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**Fishermen Led Injury
Prevention Program**



Oregon State
University

Outline

- My background in commercial fishing safety research.
- Research Project: Fishermen Led Injury Prevention Program
 - Partnership with public health, Sea Grant, community researchers
 - Reported non-fatal injuries among Dungeness crab fishermen
 - Perceptions of fishermen collected through focus groups
 - Survey of fishermen: injuries in past year, safety opinions, perceptions of staying safe & what causes injury
 - Dissemination of survey results
 - Injury prevention ideas explored
- Conclusion

Commercial Fishing Safety Research at OSU

Fatal and Nonfatal Work-Related Injuries Onboard Freezer-Trawlers and Freezer Longliners in Alaska: An in-depth Evaluation

Devin Lucas (PhD Dissertation 2014)

Nonfatal Injuries Among Commercial Fishing Workers in Alaska, Washington, Oregon, and California

PI Laurel Kincl with Laura Syron (PNASH small project 2014-2016)

Injury Prevention in the West Coast Dungeness Crab Fleet

PI Laurel Kincl with Viktor Bovbjerg (NIOSH U01 project 2014-2018)

Informing Occupational Injury and Illness Prevention Strategies among Alaskan Seafood Processors

Laura Syron (PhD Dissertation 2017)

Safety Surveillance for Pacific Northwest Commercial Fishing

PIs Laurel Kincl & Viktor Bovbjerg (PNASH 2016 - present)

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The findings and conclusions in this presentation have not been formally disseminated by CDC/NIOSH and should not be construed to represent any agency determination or policy.



Photo: NOAA

Fisherman Led Injury Prevention Program (FLIPP)

Aim: To engage fishermen in research to understand high risk tasks, safety perceptions, and injury prevention opportunities. Focus on nonfatal injuries.

1. Analyze nonfatal injuries reported to US Coast Guard.
2. Survey fishermen to collect injury information/safety perceptions.
3. Develop injury prevention strategies.

La Push – WA
Westport – WA
Astoria – OR
Newport – OR
Charleston – OR
Brookings – OR
Trinidad -- CA
Fort Bragg – CA
Monterey Bay – CA
San Luis Obispo - CA



*Community
Researchers in key
fishing ports along
the West Coast.*

Reported traumatic injuries among West Coast Dungeness crab fishermen, 2002–2014

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45 Non-Fatal Injuries (2002-2014)


Fisherman Position (n = 42)	Number of injuries	%
Deckhand	37	88
Operator (Skipper)	3	7
Owner/Operator	2	5

Most common injury was fracture (39%)
followed by hypothermia (16%)
then amputations (12%) and cuts (12%)

Work Activity	# of injuries (n=36)
Helm watch	3
Preparing fishing gear	4
Setting the gear	1
Hauling the gear	18
Handling the gear on deck	6
Work with catch	1
Work in engine room	1
Mooring	1
Off duty	1

81%
gear-
related

Dungeness crab commercial fishermen's perceptions of injuries inform survey development

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Introduction: The West Coast Dungeness crab fishery is high-risk for occupational fatalities. The Fishermen Led Injury Prevention Program (FLIPP) explored this worker population's nonfatal injuries and safety perspectives.

Methods: Focus groups were held along the West Coast to (a) review reported injuries, (b) discuss risk factors, and (c) identify content to inform future FLIPP research activities, including survey development. Focus group data were transcribed and analyzed qualitatively. The FLIPP survey was pilot tested with groups of fishermen before broad distribution.

Results: Nineteen fishermen participated in focus groups and 21 pilot tested the FLIPP survey. These discussions illuminated injury risk perceptions, crews' current safety provisions, and what survey items would be relevant for fishermen.

Conclusion: To engage fishermen in the process of identifying and developing injury prevention efforts, focus groups, and pilot testing were effective methods for incorporating their ideas into a survey.

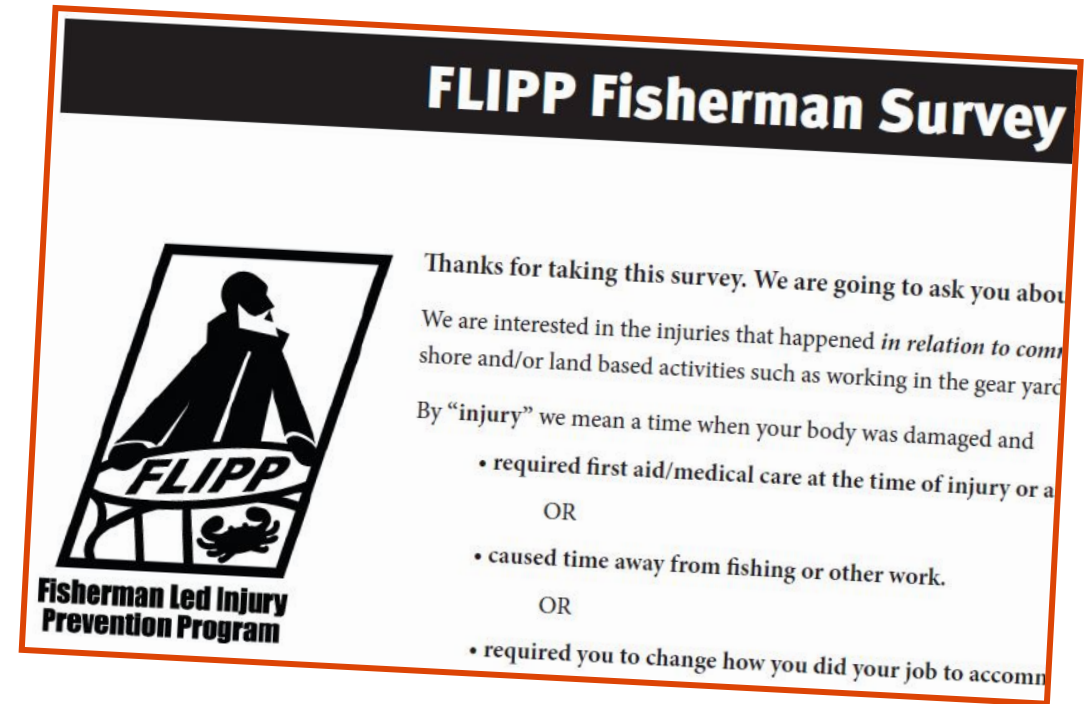
KEYWORDS

commercial fishermen, community researchers, focus groups, injury prevention

Category (total frequency)	Most frequent codes within each category (frequency)
Reflections on Injury Data (44)	No Need for Regulation (21)
	Data Incongruent (20)
Beliefs About Injury Risk (65)	Low Risk (35)
Reporting Injuries (60)	Severity of Injury (15)
	Subjectivity (12)
Culture of Work (66)	Attitude (12)
	Minimizing Injuries (12)
	Overexertion/Exhaustion (9)
	Evolution of Operations (9)
Hazards (124)	Weather (22)
	High Participation in Fishery (16)
	Transit (11)
Safety Provisions (44)	Awareness of Risk (6)
	Promoting Safety Culture (6)
	Training/Supervision of New Hands (5)

FLIPP survey

- Fishing history
- Demographics
- Safety attitudes
- Injury risk and safety opinions
- Injury(ies) in past year
 - Nature
 - Limitation
 - Treatment
 - Body parts
 - Crew position
 - Work activity
 - Vessel activity



426 survey respondents

When

- Before 2015/16 crab season

Where

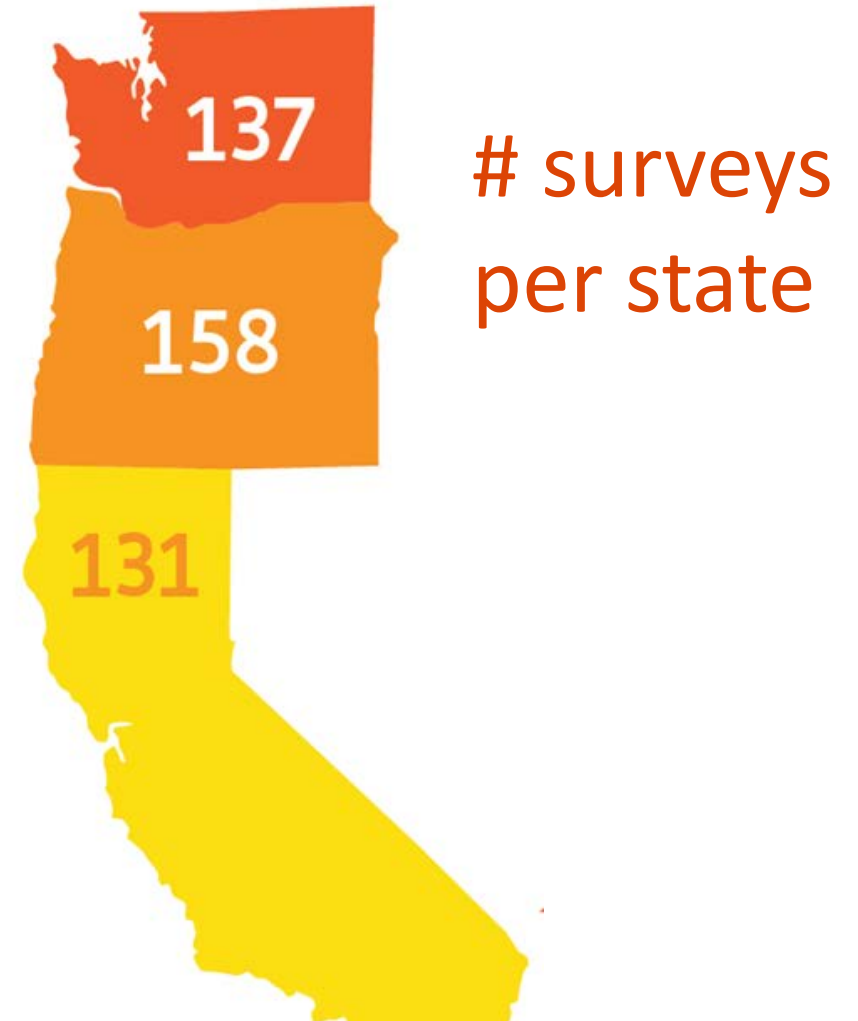
- Ports/Gear yards

Who (Commercial fishermen)

- 98% male
- Average age: 39 ± 15 years
- Crew position (some multiple)
 - Owner: 144
 - Captain: 176
 - Deckhand: 239
 - Other: 31

How

- In-person questionnaire



Approximately 1 in 5 reported an injury during the previous 12 months

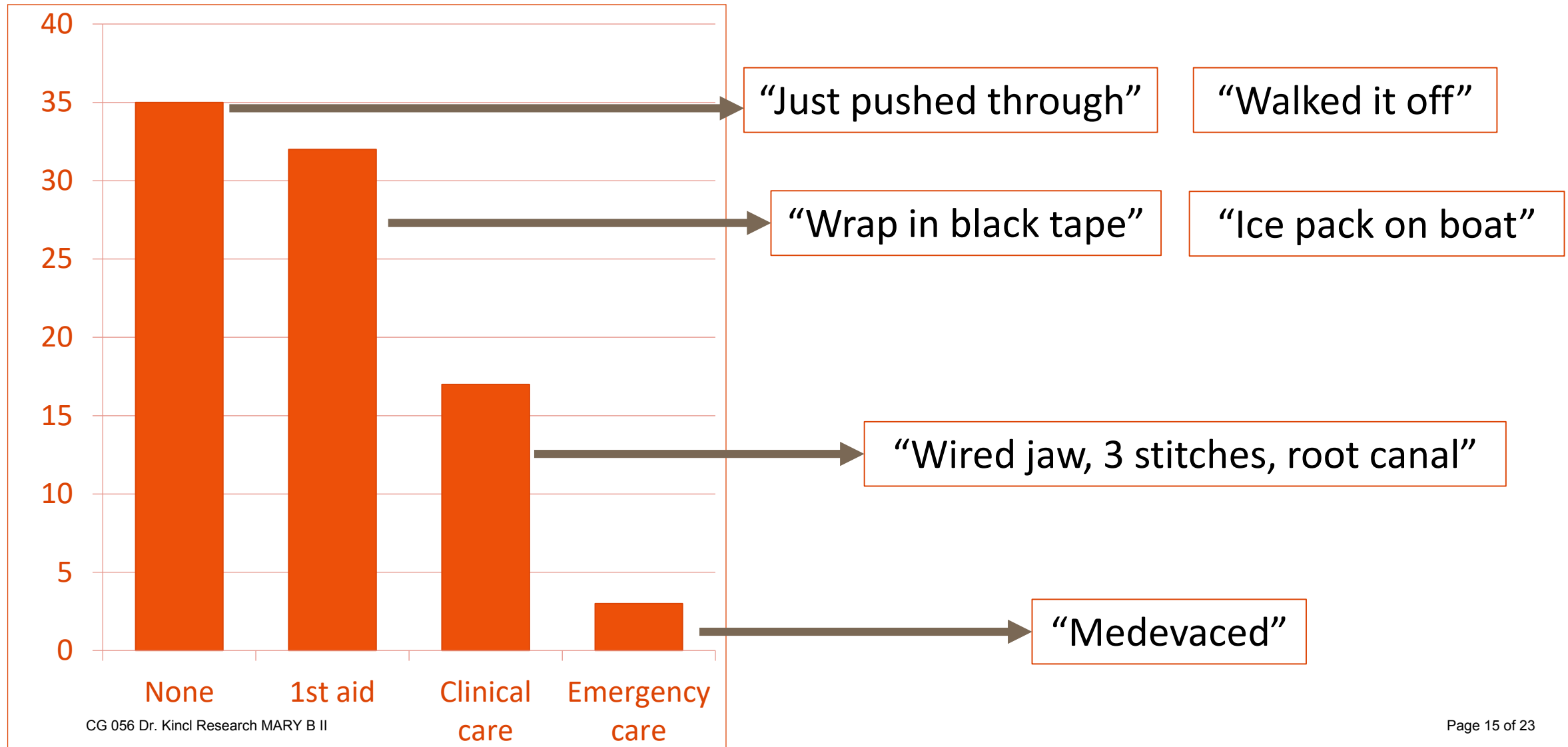
Injuries in the Dungeness Crab Fleet

68 “limiting” injuries (past year)

- Deckhands (88%)
- Sprain/strains (36%)
(also were cuts, bruises, fractures)
- Handling, hauling and setting crab pots (72%)



Treatment of injury



Results: age, experience, injury

n=408		Owners (144)	Captains (51)	Deckhands (213)
Mean±SD	Age	51 ± 13	42 ± 13	32 ± 10
	Years fishing	29 ± 14	21 ± 11	9 ± 9
	Years crabbing	18 ± 13	14 ± 10	7 ± 7
%	Injury (12 mo)	8%	20%	30%

Safety Opinions of Fishermen (0-100)

While doing fishing activities...	Injured	Non-injured
It is important to reduce the risk of accidents and injuries.	87 ± 17	86 ± 20
I use safety equipment/procedures that are beyond what is required.	55 ± 35	68 ± 30
How much do you worry about getting injured while fishing?	39 ± 35	44 ± 35
What are your chances of being injured while fishing?	69 ± 26	54 ± 27
As an individual, how much can you do to avoid injury?	74 ± 26	85 ± 20
As a crew, how much can you do to avoid injury?	75 ± 24	84 ± 21

Dungeness crab fishermen perceptions of injury causation and factors in staying safe

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Perceived factors in staying safe...

(top 10 list from 426 responses)

Awareness

Good and well-maintained fishing gear/vessel

Best Marine Practices

Crew/skipper

Self-Care

Experience

Physicality

Communication

Drills and Preparation

Drug/Alcohol Free

Perceived causes of injuries...

(top 10 list from 426 responses)

Heavy Workload

Poor Mental Focus

Inexperience

Weather and/or sea conditions

Unsafe vessel and/or gear

Unsafe attitude

Drugs/Alcohol

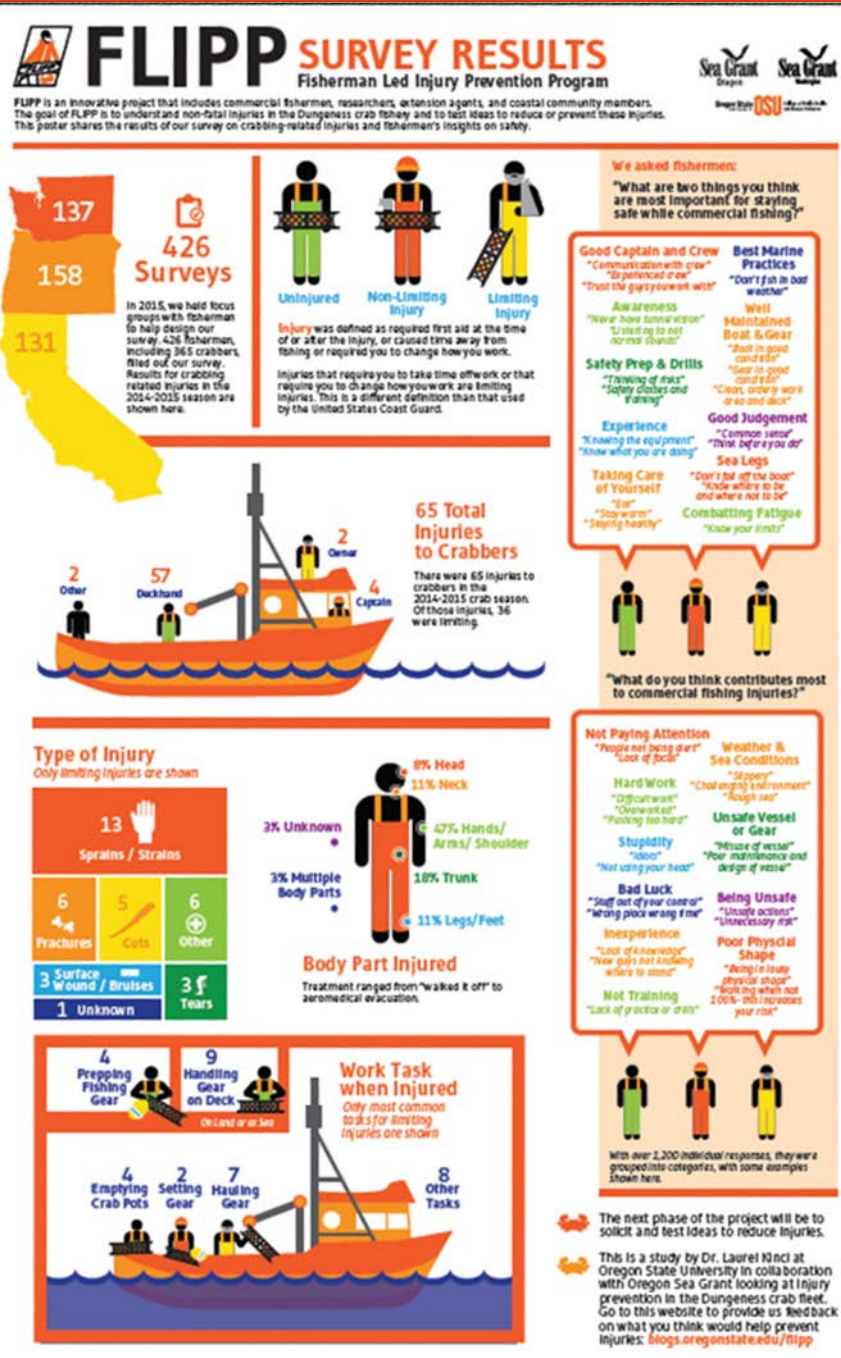
Bad luck

Rushing

Lack of Training/Safety Procedures

Disseminated
results back to
fishermen.

Asked for injury
prevention ideas.



Injury Prevention Ideas Explored

- Good crew
- First Aid and Safety Training/Drills
- Banger Bars
- Anti-slip mats
- Securing the block

www.FLIPPresources.org



Conclusion

- Fishermen shared positive comments for wanting to improve safety, and ideas for improving safety.
- Safety improvements of hauling and handling pots are needed to reduce nonfatal injuries.
- Engaged approach and evaluation is needed for adoption of any improvement.

www.FLIPPresources.org



FV Martin
Westport, WA