

Appendix 8
Final Report to the Consortium for Wildlife Bycatch Reduction
March 2007

**Maine Lobstermen's Association
Report to the Consortium for Wildlife Bycatch Reduction
Program Year: April 2006 through March 2007**

The Maine Lobstermen's Association (MLA) participated in its second year of the Consortium for Wildlife Bycatch Reduction. The MLA's role in this project is to field test experimental ropes developed by the Consortium.

In 2006-2007, the MLA tested several types of experimental groundlines and endlines. The ropes that were field tested are outlined in Table 1.

Table 1 Overview of Consortium for Wildlife Bycatch Reduction Ropes Field Tested by MLA						
Rope Type	Date produced	Amount produced	Amount distributed by MLA	Projected cost*	Rope Type	Description
Barium Sulfate Batch 1	April 2006	55 coils	51 coils	\$1.80/coil	Ground line	3/8" gray polypropylene line infused with BaSO ₄ . Batch 1 produced an inconsistent batch with some floating and some sinking and no way to distinguish between them.
Barium Sulfate Batch 2	August 2006	10 coils	10 coils	\$1.80/coil	Ground line	3/8" gray polypropylene line infused with BaSO ₄ . Second batch.
Metallocene polyethelene A	March 2006	3000 feet	3000 feet	\$4.50/coil	Ground line	3/8" green braided rope which was tightly wrapped. Inner core is a braided polyester with a braided metallocene polyethelene outer sheath.
Metallocene polyethelene B	March 2006	1000 feet	1000 feet	\$4.50/coil	Ground line	7/16" green braided rope which was not tightly wrapped. Inner core is a braided polyester with a braided metallocene polyethelene outer sheath.
Weak line	May 2006	20 coils	10 coils	\$3.00/coil	Endline	3/8" light purple polypropylene line infused with BaSO ₄ with a breaking strength of 800 pounds.
Stiff line A	March 2006	200 feet	200 feet	Unknown	Endline	3/8" outer diameter rubber sections (EPDM rubber hardness 60) clad over a 3/16" inner core of braided polyethylene with 4800 breaking strength
Stiff line B	March 2006	200 feet	200 feet	Unknown	Endline	7/16" outer diameter rubber sections (EPDM rubber hardness 60) clad over a 3/8" inner core of standard twisted polypropylene with 2300 breaking strength
Stiff line C	August 2006	120 feet	120 feet	Unknown	Endline	1/2" outer diameter rubber sections (EPDM rubber hardness 60) clad over a 5/16" inner core of braided polyethylene with 8000+ pounds breaking strength.

*1200 feet per coil

Barium Sulfate (BaSO₄) Groundlines



Barium sulfate groundlines were first produced for testing through the Consortium for Wildlife Bycatch Reduction and distributed to the industry by MLA in 2005. In 2005, four lobstermen tested these ropes in southern Maine, Casco Bay, midcoast Maine and downeast Maine. The ropes performed well in southern Maine and Casco Bay. The midcoast Maine deployment was lost and no data was received. The downeast deployment showed signs of chafing and wear after just a short few month deployment. A summary of the

2005 BaSO₄ groundline deployments are listed in Appendix A.

Due to some of the positive feedback from the 2005 trials, a larger run of rope was planned for distribution through MLA for the 2006 field season.

Barium Sulfate (BaSO₄) Groundlines (Batch 1) Regional Ventless Trap Survey

The MLA worked with Norm Holy and Carl Wilson of Maine Department of Marine Resources (DMR) to coordinate the production and delivery of 15 coils of BaSO₄ groundline for use in the DMR's Regional Ventless Trap Survey. This survey involved the deployment of 150 triples comprised of standardized lobster traps with 10 Fathom of rope in between. This randomized survey conducted across 3 statistical areas in Maine during the months of June, July and August allowed for data to be collected on the rope through a controlled standardized experiment. The BaSO₄ groundline was tested alongside other experimental low profile groundlines produced for DMR. This deployment included the use of DST mini loggers provided by the Gulf of Maine Lobster Foundation (GOMLF) which were used to measure the height of the groundline arc off the bottom.

Seaside, Inc. of Warren, Maine produced and arranged for delivery of the rope to DMR in April 2006. The BaSO₄ groundline was deployed on several sets of triples across statistical areas 510, 511 and 512 in June 2006. The BaSO₄ rope deployed as an endline was observed "floating at the surface" when the DMR traveled back to haul the ventless deployments after a few nights set.

The MLA worked with Maine DMR to determine if the Barium Sulfate (BaSO₄) groundlines were in fact sinking or floating. The DMR conducted video observations of several ropes in Boothbay Harbor in June 2006. Divers video taped the arc heights of several ropes, including the BaSO₄ groundlines, low profile lines and standard floating line. DMR whale scientist Erin Estrada reported that "the rope was floating 7-10 ft. off the bottom without weights." (email from Erin Estrada attached in Appendix B).

Based on the floating profile of this rope, the BaSO₄ groundlines were pulled from the Regional Ventless Trap Survey and were not used in the July or August deployments. The lobsterman who fished the downeast leg of the survey also expressed concern with regard to the reliability of the BaSO₄ groundline due to chafing observed on the line which he feared could cause it to part off if it were under stress.

Due to the extremely short deployment and the fact that the rope did not sink, the lobstermen who hauled the rope as part of the Regional Ventless Trap Survey were not asked to provide any evaluation of the BaSO₄ groundline from these deployments.

**Barium Sulfate (BaSO₄) Groundlines (Batch 1)
Coils Distributed to Individual Lobstermen**

Seaside, Inc. produced an additional 40 coils of BaSO₄ groundline for distribution to individual lobstermen for testing. The MLA picked up the 40 coils and brought them to the May MLA Directors meeting for distribution. Lobstermen were asked to take a coil of rope and deploy it on a few sets of gear that they would normally fish throughout their season. The goal of the deployments was to get realistic at sea trials to determine the operational feasibility of this rope as a groundline in various bottom types and conditions along Maine's entire coast.

Lobstermen at the MLA Director's meeting expressed skepticism about fishing sinking groundlines in many areas of Maine's coast. There was concern that gear would get chafed or hung down and therefore could result in lost traps and tags. Lobstermen were most concerned about losing tags and asked MLA to look into getting some replacement tags if gear were lost due to experimental rope testing. Despite concerns over fishing sinking line, 23 coils of sinking rope were distributed at this meeting.

The MLA contacted Erin Burke at the Massachusetts Division of Marine Fisheries (DMF) and arranged to have an additional 13 coils tested by Massachusetts lobstermen on a variety of bottoms. Massachusetts will require all lobstermen to convert all groundlines to sinking rope by January 2007, so there is a lot of interest among Mass lobstermen to test new sinking ropes. Mass DMF agreed to use the same logsheet to evaluate the operational feasibility of the ropes.

Of the 40 coils produced by Seaside, the MLA distributed 36 coils to lobstermen throughout Maine and through Mass DMF. Table 2 contains a list of lobstermen who received this rope.

MLA followed up with Maine DMR Commissioner Lapointe and DMR Marine Patrol Colonel Joe Fessenden with regard to getting replacement tags if traps, and hence tags, are lost due to experimental rope testing. The DMR was extremely cooperative and order 500 replacement tags which were immediately made available to any lobsterman who lost trap tags due to experimental rope testing.

Table 2 2006 NEAq Sink Rope Batch 1 Distribution			
Lobsterman	Town	# coils	Distributed
Mass DMF		13	5/23/2006
Maynard Curtis	Owls Head	1	5/24/2006
Bob Baines	Spruce Head	1	5/24/2006
Pat White	York	1	5/24/2006
Elliott Thomas	Yarmouth	2	5/24/2006
Casey Morrill	So Thomaston	1	5/24/2006
Ryan Myrick	Cushing	1	5/24/2006
Mike Myrick	Cushing	1	5/24/2006
Adam Gamage	Bristol	1	5/24/2006
Arnie Gamage	Bristol	1	5/24/2006
Dwight Carver	Beals	1	5/24/2006
Dwights son in law	Beals	1	5/24/2006
Brian McLain	New Harbor	1	5/24/2006
John Stotz	New Harbor	1	5/24/2006
Bobby Ingalls	Bucks Harbor	1	5/24/2006
Charles Ingalls	Bucks Harbor	1	5/24/2006
David Cousens	Spruce Head	1	5/24/2006
Alex Cousens	Spruce Head	1	5/24/2006
Andy Cousens	Spruce Head	1	5/24/2006
Ted Bear	Harpswell	2	5/24/2006
Jonathan Bear	Harpswell	1	5/24/2006
Tad Miller	Matinicus	1	5/24/2006

In June 2006, the MLA mailed a memo and a waterproof logsheet to all Maine lobstermen who had received the BaSO₄ groundline with instructions to get the rope into the water and record some basic information about where and how the rope is deployed and how often it is hauled. A copy of the memo and logsheet are included in Appendix C.

A few weeks later in June 2006, the MLA received reports from the field, both from lobstermen testing the rope and through the Regional Ventless Trap Survey, that this rope was actually floating. As described in the previous section of this report, MLA worked with DMR to coordinate divers to take video footage of the rope to determine whether it is was truly floating. The DMR video work observed this rope floating up to 10 feet off the bottom.

The MLA also worked with Pat White, a lobsterman from York, Maine, to deploy Star Oddi pressure sensors provided by the Gulf of Maine Lobster Foundation (GOMLF) on both the 2005 BaSO₄ groundline and the 2006 BaSO₄ groundline to compare the

profiles of the rope to determine if the 2006 rope was floating. The results of this sensor work indicated that both the 2005 and 2006 BaSO₄ groundline fished by Pat White were sinking ropes. The results of this sensor work are attached in Appendix D. Elliott Thomas, who also fished both 2005 and 2006 BaSO₄ groundlines reported that he observed the 2006 rope floating.

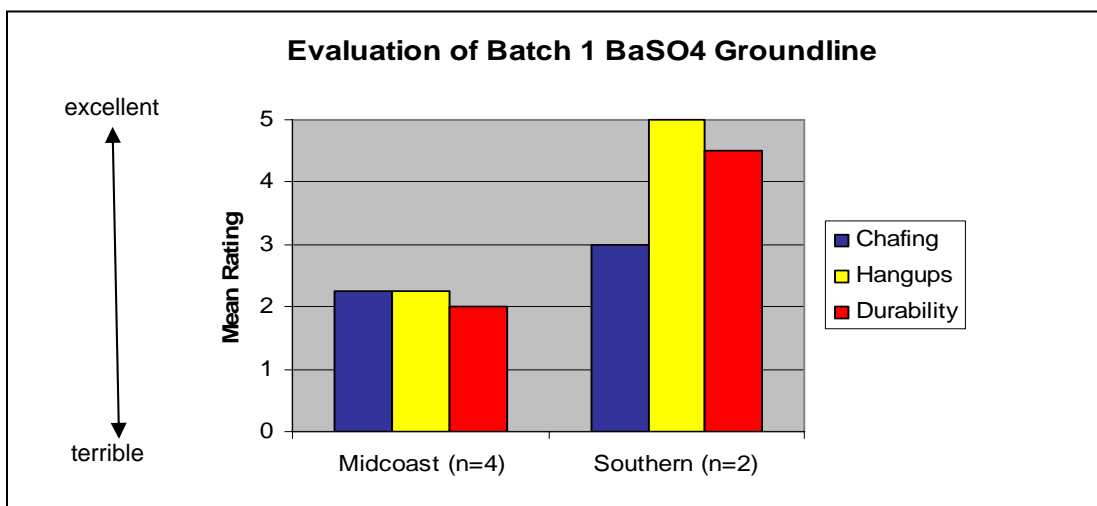
Therefore, it was determined that the 2006 BaSO₄ groundline was a mixed batch with some that floated and some that sank, and no way to distinguish which was which. This was very troubling because some of this rope was distributed in Cape Cod Bay through Mass DMF where it is illegal to fish sinking groundlines. Also, it is illegal throughout the Gulf of Maine to fish floating lines at the surface, and some lobstermen had used this BaSO₄ groundline on the top 2/3 of their buoy line.

In response to these findings, the MLA cancelled the field trial of the 2006 BaSO₄ groundline and contacted Erin Burke Mass DMF to inform her of the status of the rope. She too had received reports that the rope was floating. A copy of the notice mailed to lobstermen canceling this field trial is attached in Appendix E.

Lobstermen were asked to complete a logsheet if they had fished the rope. However, due to the fact that the rope had only been distributed for about a month, many lobstermen who took a coil of rope had not actually gotten it into the water. Six lobstermen did return logsheets with an evaluation of the rope.

The results of the 2006 BaSO₄ groundline can be looked at as a conservative evaluation, as it is impossible to know whether those rating it had a sinking or a floating version of the rope. One would assume that the floating version of the line would receive better ratings than a sinking version due to its lack of contact with the bottom. Based on interviews with those who completed logsheets, it is believed that ½ had a sinking version of the line and ½ had a floating version of the line.

Lobstermen were asked to rate the rope on a scale of 1 (terrible) to 5 (excellent) relative to an average floating that they normally fish. Lobstermen from southern Maine rated the 2006 BaSO₄ groundline (batch 1) consistently better than those in midcoast Maine. This is similar to the feedback received from the 2005 deployments.



The midcoast Maine lobstermen consistently rated this rope “below average” on the three major features of the rope: chafing, hang-ups and durability. The southern Maine lobstermen gave the rope an average rating for chafing and above average for hang-ups and durability, meaning they believe that this rope performs better than their average floating rope. Four of the six lobstermen commented on their logsheets that this rope chafes quickly on hard bottom. Table 3 provides a summary of all the ratings of all of the operational characteristics that were evaluated by these lobstermen.

Zone	Count	Fouling	Chafing	Hangups	Noise	Kinking	Durability	Handling
D	4	3	2.25	2.25	3	3	2	3
F	1	4	2		2	5	4	5
G	1	5	4	5	5	5	5	

1= terrible; 3=average; 5=excellent

Two of the Zone D lobstermen who returned a logsheet also brought the fished rope back to the MLA for strength testing. They believe that they had received a sinking version of the line. This rope was mailed to Southwest Ocean Services in Houston, Texas in March 2007.

**Barium Sulfate (BaSO₄) Groundlines (Batch 2)
Coils Distributed to Individual Lobstermen**

In August 2006, Seaside, Inc. produced an additional 10 coils of BaSO₄ groundline for distribution to individual lobstermen for testing. As previously discussed, lobstermen are skeptical about fishing sinking rope in many areas of Maine. The misfortune of handing out experimental sink line that actually floated made it even more difficult to find lobstermen who were committed to this experiment. Therefore, the MLA decided to work with a small targeted group of lobstermen for the Batch 2 BaSO₄ groundline deployment.

In September 2006, the MLA asked 10 lobstermen to fish the BaSO₄ groundline Batch 2 groundline, deployed along with the BaSO₄ weak line as an endline (Table 4).

Lobsterman	Town	Distributed	# coils sink	# coils weak
Bob Baines	So Thomaston	8/30/2006	1	1
Pat White	York Harbor	9/6/2006	1	1
Elliott Thomas	Yarmouth	8/31/2006	1	2
Casey Morrill	So Thomaston	8/30/2006	1	1
Ryan Myrick	Cushing	8/30/2006	1	1
Mike Myrick	Cushing	8/30/2006	1	1
Kristan Porter	Cutler	8/30/2006	1	1
John Drouin	Cutler	8/30/2006	1	1
John Hansen	Tenants Harbor	10/2/2006	1	1
Andy Johnson	Harpswell	10/4/2006	1	1

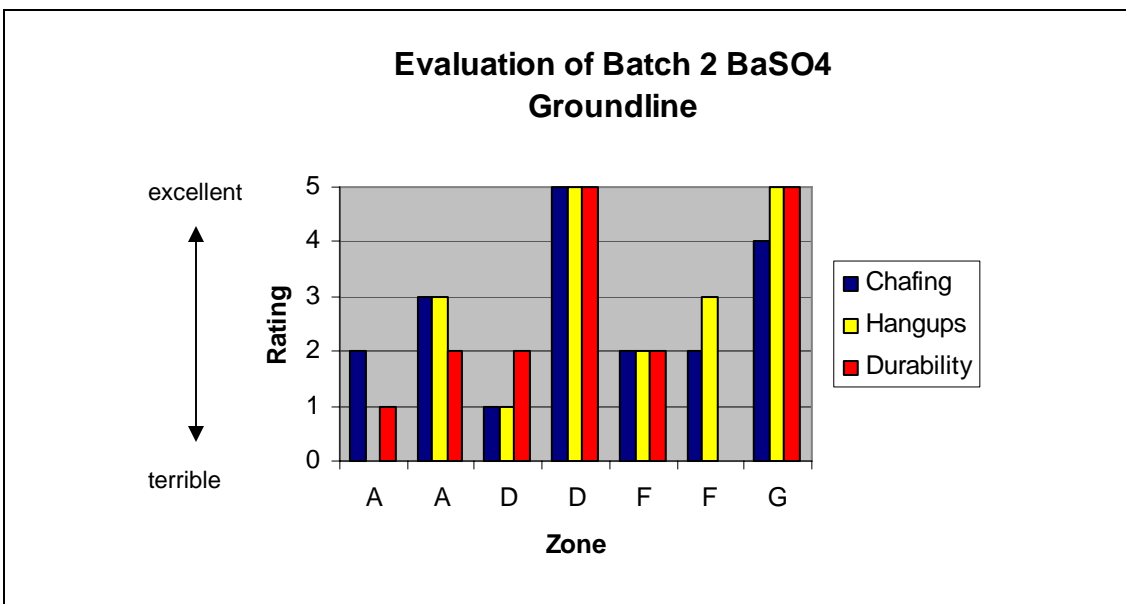
These ten lobstermen were asked to put this rope on at least one set of gear, and fish it as they would normally fish their gear until they ended their fishing for the year or the rope failed. At the end of the season, lobstermen were required to return the used ropes to MLA for strength testing. In return, the MLA committed to compensate each lobsterman \$1000 upon completion of the work. A copy of the memo outlining these terms is attached in Appendix F.

Seven of the 10 lobstermen returned logsheets evaluating the operational feasibility of the rope and six of the 10 lobstermen returned rope samples for strength testing. These rope samples were mailed to Southwest Ocean Services in Houston, Texas in March 2007 for testing. One of the ten lobstermen did not return a logsheet or rope because the ropes are still being actively fished.

Zone	Depth	Bottom Fished	# Hauls	Fouling	Chafing	Hang ups	Noise	Kinking	Durability	Handling
A	42	mud-gravel	5		2				1	
A	40-42	mud-gravel	17	2	3	3	1	2	2	2
D	12-16	hard	6	3	1	1	3	3	2	
D	20-25	soft bottom	15	5	5	5	5	5	5	5
F	40	hard	30	3	2	2	4	4	2	3
F	8-15	75% gravel/sand-25% mud	18	2	2	3	2	4		4
G	6-15	Across all bottoms	24	5	4	5	5	5	5	5

1=terrible; 3=average; 5=excellent

Lobstermen used the same logsheet rating the rope on a scale of 1 (terrible) to 5 (excellent) relative to an average floating that they normally fish. Once again, lobstermen from southern Maine (Zones F and G) rated it consistently better than those to their east in midcoast (Zone D) and downeast (Zone A) Maine (Table 5).



The ropes were generally fished over a 3 month period between September and December 2006. The BaSO₄ groundline was rated below average in downeast Maine and in midcoast Maine on hard bottom. A lobsterman from Zone D fishing the rope on soft bottom rated the rope above average. Zone F lobstermen in the Casco Bay area rated the ropes below average, and a Zone G lobsterman in western Maine rated the ropes above average. A Zone F lobsterman also deployed this rope on his bridles and fished it on hard bottom. He noticed chafing almost immediately. This is in keeping with the general east to west trend of the ropes fairing worse in the east and better in the western part of the state, but also highlight the importance of the bottom type where the rope is fished. The ropes fair well on soft and gravel bottoms, and are rated poorly on hard bottoms.

Zone D has both very hard rough bottom, where the ropes tested poorly and soft bottom where the ropes tested well. In the Zone D hard bottom, the lobsterman commented that in 5 separate deployments all were badly chafed, and 4 of the 5 deployments actually parted off. In Zone A, a lobsterman commented that the rope only lasted one month. He also noted that these experimental ropes could only be hauled under perfect circumstances and are not a plausible solution because it has to be handled so carefully to prevent it from parting.

Summary of Barium Sulfate (BaSO₄) Groundlines

In summary, the barium sulfate groundlines generally performed well in the western part of the state where the bottom tends to be mud, gravel and cobble, with some areas of hard ledge. This is not surprising since many lobstermen have already been able to fish existing commercial sinking lines in this part of Maine.

The barium sulfate groundlines generally performed poorly in midcoast and downeast Maine. These parts of the state are characterized by more harder and sharper bottom, with a lot of larger boulders and ledge. The tides and currents also run stronger as you move east along the coast of Maine causing additional strain on the lines.

Given the feasibility of fishing this rope along the western part of Maine's coast, from Casco Bay south and then into offshore waters, and the predicted price point for this rope at \$1.80/pound, the MLA believes this rope warrants additional testing on durability. Over the course of both the 2005 and 2006 field seasons, the ropes were only fished for short periods of time, averaging about 3 months each year. We recommend redeploying existing 2005 and 2006 ropes during the 2007 field season to get a better sense of the durability of the rope. We do not recommend any new production of this rope.

Sinking Groundlines: Metallocene Polyethelene Braided Rope



In March 2006, Norm Holy produced two types of strong braided sinking line. The rope is constructed with an inner core of braided polyester with an outer sheath of braided metallocene polyethelene. Two diameters of this rope were produced including a 3/8" tightly wrapped rope and a 7/16" loosely wrapped rope (Email from Norm Holy describing these ropes is included in Appendix G).

Table 6 Overview of Lobstermen Evaluation of BaSO4 Batch 1 Summer 2006

Zone	Depth	Bottom Fished	Fouling	Chafing	Hangups	Noise	Kinking	Durability	Handling
F (n=1)	5	ledge and rocky		3	2	5	2		2
G (n=1)	6-15	Across all bottoms	5	5	5	5	5	5	5

1=terrible; 3=average; 5=excellent

These two types of rope were delivered to the MLA office in April 2006, and were immediately distributed to two lobstermen from southern Maine for testing. The loosely wrapped 7/16" rope was fished in May and June off Cousins Island in Yarmouth, Maine. The deployment ended after only 2 months because the rope jammed this lobsterman's hauler and proved to be too dangerous to haul. The loose wrap of the rope allowed it to lose its shape, flattening out, and thus getting jammed in the hauler. The hauler would need to be reversed in order to remove the rope. This lobsterman also reported that the rope kinked on deck and required knots to rig it because it is braided. A sample of this rope was sent to Norm Holy in June 2006 for evaluation.

The tightly wrapped 3/8" line was fished from May to November off York, Maine. In general this lobsterman found that the rope fished very well and was extremely durable. However, he thought the rope was too thin as it jumped out of the hauler on rough days. This rope was returned to the MLA office for strength testing and was mailed to Southwest Ocean Services in Houston, Texas in March 2007.

Summary of Metallocene Polyethelene Braided Rope

In summary, the metallocene polyethelene braided rope got a mixed review. The rope appears to be very durable, but it has not yet been fished on some of the more challenging bottom and under challenging conditions in Maine.

Due to the potential extreme durability of this rope, the MLA recommends additional trials of this rope in 2007 to be conducted in midcoast and downeast Maine on rough hard bottom. The MLA recommends that the manufacturer pay particular attention to ensuring that the rope is truly a round rope, and not a flat oval rope. The wrap of the rope should be tight and the diameter should be 7/16”.

With an estimated cost of \$4.50/pound, this rope would need to prove itself to be extremely durable and able to be easily fished on hard bottom under difficult conditions to justify the cost.

Weak Endlines

Weak endlines were first produced for testing by the Consortium for Wildlife Bycatch Reduction and distributed to the industry by MLA in 2005. In 2005, four lobstermen tested these ropes in southern Maine, Casco Bay, midcoast Maine and downeast Maine (summary in Appendix A). The 2005 rope was produced as a 5/16” diameter rope with an estimated breaking strength of 600 pounds. The rope is similar to the BaSO₄ groundlines in that it is a polypropylene line infused with barium sulfate, and therefore the rope sinks. Lobstermen testing this rope will generally choose to splice a piece of floating rope on the bottom 1/3 to keep the endline from immediately getting hung up on the bottom.

Although the 2005 ropes were unpopular amongst all the lobstermen who fished it, lobstermen from southern Maine were able to successfully haul from the weak endline. The weak endline parted off during its deployment in downeast Maine.

A small run of weak endline was planned for further field testing in 2006. In June 2006, Seaside, Inc. produced 20 coils of 3/8” diameter weak line with a breaking strength of 800 pounds. This rope was not available for distribution at the time of the May 2006 MLA Directors meeting when the BaSO₄ Batch 1 rope was distributed. Delivery of the weak line was further delayed due to the manufacturing mishap with the first batch of BaSO₄ ropes, to allow MLA time to investigate and understand the problems with the BaSO₄ groundlines.

Lobstermen are extremely skeptical about the idea of fishing a weak endline, especially in midcoast and downeast Maine where the bottom is rough and tides and currents run hard. Most lobstermen are concerned that the rope will easily part off and cause them to lose gear. Many do not believe the weak endline could be hauled in bad weather or in strong tides or currents.

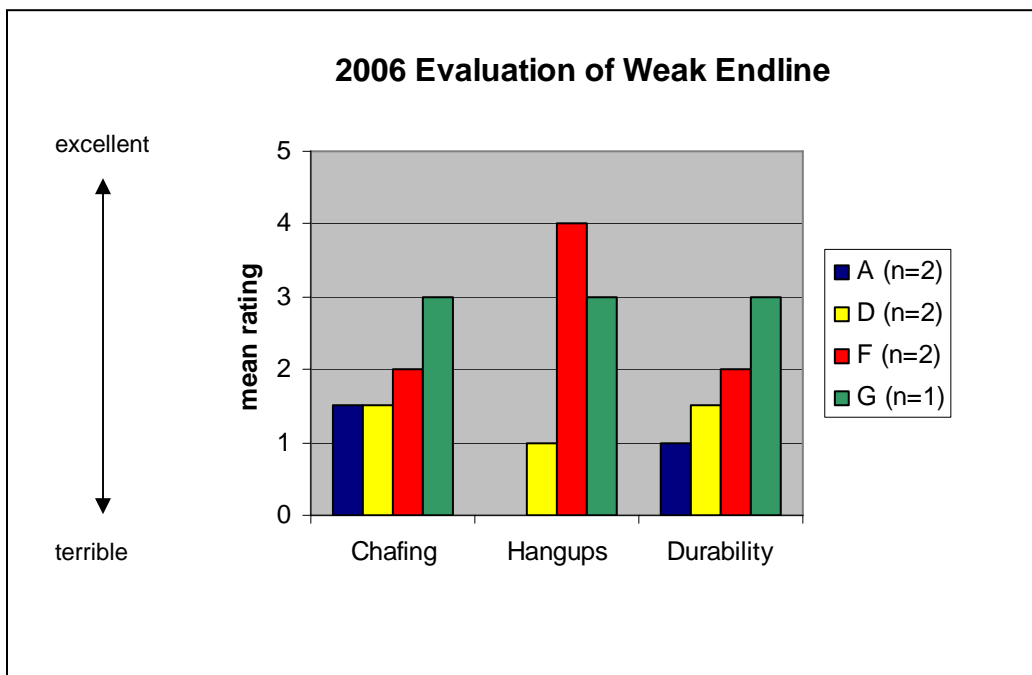
The MLA distributed the weak endline to a group of ten lobstermen, to be fished with the second batch of BaSO₄ groundlines, in August 2006. Table 4 contains the list of the lobstermen who received the weak rope.

As with the Batch 2 BaSO₄ groundlines, seven of the 10 lobstermen returned logsheets evaluating the operational feasibility of the rope and six of the 10 lobstermen returned rope samples for strength testing. One of the ten lobstermen did not return a logsheet or rope because the ropes are still being actively fished. Lobstermen used the same logsheet to evaluate the operational feasibility of the ropes on a scale of 1 (terrible) to 5 (excellent) (Table 6).

Zone	# responses	Fouling	Chafing	Hangups	Noise	Kinking	Durability	Handling
A	2	1	1.5			1	1	1
D	2	3	1.5	1	3.5	3.5	1.5	3
F	2	3	2	4	3.5	4	2	4
G	1	3	3	3	3	3	3	3

1=terrible; 3=average; 5=excellent

The weak endline was generally fished over a 2 month period from September to December 2006. This rope was rated below average on all operational aspects by Downeast lobstermen, and average by western Maine lobstermen. A Zone A lobsterman reported that the rope was deployed, and when he went back to haul it 3 days later it had already parted off. This once again reflects the more challenging fishing conditions and bottom type as you move up the coast from west to east.



Summary of Weak Endlines

There is not much support for the concept of weak endlines among Maine lobstermen. However, the weak endlines appear to have some potential in the trawl fishery in the western part of the state. Field tests from 2005 and 2006 indicate that it is possible to haul the weak endlines in this part of the state. It is hard to imagine a scenario in which

weak endlines could work in midcoast or downeast Maine due to the rough bottom and strong tides and currents. It is also difficult to imagine weak endlines working with triples or doubles because it is essential to have a reliable endline in order to retrieve those traps.

The MLA does not recommend additional production of weak lines for field testing. There are still 10 coils which were produced in 2006 which could be deployed on a limited basis on trawls in the Casco Bay area to further test the operational feasibility of weak endlines in this part of this trawl fishery.

Finally, with an estimated cost of \$3.00/pound, it would be hard to imagine a lobsterman choosing to rig his gear with a non durable rope, when the average price for a durable float line is less than ½ this price.

Stiff Endlines

In March 2006, Norm Holy produced two versions of a stiff endline. The first version was constructed of 3/8" outer diameter rubber sections, with an EPDM rubber hardness of 60. These were cut into approximate 6" sections and strung over a 3/16" inner core of braided polyethylene with a 4800 pound breaking strength.



This rope was fished off Cousins Island in Yarmouth, Maine during May and June of 2006. This rope was problematic for a few reasons. The rubber abraded and split off. This was due to the strain on the rope caused by a trap being hung down. The hang down caused the rope to be pulled very tight and was compressed between the hauler disks. The inside rope rubbed against the rubber outer and stripped the rubber. The rope had to be cut to be removed from the hauler. A section of this damaged rope was mailed to Norm Holy

in June 2006. This rope was also very difficult to rig and had to be changed each time gear was moved to a different depth. The inner core of the rope stretched causing gaps between the rubber pieces. This rope did not coil on deck.

The second version of stiff rope was constructed of 7/16" outer diameter rubber sections, with an EPDM rubber hardness of 60. These were cut into 6" sections and strung over a 3/8" inner core of twisted polypropylene with a 2300 pound breaking strength. This rope was fished from May to November in York, Maine. The deployment was successful from an operational standpoint. The rope ran through the hauler and proved durable. However, the rope was extremely cumbersome to fish, and rope

lengths required changing each time the gear was moved. The rope also fouled up quickly and was difficult to clean, but it did survive the hot tank.

In August 2006, a third version was constructed of 1/2" outer diameter rubber sections, with an EPDM rubber hardness of 60. These were cut into 6" sections and strung over a 5/16" inner core of braided polyethylene with an 8000 pound breaking strength. This rope was once again fished from Cousins Island in Yarmouth, Maine from September to November 2006. This rope was difficult to handle. The rope fouled quickly and slipped in the hauler once fouled. The sections would jam on occasion and damage the ends of the rubber sections.

Table 7 Overview of Lobstermen Evaluation of Stiff Endlines Summer 2006								
Rope	Zone	Fouling	Chafing	Hangups	Noise	Kinking	Durability	Handling
3/8"	F (N=1)			2	5	3	2	1
7/16"	G (N=1)	3	3	3	3	3	3	1
1/2"	F (N=1)	1	3		5	2	2	2
1=terrible, =average; 5=excellent								

All three versions of this rope tested "terrible" in the rope handling category (Table 7). This type of rope poses serious operational feasibility issues which would need to be addressed. In the absence of proof that this concept would be whale safe, and not potentially pose more of a threat by getting caught in whale baleen, further field testing of this rope is not planned for the next phase of this project.

Summary of Stiff Rope

In summary, the stiff rope was rated poorly for handling and therefore is not operationally feasible. There have also been some serious questions raised about whether or not this rope would be whale safe, or if the rubber pieces could cause more of a risk for whale entanglement.

Based on a lack of understanding of whether this rope is whale safe, and the many operational issues associated with fishing this rope, the MLA does not recommend any additional production or field trials of this rope.

Outreach and Coordination

The MLA did quite a bit of outreach to lobstermen to inform them of the ongoing research on experimental ropes with a goal of helping to develop whale safe gear. Among the meetings that MLA attended includes:

- Introduced the 2006 rope testing project at the May 2006 MLA Directors meeting.
- The MLA attended the Consortium for Wildlife Bycatch Reduction Annual Meeting in June 2006.
- The MLA hosted Norm Holy aboard two lobster boats to observe the Consortium's ropes being field tested (a summary of this meeting and pictures is included in Appendix H).
- The MLA attended the Right Whale Consortium Meeting and Consortium for Wildlife Bycatch Reduction meeting in November 2006.
- The MLA hosted members of the Consortium Tim Werner, Scott Kraus and Norm Holy at an MLA Directors meeting in November 2006 (meeting summary attached in Appendix I).
- The MLA attended the Take Reduction Team meeting in December 2006.
- The MLA planned and hosted a seminar at the Maine Fishermen's Forum on Whale Safe Gear which highlighted the Consortium's work in March 2006 (seminar agenda and presentation attached in Appendix I)
- The MLA attended a Consortium for Wildlife Bycatch Reduction meeting in March 2007.
- The MLA held many more discussions with industry members, Maine DMR and others over the course of the year.

Appendix A
Summary of 2005 Rope Deployments

Overview of Bycatch Consortium Rope Fished by MLA in 2005

CUTLER		
	Length Deployed	Comments
groundline	triple 60F (20 between traps)	handled good, noticed chaffing after 9 hauls
glow line	50F (with 30F sinking at top)	very loud, did not pile well; chaffed near trap after 6 hauls
weak line	80F	fouled and chaffed immediately; chaffed off after 9 hauls
<i>3 month deployment from Oct 05 to Jan 06 on hard bottom in 25-30F; 11 hauls</i>		
YORK		
	Length Deployed	Comments
1 groundline	15F pair	
glow line	6F (14F sink at top)	
weak line	20F	
<i>2 month deployment from Sept to Nov on gravel/mud bottom in 12F; 5 hauls</i>		
2 groundline	15F pair	worked well; little if any signs of wear
glow line	10F (with 2 small sinkers at bottom)	fouled after 2 weeks
weak line	10F	too small
<i>2 month deployment from Sept to Nov on rocky bottom in 7F; 8 hauls</i>		
3 groundline	30F triple (15F between traps)	stood up well
glow line	6F (14F sink at top)	rope worked well
<i>2 month deployment from Sept to Nov on mud bottom in 11F; 6 hauls</i>		
YARMOUTH		
	Length Deployed	Comments
1 groundline	60F (5 trap trawl; 15F between traps)	noisy in hauler
glow line	10F (with 5F sink at top)	
weak line	15F	
<i>2 month deployment from Sept to Nov 05 on mud in 12F; 13 hauls</i>		
2 groundline	60F (5 trap trawl; 15F between traps)	spliced & knotted well, good handling, no chaffing
glow line	7F (with 8 F sink at top)	
weak line	15F	chaffed at buoy spindle; parted after 4 hauls
<i>2 month deployment from Sept to Nov 05 on mud in 8F; 14 hauls</i>		
CUSHING		
	Length Deployed	Comments
groundline	triple 30F (15F between traps)	
glow line	10F (with 10F sinking at top)	
weak line	20F	
<i>gear was lost before first haul; no data</i>		

Appendix B
Email re Video Observations of BaSO₄ groundline

From: [Estrada, Erin L.](#)
To: [nholy](#); [Patrice McCarron](#);
CC: [Tim Werner](#); [Pat White](#); [Elliott Thomas](#); [Erin Pelletier](#); [Burke, Erin \(FWE\)](#); [Sara Ellis](#);
Subject: RE: [RE]barium sulfate groundline
Date: Monday, July 10, 2006 10:04:24 AM
Attachments:

Hi Norm,

I just watched the video that our diver's took of the line last Friday. The rope was floating 7-10 ft. off the bottom without weights and acted very similar to the low profile line that we were also testing. Both had arcs lower than the float line and would probably lay down to some extent in a high current. When the depth probes in their housings were added to the center of the rope they acted like weights. This only pulls down the center of the rope by about 2 ft. with the rope on either side of the probes floating above it to 5-6 ft. off the bottom, making an "S" shape. We have footage of this here at the lab. I hope this information is helpful! Let me know if we can be of any additional assistance.

Erin Estrada

Marine Resource Scientist I
Protected Resources Division
Maine Department of Marine Resources
Tel. (207) 633-9556
Cell (207) 350-6076

From: nholy [mailto:nholy@lycos.com]
Sent: Sunday, July 09, 2006 6:36 AM
To: Patrice McCarron
Cc: 'Tim Werner'; 'Pat White'; 'Elliott Thomas'; 'Erin Pelletier'; 'Burke, Erin (FWE)'; Estrada, Erin L.; 'Sara Ellis'
Subject: [RE]barium sulfate groundline

All,

Obviously it doesn't take much weight to knock the rope down. Do we know how high it is? Is one foot off the ground, or 10? If there is any kind of current, it is possible that the rope may be very close to the bottom. How about adding a very small weight mid-way between the traps to take that down? Then the rope might off the bottom but under a foot or two for its entire length. Just a suggestion.

Norm Holy

-----[Received Mail Content]-----

Subject : barium sulfate groundline

Date : Fri, 7 Jul 2006 14:16:44 -0400

From : "Patrice McCarron" <patrice@mainelobstermen.org>

To : "Tim Werner" <twerner@neaq.org>, "norman holy" <nholy@lycos.com>

Cc : "Pat White" <pwhite3@maine.rr.com>, "Elliott Thomas" <ethomas1@maine.rr.com>, "Erin Pelletier" <erin@gomlf.org>, "Burke, Erin \ (FWE)\ " <Erin.Burke@state.ma.us>, "Estrada, Erin L." <Erin.L.Estrada@maine.gov>, "Sara Ellis" <sara.ellis@earthlink.net>

Hello folks

Just got a call from folks at Maine DMR who did a dive survey today on the barium sulfate sinking line. Carl Wilson, the state lobster biologist, did the dive and video work.

They observed and videotaped the rope deployed between traps, and then deployed between traps with the pressure sensors in their protective casings.

The barium sulfate line from this year does float.

When observed with the pressure sensors deployed in their protective casings, the rope was dragged down by several feet.

This confirms the observations from field and the specific gravity test indicating that the rope floats. It also explains why the sensors provided conflicting data that the rope was laying on bottom.

They are working with the sensors to deploy them without

the casings in hopes that they will read accurately without weighing the rope down in the water.

On Monday, we will retrieve the data from Pat White's test comparing the 2005 and 2006 barium sulfate groundline. The sensors have been deployed as follow:

2005 rope sensors in protective casings

2005 rope sensors without protective casings

2006 rope sensors in protective casings

2006 rope sensors without protective casings

We hope that this will demonstrate how the sensors are biased by the protective casings (which are in effect dragging the rope to the bottom); and it should show if there is a difference between last year's rope and this year's rope. We may want to have the specific gravity of last year's rope tested to confirm these results, regardless of what they say.

In the meantime, I am going to mail a postcard to everyone

who has been asked to test the 2006 barium sulfate groundline and say there was a glitch in the manufacturing process and discontinue the whale safe trial. I will ask all those who had the rope in the water to complete the evaluation on the operational/handling aspects of the rope.

Patrice

Patrice McCarron, Executive Director

Maine Lobstermen's Association

1 High St, Suite 5

Kennebunk, ME 04043

207-985-4544

fx 207-985-8099

patrice@mainelobstermen.org

Appendix C
June 2006 Memo to Lobstermen and Logsheet



MAINE

Lobstermen's Association, Inc.

1 High Street, Suite 5 • Kennebunk, ME 04043

Phone: 207-985-4544 • Fax: 207-985-8099

www.maine lobstermen.org

TO: Guys fishing experimental sinking line (grey slippery groundline)

FR: Patrice

June 12, 2006

Hey guys –

Sorry for the delay in getting this waterproof logsheet out to you. I hope that you have gotten the grey sinking groundline into the water already.

Please keep the logbook on your boat, and track the number of times you haul it. Try to fish the rope as long as possible. Complete the logsheet when you take the rope out of the water, so we can document how the rope performed (or did not perform!) for you.

If the rope is badly chaffed or parts off, please keep a sample of that rope for me so I can get it back to the scientists to show how the rope failed. This is very important!

I also have some good news. Following the MLA Directors meeting, I contacted DMR to see if we could get replacement tags for any tags that might be lost while testing experimental rope. DMR has agreed to provide them, but we haven't yet worked out the details. The logbook will certainly be part of documenting this. I'll keep you posted.

Thanks so much for your help with this project.

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: _____

Experimental Rope Type: _____

NEAq sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom): _____

Typical Bottom Type Fished: _____

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled.
If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; **2 (poor)** = worse than most ropes I have used in the past; **3 (average)** = as good as most ropes I have used in the past; **4 (good)** = fishes better than most ropes I have used in the past; **5 (excellent)** = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

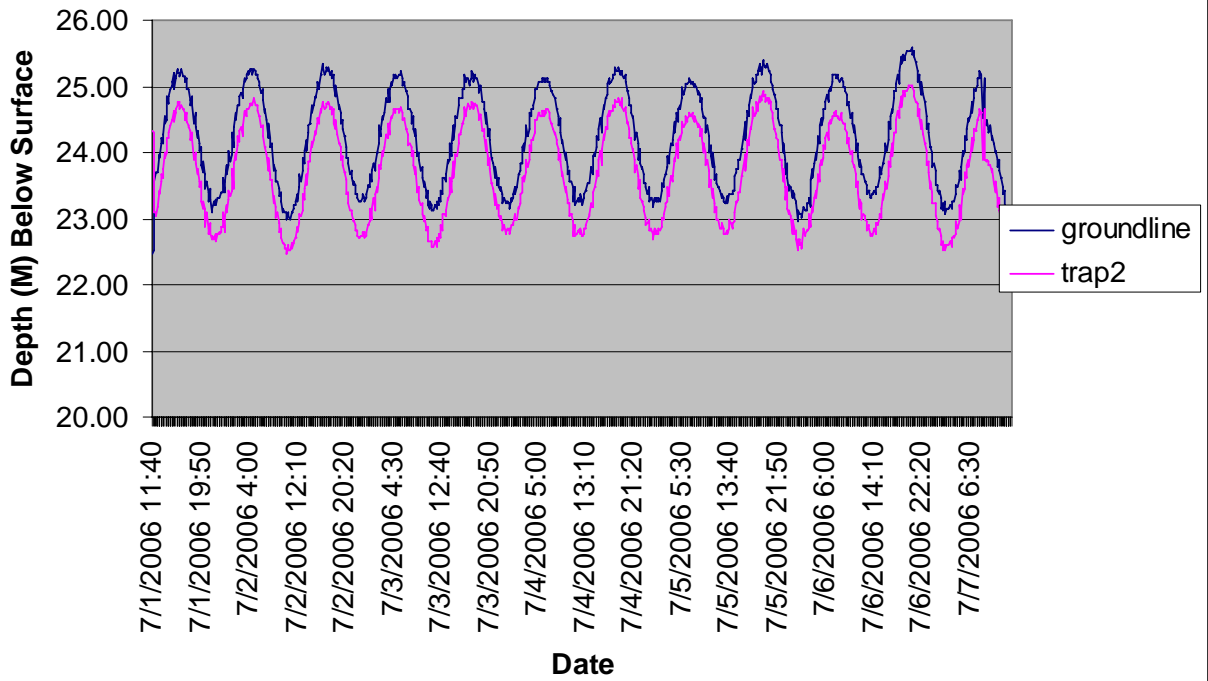
Comments

Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

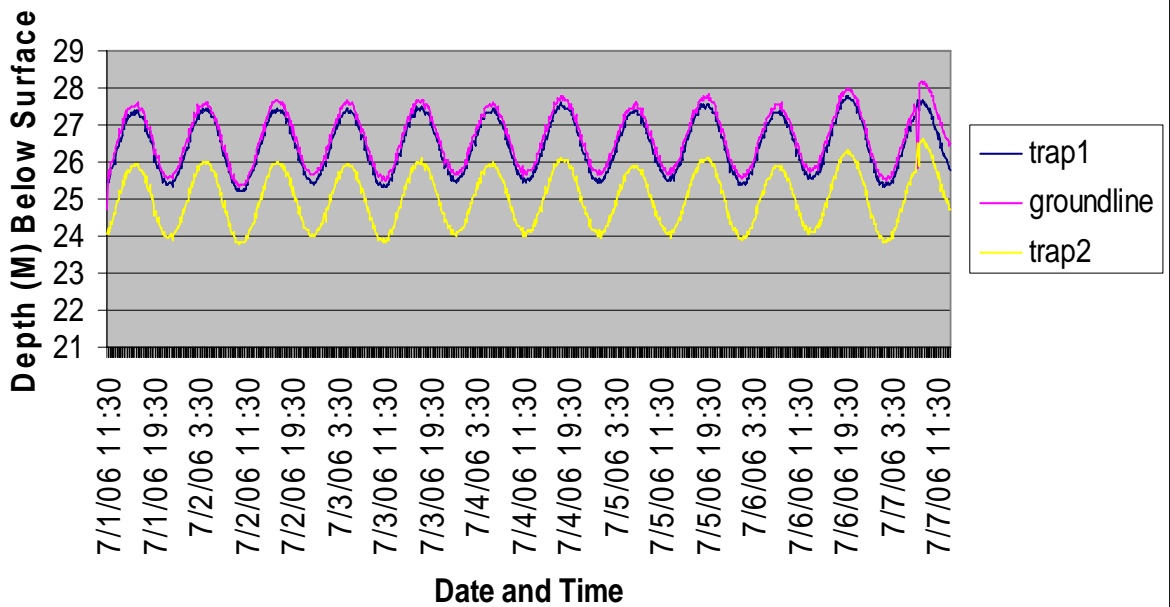
Any Other Comments *(please note anything significant while rope was being fished):* _____

Appendix D
Results of Pressure Sensor Work

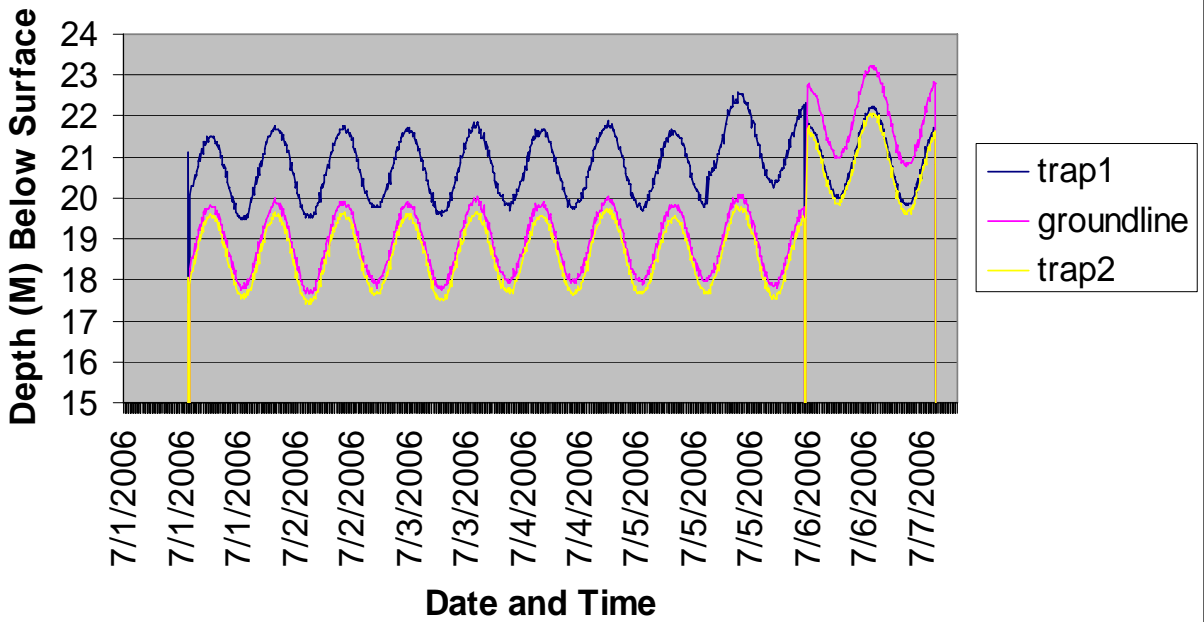
2005 NEAq Groundline Sensors with Casings



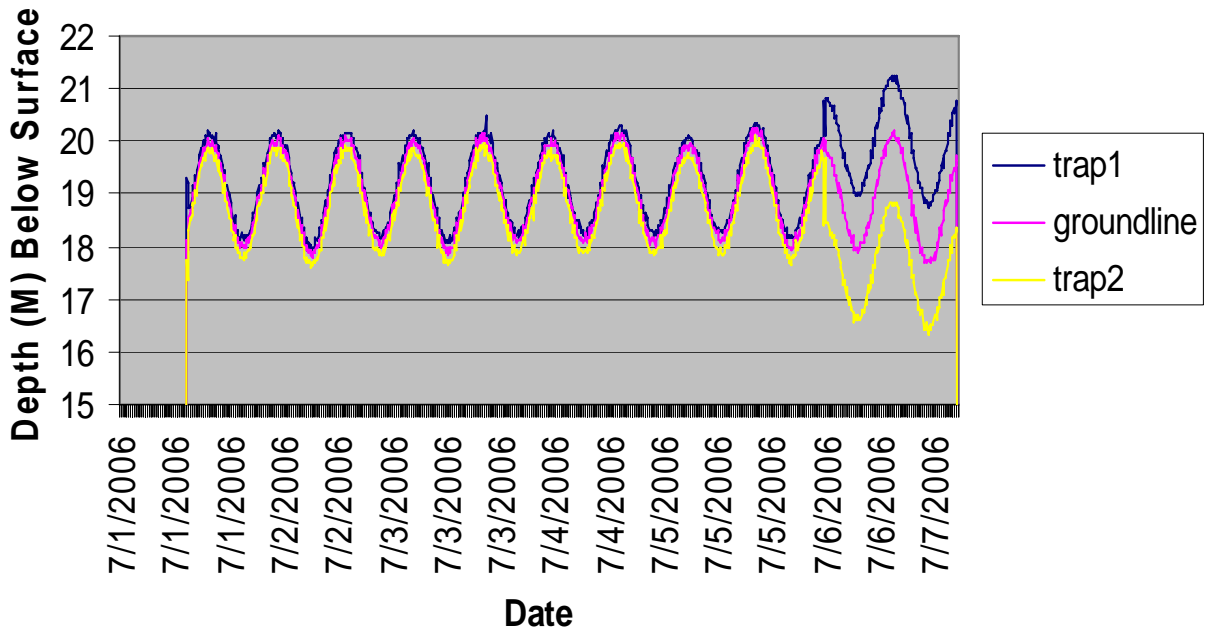
2005 NEAq Groundline Sensors without Casings



2006 NEAq Groundline Sensors with Casings



2006 NEAq Groundline Sensors without Casings



Appendix E
Postcard to Lobstermen for Rope Recall

Update on Experimental Groundline

We are canceling the industry testing of the 3/8" barium sulfate groundline. This is the 3/8" light grey sinking groundline that looks a lot like poly line.



It has come to our attention that there was a malfunction in the manufacturing process during production of this groundline, and in fact, this rope floats. Therefore, this batch of rope is not a viable "whale safe" alternative to existing groundline and there is no need to continue testing it.

If you like the rope, you are welcome to continuing using it on your own, but understand that it does float.

We would like to document your efforts in this project as we bring this phase to a close. If you did fish the rope, please complete the one page "Experimental Rope Gear Handling Assessment" which was mailed to you previously. If you did not get the rope in the water, please return that sheet and indicate that you did not fish the rope, or just call the office and leave us a message.

We apologize for any inconvenience and greatly appreciate your willingness to participate in these experimental rope trials.

Appendix F
September 2006 Memo to Lobstermen



MAINE

Lobstermen's Association, Inc.

1 High Street, Suite 5 • Kennebunk, ME 04043

Phone: 207-985-4544 • Fax: 207-985-8099

www.mainelobstermen.org

TO: Lobstermen fishing experimental sinking and weak lines
FR: Patrice

September 21, 2006

Hey guys –

Thank you so much for participating in this experimental rope project. You should have received two coils of rope:

- 1) Lavender rope = 600-800 pound weak line (end line)
- 2) Grey rope = sinking groundline

The researchers would like to see these ropes fished on at least one set; you can do more than one if you have the time or inclination. You can rig the ropes together on the same gear as endline (lavender) and groundline (grey) if you'd like, or you can fish them separately. Please do whatever is most convenient for you. Be sure to complete the enclosed logsheets once the ropes come out of the water. You will be compensated for your participation in this project as outlined below.

Lavendar Weak Endline

Please rig the lavender weak rope as an endline. This rope sinks and it is ok to rig with 1/3 floating rope on the bottom. Just indicate how it was rigged on the logsheet. This rope has been engineered to part off if it comes in contact with a whale. It is essentially a continuous weak link. The scientists are calling this a "tag line" that would be on one end of a trawl, but is not intended to be hauled unless the strong endline is missing. We are asking that you fish this line and try hauling from it on occasion to see how it goes through the hauler and if it is capable of being hauled. If the rope parts off, please note that on the logsheet and save the rope for further analysis by the scientists.

Grey Sink Groundline

This rope is designed to look and feel like a poly rope, but it is a sinking rope. Please rig this as a groundline on a pair, triple or trawl and fish it as long as it lasts. We want to measure its handling and durability as a sinking rope. There were some issues with an earlier batch of this rope this year. If you have any suspicions that this rope does not sink, please note that on your logsheet.

-- over --

Logsheets

Please keep the enclosed logsheets on your boat and track the number of times you haul the ropes. Try to fish the ropes as long as possible. Please use a separate logsheet to evaluate each rope. Complete the logsheets when you take the ropes out of the water, so we can document how the ropes performed (or did not perform!) for you.

If the rope is badly chaffed or parts off, please keep a sample for me so I can get it back to the scientists to show how the rope failed. This is very important!

Lost Tags and Traps

MLA has made arrangements with Maine DMR to replace any tags lost due to rope testing. If you are fishing this rope and lose your traps, please contact me and I will be sure to get those tags replaced immediately. Also, MLA has a small amount of money budgeted to replace lost gear if that is an issue for you. Again, just call me and let me know.

Compensation

We ask that you fish both the lavender weak line and the grey groundline for as long as the ropes hold up this season. Once you have completed this experiment (either the ropes fail or your fishing season is over), please complete the enclosed logsheets (one for each rope) and return to the MLA Office. Please keep samples of the experimental rope. We will make arrangements to collect it at the end of the season to get back to scientists for further testing. **Once we receive your logsheet and rope samples, you will be compensated \$1,000 for your participation in this project.**

Please call me at 985-4544 with any questions or concerns. Thanks so much for your help with this project.

Appendix G
Email from Norm Holy re the Green Braided Groundlines

From: [norman holy](#)
To: ["Tim Werner"; Ken Baldwin; Patrice McCarron; Scott Kraus;](#)
CC:
Subject: Rope Delivery to MLA
Date: Wednesday, March 08, 2006 10:29:41 AM
Attachments:

All,

FYI

I am tentatively scheduling to deliver some new types of rope to MLA on March 17. I will stop on the way to Seaside, Inc., in Warren ME.

3000 feet of experimental "super-resistant" groundline, 7/16 inch OD. This is composed of a polyester core and a special metallocene polyethylene braiding. The rope should float in fresh water but sink in salt water. It is designed to be the most abrasion-resistant rope ever conceived. The breaking strength will be around 5000-5500 pounds. Splicing will be difficult/impossible.

1000 feet of a 3/8 OD version of the rope above.

These ropes were made in Philly at a place that does high-tech stuff for the DOD. The ropes are not production ropes; they are my own design. If successful, there is no problem producing as much as we desire.

200 feet of a 3/8 OD cladded rope. The inner core (breaking strength 4800 lb) is 3/16 braided polyethylene and the outer cladding is black pieces (6 inches) of EPDM rubber, Hardness 60, designed to compress against the core in the hauler. This is in the category of rope that is stiff when in the water (vertical) but flexible when on the boat deck (horizontal). Providing it hauls OK, I'd like to have someone use it for the season as endline.

200 feet of 1/2 inch OD cladded rope. The core is standard polypropylene twisted 3/8

OD. Providing it hauls OK, I'd like it used for the season.

I will be making 600 lb breaking strength rope (3/8) the weekend of the 17th. We will make as much as we can. Hoping for 20 coils or more. Each coil is 1200 feet.

One adjustment that I'm making this year is to increase the amount of UV stabilizer in the 600 lb rope.

Norm

--

Search for businesses by name, location, or phone number. -Lycos Yellow Pages

[http://r.lycos.com/r/yp_emailfooter/http://yellowpages.lycos.com/default.asp?
SRC=lycos10](http://r.lycos.com/r/yp_emailfooter/http://yellowpages.lycos.com/default.asp?SRC=lycos10)

From: [norman holy](#)
To: [Patrice McCarron](#);
CC:
Subject: RE: Sinking Groundline
Date: Monday, April 24, 2006 7:19:02 PM
Attachments:

Patrice,

Bob Ames is producing more groundline this week, so I don't know how much he has. I'd estimate something like 40 coils, each 1200 feet.

I left 4600 feet of the experimental groundline with Erin. It has a polyester core and a special braid of "metallocene" polyethylene. I picked a polyethylene that should be very resistant to abrasion. I reviewed technology developments for a newsletter in the area of advances in polyethylene and polypropylene for about ten years. So I picked a special grade --- not to say that it will perform exceptionally well, but that's why we do the experiments. A metallocene is a special catalyst used to make the polymers.

I understand that Carl has picked up his 15 coils. Be sure he enters data into the system.

We will be working to produce the 600 pound groundline soon. We'll make something like 20 coils. This time the goal is to have the break at 600 pounds or above. If it's 700 pounds I'm happy with that.

Is the data summary --- from the fishermen -- available. Since I'm writing up my report it would be good to report to NMFS some quotes of the fishermen.

Norm

> ----- Original Message -----

> From: "Patrice McCarron" <patrice@mainelobstermen.org>

> To: "norman holy" <nholy@lycos.com>, "Gulf of Maine Lobster Foundation Erin" <erin@gomlf.org>

Appendix H
Summary of Norm Holy Trip to View Rope in the Field
July 2006

Norm Holy Lobster Trip with Elliott Thomas and Pat White July 14, 2006

Summary of notes prepared by Norman Holy with edits and photos by Laura Ludwig and Erin Pelletier, final edits and compilation by Patrice McCarron.

The day was organized so that Laura Ludwig and Norman Holy went out with Elliott Thomas from Yarmouth in the morning and Erin Pelletier and Norm went out with Pat White from York in the afternoon. This account is a summary of comments by the fishermen, and our observations.

“Sinking” Groundline – BaSO₄

Elliott says the rope handles fine and hauls well. He preferred the 2005 version because it handled slightly better. He wants a tight lay for the groundline; it should be a medium lay, or slightly on the tight side. There was little apparent abrasion of the rope except on one trap, where a knot at the corner of one cage (at the trap end of the bridle) was significantly abraded.



2006 Barium Sulfate Groundline Batch 1 as it is hauled on deck

On the same bridle the underneath side of the rope was prickly, i.e., showing abrasion.



2006 Barium Sulfate Groundline Batch 1 fished by Elliott Thomas; Signs of Chaffing at trap end of bridle

The 2006 version of the rope fished by Elliott Thomas floated. .



2006 Barium Sulfate Sinking Line Batch 1 fished by Elliott Thomas. The rope floats.

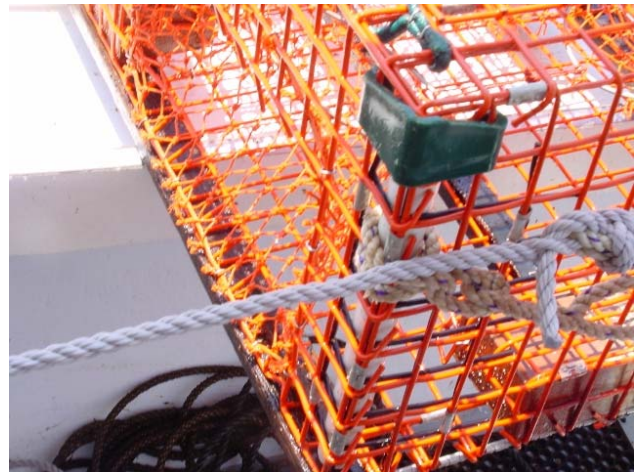


Norm Holy handling the 2006 Barium Sulfate Sinking Line Batch 1 aboard Elliott Thomas' boat.

Pat White indicated that the rope handles well and hauls well. He's marked the 2006 production to be able to distinguish it from the 2005 rope which he is still fishing.



2005 Barium Sulfate Sinking Line fished by Pat White in 2006 as it is hauled.



2005 Barium Sulfate Sinking Line fished by Pat White shows no sign of wear in year 2 fished on gravel bottom.



2005 Barium Sulfate Sinking Line fished by Pat White shows no sign of wear in year 2 fished on gravel bottom.



2005 Barium Sulfate Sinking Line fished by Pat White handles well.

Pat White sees no difference in the handling qualities of the 2005 and 2006 production. He mentioned that the 2005 rope seemed louder in the hauler and wondered what might cause certain ropes to be louder in the hauler than others. There was no significant abrasion on either the 2005 or 2006 versions.



2006 Barium Sulfate Sinking Line Batch 1 fished by Pat White as it comes through the hauler.



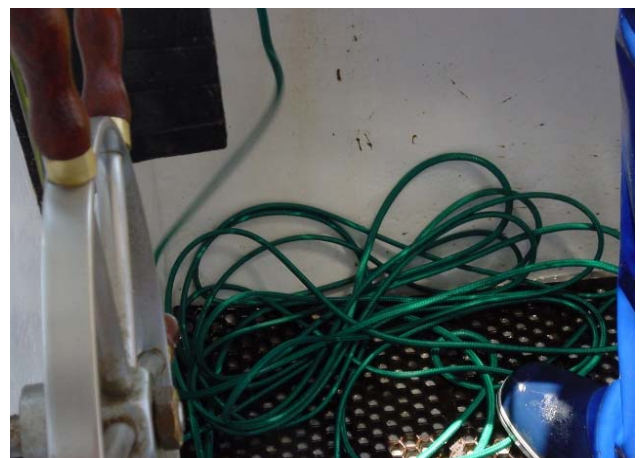
2006 Barium Sulfate Sinking Line Batch 1 fished by Pat White shows no as it is hauled on deck handles well.

Sinking Groundline – braided, green

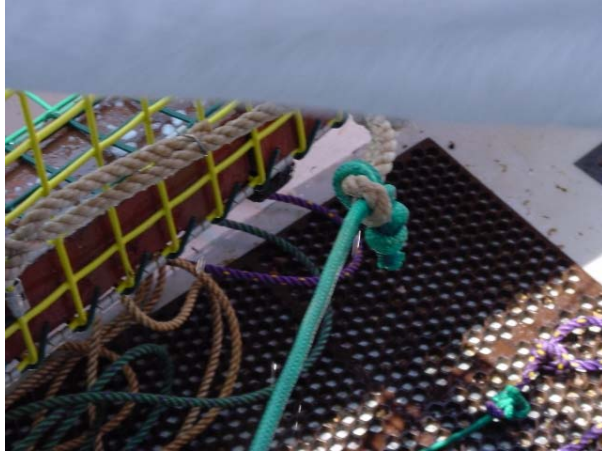
Elliott Thomas could not haul it and has stopped using it as groundline, so it was not observed on his boat during this trip. He said the rope was too small in diameter, and not solid enough to go through his hauler. He's using it in some bridles, where no wear is detectable. Elliott also noted that the rope is braided and therefore can not be spliced, making it a questionable choice since NMFS requires ropes to be as knotless as possible.

Pat White hauls this rope readily and likes it; he says it is very quiet during hauling. There was absolutely no visible sign or feel of any abrasion on any piece of examined rope.

One difference between the two fishermen's experience may be in which sample of rope they have. 1000 feet of rope was prepared in which the polyester core was not tightly wrapped with polyethylene, and 3000 feet were prepared in which the wrapping was significantly tighter. Based on this feedback from the field, it appears that Elliott received the less tight wrap from Norm Holy.



2006 Green Braided Sinking Line fished by Pat White as it comes through the hauler and then coils on deck.



2006 Green Braided Sinking Line fished by Pat White shows no signs of wear after 2 months of fishing on mixed bottom types.

Weak Endline

Elliott Thomas says the 2006 production version hauls and handles well. He's intentionally hauling his trawl from the weak end and has hauled it about 20 times with no problem. He does need to haul it carefully and occasionally reposition the boat to keep the rope from parting off. The soak time for the rope is about 60 days presently. He has no reservations about using it where he fishes trawls on soft bottom in Casco Bay.

Pat White did not like the 2005 version of weak rope and does not yet have any of the 2006 version.



Norm Holy discusses experimental rope deployments with Elliott Thomas aboard Elliott's vessel F/V Tiffany T out of Yarmouth, ME.

Note from Norm Holy: Weak endline may not be a feasible solution for off-shore lobstering. Here is one example: the boat is fishing in 200 fathoms and uses endlines of 300 fathoms. If the boat were to pick up only one cage with a weak rope, this would mean the groundline between cages one and two would need to be about 300 fathoms in length. When the off-shore guys haul they often detach the cages and store the rope in a box. Imagine a box 4' X 4' X 8'. That's a "cord" of rope.

Rubber Rope

Elliott Thomas hauled the rope with ease even given that it is not a pretty picture: as the rope exits the hauler, it flops around. There has been no sign of nicking or abrading of the rubber pieces. The pieces fit tightly in place because Elliott moves the pieces together. Elliott has noticed that the inner line stretched regardless of the knots he tied in after tightening the rubber pieces against each other, therefore the polyester core was exposed. Elliott is hauling the 3/16 core rope and the cladding is 3/8 OD. Elliott has agreed to test a new rope version- this will be

5/16 core rope; cladded pieces will have an ID of 7/16 and an OD of 1/2 inch. This will leave a larger gap (1/8 inch total – compared with 1/16 inch in current prototypes). Elliott is confident he can haul 1/2 inch, but not larger. The purpose of the larger gap is to allow the pieces to stack better in the water, and to make threading of the rope through the pieces easier.



2006 Stiff endline made of 3/8" outer diameter rubber as it is hauled by Elliott Thomas.



2006 Stiff endline made of 3/8" outer diameter rubber as it coils on deck while being hauled by Elliott Thomas.

Pat hauled his stiff endline without difficulty. Again there is no sign of any wear or nicking of pieces. Pat's rope (1/2 inch OD) goes smoothly through his hauler. It was noticed that there are small gaps between some pieces of the rubber cladding.

Neither Elliott nor Pat is convinced that the concept will prevent whale entanglement, and they doubt it is affordable. Elliott did say he took a piece to a lobstermen's meeting and everybody said it would never haul. The "never-haul" response is the universal response.



Norm Holy relaxes aboard Pat White's boat the F/V Restless beside pat's grandson and sternman Josh Volger

Note from Norm Holy: It is important to keep in mind that the observations and conclusions of the fishermen represent their views as of July 14, 2006. These views will change as more months of rope use accumulate.

Appendix I
Summary of November 2006 MLA Directors Meeting

MLA Directors Meeting Summary

November 21, 2006

Maine Chowder and Steak House, Belfast, Maine

Present at Meeting: David Cousens, Billy Anderson, Mike Myrick, Bobby Ingalls, Jack Merrill, Dwight Carver, Bob Baines, Shane Carter, Tad Miller, Kristen Porter, Jay Smith, Mark Jones, Arnie Gamage, Ted Bear, Lawrence Pye, Jon Carter, Elliott Thomas, Patrice McCarron, Erin Pelletier, Pat White, Sonny Sprague, Laura Ludwig & Sara Ellis (Gulf of Maine Lobster Foundation), Scott Kraus, (New England Aquarium) Tim Werner (Consortium for Wildlife Bycatch Reduction), and Norm Holy (Chemist/ Rope Engineer) Ben Brickett (Blue Water Concepts), Erin Estrada & Sarah Cotnoir (Maine DMR), John Higgins (NMFS), Dennis Bailey & Corey Hascall (Savvy Inc.)

WHALE SAFE GEAR DEVELOPMENT

Scott Kraus, Consortium for Wildlife Bycatch Reduction & New England Aquarium

There is still a bycatch problem with whales and lobster gear and there is increasing pressure from the government to do something about it. The New England Aquarium is a research organization, not government, and he has been focusing his efforts on helping with the whale issues in our area. Although many fishermen have found their ideas for gear modifications to be a bit “hair-brained”, he wants to work with fishermen to test their ideas so they can find things that work for the industry. There are three approaches to the bycatch problem:

1. Prevent entanglement from occurring. This would mean removing end lines or have gear that whales are able to avoid. Glow line has been tested as an idea for a rope that whales would avoid.
2. Whales Free Themselves. Make a rope that won't tangle the whale up or whales are able to easily escape from. A “stiff rope” is an idea in which it is thought that if a whale hit it, it would not get wrapped around the whale. They have tested 5 or 6 different types, none of which have worked, but that's why they call it research. Weak rope and breakaways are also ideas. If a whale gets caught in these, the device or the rope will break and the whale will be free of gear.
3. Disentangle Whales. This approach focuses on developing gear that could easily be removed off a whale. Ideas for this include a rope that would be fat soluble and dissolve or fall off the whale on its own.

Scott stated that they need help from the fishermen to come up with ideas so that the scientists can develop more “tools” for the fishermen. He concurred that this is a difficult issue for Maine because there are so few right whale sightings in Maine waters. However, the government and conservation community continue to push for management changes in this area, so they are working to try to find solutions that will work for fishermen. He does not believe that there is one solution that will work for all fishermen. He suggests that there may be different gear modifications which could be adopted in different areas.

Tim Werner, Consortium for Wildlife Bycatch Reduction

Tim gave an overview of the types of work the Consortium is involved in. The Consortium's objectives are to identify and promote practical solutions for eliminating bycatch as a threat to endangered species, ecosystem health and sustainable fishing. They also work to reduce wildlife bycatch through increased sharing of scientific information and collaborations among scientists, the fishing industry and governments. The MLA is one of

the Consortium's founders and works to test gear ideas and get the industry's ideas of how to solve the bycatch problem back to the scientists.

Norm Holy, Polymer chemist and gear developer

Norm has been working directly with rope manufacturers to develop several experimental ropes for testing by Maine lobstermen. He has designed a "sinking groundline" made out of polypro which is infused with barium sulfate, an insoluble material. David Cousens pointed out that fishing with sinking line near boulders is extremely dangerous because of hangdowns and abrasion.

A second rope that Norm developed and has been tested by MLA is a polyester/polyethylene, braided sinking groundline. It is an extremely durable Teflon coated rope with a breaking strength of near 8,000 lbs. He stated they had trouble with the process of making this and are still working out the details. He isn't sure about the cost of the rope, but thinks it would be pricey, probably \$2.40- \$2.50 a pound. The fishermen who tested it in southern Maine said it needed to be thicker, the rope jumped out of the hauler. David Cousens pointed out that these ropes need to be tested in areas where there are large boulders and rocks. Norm stated they tested this rope in the mud first to see if it was worth testing in other areas.

Norm has also developed a "glow rope" to can be used as an end line. This rope glows in the dark at a wavelength that the whales can see and would hopefully steer the whales away from the line. Limited trials by the MLA last year showed that the glowing characteristics of the rope break down after going through the hauler. This problem can be fixed but it would likely make the rope cost prohibitive. In addition, it has been impossible to get permits from the government to test the concept of this rope with whales. We don't actually know if they would avoid the rope.

They have been working on developing "stiff lines" for endlines. The idea behind these is that the rope is stiff so if a whale encountered it, it would not wrap around and entangle the whale. The whales would bounce off the line rather than getting entangled in a slack line. Norm demonstrated a rope with a rubber core on the inside which can be inflated to remain stiff. The fisherman would use a pressure release to make the rope go limp in order to haul it. A second concept was developing a rope with a rubber coating that goes on the outside of a polyester core which remains stiff while in the water.

He has also developed a weak line as an endline designed to break at a predetermined weight such as 600 lbs. This rope would be used as a tag line. It would be capable of hauling, but fishermen would use their other endline to regularly haul the gear. If the regular line was lost, the weak line could be hauled to retrieve the gear. Fishermen should set it so that the length of groundline between the last two traps at the weak line is longer than the length of weak line so that there is never more than the weight of one trap on that line if it is hauled. David Cousens said they shouldn't put a lot of effort into that because when the fishermen hauls traps the weight of a tangle can break the line. They fish ropes with an 1800 pound breaking strength now and the gear still parts off due to tangles with other traps. Scott Kraus reminded everyone that the "weak end line" would be used as an emergency haul line, not a regular haul line, and again not all ideas will work for all fishing methods.

Discussion

The fishermen discussed other methods such as anchoring gear, maximizing the number of traps on an end line, or shortening lines between traps. Scott Kraus says that anchoring is good because if the whale runs into that line it will break off. Some lobstermen believe that shortening lines between traps is very dangerous for crew working on board.

Pat White asked if we should be testing to see if whales are in these areas before we get too involved with the low profile or sinking ropes. It's been stated that whales get entangled when they are foraging with their mouths open. Do whales forage on hard bottom? Scott Kraus stated that there are many factors involved in determining where a whale might feed. He believes whales in transit travel from the top to the bottom of the ocean with their mouths closed. If we understood the hydrodynamics of the water and where the copepods were, we would have a better understanding of where the whales feed. He agrees that the National Marine Fisheries Service needs to find that out.

Overall it was an interesting discussion about the possibilities that are currently out there and what other technologies are to come. Scott Kraus believes that fishermen are the leading edge on this and hold the key to a finding a workable solution. Pat White urged the MLA to continue to support from Scott and other scientists for the emerging technology to move forward to the government.

Ben Brickett, Blue Water Concepts Inc.

Ben presented a concept of a trigger release as a cost effective tool to reduce whale entanglements from endlines. The device works on the buoy line and allows fishermen full line tension capability (in contrast to the weak link). If a whale encounters the line, the device is triggered and will cut the line allowing a knot-free line to pass free through the whales' baleen. For the pot end of the buoy line, he has devised a time tension line cutter that allows full line strength at each lobster trap in a trawl, but releases or cuts the line at a predetermined force and time. The line cutter can be pre-set for a specific load and once exceeded, the device cuts the end line from the bottom gear. He pointed out that more testing of these units is needed to work out the kinks. One issue that has been revealed through testing is that the timed tension line cutter does not go over the block and is therefore difficult for some to fish it. Each unit would be priced at about \$20-\$25 a piece.

Erin Estrada, Maine DMR

Erin gave an overview of the trials of the low-profile rope testing. The Gulf of Maine Lobster Foundation (GOMLF) partnered with DMR to perform testing on experimental rope in the summer and fall of 2006. GOMLF supplied 100 pressure sensors to record the height of rope set between traps. The majority of field testing was done in conjunction with the DMR's Regional Ventless Trap Survey which utilized six fishermen who set ventless traps across the state in three statistical areas at randomly chosen sites in three distinct depth strata. A subset of these sights was configured with two types of low profile groundline as well as standard poly float line for comparison purposes. These sites were sampled using data depth loggers to document the arc height of each line. A total of 135 sets of line were sampled state-wide during the Regional Ventless Trap survey.

In October, an additional 35 sets were done working with several fishermen. In this trial all four of the low profile ropes were tested in a side by side trial along side float rope as a control. This enabled DMR to look at the reduction in arc of the low profile ropes vs. the floating rope, and look are regional differences within the state.

The results showed that on average float rope arcs to approximately 9-10 ft, while the low profile ropes were all significantly lower, between 1 ft to 6 inches, and up to 3 feet at the highest point. The highest arcs of float rope were recorded in the western part of the state and lowest were in the eastern part of the state. Regional differences in the line's behavior in the water column are only seen in float lines, when the profile is high enough to be greatly affected by the tidal currents of eastern Maine. This is also demonstrated by float line in eastern Maine (statistical area 511) which showed to have a comparable arc height to those of the low profile lines. A high tidal current will force the float line down but the low profile lines are floating close enough to the bottom not to be affected.

All four low profile lines exhibited statistically different profiles from that of float line in all areas. However, only the most buoyant of the low profile line, Hy-Liner (gray rope with the orange tracer), showed a statistical difference from the profile of sink line. This suggests that the Polysteel lines (3 green lines with yellow, orange or red tracer), while still giving some degree of floatation to the fishermen, are averaging arc profiles low enough (less than a foot off the bottom) to reduce the risk of entanglements to large whales. This reduction in risk does not change with depth. The arcs within the low profile ropes were low enough that the tides did not affect them. The ropes performed the same at different depth stratas.

The information provided by the data loggers in this project has gone a long way in determining the feasibility of creating groundlines that can provide floatation to fishermen fishing in rocky, variable habitats while maintaining a low entanglement risk by averaging less than a foot off the bottom. However, the operational feasibility of such lines has not made as much progress. It is apparent from the interviews and personal communications with fishermen that the wear associated with these lines coming in contact with the bottom, even occasionally, is still at unacceptable levels. The Hy-Liner brand 7/16" low profile line in particular exhibited the highest average profiles but received the lowest ratings in the categories of chafing, hang downs, and durability. While the results of this study are promising with regards to lowering the risk of entanglements to large whales, there is still not a viable solution that will allow the Maine lobster industry to operate at an economically feasible level. It is the aim of the DMR to pursue that balance with additional research of more durable lines as well as the occurrence and behaviors of large whales in Maine coastal waters.

Erin mentioned that they are also processing the results of the end line survey which was mailed out to lobstermen and they will be presented at the TRT meeting Dec 6-8. They are also looking at the specific gravity of all the ropes and comparing that to the definition of sink line which is 1.03 specific gravity.

MLA BUSINESS (Open to MLA Directors and Members only)

Landing dragged lobsters

David Cousens attended a meeting held in November by Commissioner George Lapointe, and members of the lobster and groundfish industries to discuss the issue of allowing lobster from the non-trap sector to be landed. The MLA's position at that meeting was very clear; the MLA does not support landing dragged lobsters but we would be willing to assist them on other issues. The MLA supports giving the fish pier incentives and reducing the fuel tax. He urged the groundfish industry not to pursue this at the Legislature as the lobster industry would turn out in droves to fight it. Patrice send an editorial to the Portland Press Herald highlighting all the reasons landing dragged lobsters is a bad idea. The

directors felt that the groundfish industry would have a hard time finding someone to introduce that idea to the Legislature.

ASMFC Addendum X

ASMFC has released the public comment draft of Addendum X . The purpose of the document is to investigate establishing a consistent coast-wide monitoring and reporting criteria for the lobster industry citing that insufficient data is the primary limitation on managers' ability to manage the fishery.

This document is confusing because the industry already weighed in on this issue last spring when Addendum VIII went out for comment. Addendum VIII was passed by ASMFC in May 2006 and approved the following measures:

- Approved new biological reference points to determine stock status
- Expanded the mandatory coastwide reporting requirements requiring the following for implementation by January 1, 2008:
 - Catch and effort data by month
 - Trip level catch and effort reports by census or 10% sampling
 - Dealers required to report trip level transaction data.

Addendum X uses that measures passed in Addendum VIII as the status quo, and offers to alternatives that require even more intensive reporting requirements. There are 4 public hearings scheduled in Maine in Machias, Nov. 27, Rockland, Nov. 28th, Ellsworth, Nov. 29th, and Portland, Nov. 30th. The MLA will submit written comments in favor of the status quo option. Comments are due by December 15th.

Gear Conflict

There are two gear conflict issues which arise year after year. The first is that every year during the fall the herring purse seine vessels come inside and lots of lobster traps are lost. There is also a problem with large herring carriers bringing the catch into port leading to large loss of traps. This is a difficult issue and may not be as significant next year with the reduced TAC in Area 1A as well as the inability for boats to fish on spawning stocks of fish. The MLA is looking into a proposal to break up the herring season in order to stretch out the time when fish are landing. This would put a reserve to save a portion of the TAC until the end of the year.

ASMFC announced that shrimp season will be 150 days beginning December 1 through April 30th. There was not a single lobsterman at the public hearing to testify in favor of delaying the opening of the season. Given the dire condition of the groundfish stocks and the apparent health of the shrimp resource, it would have been nearly impossible to justify a delay in the shrimp season. The DMR plans to work with lobstermen and shrimpers to help identify traditional bottom for both in various areas along the coast. They will produce charts to help avoid gear conflicts between these sectors.

LAC Update

The Safety Education Program for Apprentices has been approved through DMR Rulemaking. The lobster license plate fund has awarded money to help defray a portion of the cost of this program for apprentices.

DMR has put forward a bill to implement the effort reduction package discussed by the LAC earlier this year. The DMR has learned from the state's Attorney General's Office that the

proposed provision to require all students/apprentices to receive a GED or high school diploma before obtaining a commercial lobster license is considered unconstitutional. It is a violation of the equal rights provision of the Constitution. The DMR bill also contains a provision to require all student license holders to spend a minimum of 50% of their time working on a sponsor's boat.

Executive Committee meeting

The MLA Executive Committee held a conference call to discuss MLA issues in preparation for this Directors meeting. The executive committee voted to financially support Pat White in his role representing the lobster industry at ASMFC. Pat will be asked to continue to keep the MLA up to date on important ASMFC issues and attend Directors meetings as necessary.

The Executive Committee brought a request to join the national Commercial Fishermen of America (CFA) group to the full board for consideration. The CFA is trying to put together a national agenda for the fishing industry focusing on issues of common interest such as a national health insurance policy, water quality, among others. Pat White is a founding member of the organization and currently represents Maine at CFA. The Directors will give this further consideration and vote on it at the next meeting.

New Business

Myron (Sonny) Sprague, a fisherman from Swan's Island asked the MLA to support a bill to put a larger biodegradable panel (or ghost panel) in lobster traps to help protect large lobsters in ghost gear. Sonny feels that we are ruining our brood stock because the ghost panels aren't big enough for the larger lobsters to get out. He also mentioned the idea of having a smaller sized wire on the bottom of the traps to prevent the tips of claws from getting damaged. This would increase the quality of the catch.

The Board thought that these ideas had merit and were worth further consideration. The MLA asked Bob Baines to bring it to the LAC for further consideration.

The MLA is working with DMR Marine Patrol to put a bill forward to change way lobster violations are handled. The MLA wants violations to be handled in the administrative court rather than the criminal court to ensure that there are actual consequences for those who violate the law. It is believed that if a lobsterman really feared loss of a license he may not violate the law.

Shane Carter raised an issue about the conduct of the DMR trawl survey in the MDI area. There were reports of the DMR trawl survey crew cutting lobster gear and reports of warden's standing by during this.

Update on the Whale Regulations and MLA Response

MLA has retained the services of Kelly, Drye, Collier, Shannon along with Savvy, Inc, a marketing and press agency, to get the word across about MLA's efforts on this whale issue. The MLA wants to be ahead of the issue and let the public know that the proposed whale rules will threaten the very livelihood of many lobstermen. It is also important to let the public know that the proposed whale rules do not have a strong scientific basis. Dennis Bailey gave the board members some tips and important talking points to use when called by the press. It is important for the press to understand that Maine lobstermen have always

been stewards of the ocean and want to work together with scientists to keep the whales safe.

Pat White gave an update that the FEIS is still on hold, it's currently being held up at OMB (Office of Management and Budget) and suggested that the MLA be cautious in giving any opinion before we know the content of the Final Rule. Patrice mentioned we can comment on the Proposed Rule.

Two important things have happened which likely contributed to the delay of the FEIS. Drew Minkiewicz from Senator Snowe's office met with OMB and pushed Maine's position. He talked about the fact that right whales are rarely sighted in Maine and are not known to forage here. He felt that the meeting had an impact. Additionally, MLA's legal counsel, Dave Frulla, submitted a statement to OMB in cooperation with the Small Business Administration reiterating MLA's position that the economic analysis in the Proposed Rule is inadequate and that the lobster industry must bear the full cost of this rule.

Patrice made a trip to Rhode Island to view the gear that has been removed from whales which have been disentangled. The trip was a disappointment because she was not able to view a lot of gear, never mind try to really look at gear attributed to the lobster industry. The MLA would like to organize a trip back to Rhode Island this winter and request to see all the gear removed and really examine gear attributed to the lobster industry.

DAM Closure:

There are two DAM closures in effect from November 18 – December 2, 2006 and both have been extended until December 17th. The first is in Zone G and runs straight into the beach. The second is offshore in the midcoast area but contains Matinicus Island. MLA sent comments to NMFS requesting that the gear modifications be made voluntary, but NMFS rejected the request. (see comments and NMFS response in newsletter).

Memberships:

The staff asked the board to become more active in recruiting memberships. We will send a mailing to the board to supply them with membership envelopes and reasons why it's important for fishermen to support the MLA. They gain information about all the rules that are changing and how these will affect them as fishermen. Many fishermen did not even know about the recent DAM zone. This is a critical time for fishermen to be informed.

Next meeting to be scheduled in January 2007

Appendix J
Maine Fishermen's Forum Seminar on Whale Safe Rope

Developing Whale Safe Lobster Gear
An update on whale-lobster gear research in Maine
Friday, March 2 at 1:00pm to 2:30pm
Rockport Room at the Samoset Resort

Maine's ongoing efforts to equally protect fishermen and the large whales have focused on the development and testing of "whale safe" gear modifications that will be operationally viable for the fishing industry and greatly reduce the risk of entanglements to large whales. Much progress has been made in the last several years. Come listen to the varied summaries of the ongoing low-profile groundline and other risk reduction projects. This session will conclude with an update on the status of the pending Final Whale Rule.

Moderator: Sarah Cotnoir, Maine DMR

1:00 Welcome and Introductions (Patrice McCarron)

1:05 Overview and Summary of DMR Low Profile Research

- Erin Summers, Maine DMR
 - Low profile groundline testing results
 - Where do we go from here? Next Steps

1:30 Overview and Summary of Wildlife Bycatch Reduction Consortium Gear Testing

- Norm Holy, Smart Gear – overview of gear concepts
 - Groundlines
 - Barium sulfate sink line
 - Teflon braided sink line
 - Vertical Lines
 - Glow rope
 - Weak rope
 - Stiff rope
- Patrice McCarron, Maine Lobstermen's Association
 - Results from Field Testing

1:45 Overview and Summary of Time Tension Line Cutter

- Ben Brickett, Blue Water Concepts
 - Field results of the time tension line cutter

1:55 Overview and Summary of NMFS Gear Research

- John Higgins, National Marine Fisheries Service

2:10 Update on Final Whale Rule

- Sarah Cotnoir, Maine DMR

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: _____

Experimental Rope Type: _____

NEAq sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom): _____

Typical Bottom Type Fished: _____

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled.
If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

Comments

	1	2	3	4	5	
Fouling	1	2	3	4	5	_____
Chafing	1	2	3	4	5	_____
Hangups	1	2	3	4	5	_____
Noise	1	2	3	4	5	_____
Kinking	1	2	3	4	5	_____
General Durability	1	2	3	4	5	_____
General Handling	1	2	3	4	5	_____

Any Other Comments (please note anything significant while rope was being fished): _____

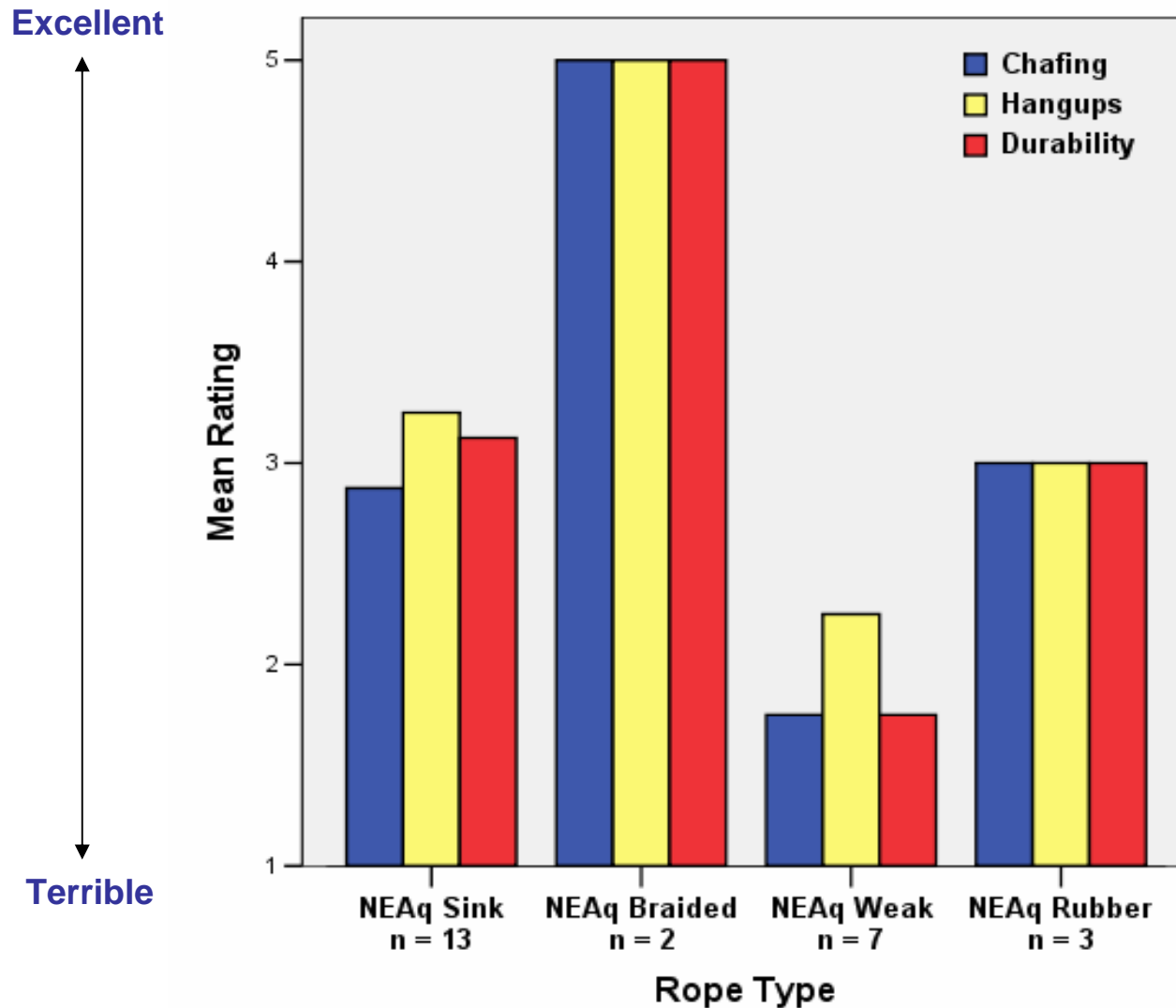
4 Types of NEAq Rope Rated by 7 Categories via Questionnaire

Case Summaries

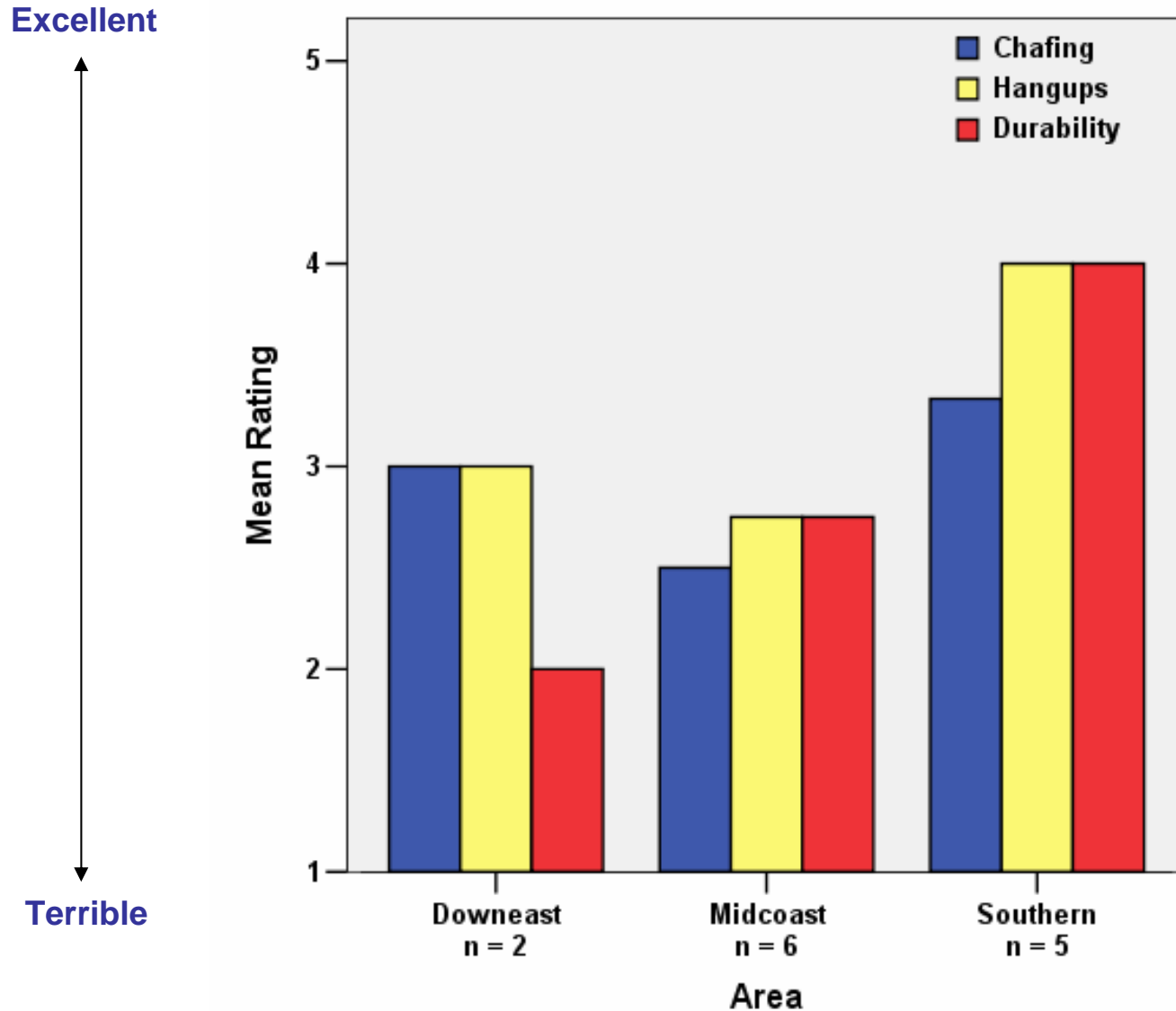
Rope Type		Chafing	Hangups	Fouling	Noise	Kinking	Durability	Handling
NEAq Sink	Mean	2.62	3.00	3.45	3.25	3.82	3.00	3.60
	N	13	11	11	12	11	10	10
NEAq Braided	Mean	4.00	3.50	5.00	5.00	3.50	5.00	3.50
	N	2	2	1	2	2	1	2
NEAq Weak	Mean	1.86	2.25	2.67	3.40	3.17	1.71	3.00
	N	7	4	6	5	6	7	6
NEAq Rubber	Mean	3.00	2.50	2.00	4.33	2.67	2.33	1.33
	N	2	2	2	3	3	3	3
Total	Mean	2.54	2.84	3.15	3.59	3.45	2.57	3.10
	N	24	19	20	22	22	21	21

Comparison of Four Types of NEAq Rope

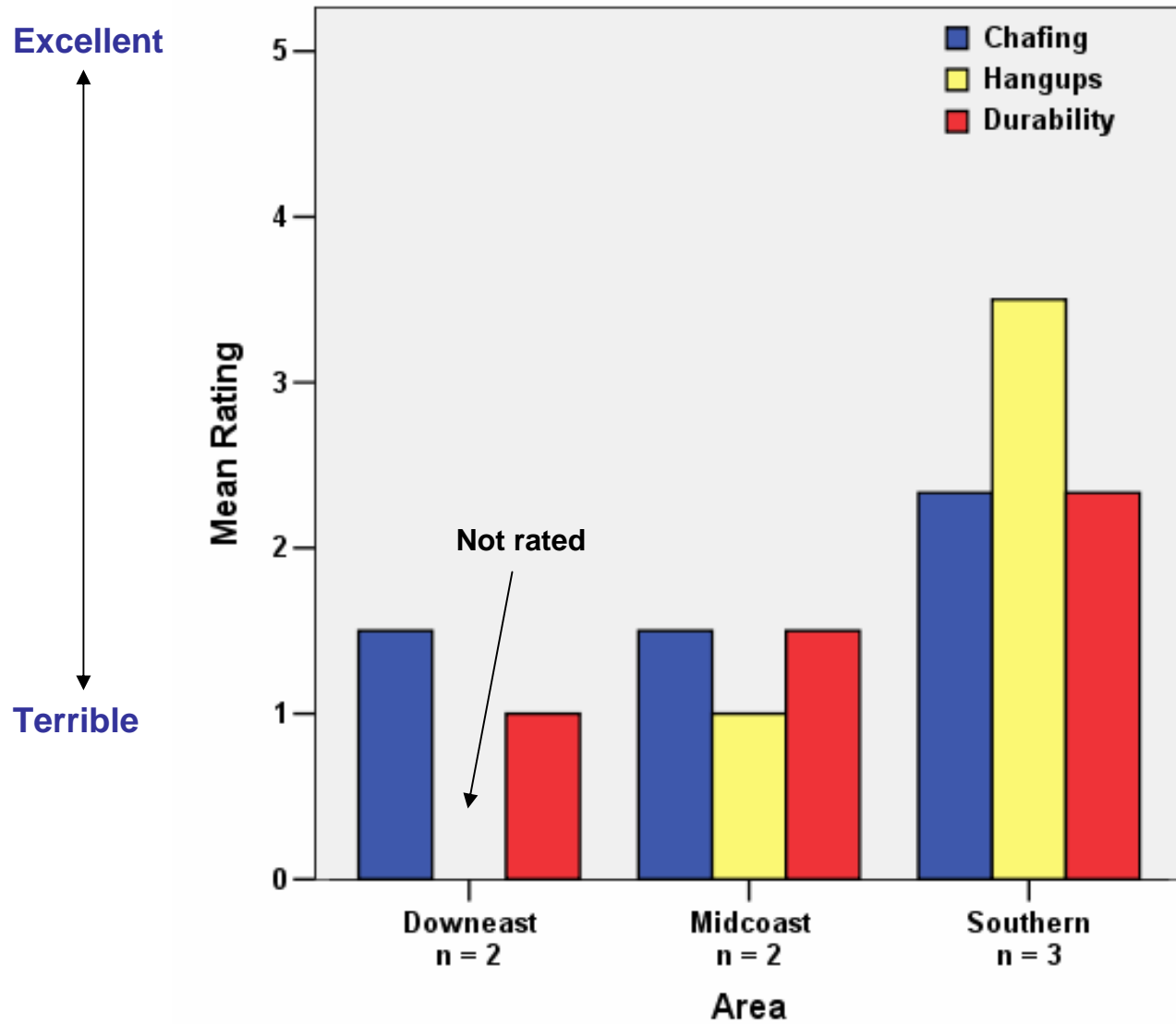
Rated by 3 Main Categories



Ratings of Sink Rope Compared by Fishing Area



Ratings of Weak Tagline Compared by Fishing Area





Appendix K
Completed Logsheets 2006 Field Season

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: John Down

Experimental Rope Type: Neq Grey Sine (Butch-2)
NEq sink (light grey), Hyliner (top) (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): 10 trap trawl

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? 200 f.

General Location/Area Fished: LMC - off Cuthers

Depth Range Fished (in Fathom): 46 f.

Typical Bottom Type Fished: Rocky to cobble to mud
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept + Oct

Estimated Number of Times Rope was Hauled: 10

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

|||||
 parted rope on the third haul!

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	
Any Other Comments	(please note anything significant while rope was being fished):					

This rope started chafing within two weeks. After the third haul it parted. On rough weather days, I would not haul this trawl, it takes too much time to repair and overhaul a trawl when it parts out.

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: John Brown

Experimental Rope Type: lavender weat line
NEAd sink (light grey), Hyliner Iapro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): Trawl

How many sets of gear was the rope fished on? one

Amount of rope fished (total length for all sets in Fathoms)? 120 Fm endline

General Location/Area Fished: Grand Manan Channel - off Cather

Depth Range Fished (in Fathom): 46 Fm.

Typical Bottom Type Fished: Rocky to cobble with mixed mud + sand
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept.

Estimated Number of Times Rope was Hauled: livers hauled - partial off

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	I set this trawl with the endline on a Friday. On Monday of the next week it had parted off. This endline didn't even last 3 days. This rope could never be used to haul up my trawl's even as just for security.
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished? Lobster 1P = 15

Name: Bob Barnes

Experimental Rope Type: Neaq Wreck 200L
NEAQ sink (light grey), Hyliner Iopro (silver/grey) with red tracer, Other (please name)

How was gear fished? (pairs, triples, trawls, etc): Singles 1 pair
(18F) (12F)

How many sets of gear was the rope fished on? 10

Amount of rope fished (total length for all sets in Fathoms)? 150F
12.5F 12.5F

General Location/Area Fished: So Thomas 2 Bush Channels

Depth Range Fished (in Fathom): 12-16 F

Typical Bottom Type Fished: HARD
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: OCT - NOV

Estimated Number of Times Rope was Hauled: 6

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope? Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
--	---------------------	----------	-------------	----------	---------------	----------

Fouling	1	2	<u>3</u>	4	5	
Chafing	<u>1</u>	2	3	4	5	<u>parted off 1 after 1 haul</u>
Hangups	<u>1</u>	2	3	4	5	<u>one 10 were badly hung down</u>
Noise	1	2	<u>3</u>	4	5	
Kinking	1	2	<u>3</u>	4	5	
General Durability	1	<u>2</u>	3	4	5	
General Handling	1	2	<u>3</u>	4	5	

Any Other Comments (please note anything significant while rope was being fished): lost 4 win 3 hauls;

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Bob Bavin

Experimental Rope Type: Neag Sink #2 2 cable
NEAg sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): Pairs &

How many sets of gear was the rope fished on? 5

Amount of rope fished (total length for all sets in Fathoms)? 12FX5 = 60FE

General Location/Area Fished: 2 Bush Channel

Depth Range Fished (in Fathom): 12-16 F

Typical Bottom Type Fished: HAULS
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Oct - Nov

Estimated Number of Times Rope was Hauled: 6

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Checked & parted off 4 of 5 gear were severely chafed

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

SYE

How was the rope fished?

Name: Bob Baines

Experimental Rope Type: NEAQ sink

How was gear fished? (pairs, triples, trawls, etc): pairs

How many sets of gear was the rope fished on? 10 pair

Amount of rope fished (total length for all sets in Fathoms)? 120 fathom

General Location/Area Fished: Outer Penobscot Bay

Depth Range Fished (in Fathom): 10-20 fathom

Typical Bottom Type Fished: 5 pair rocky / 5 pair mud/sand

During Which Months was the Rope Fished: May

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

String 1 /

String 2 IIII

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	
Any Other Comments	(please note anything significant while rope was being fished):					

Comments

I tried fishing this rope on hard bottom and heavy bottom. I got a few hauls on the first set. I put a lot of rope back on. I am still fishing one string in the mud.

Experimental Rope Gear Handling Assessment

3005

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Quelly Robinson

Experimental Rope Type: Wear - Lavender

NEq sink (light grey), Hyliner (top) (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): trawls

How many sets of gear was the rope fished on? 8 trap trawl

Amount of rope fished (total length for all sets in Fathoms)? 1200 feet

General Location/Area Fished: Cape Elizabeth

Depth Range Fished (in Fathom): 30 fathom

Typical Bottom Type Fished: rocky

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: SEPT + OCTOBER

Estimated Number of Times Rope was Hauled: 17 times

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

kept on calendar
hauled 30 times
used for weak link
for check water

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	<u>I used this rope on the</u>
Chafing	1	2	3	4	5	<u>but ten feet of rope</u>
Hangups	1	2	3	4	5	<u>but my weak link!</u>
Noise	1	2	3	4	5	<u>it worked all right</u>
Kinking	1	2	3	4	5	<u>of lost some boys - 10 but</u>
General Durability	1	2	3	4	5	<u>would have lost those</u>
General Handling	1	2	3	4	5	<u>anyhow to tamper & trouble!</u>

Any Other Comments (please note anything significant while rope was being fished):

NEA 2

SINX B 2004

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Andrew - Andy Johnson

Experimental Rope Type: SINK SILVER (please mark NEAq sink (light grey), Hyliner (oproc (silver/grey with red tracer), Other (please mark

How was gear fished? (pairs, triples, trawls, etc): 8 trap traps

How many sets of gear was the rope fished on? 1 had one to trap

Amount of rope fished (total length for all sets in Fathoms)? 1200 ft

General Location/Area Fished: Port land light ship

Depth Range: Fished (in Fathom): 40 fath

Typical Bottom Type Fished: hard bottom

During Which Months was the Rope Fished: Oct Nov Dec

Estimated Number of Times Rope was Hauled: 30 times

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

around 30 times

The tankers processed

the boys off a week

ago so I have to

to keep the 16 trap trawls

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	It was good but I was but it hung down a lot compared to poly.
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

It seems to be going down more than any poly and should be used

Robbie
Dunkley
George Morrill

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

Experimental Rope Gear Handling Assessment

11/06

How was the rope fished?

Name: Cory Morrill

Experimental Rope Type: Lavender West Wind
NEAg sink (light grey), Hyliner Iopro (silvergrey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): 2 Hauls 7 singles

How many sets of gear was the rope fished on? 7 singles then paired up

Amount of rope fished (total length for all sets in Fathoms)? 16 FA

General Location/Area Fished: Mile north of Green Islands, Penobscot Bay

Depth Range Fished (in Fathom): 10-14 FA

Typical Bottom Type Fished: rocky
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept, Oct

Estimated Number of Times Rope was Hauled: 7 to 10 times

Number of Hauls

Place a tick mark each time the rope is hauled.

If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

Sept. 10 & 13 - hauled as singles on hard bottom, Fetches up and 1 single hung up.

Sept 16 - paired singles up lavender with Grey Sink as trawler warp. → rest of season.

Sept. 18, 20

As of Sept 23, etc -

I have dis continue lavender

Parted 4 Pair-Rope Snaps like

a weak rope
ersted

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

Comments

Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	Chafing found after 1 week of hauling
Hangups	1	2	3	4	5	Hang-ups were frequent
Noise	1	2	3	4	5	Smooth through buoys, lays good on deck
Kinking	1	2	3	4	5	Beams not to kink as much as never poly
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

NOV - 2 2006

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Cassey Morrell

Experimental Rope Type: Neary Grey Sini (Baiter 2)
NEAQ sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): used as trawler warp

How many sets of gear was the rope fished on? 10 pair

Amount of rope fished (total length for all sets in Fathoms)? 10 FA trawler warp

General Location/Area Fished: Perobscot Bay, Inside Mechanics Green Island

Depth Range Fished (in Fathom): 00 to 25 fms

Typical Bottom Type Fished: SPT Bottom
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept, Oct

Estimated Number of Times Rope was Hauled: 15 hauls

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

Sept - 10, 12, 15, 19, 23
 Oct - 1, 5, 9, 12, 16, 20, 25

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	<u>Used Grey rope as trawler warp</u>
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	<u>found that I was satisfied and would use as I have the poly</u>
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

Observed 1P = 1

Number of Hauls

Place a tick mark each time the rope is hauled.
If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

REFERRED TO MY OWN REELERS

How was the rope fished?

Name: Kristan Porter

Experimental Rope Type: Grey Sink Lin (Baler #2)
NEAQ sink (light grey), Hyliner (oppro (silver/grey) with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): 8

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 20 FATH BERNERD

General Location/Area Fished: GRAND MANNAN CHANNEL

Depth Range Fished (in Fathom): 40 - 42 FATHOMS

Typical Bottom Type Fished: MUD - GRAVEL
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: SEPT - DEC

Estimated Number of Times Rope was Hauled: 17

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

SHOULD MAKE IT 7/16"

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Kristin Porter

Experimental Rope Type: Lantern Weak End

NEAq sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): 8

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 70 FATHOM END LINE

General Location/Area Fished: GRAND MANNAN CHANNEL

Depth Range Fished (in Fathom): 40 - 42 FATHOMS

Typical Bottom Type Fished: MUD - GRAVEL

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: SEPT - DEC

Estimated Number of Times Rope was Hauled: 17

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

RETURNED TO MY OWN LOGS

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	<u>(1)</u>	2	3	4	5	
Chafing	<u>(1)</u>	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	<u>DIDNT HAVL FROM WEAK END</u>
Kinking	<u>(1)</u>	2	3	4	5	
General Durability	<u>(1)</u>	2	3	4	5	
General Handling	<u>(1)</u>	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Whitaker ID = 6

We have sample

✓

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

Experimental-Rope Gear Handling Assessment

How was the rope fished?

SINCE

Name: Ellis H Thomas

Experimental Rope Type: GREEN SINK (6000 #2)

NEAQ sink (light grey), Hyliner (oppo (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): trawl

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 600

General Location/Area Fished: Lasco Bay

Depth Range Fished (in Fathom): 8-15

Typical Bottom Type Fished: 75% gravel/sand 25% mud

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept - Nov

Estimated Number of Times Rope was Hauled: 18

Number of Hauls DERIVED 18
Place a tick mark each time the rope is hauled.
If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

Comments

Fouling	1	<u>2</u>	3	4	5	
Chafing	1	<u>2</u>	3	4	5	
Hangups	1	2	<u>3</u>	4	5	
Noise	1	<u>2</u>	3	4	5	
Kinking	1	2	3	<u>4</u>	5	
General Durability	1	2	3	4	5	<u>NO SPIN TO TELL</u>
General Handling	1	2	3	<u>4</u>	5	

Any Other Comments (please note anything significant while rope was being fished):

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

SINK A

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How was the rope fished?

Name: Shirley Thomas

Experimental Rope Type: NEAQ 2000 Ester TRUAT
NEAQ sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): trawls

How many sets of gear was the rope fished on? 4

Amount of rope fished (total length for all sets in Fathoms)? 240

General Location/Area Fished: Case Bay

Depth Range Fished (in Fathom): 3, 12, 7, 9

Typical Bottom Type Fished: _____
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: MAY - November

Estimated Number of Times Rope was Hauled: 50 per trawl

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

Comments

Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished): _____

my groundlines don't usually foul

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

Entered ✓

How was the rope fished?

Name: Shelton Thomas

Experimental Rope Type: BURPER EBBLIVE
NEq sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls etc): _____

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 200

General Location/Area Fished: Lousins Is. Georgia / Long Island

Depth Range Fished (in Fathom): 6 10

Typical Bottom Type Fished: mud
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: MAY JUNE

Estimated Number of Times Rope was Hauled: 7

Number of Hauls
 Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

Lousins
 6
 Long Is.
 1

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	<u>DID NOT SOAKIVE LONG ENOUGH</u>
Chafing	1	2	3	4	5	<u>11</u>
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	<u>hard to rig, can't coil when changing depth</u>

Any Other Comments (please note anything significant while rope was being fished): when the trap hangs down the rope "POPE" went into sections and compressed BETWEEN THE HAULING DISCS. The problem solved striping I had to cut the rope to get it off lower

How was the rope fished?

Name: Shirley Thomas

Experimental Rope Type: GREEN BRAIDED
NEAg sink (light grey), Hyliner lopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): TRAWLS

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 90

General Location/Area Fished: COASTLINE IS.

Depth Range Fished (in Fathom): 5

Typical Bottom Type Fished: LEDGE & ROCKY
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: MAY JUNE

Estimated Number of Times Rope was Hauled: 3

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	N/A
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished): THIS WAS THE HARDEST THE HAUWER 4 TO 5 TIMES EACH HAUL

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

We have sample ✓

How was the rope fished?

Name: Elliot Thomas

Experimental Rope Type: Laurens wreck line

NEAQ sink (light grey), Hyliner (oppro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): trawl eurl line

How many sets of gear was the rope fished on? 2

Amount of rope fished (total length for all sets in Fathoms)? 30

General Location/Area Fished: Casco Bay

Depth Range Fished (in Fathom): 4 - 15

Typical Bottom Type Fished: N/A

average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: MAY - NOV.

Estimated Number of Times Rope was Hauled: 50 per haul

Number of Hauls

Place a tick mark each time the rope is hauled.
If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling		2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

We have samples

How was the rope fished?

Name: Shuff Thomas Rutgers C

Experimental Rope Type: Rubber Rope #2 - end line
NEAq sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): trawl

How many sets of gear was the rope fished on? 1

Amount of rope fished (total length for all sets in Fathoms)? 15

General Location/Area Fished: Casco Bay

Depth Range Fished (in Fathom): 12

Typical Bottom Type Fished: N/A
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: Sept - Nov

Estimated Number of Times Rope was Hauled: 16

Number of Hauls: _____
 Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	THIS ROPE WAS SCARY TO USE AS IT LOBBED
Chafing	1	2	3	4	5	LIFE IT WOULD TANGLE AT ANY TIME
Hangups	N/A	2	3	4	5	when fouled (marine grass) IT STAYED
Noise	1	2	3	4	5	(in light)
Kinking	1	2	3	4	5	IN THE HAULING
General Durability	1	2	3	4	5	→ RUBBER WOULD JOIN SOMETIMES AND BE DAMAGED
General Handling	1	2	3	4	5	→ AT END OF TUBE

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Pat White

Experimental Rope Type: rubber sh/le rope
NEAq sink (light grey), Hyliner (opro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc.): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom): _____

Typical Bottom Type Fished: _____
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	<u>difficult to gear in hot tent; try to</u>
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	<u>N/A</u>
General Handling	1	2	3	4	5	<u>difficult to deck; big psi e fast.</u>
Any Other Comments	<small>(please note anything significant while rope was being fished):</small>					

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Paul White Laberman ID = 8

Experimental Rope Type: usac 2000
NEAQ sink (light grey), Hyliner Ioprop (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom): _____

Typical Bottom Type Fished: _____
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

Peak on verges and others.
 hauled back on it a few
 times - hauls on
 spread slow rope on
 bottom.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

	1	2	3	4	5	Comments
Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

had a very slight slip caught in the gear.

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Pat White

Experimental Rope Type: Neag 2006 (2)
NEAg sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms) ? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom) : _____

Typical Bottom Type Fished: _____
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

		Comments
Fouling	1 2 3 4 <u>5</u>	_____
Chafing	1 2 3 <u>4</u> 5	_____
Hangups	1 2 3 4 <u>5</u>	_____
Noise	1 2 3 4 <u>5</u>	_____
Kinking	1 2 3 4 <u>5</u>	_____
General Durability	1 2 3 4 <u>5</u>	_____
General Handling	1 2 3 4 <u>5</u>	_____
Any Other Comments (please note anything significant while rope was being fished): _____		

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Pat Whelan

Experimental Rope Type: Neag 2004 ①
NEAg sink (light grey), Hyliner Iopro (silver/grey with red bands), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): _____

How many sets of gear was the rope fished on? _____

Amount of rope fished (total length for all sets in Fathoms)? _____

General Location/Area Fished: _____

Depth Range Fished (in Fathom): _____

Typical Bottom Type Fished: _____
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: _____

Estimated Number of Times Rope was Hauled: _____

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent Comments

Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	
Any Other Comments	<small>(please note anything significant while rope was being fished):</small>					

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

How was the rope fished?

Name: Pat White

Experimental Rope Type: green braided - 2006
NEAg sink (light grey), Hyliner topso (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): pairs

How many sets of gear was the rope fished on? 10 pairs

Amount of rope fished (total length for all sets in Fathoms)? 1000

General Location/Area Fished: YOR

Depth Range Fished (in Fathom): 6-15 F

Typical Bottom Type Fished: across all bottom
average % of time on bottom types: ledge, ~~rock~~, ~~cobbles~~, ~~gravel~~, ~~mud~~, ~~sand~~, mixed (please define)

During Which Months was the Rope Fished: May - Nov

Estimated Number of Times Rope was Hauled: one haul (24x haul)

Number of Hauls

Place a tick mark each time the rope is hauled.
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

used it
 no knots for haul
 used dead

How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

Scale: 1 = terrible 2 = poor 3 = average 4 = good 5 = excellent

Fouling	1	2	3	4	5	
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

1 diameter had thin rope jumped out of hauler on only haul

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

Rope handling 2

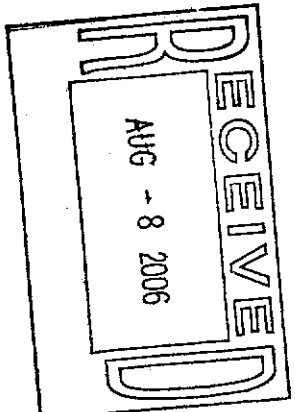
How was the rope fished?

Name: Mike Myrick
 Experimental Rope Type: NEA4 Light Grey Sink
NEA4 sink (light grey), Hyliner Iopro (silver/grey with red tracer), Other (please name)
 How was gear fished? (pairs, triples, trawls, etc): Pair
 How many sets of gear was the rope fished on? 5 pr.
 Amount of rope fished (total length for all sets in Fathoms)? 15 Fath
 General Location/Area Fished: 6 ms S/E Bunt Island
 Depth Range Fished (in Fathom): 22 → 28 Fath
 Typical Bottom Type Fished: Gravel → Rocky
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, silt (please define)
 During Which Months was the Rope Fished: May to July
 Estimated Number of Times Rope was Hauled: Seven

Number of Hauls

Place a tick mark each time the rope is hauled
 If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

11
 +1111



How did you like the rope?

Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	3	4	5	What I've seen so far with all this low profile rope is you could pick it on the mud or sand but it does not work on rocky bottom every regular spot there will stuff & hang up down. I have pieces that I can show anybody that would like to see them.
Chafing	1	2	3	4	5	
Hangups	1	2	3	4	5	
Noise	1	2	3	4	5	
Kinking	1	2	3	4	5	
General Durability	1	2	3	4	5	
General Handling	1	2	3	4	5	

Any Other Comments (please note anything significant while rope was being fished):

Experimental Rope Gear Handling Assessment

If you fished more than one type of experimental rope, please fill out a separate sheet for each rope type

✓ 3/26

How was the rope fished?

Name: Ryan Myrick / 016 NEAR SLEA

Experimental Rope Type: NEAR
NEAg sink (light grey), Hyliner (top) (silver/grey with red tracer), Other (please name)

How was gear fished? (pairs, triples, trawls, etc): Pairs

How many sets of gear was the rope fished on? 5 Pairs

Amount of rope fished (total length for all sets in Fathoms)? 15 fathoms

General Location/Area Fished: 5 miles SE of Buant Island

Depth Range Fished (in Fathom): 25 fathoms to 30 fathoms

Typical Bottom Type Fished: Rocky
average % of time on bottom types: ledge, rocky, cobble, gravel, mud, sand, mixed (please define)

During Which Months was the Rope Fished: end of May, June begin July

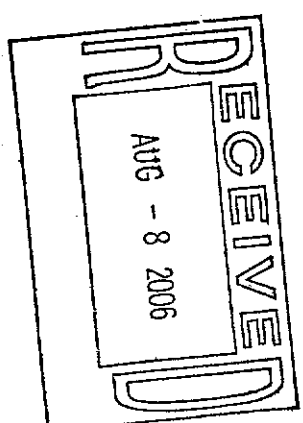
Estimated Number of Times Rope was Hauled: Seven & eighth taking up

Number of Hauls

Place a tick mark each time the rope is hauled. If you have rope deployed on multiple sets of gear, place a tick mark each time you haul through the gear.

|||||

11



Please rate the rope on the following characteristics on a scale of 1 to 5 by circling the number that best describes the performance of the rope.

How did you like the rope?

1 (terrible) = hard to imagine a worse rope; 2 (poor) = worse than most ropes I have used in the past; 3 (average) = as good as most ropes I have used in the past; 4 (good) = fishes better than most ropes I have used in the past; 5 (excellent) = hard to imagine a better rope for what I used it for.

	Scale: 1 = terrible	2 = poor	3 = average	4 = good	5 = excellent	Comments
Fouling	1	2	③	4	5	This rope would fish well on flat sandy bottom. But on Rocky Bottom it chafes quickly. Replacing rope every year is expensive...
Chafing	1	②	3	4	5	
Hangups	1	②	3	4	5	
Noise	1	2	3	④	5	
Kinking	1	2	③	4	5	
General Durability	1	②	3	4	5	
General Handling	1	2	③	4	5	
Any Other Comments	(please note anything significant while rope was being fished):					