructors use the list as a

<p>guide and checklist for fishermen to follow as they learn about each piece of inventory, how to use it, and how to organize it effectively in their first aid kit.</p> <ul style="list-style-type: none"> <li>AMSEA have incorporated FFAST materials into their first aid training, which due to COVID, have been conducted with much smaller class sizes. They report an improvement with the quality of instruction. In total they have conducted 29 courses and trained 179 participants during the project period.</li> </ul>
<p><b>B.3. Competitive Revisions/Administrative Supplements</b> N/A</p>
<p><b>B.4. What opportunities for training and professional development did the project provide?</b> This project provided opportunities 4 instructors to take a 72 hour Wilderness First Responder training and for 12 instructors across the three regions to be trained as a first aid and CPR instructor through the American Heart Association and the American Red Cross.</p>
<p><b>B.5. How did you disseminate the results to communities of interest?</b> Training and training outreach materials were advertised widely through social media, print publications, and fliers posted in areas where fishermen congregate such as the docks and marine supply stores. In the PNW we partnered with commercial fishing advocacy groups such as WEFish (Westport, WA), Newport Fishermen's Wives (Newport, OR) and Charleston Fishing Families (Charleston, OR) to help recruit participants and get the word out through their social media channels. The Oregon Sea Grant Commercial Fisheries Extension Facebook page served as the main conduit for information sharing via social media. <a href="https://www.facebook.com/Oregon-Sea-Grant-Fisheries-Extension-653310351449825/">https://www.facebook.com/Oregon-Sea-Grant-Fisheries-Extension-653310351449825/</a></p>
<p><b>B.6 - What do you plan to do during the next reporting period to accomplish the goals?</b> N/A Final report</p>

## C. PRODUCTS

<p><b>C.1. Publications, conference papers, and presentations</b> Vaughan, Amelia. (2021, October). Adapting first aid trainings to meet the needs of commercial fishermen during the COVID 19 pandemic. Paper presented at the American Public Health Association Annual Meeting.</p>
<p><b>C.2. Website(s) or other Internet site(s) – include URL(s)</b> <a href="https://health.oregonstate.edu/labs/osh/resources/ffast">https://health.oregonstate.edu/labs/osh/resources/ffast</a> <a href="https://seagrants.oregonstate.edu/ffast-fishermen-first-aid-safety-training">https://seagrants.oregonstate.edu/ffast-fishermen-first-aid-safety-training</a> <a href="https://www.amsea.org/commercial-fishermen">https://www.amsea.org/commercial-fishermen</a> <a href="https://fishingpartnership.org/cpr-first-aid-class/">https://fishingpartnership.org/cpr-first-aid-class/</a></p>
<p><b>C.3. Technologies or techniques</b> N/A</p>
<p><b>C.4. Inventions, patent applications, and/or licenses</b> N/A</p>
<p><b>C.5. Other products and resource sharing</b> First Aid at Sea: <a href="https://youtu.be/iCUEk01fbIY">https://youtu.be/iCUEk01fbIY</a>  Community Resilience: <a href="https://youtu.be/4c3_x4wIYm4">https://youtu.be/4c3_x4wIYm4</a>  FFAST Micro Lessons: <a href="https://youtu.be/GYiWiWiNKtg?list=PLDKoV89-TPSAKQVPZipTMuVpX50BII1zJ">https://youtu.be/GYiWiWiNKtg?list=PLDKoV89-TPSAKQVPZipTMuVpX50BII1zJ</a></p>

**D. PARTICIPANTS****D.1. What individuals have worked on the project?** Please include calendar, academic, and summer months.

Commons ID	S/K	Name	Degrees(s)	Role	Cal	Aca	Sum	Foreign	Country	SS
lkincl06	Y	Laurel Kincl	PhD	PD/PI			.45			
bovbjerg	Y	Viktor Bovbjerg	PhD	Co-PI			.45			
	N	Amanda Gladics	MS	Co-I						
	N	Amelia Vaughan	MLIS	Project Coordinator	2.4					
	N	Angee Doerr	PhD	Co-I	1.2					
	N	Jerry Dzugan		PI	.21					
	N	Rob Emely		Instructor	.5					
	N	JJ Bartlet		PI	.2					
	N	Russell Kingman		Instructor	.15					
	N	Ed Dennehy		Instructor	.05					
	N	Shannon Eldredge		Instructor	.15					
	N	Dan Orchard		Instructor	.15					

**D.2 Personnel updates**

Nothing to Report

**a. Level of Effort:****b. New Senior/Key Personnel:****c. Changes in Other Support:****d. New Other Significant Contributors:****E. IMPACT****E.1 - What is the impact on the development of human resources, if applicable?**

Professional training was provided to 12 instructors resulting in new certifications and increased knowledge base.

**E.2 - What is the impact the Public Health Relevance and Impact? The investigator should address how the findings of the project relate beyond the immediate study to improved practices, prevention or intervention techniques, legislation, policy, or use of technology in public health.**

This project proved the feasibility of providing first aid and CPR trainings for workers that are highly tailored to their work environment and developed a model for collaboration across diverse geographical regions.

**F. CHANGES****F.1 – Changes in approach and reasons for change, including changes that have a significant impact on expenditures**

N/A

**F.2 - Actual or anticipated challenges or delays and actions or plans to resolve them**

N/A

**F.3 - Significant changes to human subjects, vertebrate animals, biohazards, and/or select agents**  
N/A

### **G. Special Reporting Requirements**

#### **G.1 Special Notice of Award Terms and Funding Opportunities Announcement Reporting Requirements**

N/A

#### **G.2 Responsible Conduct of Research**

N/A

#### **G.3 Mentor's Research Report or Sponsor Comments**

N/A

#### **G.4 Human Subjects**

##### **G.4.a Does the project involve human subjects?**

N/A

##### **G.4.b Inclusion Enrollment Data**

N/A

##### **G.4.c ClinicalTrials.gov**

N/A

**Does this project include one or more applicable clinical trials that must be registered in ClinicalTrials.gov under FDAAA?**

N/A

#### **G.5 Human Subject Education Requirement**

**Are there personnel on this project who are newly involved in the design or conduct of human subject's research?**

N/A

#### **G.6 Human Embryonic Stem Cells (HESCS)**

**Does this project involve human embryonic stem cells (only hESC lines listed as approved in the NIH Registry may be used in NIH funded research)?**

N/A

#### **G.7 Vertebrate Animals**

<b>Does this project involve vertebrate animals?</b>  N/A
<b>G.8 Project/Performance Sites</b> Oregon State University Alaska Marine Safety Education Association Fishing Partnership Support Services
<b>G.9 Foreign Component</b>  N/A
<b>G.10 Estimated Unobligated Balance</b>  <b>G.10.a Is it anticipated that an estimated unobligated balance (including prior year carryover) will be greater than 25% of the current year's total approved budget?</b>  No
<b>G.11 Program Income</b>  <b>Is program income anticipated during the next budget period?</b>  No
<b>G.12 F&amp;A Costs</b>  <b>Is there a change in performance sites that will affect F&amp;A costs?</b>  No

## I. OUTCOMES

<p><b>I. Provide a concise summary of the outcomes or findings of the award, written for the general public in clear and comprehensible language, without including any proprietary, confidential information or trade secrets</b></p> <p><b>Note: project outcome information will be made public in NIH RePORTER</b></p> <p>Commercial fishing is a dangerous occupation. The United States Coast Guard requires that all fishing vessels have a least one crew member that is trained in first aid and CPR. However, commonly available first aid and CPR trainings are not applicable to the work environment of commercial fishermen who are often at sea many hours away from professional care. The Fishermen First Aid and Safety Training (FFAST) was developed to address these gaps in training and provide a training curriculum that is tailored to their specific work environment and the challenges faced at sea. This training project identified and implemented best practices, increased training capacity, demonstrated the scalability of our approach and delivered the FFAST to commercial fishermen in three regions (West Coast, Alaska, and New England).</p> <p>Additionally, in response to the SARS-CoV-2 pandemic, which impacted our ability to conduct our training as originally designed, we successfully adapted the FFAST training to a hybrid delivery model. Our responsiveness to changing conditions ensured that the fishing community still received this much needed instruction and laid the groundwork for a more flexible range of delivery models moving forward.</p> <p>During the course of this project we:</p> <ul style="list-style-type: none"> <li>• Successfully conducted 67 trainings across 3 distinct geographical regions.</li> </ul>
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- Trained 12 instructors
- Distributed over 200 first aid kits and supplies
- Provided a clearinghouse of materials both internally via a Box folder and externally on our FFAST specific website. <https://health.oregonstate.edu/labs/osh/resources/ffast>

By providing commercial fishermen with relevant first aid training that includes injury prevention strategies, this project improved the emergency preparedness and prevention efforts on vessels. By collaborating with training experts in the different regions in the US, we are improving the delivery of first aid training that is effective and relevant for commercial fishermen.