

APPENDIX C

Maine Fishermen's Forum Sinking Rope Meeting Summary (3/23/2011)

The Maine Lobstermen's Association organized a session at the March Maine Fishermen's Forum on the use of sinking line among Maine lobstermen. The purpose of the session was to hear specific complaints from lobstermen as well as remedies which they have devised to cope with the line.

Laura Ludwig from the Gulf of Maine Lobster Foundation spoke about her efforts to document the effect of sinking groundline on lobster fishing in the state. With assistance from the MLA she studied the tag replacement affidavits held by the Department of Marine Resources to determine what percentage of lost traps was credited to groundline parting. In addition, Ludwig held an informational meeting among lobstermen, regulator and rope manufacturers in June, 2010, to discuss the characteristics of sinking groundline commonly used by lobstermen. GOMLF also has collected and tested sinking groundline from lobstermen in Maine. "Your safety concerns are real," Ludwig stated.

Buzz Carver of Jonesport provided a heartfelt account of how he lost his thumb as a direct result of fishing sinking rope. The collective opinion of Maine lobstermen toward sinking groundline was best summarized by Bruce Fernald. "That stuff does everything you don't want it to do".

Three lobstermen spoke about their experiences using the rope and their own adaptations to its flaws.

Jason Mitschele, Zone G lobsterman

Jason fishes 20 trap trawls and has incorporated several strategies to adapt to fishing sinking groundlines:

- Spread out length of line between trawls to 20 F because it reduces strain on rope during hauling in deep off-shore waters
- Used a "lighter" sink rope (hydropro or anacko), but sized it up. Still able to coil 20F into a barrel
- Sized up (from 3/8 and 7/16 to . inch) for loop and becket where endline ties in and at trap end of buoy line; cheaper than replacing a trap
- Moved off hard bottom; there are not enough lobsters there to justify potential loss of traps
- Noticing wear behind first trap and abrasion to sinking rope from silt intruding the rope
- Can't easily grapple back lost gear without a floating groundline

Mike Myrick, Zone D lobsterman

Mike fishes triples inside the exemption line, and mostly singles (with some pairs) outside the exemption line in state waters. Mike has tested a lot of different ropes and configurations over the years and has made a few adjustments to fish sinking groundlines:

- Chafe spot develops right at the head trap where it's bridled into the tailer warp
- Used to fish sinking bridles, now uses float rope bridles; sized up to 7/16" or ."
- Positioning the bridle higher up on the trap has taken care of some of the chaffing
- Shortened tailer ropes from 17 fathoms to 12 fathoms
- Quick set speed to keep the ropes taught; hand sets the traps at 12-13 knots
- Some in his area are going back to using toggles

David Horner, Zone B lobsterman

David fishes triples out of Bass Harbor. To cope with sinking groundline, he has made the following adjustments:

- Theory that the buoy line and toggle pulling on the line cause the wear on the header trap line, because he is not seeing wear on the line in the middle traps.
- He is very interested in the chaffing in the header/lead trap and the back two traps. He thinks that it may have to do with the buoy movement/rope movement causing the chafing more so that the hauling. He is going to try fishing the 4' bridle concept to see if it makes any difference in the wear and tear of the rope (he suspects it will reduce the amount of rope he has to replace, 1' instead of 4').
- Never fishes brand new rope as groundline. Uses 3/8" Hy-liner and starts the rope on the buoy line and then rotates it down to the groundline after 3 seasons. Seems to tighten the lay of the rope and the rope wears better.
- Leaves new sink rope coils outside to make the rope hard. It wears better, but is much harder to work with.
- He has had the best luck with Hoverline (Orion); the rope is very heavy in weight (not thickness). It fills with mud and gravel and gets heavier, and typically lasted 2.5 to 3 years. But, he has not been able to purchase this rope recently because Orion has ceased making it – it was billed as “neutrally buoyant” rope and there were manufacturing concerns w/ the specific gravity. The rope acts similarly to rag rope that used to be fished widely in Casco Bay. Crowe rope, did a super tight warp, which wears great, but snaked badly on deck

- Batches of rope are not consistent, have had good and bad experience with same rope.
- Cuts out trouble spots and knots it, seems to slow down the wear
- Worst luck on hard bottom, inside 3 miles he's gone to singles. Outside, stays on the mud. Tried to fish on hard bottom, but got hung up constantly so gave up bottom.
- For hang downs, tried to cleat the rope and circle the gear. Sometimes the gear comes, sometimes it snaps.
- Best traps are used up front, oldest "junk" traps for 2nd and 3rd in the trawl.
- For ebb tide strings (stronger eastern tide), he sets the anchor trap to the S or SW with the tide to prevent the rope from dragging back with the tide and getting caught up on rocks. He uses 4 bricks in his anchor trap.
- Endline reduction will be very tough.

Norbert Stamps, Area 3 Offshore Lobsterman

Norbert fishes out of Point Judith, RI. He fishes 50 pot trawls in 70 to 170 F deep water; some in only 40 F. He fishes on all mud bottom off Rhode Island. He's made several observations and a few adjustments as a result of sinking rope:

- Area 3 lobstermen having problem with the head trap, 4 to 8 feet back. The chafing problem is caused by mud intruding in the rope. If the rope chafes, it breaks. You can see the burrs from the mud, and you can see the rope strands fraying against themselves.
- He fishes 180 lb anchor before the first trap. Anchors are moving because he fishes A-4 poly balls. The low drag balls help, but have not eliminated the problem.
- Uses 50F endline poly, top 100 Fathom of sink rope; uses 9/16" groundline into a ." gangion. Likes the break-away swivels; never used swivels prior to weak lines, and this has kept poly balls from spinning and don't lose nearly as many poly balls.
- Fish 1/2 " poly gangion (1.5 F float rope) with a soft lay. He's found that polysteel is not good through the hauler.
- Wire pots cause additional wear. He's added a wear plate on the wire which seems to help. The wear plate is a piece of wire (7 meshes) which bend around the corner to cover up the corner.
- He fishes bridles 3" down from the top. This keeps the trap from flipping. He sets at 5-6 knots and sets out the stern. Traps want to sink faster than the rope in deep water.
- Have gone to 4 strand rope, and swears by it. He's had some rope for 6 years, and orders the lay medium to soft. The rope hardens up as it is fished.
- They have problems with worms (wood runners), and with gear moving on the bottom.

- To grapple gear, he puts a weight ahead of the drag so it will tend bottom.
- Positive for sinking rope is that they no longer catch basking sharks.
- The sink rope caught lobsters better with wooden pots

Throughout the course of the afternoon, the group engaged in a variety of discussions, which are summarized below.

Common issues identified as a result of fishing sinking groundlines:

- Significant wear/chafe problems with the lead or header trap; often in the area where the whale rope and float rope are spliced in
- Sink rope parts off much more often than floating groundlines. A midcoast lobsterman commented that he parts off rope after 3 to 4 hauls.
- Chafing occurs where the traps are coming up and vinyl rubbing off on the top of the trap.
- Sink rope seems to wrap around everything it comes in contact with. It wraps around traps and crushes them due to the rope strain from the hauler. It gets caught in vents and destroys lobster. It poses a major safety risk to crew on deck.
- Traps lost to sinking rope are very difficult to grapple back, so traps are not retrieved
- Sink rope bridles are not a good idea – no buoyancy, rope hugs the trap and catches or chafes more easily
- Green leaded poly rope (quintas 7/16”), which is basically a poly rope with lead in it, did not hold up at all with triples

Successful ideas already being used to help to improve sinking groundlines

- Moving off hard bottom to avoid hand downs.
- Fish singles on hard bottom that is too productive to move off of.
- Trawl fisherman: lengthening distance between trawls (20 trap trawls) to reduce strain on rope in hauler.
- Triples fisherman: shortened distance between traps, and increase set speed to keep rope taught.
- Sizing up the diameter of sink rope to get more strength.
- Set parallel to the tide to decrease rope movement on bottom, and reduce hangdowns.
- Anchor first trap to reduce movement on bottom. Using a heavier end trap may reduce wear on rope at first trap by reducing movement caused by the buoy/surface system.
- Cut out trouble spots and knot (instead of splice). Knot seems to resist chafe.
- Going to 4 strand rope instead of 3 strand
- Add a wear plate on the wire to reduce wear on the trap. Wear plate is

a piece of wire (7 meshes) which bend around the corner to cover up the corner. Or wire tie a piece of garden hose along top edge of trap to reduce wire rubbing off and wear on tailer.

- Fish sinking rope on buoy line for several seasons before rotating to groundline, and leave new coils outside, to increase tightness of lay and harden rope. But this makes rope more difficult to handle on deck.
- Use dog bones on the bridle to prevent spinning and unlaying of rope. A dog bone is a white plastic figure-8 piece.
- Use float rope (polypro) bridle and gangion to keep rope away from the trap and reduce wear at the first trap.
- Steady clips on traps are helpful to reduce rope chafing on trap -- bend the tail warp into the clip on top of the trap before setting back.
- For grappling, put weight ahead of gear to help it tend bottom.
- Questions regarding toggles and flotation on becket and gangions. John Higgins (NMFS) responded you can have floating line for becket. You could use a toggle on your becket. Lots of guys going to a longer float rope becket on pairs and triples. Gangions can be floating, some people have lengthened those to get some lift. But, if they are too long, it won't pass the straight faced test. Can only be gangions, not groundline. The piece that goes to the anchor is not part of the groundline; the groundline is strictly the portion that goes to the traps.
- Ropes used with some success include Polysteel hydropro and esterpro

Future Research and Suggestions

Any research program needs to factor in the influence of variable benthic conditions, depth, and between what might be feasible in offshore vs inshore conditions, including the different vessels used (size, equipment, etc.). What might make sense in one area may not in another, and what might work in one location may not in another.

- Are there any promising research directions that emerged from the GoMLF 2010 workshop on groundlines? We should examine this and supplement it to this list.
- Chafing leads to rope parting. Are there rope sections that are more prone to chafing? For example, where the line ties into the bridle? There was a common concern with regard to chafing at the first trap. Strong need to test the lead or header trap to determine cause of wear; develop a research project to document this area via video to determine the cause of the chafing.
- What if the groundline between the first two traps of a multiple trap trawl were float line? Consider a research project to provide flotation 8 to 10 feet back (or a 4 to 5 foot section) from the bridle to help reduce chafe with the header trap. Don't need a lot of profile, but you do need some lift in that area.
- What about trawl orientation? Is there one that is better to use when

fishing with sinking groundline relative to the tide or prevailing currents—e.g., SW (first anchored trap) to NE? Does the speed of the set affect how the rope chafes?

- How prevalent is use of a dog bone? Are the lobstermen not using them more likely to experience chafing near the traps?
- Shortening vs lengthening rope between traps to reduce chafing. Might shortening the length of groundline between traps (thereby eliminating rope slack) reduce chafing? Seems to make sense because the rope and traps would be moving around less.
- What about knot tying? One fisherman ties a knot at the spot where he notices it chafes most and it seemed to eliminate the problem of frequent rope breaking. Doesn't knotting reduce the overall strength of rope?
- Can break strength testing be used to determine if/when it should be retired. If a brand new piece is as likely to break as a used piece, at what point should chaffed rope be retired as a precaution? Could break strength testing inform this? What critical info needs to be tracked?
- What about paying lobstermen to continue to fish sinking rope, at the point that they feel it should be retired. Fish new sinking rope across a number of sets of gear. After each season, take a piece of rope out for break strength testing, continue over several years to measure loss in strength and when other pieces from original coil failed over the fishing seasons/years. How much longer did it last?
- How could Mass Hauler research be adapted to get at issues of the inshore fishery? Test polyurethane plates for hauler sheaves, smoothness of inshore sheaves, knife angle. Look a rope under microscope to discern source of wear. Does polyester rope cause friction in the hauler when wet?
- Do heavier lines stand up better to chafing? What is the trade-off between weight and diameter? Several lobstermen increased diameter (e.g., 7/16" to .") when they went to sinking line. One consequence of increasing rope diameter is that wider rope is heavier, and with more weight to the gear it may be harder to get out of hang-down situations.
- What about using four strand that has a soft or medium lay? How does lay of rope affect chafing? Soft/medium lay will harden when you fish. Harder lay could be more abrasion resistant, but difficult to manage on deck. (Polysteel)
- Test rope as vertical line and then move it to sinking rope as a way to tighten rope and make it more abrasion resistant. Lab phase to understand what happens to rope.
- What about developing a rope that is fishable but ultra-abrasion/chafe resistant? Work with Manufacturers Association of Maine to develop R&D. The cost to produce a rope to resist chafing will cost more money. Polyester is more expensive and makes the rope shorter. Ropes with a greater proportion of polyester will be heavier, and come with a length

penalty. The fibers best suited for abrasion resistance is Polysteel. The industry needs to find the right rope blend for each area.

- Is there any promise to use more durable “new” polyester ropes on the market such as those used in purse seine fleet? Are they cost prohibitive?
- Can you build a less expensive weaker rope to last one season; build a stronger rope to last multiple years?
- What about a wear marker in the rope similar to what is used in many toothbrushes?
- Consider developing a system to categorize rope. Classify rope types by construction (durability), buoyancy (operational). These factors will affect price.
- What are the key differences between wooden and wire traps that might explain why wire traps increased chafing of sink rope used by offshore MA lobstermen in long trawls? Does it have anything to do with the roughness of the pot edge that is not crimped over?
- Gear lost to draggers, boats, etc, such as buoys with 60-70 fathom of floating line on them could be an entanglement risk to whales.