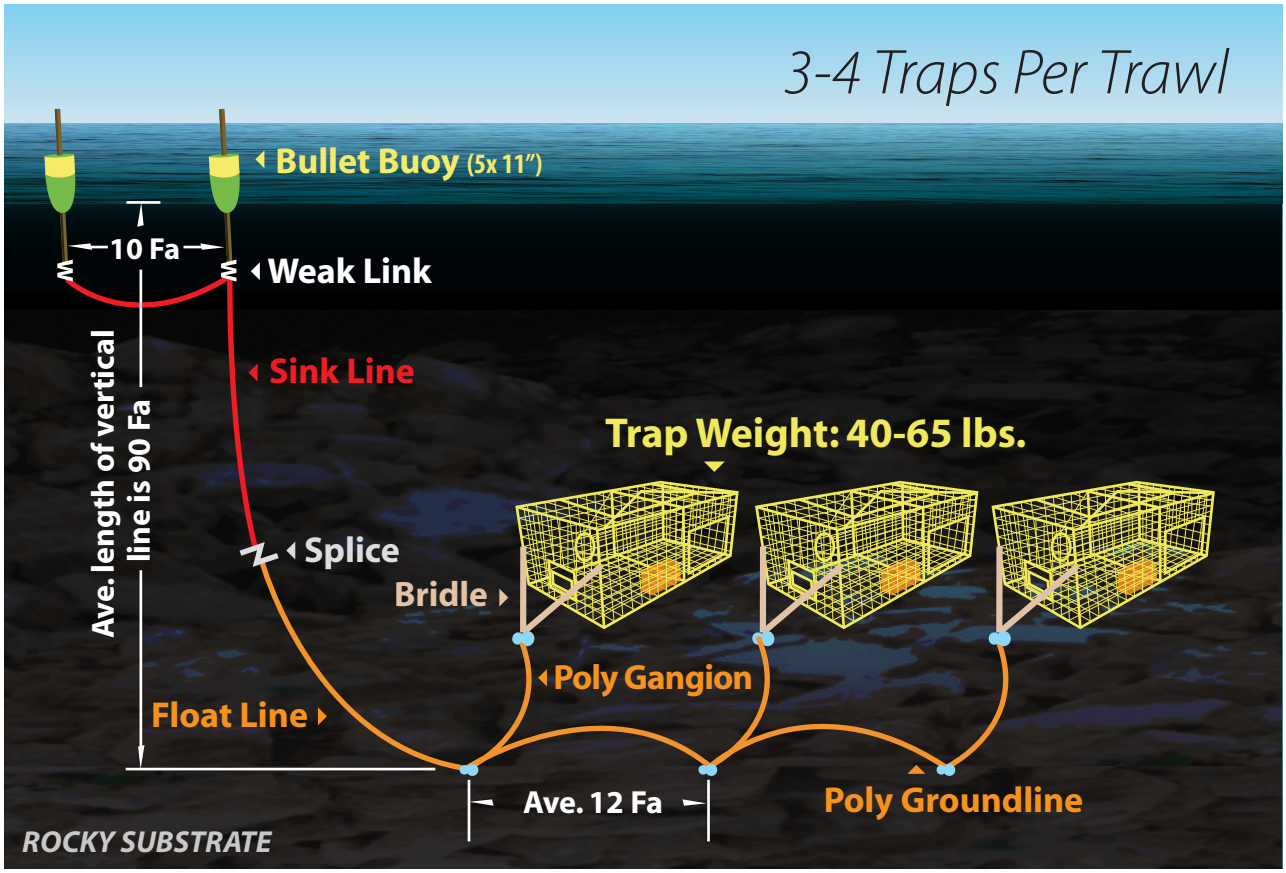
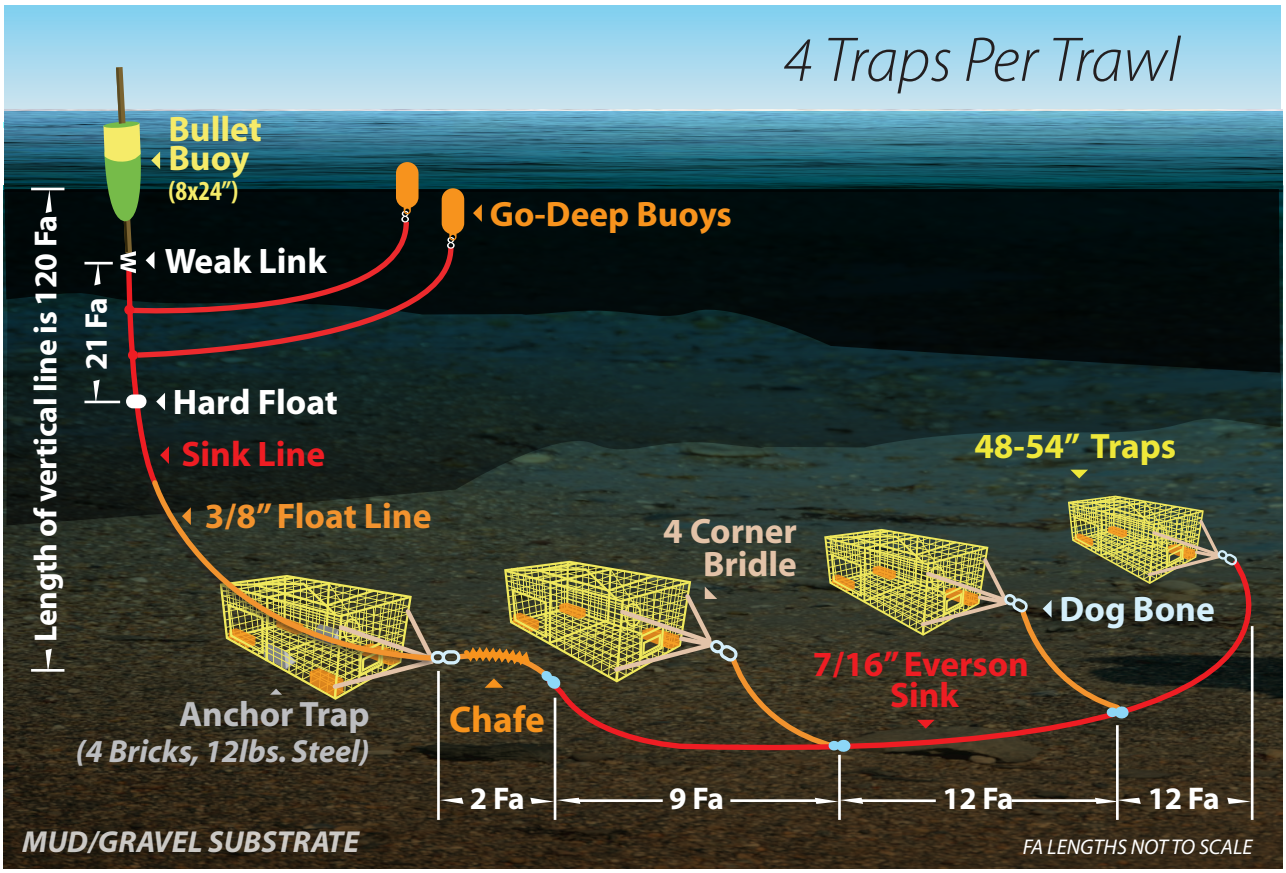
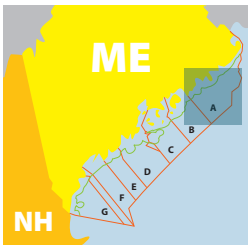
1 ZONE A OFFSHORE BEFORE GL RULE

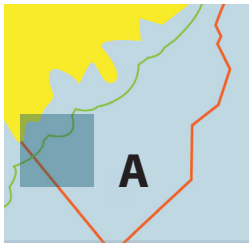


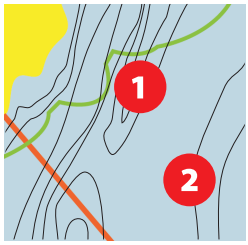
2 ZONE A OFFSHORE AFTER MODIFICATION



ZONE A OFFSHORE
SHADED SQUARE DETAILED BELOW







KEY:

- ME LOBSTER MGT ZONE LINES
- ME STATE WATERS LINE
- UNDERWATER CONTOUR LINES
- 1 BEFORE GL RULE
- 2 AFTER MODIFICATION
- A MAINE FISHING ZONE

ZONE A OFF-SHORE

Fisherman/Location: These modifications were described by a Zone A lobsterman out of the Jonesport-Beals area, a Federal Permit holder who fishes April – December.

Description of Issues: This individual incorporated the modifications when fishing four-trap trawls outside of the exemption area in order to prolong the life of his sinking groundline and to reduce groundline chafing at the head trap.

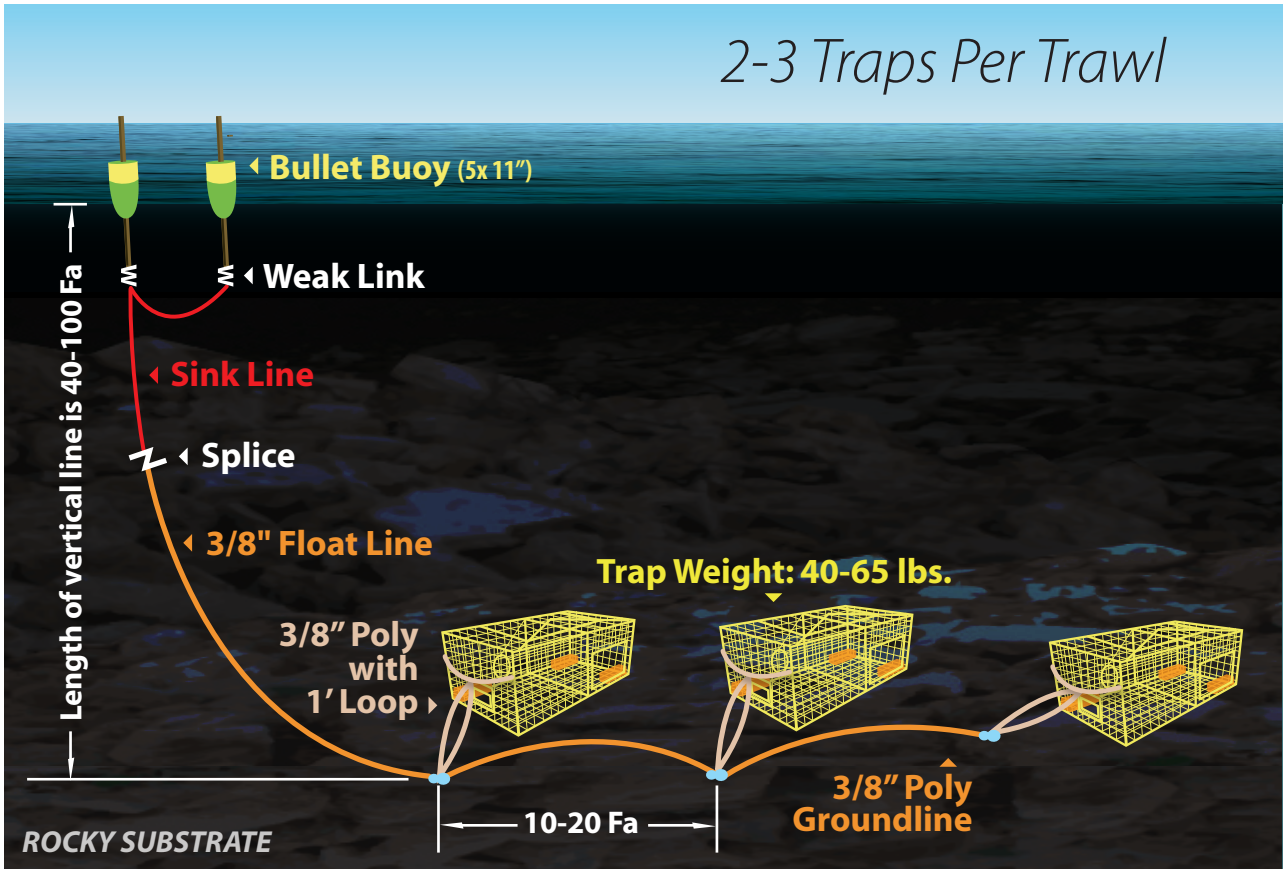
Theory Behind Strategies: Lobsterman finds that several other rigging modifications have resulted in longer life from sinking groundline, including:

- His traps are big and therefore heavier (48" – 54"), moving around less on the bottom and causing less chafing on the groundline.
- He uses 4 bricks plus 12lbs steel in head trap, for additional weight which helps minimize movement caused by tidal pull on the buoys.
- He puts a dogbone (spinner) on all bridles to minimize twisting or unlaying of the rope.
- He noticed that the sinking groundline running from the head trap to the 2nd trap chafed at a spot about 2 feet beyond the dogbone on the bridle, so he extended the poly to just beyond that point and chafing was reduced.
- He avoids fishing trawls on hard bottom now.
- He has had the best luck with 3-strand Everson sink rope; rigged as described, it has lasted 3 years.

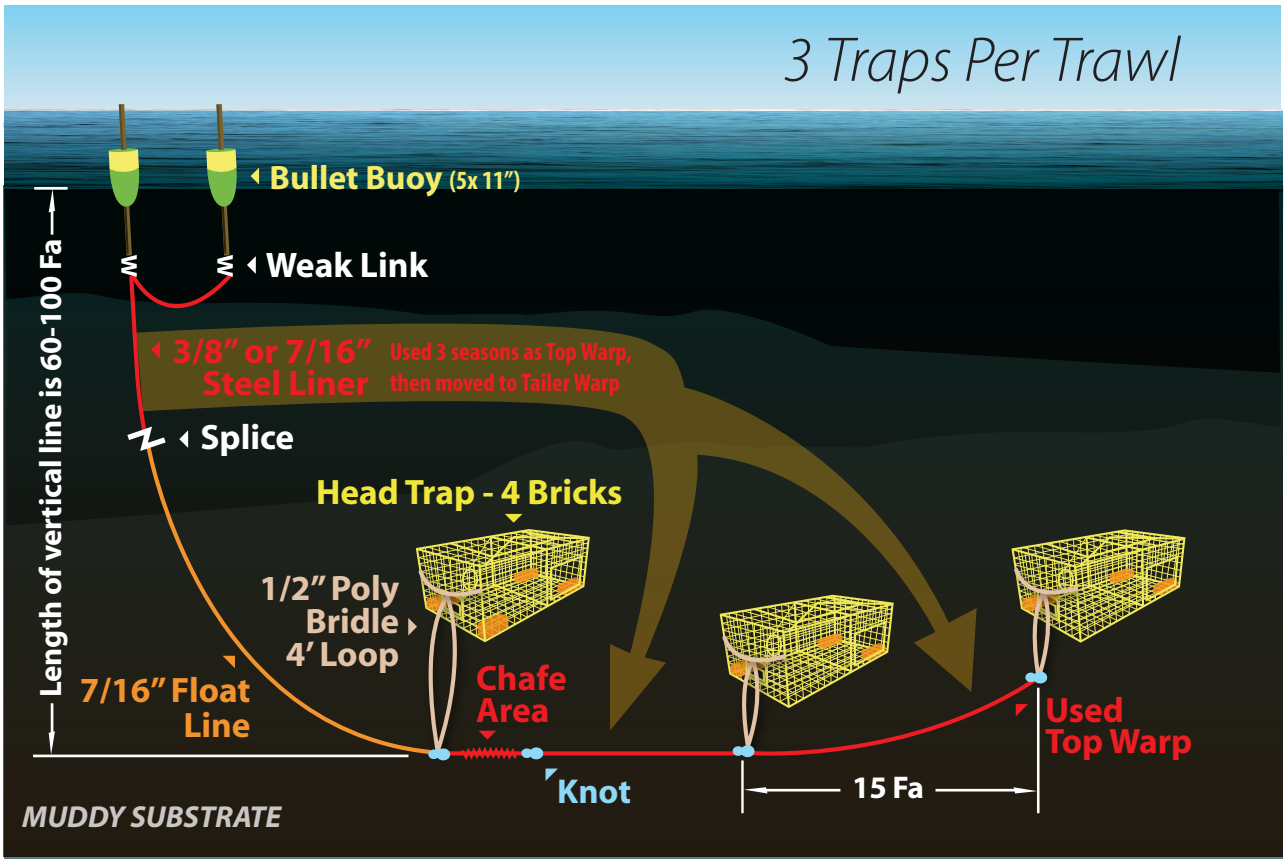
Differences in the rigging "before" and "after"		
Feature	*Before GL Rule*	*Modification*
Number of traps	4	no change
Average depth (fa)	30-50	55 (deeper and off the hard-bottom)
Bottom type	hard during season	mud & gravel (avoiding hard bottom)
Groundline size & brand/type	3/8 float	7/16 Everson sink w/ poly "gangion"
Length of spreader (fa)	12	no change
Endline size/type(s) (in)	3/8	no change
Bridle/becket position/type*	3/8 poly	7/16 poly, 4-corner w/ dogbone
Surface/buoy system	2 5x11 buoys	8x24 buoy w/ 2 GoDeep buoys

* On the head trap only: This individual experimented with extending the poly from the endline three feet beyond the bridle, where he makes a bowline. He then splices in 15 feet of poly (though 12 feet may work as well) onto his sinking groundline, and bends that into the bowline so that the poly becomes the first part of the groundline from the head trap to the second trap.

1 ZONE B OFFSHORE BEFORE GL RULE

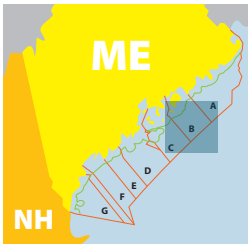


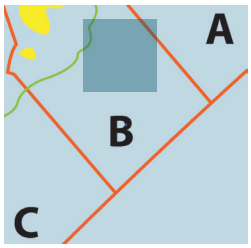
2 ZONE B OFFSHORE AFTER MODIFICATION

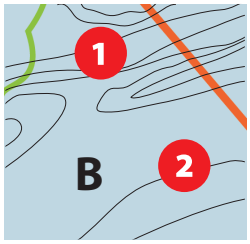


ZONE B OFFSHORE

SHADED SQUARE DETAILED BELOW







KEY:

- ME LOBSTER MGT ZONE LINES
- ME STATE WATERS LINE
- UNDERWATER CONTOUR LINES
- 1 BEFORE GL RULE
- 2 AFTER MODIFICATION
- B MAINE FISHING ZONE

ZONE B

Fisherman/Location: These modifications were described by a Zone B lobsterman fishing out of Bass Harbor, a Federal Permit holder who fishes year-round.

Description of Issues: Primary issues concerned chafing at the head trap on triples and having to replace that section regularly so as not to lose the two tail traps; as well as the rigors of fishing on hard bottom (hang-downs, chafing, parting).

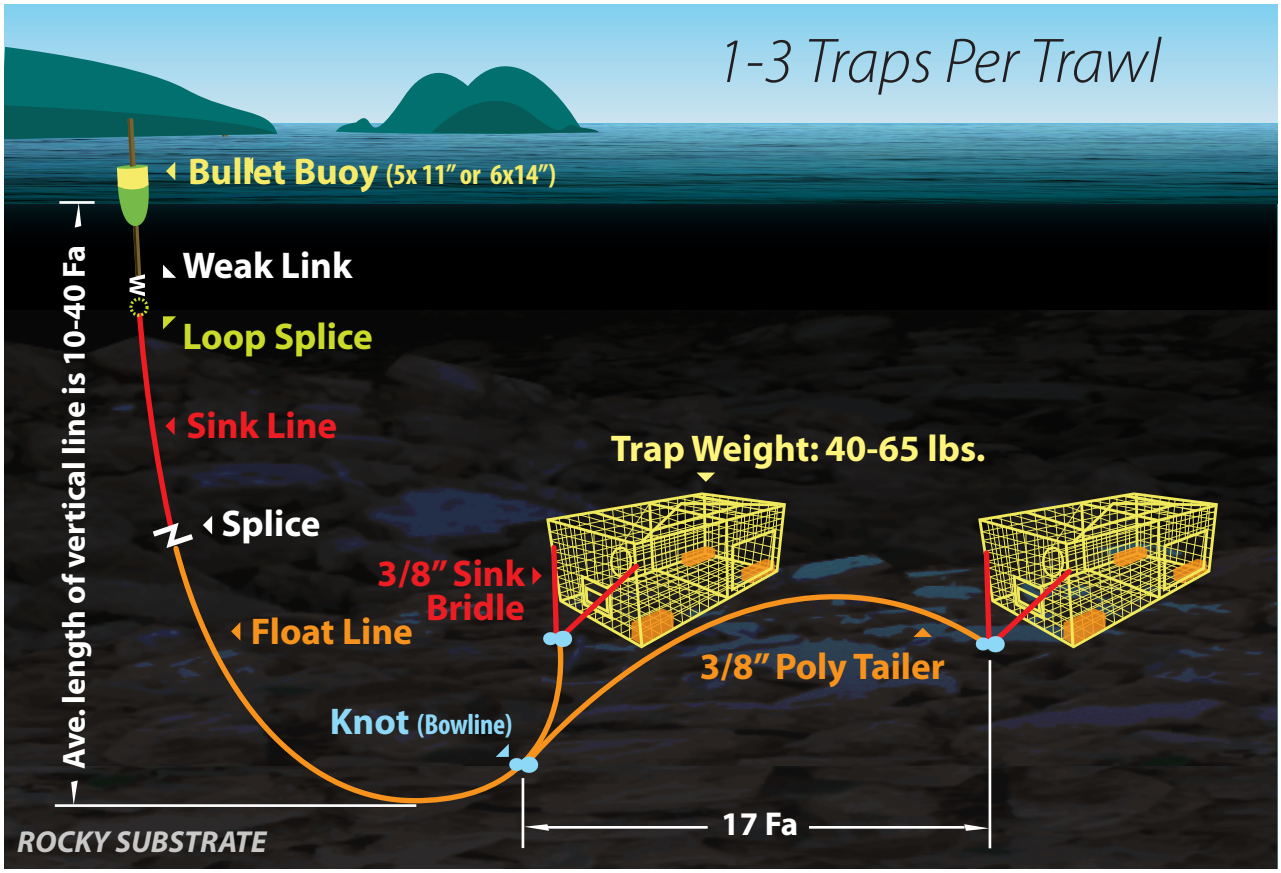
Theory Behind Strategies: This fisherman surmises that the buoy line and toggle pulling on the line is what causes the wear on the head trap groundline, because he is not seeing wear on the line at the other traps.

- He increases the weight in the head trap (4 bricks) to reduce the amount of movement caused by the endline.
- He uses his best traps up front, and his oldest "junk" traps for 2nd and 3rd in the triple, in case the line parts at the chafed area.
- He lengthened to a 4' bridle to see if it makes any difference in the wear of the rope, and suspects it will reduce the amount of rope he has to replace (1' instead of 4').
- Cuts out trouble spots and knots it instead of splicing, seems to slow down the wear.
- He leaves new sink rope coils outside to make the rope hard. It is much harder to work with, but it wears better.
- 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. Since he can no longer obtain Hoverline, he uses Steel Liner with some success.
- 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 hung down.
- He fishes singles on hard bottom inside state waters, and stays on the mud outside.

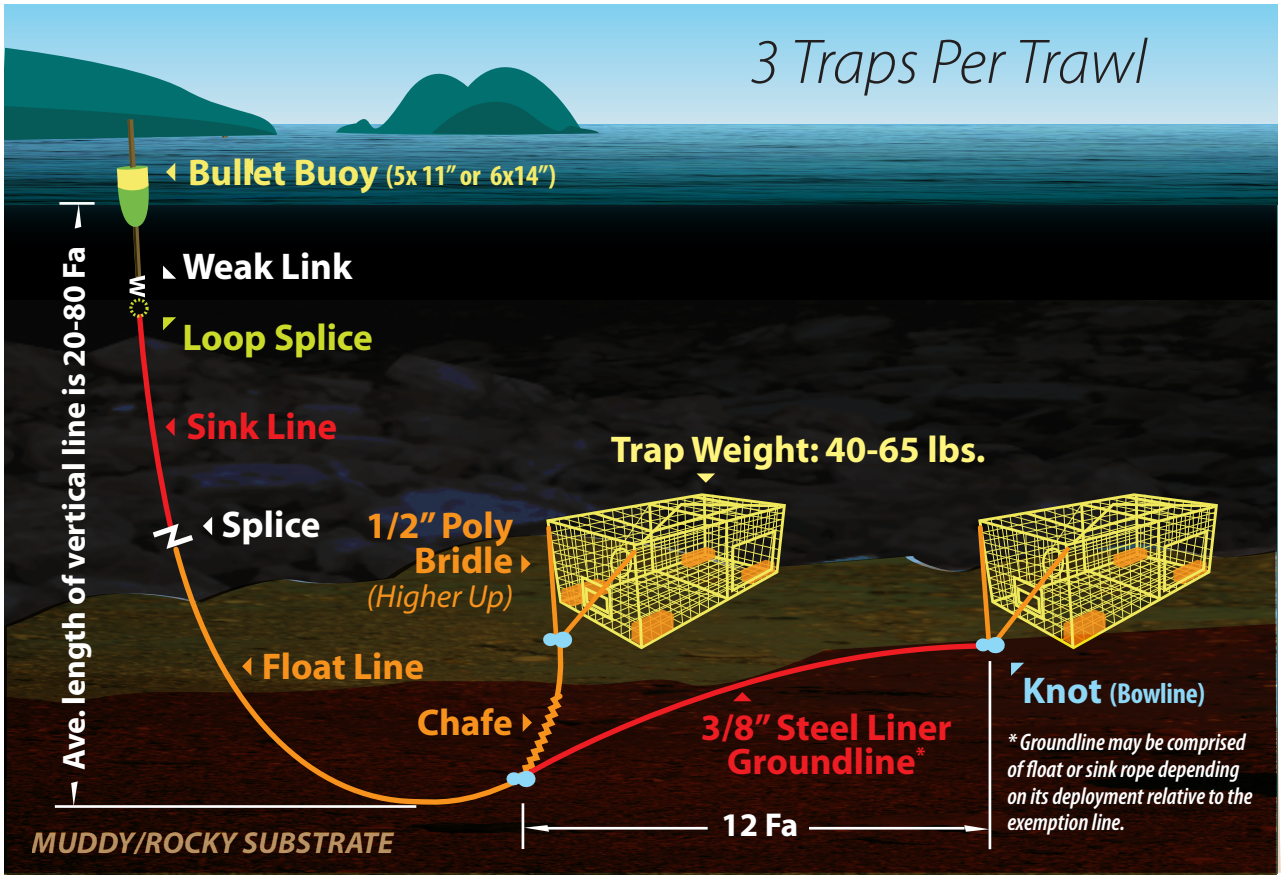
Differences in the rigging "before" and "after"		
Feature	*Before GL Rule*	*Modification*
Number of traps	3	3 (singles in state waters)
Average depth (fa)	40-50	no change
Bottom type	hard	mud; singles on hard bottom
Groundline size & brand/type	3/8 float	3/8 Steel Liner*
Length of tailer warp (fa)	10-20	15
Endline size/type(s) (in)	3/8	80 fa, 3/8 & 7/16 Steel Liner
Bridle/becket position/type	3/8 poly with 1' loop	1/2 poly w/ longer 4' loop
Surface/buoy system	buoy & toggle	no change

* Never fishes brand new rope as groundline: This individual uses 3/8" Hy-liner Steel Liner and starts the new rope on the buoy line; then rotates it down to the groundline after 3 seasons. Seems to tighten the lay of the rope and the groundline wears better.

1 ZONE D INSHORE BEFORE GL RULE

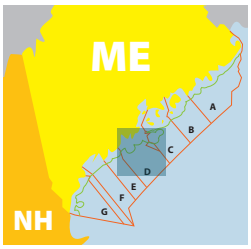


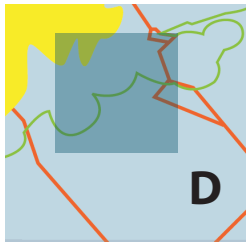
2 ZONE D INSHORE AFTER MODIFICATION

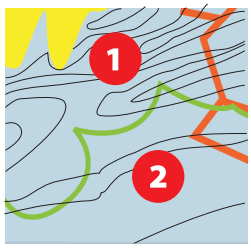


ZONE D INSHORE

SHADED SQUARE DETAILED BELOW







KEY:

ME LOBSTER MGT ZONE LINES

ME STATE WATERS LINE

UNDERWATER CONTOUR LINES

1 BEFORE GL RULE

2 AFTER MODIFICATION

D MAINE FISHING ZONE

ZONE D

Fisherman/Location: These modifications were described by a Zone D lobsterman fishing out of Cushing, a Federal Permit holder who fishes pairs and triples year-round, and singles in state waters.

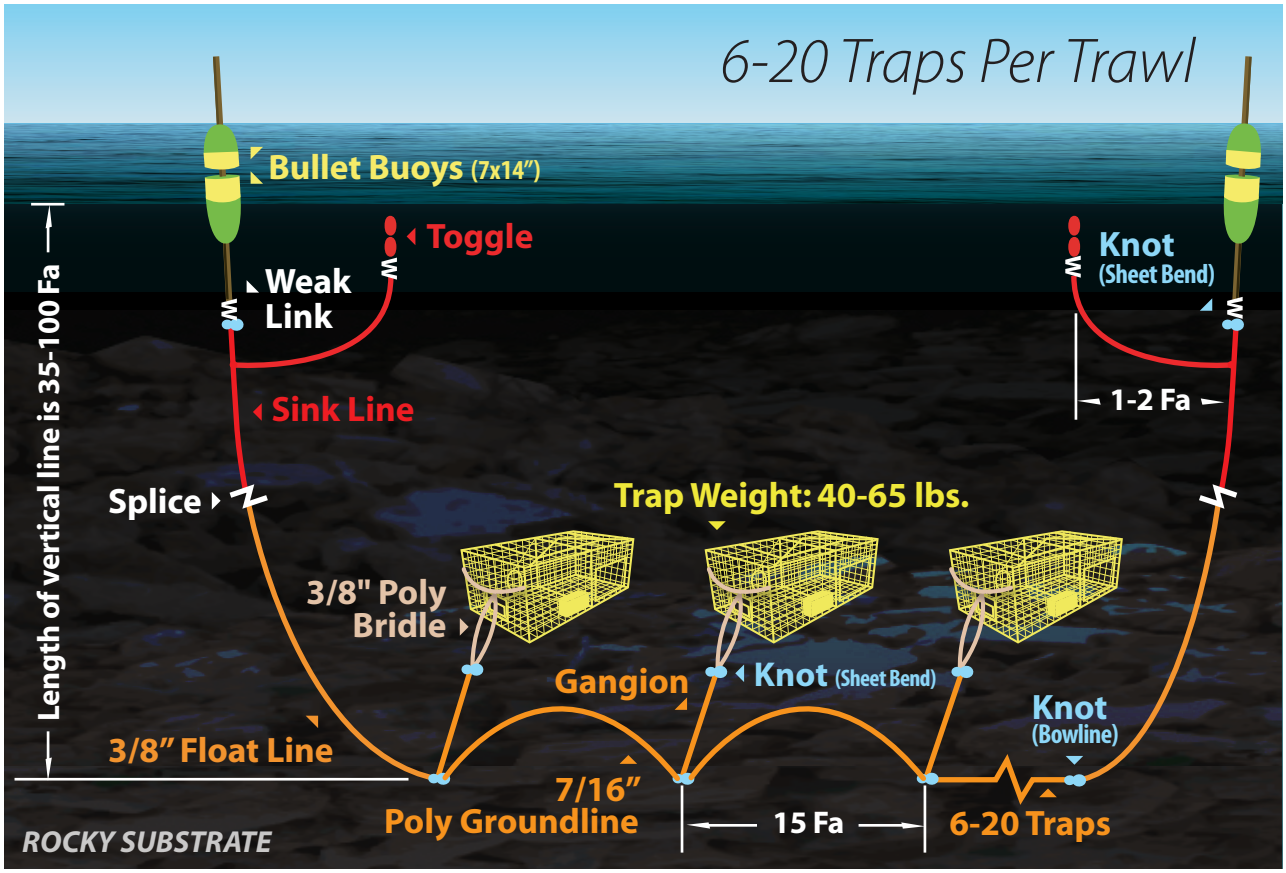
Description of Issues: Primary issues concerned chafing at the head trap approximately two feet along the tailer warp on pairs and triples.

Theory Behind Strategies: This individual has tested a number of different ropes and configurations over the years and has made a few adjustments to adapt to fish sinking groundline. Most of his modifications are geared toward reducing the chafing at the head trap:

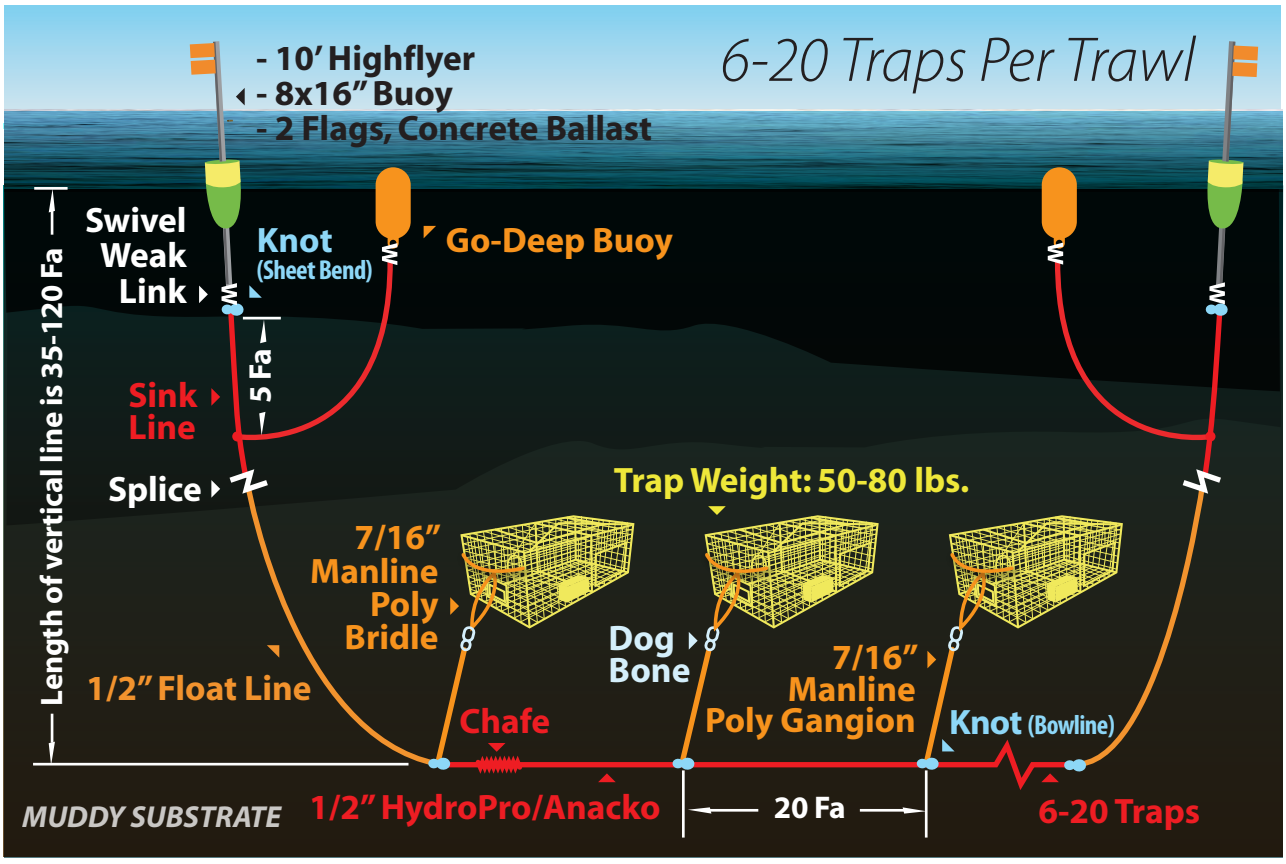
- He now positions the bridle higher up on the trap, which helps the groundline clear the trap and reduces chafing.
- He used to use sink rope for his bridles, and now finds that a float rope bridle, sized up to 7/16", helps keep the rope from chafing on the trap.
- When setting back, he uses a quicker speed (12-13 knots) and a sternman to hand-set traps, keeping the ropes taught so they land on bottom with less play in the groundline.
- He has shortened his tailer warps from 17 fa to 12 fa, using less sink rope which reduces play between the traps and saves money.
- He fishes singles on hard bottom in state waters.

Differences in the rigging "before" and "after"		
Feature	*Before GL Rule*	*Modification*
Number of traps	2s and 3s	3s; singles with toggles inside the exemption line
Average depth (fa)	60	no change
Bottom type	hard and mud and edges	no change; singles only on hard bottom
Groundline size & brand/type	3/8 poly	3/8 Steel Liner
Length of spreader (fa)	17	12
Endline size/type(s) (in)	3/8	no change
Bridle/becket position/type	3/8 sink, mid-way on trap	7/16 or 1/2 float, higher up
Surface/buoy system	single 7x14	no change

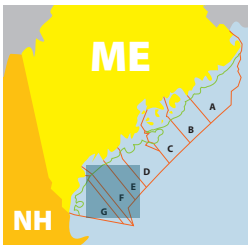
1 ZONE F & G OFFSHORE BEFORE GL RULE

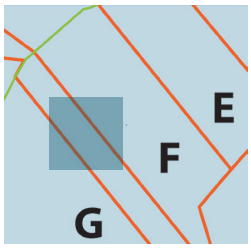


2 ZONE F & G OFFSHORE AFTER MODIFICATION



ZONE F & G OFFSHORE
SHADED SQUARE DETAILED BELOW





KEY:

ME LOBSTER MGT ZONE LINES

ME STATE WATERS LINE

UNDERWATER CONTOUR LINES

1 BEFORE GL RULE

2 AFTER MODIFICATION

F MAINE FISHING ZONE

ZONE F/G OFF-SHORE

Fisherman/Location: These modifications were described by a Zone G lobsterman fishing off of Portland, a Federal Permit holder who fishes trawls year-round, often requiring 2-day fishing trips to accommodate the long steam-time.

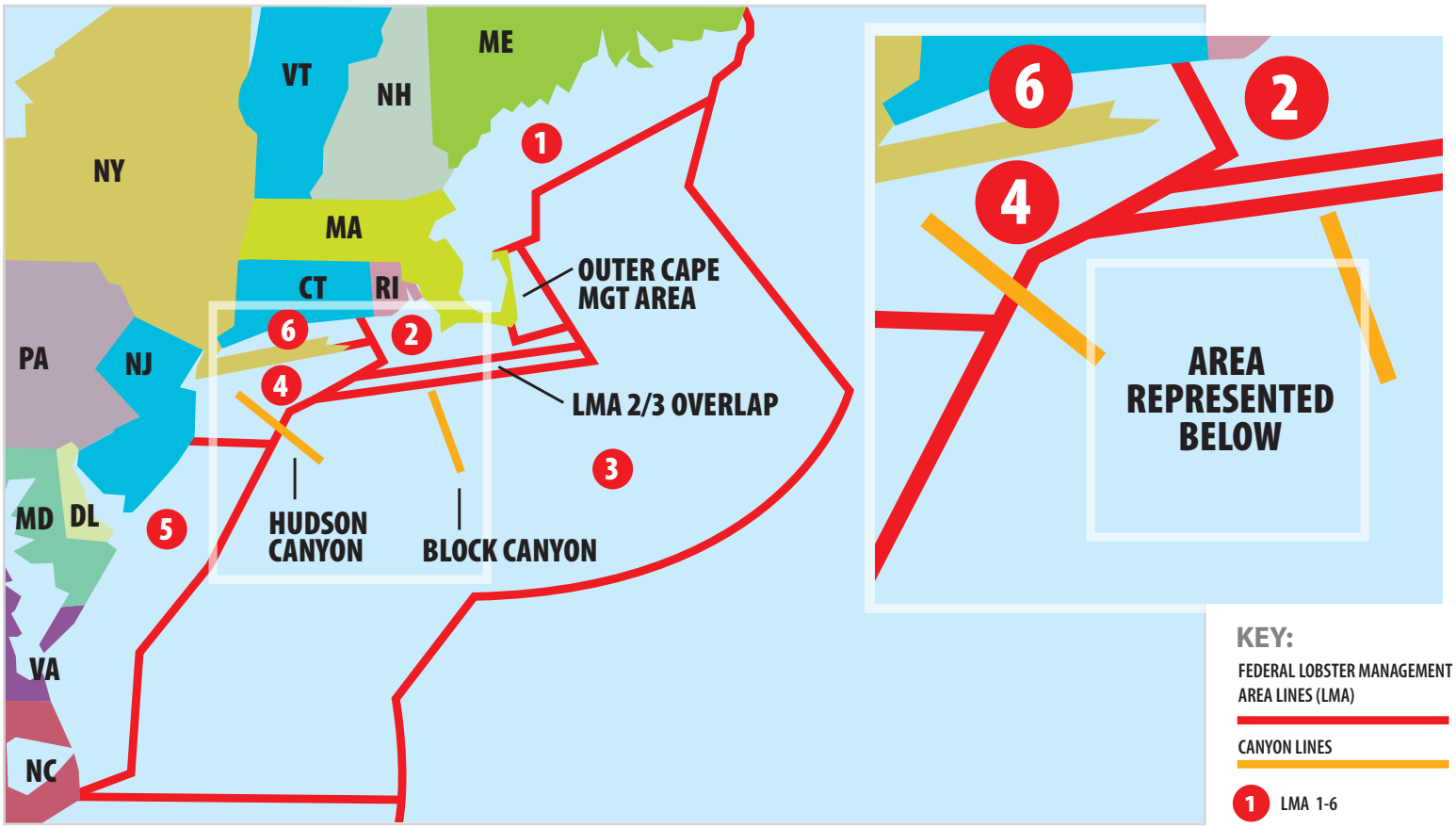
Description of Issues: Primary issues concerned chafing approximately one fathom behind the first trap at both ends of the trawl, and abrasion along the groundline due to silt and sand intruding the lay of the rope.

Theory Behind Strategies: This lobsterman fishes deep water, so he lengthened his spreaders to 20 Fa so as to reduce strain on the rope during hauling in off-shore waters. In addition, he made several modifications to his rigging and practices:

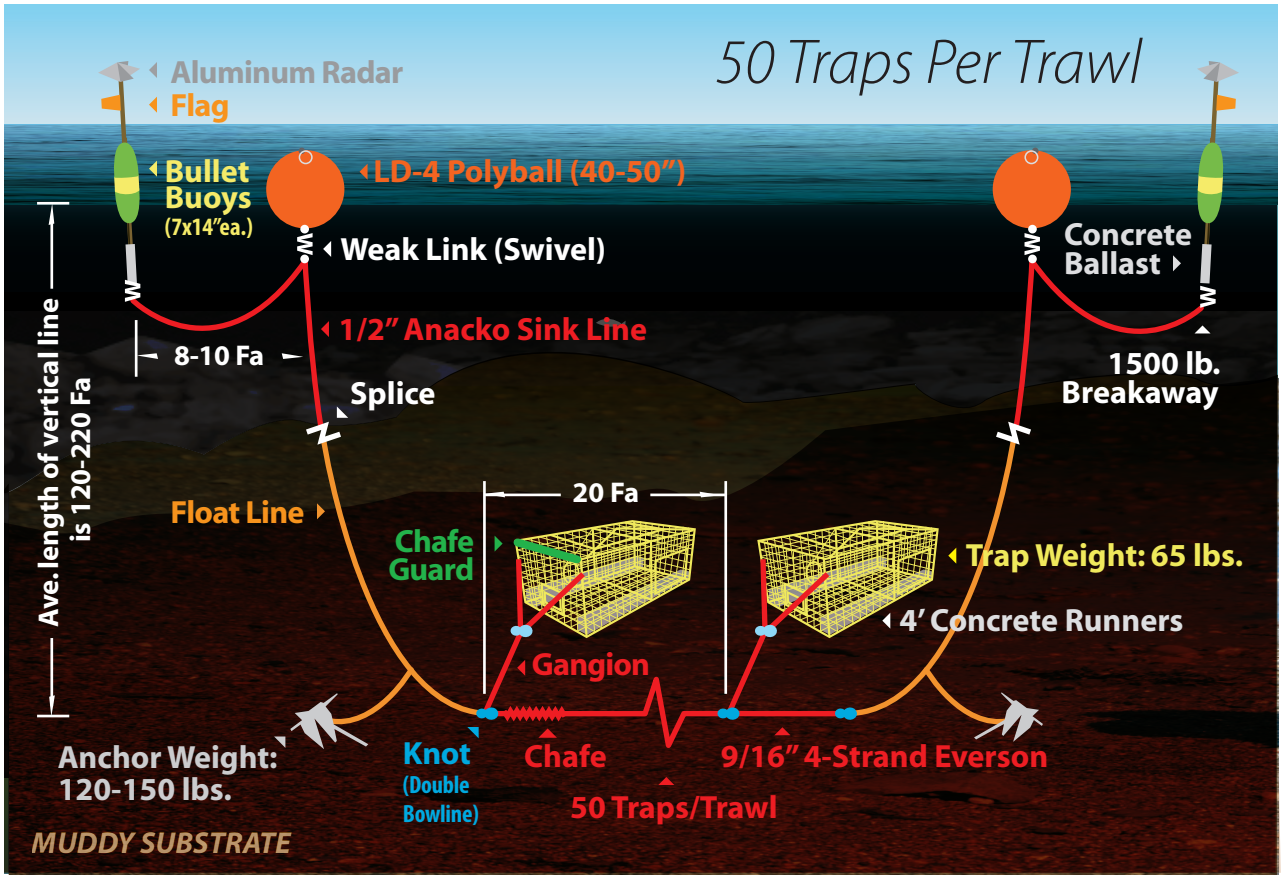
- He switched from using 7/16" polysteel groundlines to a "lighter" sink rope (HydroPro or Anacko), but sized it up to ½" to accommodate some of the abrasion. The larger diameter line is still able to coil efficiently into barrels.
- He sized up (from 3/8" and 7/16" to ½") the loop of the bridle (where endline ties in at trap); the additional strength off-sets the increased cost of the rope, and it is cheaper than replacing a trap.
- He moved off hard bottom completely; there are not enough lobsters there to justify potential loss of traps.

Differences in the rigging "before" and "after"		
Feature	*Before GL Rule*	*Modification*
Number of traps	20	no change
Bottom type	hard	mud or gravel
Groundline size & brand/type	7/16 float rope	7/16 or 1/2 HydroPro/Anacko
Length of spreader (fa)	20	no change
Endline size/type(s) (in)	7/16	1/2
Bridle/becket position/type	3/8 float rope	7/16 or 1/2 Manline poly

FEDERAL LOBSTER MANAGEMENT AREAS



AREA 3 OFFSHORE



AREA 3 OFF-SHORE (PT. JUDITH RI)

Fisherman/Location: These modifications were described by an Area 3 lobsterman fishing out of Point Judith, Rhode Island, who fishes 50-trap trawls on multiple-day trips.

Description of Issues: Primary issues concerned chafing approximately 4-8 feet behind the head trap, due to the intrusion of mud in the groundline. He observed burrs in the groundline created by the mud intrusion, and rope strands fraying against other strands.

Theory Behind Strategies: Several adjustments to the gear were made by Area 3 lobstermen, addressing components of the issue:

- He found that both anchors were moving because of the large size of his poly balls. He began using low drag poly balls, which helped, but has not eliminated the problem.
- Use of breakaway swivels have kept the poly balls from spinning and he does not lose nearly as many poly balls.
- He finds that wire traps (vs. wood) cause additional wear on the groundline, so he has added a wear plate on the wire which seems to help. The wear plate (or chafe plate) is a piece of wire mesh, 7 meshes deep and the width of the trap, which bends around the top edge to cover up the cut ends of wire.
- He rigs the bridles 3 meshes down from the top of the trap, which keeps the trap from flipping during the setting back.
- He sets at 5-6 knots out the open stern, since traps want to sink faster than the rope in deep water.
- He has had great success changing from 3-strand to 4-strand rope. He's had some rope for 6 years, and orders the lay medium to soft. The rope hardens up as it is fished.

Differences in the rigging "before" and "after"		
Feature	*Before GL Rule*	*Modification*
Number of traps	50	no change
Average depth (fa)	70 – 170	no change
Bottom type	mud	no change
Groundline size & brand/type	5/8 poly 3-strand	9/16 4-strand med-soft lay
Length of spreader (fa)	20 fa	no change
Endline size/type(s)	1/2" 100fa sink to 5/8" 50fa float	no change
Gangion	1.5fa 1/2 soft-lay poly	no change
Bridle/becket position/type	mid-way on trap	½" sink, 3 meshes from top
Surface/buoy system	A-4 poly ball (40")	A-4 LD poly ball