

NORTHEAST CENTER FOR OCCUPATIONAL HEALTH & SAFETY

SUMMARY REPORT 2020



Terminology Notes

Lifejackets & Personal Flotation Devices (PFDs) — For this report, we use the term "lifejacket" broadly since it is more widely recognized than PFDs. However, a true lifejacket must be U.S. Coast Guard (USCG) approved to meet carriage requirements. Commercial fishermen already have approved lifejackets on board but find them difficult to wear while working. The goal of this project was to find lifejackets and PFDs that were more likely to be worn. Included in this summary are a wide range of PFDs, some are not USCG approved. Always read the label and understand the appropriate use for the PFD. For further information visit: http://wearitlifejacket.com/

Lobstermen — Northeast commercial lobstermen (male and female) recommended that we use the term "lobstermen" universally, regardless of gender.

The Northeast Center for Occupational Health and Safety promotes health and safety research, education and prevention activities in the high-risk industries of farming, commercial fishing and logging from Maine to West Virginia.

www.necenter.org | 607-547-6023 | @LifejacketsforLobstermen

Funding for the Northeast Center's Lifejackets for Lobstermen Project was provided by the National Institute for Occupational Safety and Health (NIOSH), a research agency focused on the study of worker safety and health and empowering employers and workers to create safe and healthy workplaces. NIOSH is part of the U.S. Centers for Disease Control and Prevention, in the U.S. Department of Health and Human Services. www.cdc.gov/niosh/index.html

This summary is solely the responsibility of the authors and does not necessarily represent the official views of NIOSH.



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An ongoing danger, falls overboard happen in the commercial fishing industry. For Northeast lobstermen, they are the most frequent cause of death on the job.*

While a lifejacket is considered one solution to improving Northeast lobstermen's chance of surviving a fall overboard, Maine lobster boat captain Tim Morong admits that in his 40 years of lobstering he never wore one, until now. So, what made the difference?

"Lifejackets for Lobstermen called me to do a survey," Morong explained. "It got me thinking, and I (kept) thinking about it." So when he heard the projects' vans were pulling into his home port in Phippsburg, he came to check things out, try things on. Morong found something he liked. He bought himself a pair of Stormline Flotation Bibs. He bought his wife/crew a Hyde Wingman.

Lifejackets and other Personal Flotation Devices (PFDs) had long been on the minds of researchers at the Northeast Center for Occupational Health and Safety (NEC), a not-for-profit center serving the Northeast commercial fishing, farming, and logging industries. The on-the-job death rate for fishermen nationwide is 31 times higher than any other industry.* Center staff recognized that increasing the "wear rate" of lifejackets by fishermen might be a good start to improving Northeast lobstermen's chance of surviving in the event of a fall overboard.

"We knew that fatalities from falls overboard were higher for Northeast lobstermen," said Lifejackets for Lobstermen project coordinator Rebecca Weil. "We also realized there must be good reasons fishermen were choosing to not wear lifejackets. So we set out to understand what these challenges were and how we might help."

This summary report chronicles the four-year Lifejackets for Lobstermen project. It was a project that, at the beginning, Northeast fishermen and other industry stakeholders considered to be little more than researchers' folly. That changed. Three years later, the project launched two cargo vans full of lifejackets that began travelling from port to port along the Northeast coastline.

Fishermen and their families were following the vans' itinerary on social media and texting and calling to urge the drivers to come to their home ports. Ultimately, it was the fishermen who created the solutions, their ideas and their solutions—that made the project a success.

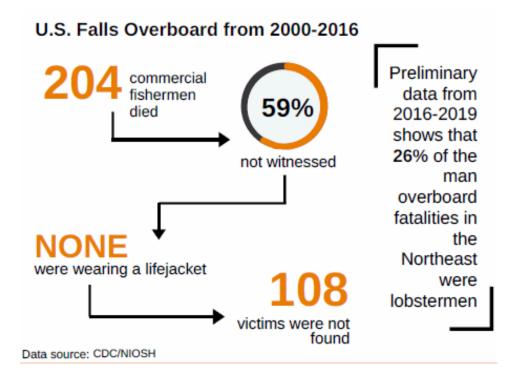
^{*}Based on data from the National Institute of Occupational Safety and Health (NIOSH) Center for Maritime Safety and Health Studies





"I have two sons and two of my brothers who lobster here in Maine... I lost my grandfather, my brother, fiancé, and my husband all to the sea. So it would mean a lot if I could get these [lifejackets]"

- Deborah Damon





Dear Lobstermen,

We are grateful for your participation in this lifejacket project. Thank you!

We so value our joint effort to make commercial fishing safer. This isn't to say there isn't more to do. So contact us with your ideas and solutions.

We will continue to support your work and well being.

Julie Sorensen, Director, Northeast Center



The Lifejackets for Lobstermen project began with listening. Team members talked with fishermen at their boats. They learned about commercial fishermen's work and the challenges of their jobs. They learned just how safety focused the lobstermen are. They also learned how lifejackets could be hard to find, costly, and, ironically, a challenge to work in safely.

In all, the team spent two years gathering feedback from fishermen on the challenges and the benefits of wearing life jackets and other PFDs. On the phone, in person and through the mail, the project team surveyed over 550 Northeast fishermen for insights and solutions.

Project coordinator Jessica Echard said the many questions asked in surveys and conversations could be distilled down to two main questions:

- 1. Tell us everything you hate about lifejackets.
- 2. Tell us everything you would change about them.

Fishermen, association leaders, safety trainers, industry experts, and other researchers provided candid input throughout the process.



"Having the lobstermen participate from the research and development of the personal flotation device right through the final version is a testament to their commitment to enhance safety for themselves and their families alike. We look forward to continuing (support for) this project until every lobsterman has a personal flotation device." - Beth Casoni, Executive Director Massachusetts Lobstermen's Association



The Best Lifejacket is the One You Wear



For a Northeast lobsterman, a lifejacket needs to fit with the work of the boat.

Spending up to 12 hours a day hauling traps and moving gear in all forms of weather requires that a lifejacket be workable and comfortable. It can't be so bulky that the fisherman can't reach into traps or work on an engine. It can't add to the already high risk of gear entanglement with straps and buckles or extra pockets.

It needs to allow the fisherman to move fully, quickly, and adeptly through the work of the boat.

Hardliners say that a lifejacket doesn't need to be comfortable. It just needs to save your life. Fishermen, however, work hard to make a living.

They need to be able to do their job efficiently and safely to bring their catch to market daily. Many fishermen have past injuries that make it painful to wear something while working for many hours. During the project's survey period, calls came rolling into the Northeast Center from the fishing community.

Fishermen expressed:

- frustration about lifejackets
- •concern that they be affordable
- •skepticism that there would be something they could work in all day

These conversations supplied rich information on what would work for fishermen, what would not, and, importantly, what changes needed to be made in existing devices.

"I wear a lifejacket as a precaution. If I hadn't participated in the [Lifejackets for Lobstermen] survey, I wouldn't be wearing one."

-Josh Fredrickson, Hingham, MA

according to lobstermen LIFEJACKETS SHOULD...

BE COMFORTABLE

LAY FLAT

HAVE HIGH VISIBILITY

BE STRAPLESS OR HAVE SHORT BUCKLES

BE EASY TO CLEAN

BE EASY TO USE

NOT BE BULKY

BE EASY TO PUT ON AND TAKE OFF



Lifejacket Trials

After hundreds of fishermen from all over the Northeast weighed in on their ideal lifejacket or other PFDs, the next hurdle was to find models that met their wants and needs.

The goal was to find a wide range of lifejackets and PFDs that were as workable and comfortable as possible.

On-board, at-work trials were run during the winter and summer months of 2017. A total of 181 fishermen volunteered to spend a month wearing a randomly assigned model.





Team members attended fishing industry association meetings, trade shows and forums, always toting with them boxes of lifejacket models for the fishermen to try on and provide feedback.

Eleven models were chosen and stocked in the vans to be transported from port to port throughout Maine and Massachusetts for fishermen to try on and, ideally, purchase.









Bibs Test Drive Goes Viral

Colin MacDonald gave the
Stormline flotation bibs a try
by hopping off the stern of his
boat into frigid Maine waters.
The video has been viewed by
more than 118,000 people
worldwide through our
Facebook page
@LifejacketsforLobstermen

Lifejacket Vans Take to the Road

In New Zealand, there's a van-based project called Old4New that exchanges old PFDs for new ones in the recreational boating community. This project planted a seed of inspiration: why not use vans to bring lifejacket models to the docks for commercial fishermen to try on, compare, and buy?

By late winter, 2019, the Lifejackets for Lobstermen project had two brand new vans ready for the road. Packed

inside were lifejackets and other PFDs selected by the fishermen and supplies to set up shop port to port. In the drivers' seats were two newly hired project members—game for spending seven months on the road.

On April 1, they buckled into the drivers' seats of each van and headed, in tandem, to their first port.



"When we first hit the road, we weren't sure what to expect, but we were pleasantly surprised," said Amanda Roome, fieldwork research coordinator. "From day one the lobstermen were very open to talking with us and trying on the different style of lifejackets and talking through what they did or did not like about them so we could help them find the one that was the most comfortable and best suited for their needs."

The products were only for sale to commercial lobstermen and commercial fishermen with a lobster bycatch license, due to the research design responding to the higher fatality rates in this fishery. A one-time 50 percent discount was provided to help fishermen get started.

The lobstermen and fishermen came—some out of curiosity, some reluctantly, some coerced by a family member or loved one but just as many pulling into the harbor deliberately to visit the vans, some driving out of their way and bringing crew along with them, to purchase a lifejacket or other PFDs of choice for themselves or their crew.

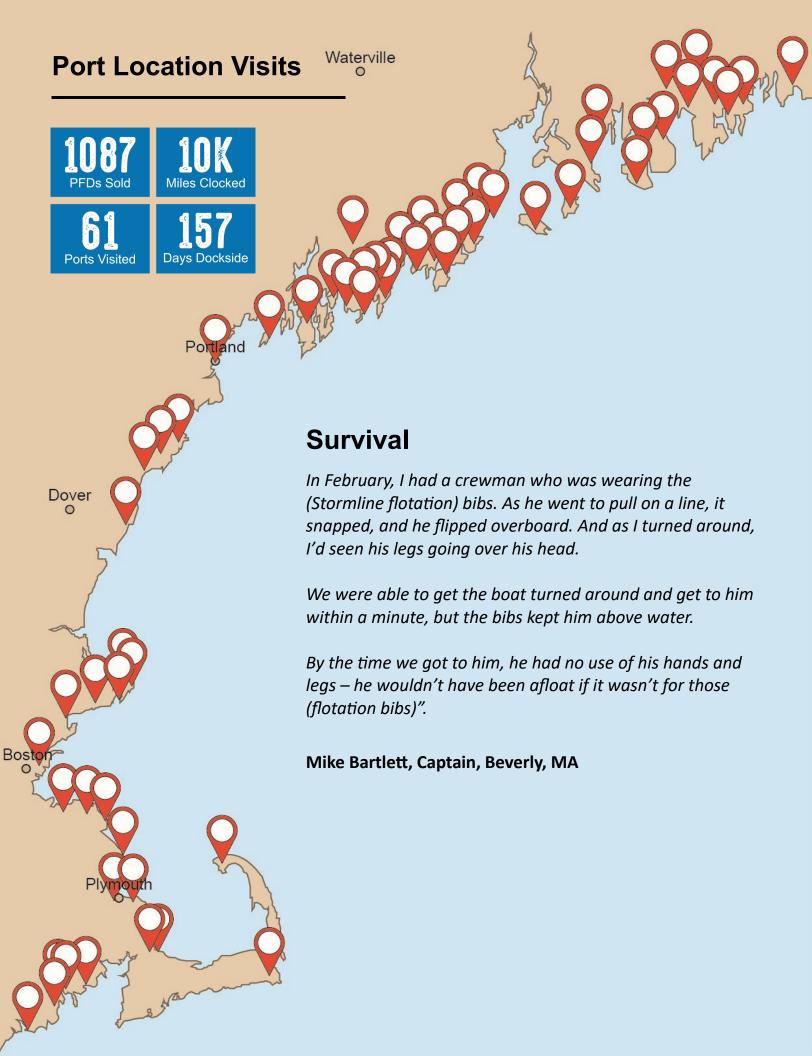
Starting April 1, 2019 and ending November 18, 2019, the Lifejackets for Lobstermen vans sold a total of 1087 lifejackets and PFDs.

A Close Call for a Father and a Son

"Almost lost my old man overboard last week. He went in, and I wasn't sure
we were gonna get him back. He had his muck boots on.
They kept floating up and his head kept going under. It was scary.
I gaffed him by the hood to get him back in."
Pete Seiders, son, told at the vans' stop in South Bristol, ME

"If it wasn't for my son, I wouldn't be here."
-Van Seiders, father (at right)
He bought himself a Spinlock Durlo.





Sales Rankings at Vans



	Stormline Flotation Bibs	544 SOLD			
DAVIDON S	Mustang Elite 28	103 SOLD			
No.	Kent Rogue II	99 SOLD			
	Mustang Work Vest	71 SOLD		STORMUN GRA	
HA.	Hyde Wingman	57 SOLD	and the second s		
	Coleman Shipmate	57 SOLD			
	West Marine Beltpack	55 SOLD			
	Hero Rashguard	42 SOLD			
	Mustang Beltpack	27 SOLD			
	Mustang Khimera	27 SOLD		The state of the s	
	Spinlock Duro	5 SOLD			The second

What was in the Vans? PFD Product Guide



The pros and cons detailed with the following lifejacket and PFD product profiles are based on fishermen's feedback and are not the opinions of the Northeast Center or manufacturers.



Stormline 662 Heavy Duty Oilskin Fishing Flotation Pants

stormlinegear.com

Flotation Method: Inherent Buoyancy: 50N (~11-13 lbs.) Certification: None/ISO

Level 50

Pros: Two in one—something most fishermen wear, bibs, plus flotation; lightweight; comfortable flotation padding on chest and knees; flexible material

Cons: Can be hot in summer; pant leg at foot could

be wider; not certified as a lifejacket



Mustang Survival Elite 28 Hydrostatic Inflatable MD 5183

mustang survival.com

Flotation Method: Auto Buoyancy: 26 lbs.

Certification: USCG Type V with Type III performance

Pros: Lays flat; not in the way; lightweight; can flip most face up if unconscious; conveniently placed manual pull; red/green indicator for maintenance

Cons: Some found it narrow in neck



Kent Rogue II Fishing Vest

kentsafetyproducts.com

Flotation Method: Inherent

Buoyancy: 12 lbs. **Certification:** None

Pros: Low profile; segmented foam for better movement/

comfort; added warmth in winter; can

be worn under bibs/clothing; many size options

Cons: Added heat in summer; not certified as a lifejacket



Hyde Wingman Vest

wingmanlifejacket.com

Flotation Method: Manual

Buoyancy: 22.5 lbs.

Certification: USCG Type V with Type III performance

Pros: Very low profile; sits high on chest

Cons: When layering clothing neck may be snug



Mustang Survival HIT Inflatable Work Vest MD 3188

mustangsurvival.com

Flotation Method: Auto

Buoyancy: 35 lbs.

Certification: USCG Type V

Pros: Low profile; high visibility; wide neck; high buoyancy; turns most unconscious wearers face up; red/green indicator for maintenance; easy to clean

Cons: Manual pull tab hangs down



Stearns 1404 Ship Mate II Vest

stearnsflotation.com

Flotation Method: Inherent

Buoyancy: 15.5lbs.

Certification: USCG Type III

Pros: No maintenance, useful for all swimming abilities

Cons: Slightly stiff foam



West Marine Ultra Slim Manual Inflatable Belt Pack

westmarine.com

Flotation Method: Manual

Buoyancy: 19 lbs. **Certification:** USCG Type V Approval with Type III performance

Pros: Compact; out of the way; nothing on your

chest or around neck

Cons: Manual pull tab hangs down



HERO Inflatable Rash Guard

herowaterwear.com

Flotation Method: Manual or

Automatic

Buoyancy: 80-100N (15-19 lbs.) dependent on size **Certification**: ISO Level 50

Pros: "just a t-shirt"; low profile; can choose manual

or auto inflation; does not look like a PFD

Cons: Not machine washable, hand wash only; runs small—size up; black color can be hot in sun;

not certified as a lifejacket



Mustang Survival MD3075 Inflatable Belt Pack

mustangsurvival.com

Flotation Method: Manual

Buoyancy: 38 lbs.

Certification: USCG Type III

Pros: Compact and light; out of the way; nothing

around neck

Cons: Manual pull tab hangs down



Mustang Survival Khimera Dual Inflation PFD MD 7183

mustangsurvival.com

Flotation Method: Dual, Foam, and Manual

Buoyancy: 20.5 lbs. (7.5 lbs.

foam, 13 lbs. inflation)

Certification: Harmonized
Level 70 - USA & Canada

Pros: Wide around neck; dual flotation methods -

Foam & CO2

Cons: Material may not be strong enough to

withstand traps/equipment



Spinlock Duro 170N Commercial Lifejacket

spinlock.co.uk/en

Flotation Method: Automatic

Buoyancy: 170N (~38 lbs.) Certification: ISO Approved

Pros: High buoyancy; lift strap for re-boarding; ability to integrate a strobe light and personal locating beacon

Cons: Higher buoyancy slightly increases stiffness

Finding the Right PFD for You: **5 Things to Consider**











T-Shirts







- Typically foam flotation Low maintenance
- Recommended for all swimming abilities



Hybrid

- Dual flotation, typically foam & CO₂
- · Security of foam with less bulk
- Not recommended for nonswimmers

Manual Inflatable

- CO₂ flotation
- · Manual pull to inflate
- Oral backup inflation
- Ages 16+
- Not recommended for nonswimmers





Automatic Inflatable

- CO₂ flotation
- · Automatically inflates in water
- Manual and oral backup inflation
- · Some models can be set to auto or manual*
- Ages 16+
- Not recommended for nonswimmers







FLOTATION



- Buoyancy (lbs.)
- Most adults need 7-12 lbs. to keep their head above water.
- The higher the buoyancy, the higher you will float.



What you choose to wear may not replace USCG approved flotation devices required to be on your boat; check your state and federal requirements.

Read the label; understand what you're choosing for its function; and determine the best match for you.

USCG Type I

Best for open, rough and remote water. It will turn most unconscious wearers face-up. Type I is the best option for retaining body heat.

USCG Type II

Best for protected, inland water near shore. It is not suited for extended survival in rough water. Turns some unconsious face-up. The user should be able to tread water.

USCG Type III & Level 70

Best for protected, inland water near shore. It is not suited for extended survival in rough water. This type is not designed to turn unconcious wearers face-up.

USCG Type IV

Square, ring or horseshoe buoy mounted on deck. Type IV is not for unconscious wearers, nonswimmers or children. It must be immediately available for use and at arms length.

USCG Type V

Type V must be worn underway to meet USCG requirements. Automatic inflation is not guarenteed to turn unconcious wearers face-up. Hybrids are not for unconcious wearers.

USCG Types are transitioning to Performance Levels

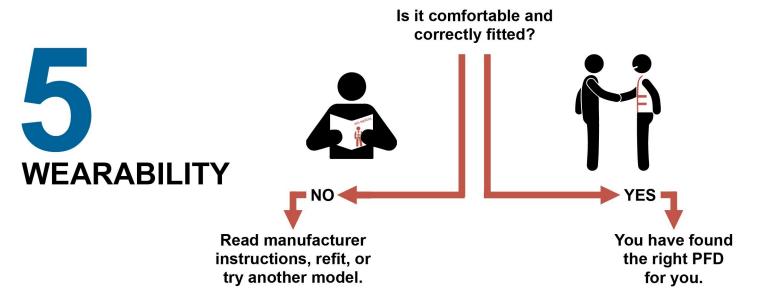
USCG Legacy Label > NEW USCG & Transport Canada Label





your activity, visit www.weantlifejacket.org. Read and keep the owner's manual and tags for info such as rearming, wear, and care.

• PFDs can also come with a certification that meets international standards (ISO), European standards (CE), Commercial standards (SOLAS), or have no certifications



Poster & Media Campaigns

In focus groups, fishermen described family, generational work, good crew, and the desire to stay alive as crucial concepts to highlight when promoting the use of PFDs. These were developed into a poster and media campaign.











Photo Credits: Kelli Park
Posters designed by Dimitreus Kloczko, Nora Lindner, and FHI

1-10-1 Cold Water Survival

With a lifejacket on, a person has approximately:

 $\bf 1$ minute to control their gasp reflex — $\bf 10$ minutes of meaningful movement toward rescue — and $\bf 1$ hour of survival prior to hypothermia.

Without a lifejacket in cold water, a person can survive for just minutes—no matter how strong a swimmer.



Falls Overboard Survival & Next Steps

Staying aboard, staying afloat, being found, and re-boarding/recovery are core pieces to surviving falls overboard. Each piece works collectively to ensure the safety and survival of fishermen.

Although wearing a lifejacket or other PFD will increase the chance of survival and provides rescuers with more time to launch a safe rescue effort, it takes time to locate a falls overboard victim and get them back into the boat.

Drills and safety trainings help to ensure an efficient and finely-tuned recovery effort. Support from the USCG, systems for getting falls overboard victims back on deck and first aid training for crew members are also essential to being prepared to save the life urvival Suit of a crew or family member who falls overboard. To this end, the Northeast Center is excited to be passing the van keys onto Fishing Partnership Support Services (FPSS). FPSS plans to continue Gagline the Lifejackets for Lobstermen mission, Folding Steps which is a great fit with their mission to provide safety trainings, health insurance, and other support for commercial fishermen. The Lifejacket Van will be featured at safety trainings and made available to commercial fishermen of all ages and fisheries in the Northeast. "Fishing Partnership Support Services is thrilled to

To schedule a training with Fishing Partnerships or to find out about their plans for the Lifejacket Van, contact Fishing Partnership Support Services at 617-928-3443.

continue the groundbreaking work of NEC. As part of our free courses in safety and survival at sea, we will continue this approach and help fishermen

find the lifejacket that they will wear."

-J.J. Bartlett, President, FPSS

Project Collaborators

Organizational Collaborators











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Mark Ring - Commercial Lobsterman

Therese Sauvageau - Commercial Lobsterman

Manufacturers

Coleman Company, Inc.

Hero Water Safety Wear

Hvde Sportswear

Kent Sporting Goods Co.

Mullion PFD

Mustang Survival, Inc.

Spinlock Limited

Stormline Gear

West Marine

Retailers

Brooks Trap Mill Downeast Fishing Gear Hamilton Marine Boaters' Shop Hercules SLR Rigging Shop West Marine

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Patrice McCarron Executive Director, Maine Lobstermen's Association



New Bedford, MA captain Chris Chase was navigating his boat 110 miles offshore, when a 19-year-old crewman slipped while hauling traps and fell overboard into 41°F water. Chase dove in with life rings to rescue the crewman, who was unable to grasp a ring and began sinking underwater. Chase got them both secured. The crew hauled them back.

The crewman was in the water for less than eight minutes, and Chris was in for five minutes. In that time, both became unresponsive due to the cold water.

That is why, Chase explained, he drove to a local port to find the Lifejackets for Lobstermen vans. Chase bought lifejackets for himself and his entire crew.

