

Species		Right Whale		Whale ID		Eg #2701	
Date first observed entangled (date seen prior without gear)		19 Jan 2000 (12 Sep 1999)					
Sex	Female	Birth year	1997		Age at entanglement		3

Case study ID	PCCS	NMFS	GEAR ID
		E2-00	
Gear sample collected?	No	Gear type	

No drawing available
No images available

Reproductive prior to entanglement detection?			No			
Reproductive after entanglement detection?			No			
Entanglement severity			Severe			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes	
	Unknown	Unknown	Unknown	High	Unknown	
Duration of time carrying gear		Minimum 1 day, maximum 128 days				
Disentangled?		No				
Status		Dead				
Number of prior entanglement interactions		1				

Entanglement configuration	Several lines wrapped around body of floating carcass.
Anchoring point(s)	Body
Gear configuration confidence	Low
Remaining questions	Uncertain of all anchoring points, amount of trailing line.
Comments	Only video of carcass which made a careful assessment difficult. Carcass was unable to be retrieved.

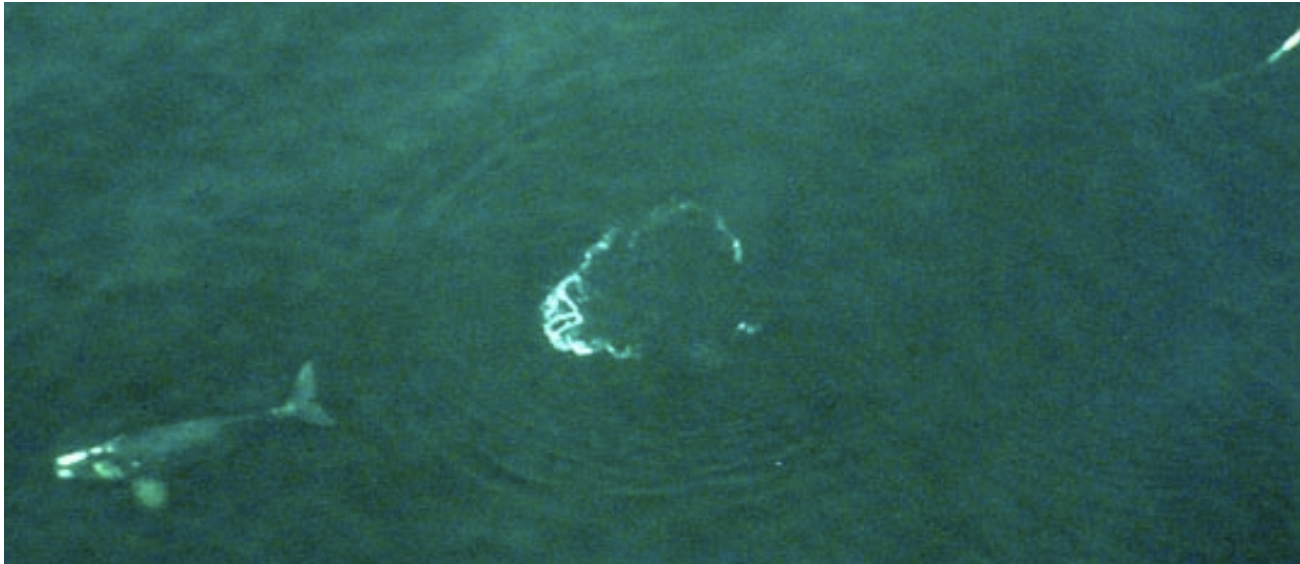
Species		Right Whale		Whale ID		Eg #1130	
Date first observed entangled (date seen prior without gear)			01 Mar 2000 (19 Aug 1999)				
Sex	Male	Birth year	Unknown		Age at entanglement		21+

Case study ID	PCCS	NMFS		GEAR ID
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to entanglement detection?					
Reproductive after entanglement detection?					
Entanglement severity			Severe		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Unknown	None	High	None	Medium
Duration of time carrying gear		Minimum 1 day, maximum 194 days			
Disentangled?		No			
Status		Presumed dead - Last sighted in 2000			
Number of prior entanglement interactions		1			

Entanglement configuration	Several body lengths of line trailing left flipper. White in color so believe gear was tightly wrapped on left flipper.
Anchoring point(s)	Flipper
Gear configuration confidence	Low
Remaining questions	Trailing line between whale and buoy was deep and may have been weighted down by gear.
Comments	No drawing done because configuration of gear is uncertain.



01 Mar 2000 PCCS



01 Mar 2000 PCCS

Species		Right Whale		Whale ID	Eg #1167
Date first observed entangled (date seen prior without gear)		27 Mar 2000 (20 Aug 1999)			
Sex	Male	Birth year	Unknown	Age at entanglement	20+

Case study ID	PCCS	NMFS		GEAR ID
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to entanglement detection?					
Reproductive after entanglement detection?					
Entanglement severity		Severe			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	None	None	High	None	Medium
Duration of time carrying gear		Minimum 932 days, maximum 1132 days			
Disentangled?		No			
Status		Alive - Last seen in 2015			
Number of prior entanglement interactions		3			

Entanglement configuration	Single line with buoy attached trailing ~ 50 feet behind flukes. Line was tightly wrapped around left flipper
Anchoring point(s)	Flipper
Gear configuration confidence	Low
Remaining questions	Image of left flipper with line tightly wrapped around it was obtained 2.5 years after the first sighting. It was difficult to determine from the image if any line was trailing.
Comments	Gear was eventually shed.



08 May 2000 NMFS



24 Sep 2000 NEA



26 Sep 2002 NEA



01 Aug 2000 NEA

Species	Right Whale	Whale ID	Eg #1720
Date first observed entangled (date seen prior without gear)	31 May 2000 (13 Sep 1990)		
Sex	Male	Birth year	Unknown
		Age at entanglement	14+

Case study ID	PCCS	NMFS	GEAR ID
Gear sample collected?	No	Gear type	

No drawing available

Reproductive prior to entanglement detection?					
Reproductive after entanglement detection?					
Entanglement severity		Minor			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	None	Unknown	None	Low
Duration of time carrying gear		Minimum 20 days, maximum 2087 days			
Disentangled?		No			
Status		Alive - Last sighted in 2016			
Number of prior entanglement interactions		1			

Entanglement configuration	Single rope exiting right side of mouth and trailing about 80-90 feet behind flukes. bitter end seen exiting about 2 feet out of left side of mouth.
Anchoring point(s)	Mouth
Gear configuration confidence	High
Remaining questions	None
Comments	Gear eventually shed



20 Jun 2000 NMFS



20 Jun 2000 NMFS

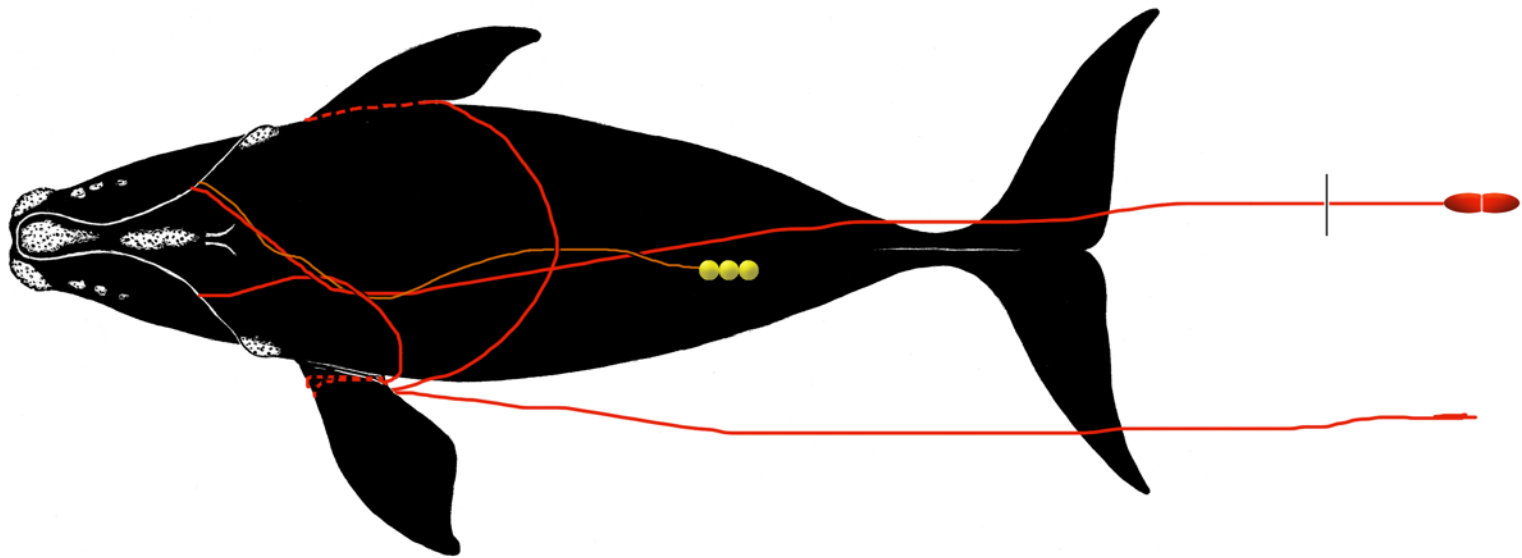


20 Jun 2000 NMFS

Species	Right Whale	Whale ID	Eg #2746
---------	-------------	----------	----------

Date first observed entangled (date seen prior without gear)		12 Jul 2000 (14 Sep 1999)			
Sex	Female	Birth year	1997	Age at entanglement	3

Case study ID	PCCS	NMFS	GEAR ID
		E18-00	
Gear sample collected?	Yes	Gear type	



Reproductive prior to entanglement detection?			No		
Reproductive after entanglement detection?			Yes		
Entanglement severity			Minor		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	None	Low	Low	Low
Duration of time carrying gear		Minimum 3 days, maximum 308			
Disentangled?		Yes - 15 Jul 2000			
Status		Alive - Last sighted in 2015			
Number of prior entanglement interactions		1			

Entanglement configuration	Line exits both sides of the mouthline and twists together behind head; lines from this area lead to: two, joined bullet buoys trailing ~120 feet aft of the flukes; a series of three hard buoys aft of mid-body; a body wrap anchored between the flippers with a bitter end trailing ~20 feet aft of flukes
Anchoring point(s)	Mouthline and likely flipper(s)
Gear configuration confidence	High
Remaining questions	Wraps presumed at left flipper; unclear if line on left side wraps left flipper and/or enters left mouthline.
Comments	Gear was removed in stages over two weeks; remaining gear was shed soon after. Gear sent to DFO for analysis, no rope testing possible.



15 Jul 2000 NEA



15 Jul 2000 NEA



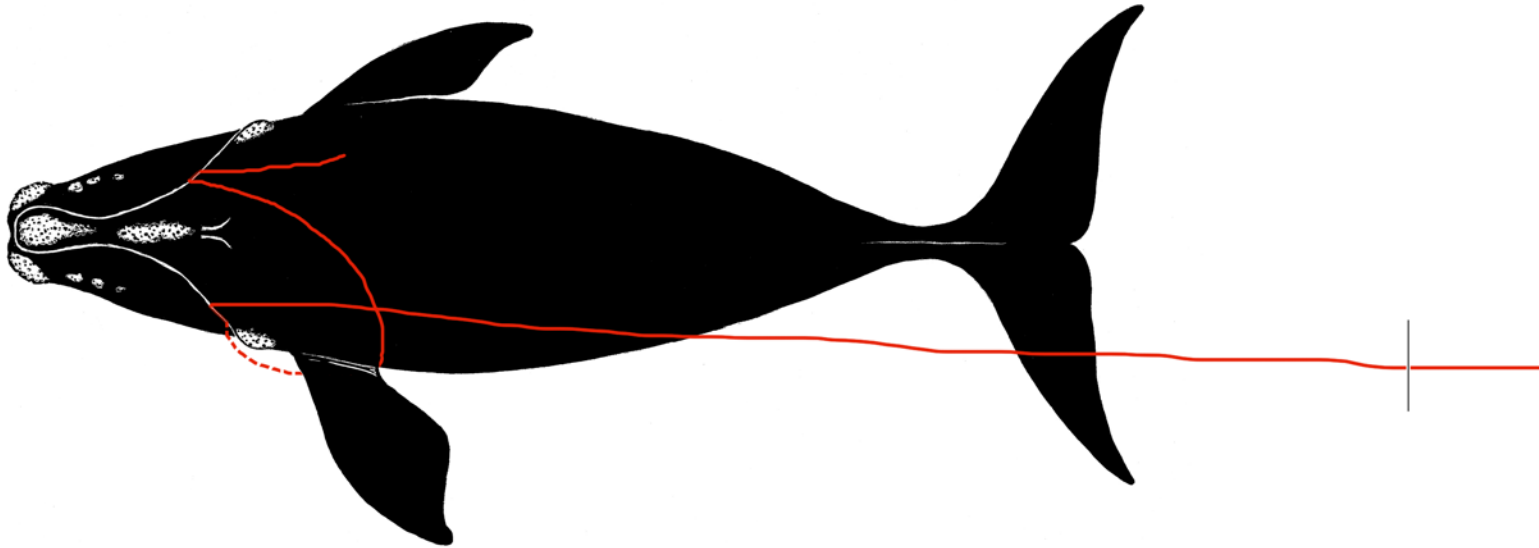
15 Jul 2000 NEA



12 Jul 2000 NEA

Species		Right Whale		Whale ID	Eg #2223
Date first observed entangled (date seen prior without gear)		25 Jul 2000 (07 Apr 2000)			
Sex	Female	Birth year	1992	Age at entanglement	8

Case study ID	PCCS	NMFS	GEAR ID
		E24-00	J081800
Gear sample collected?	Yes	Gear type	



Reproductive prior to/after entanglement detection?		No/Yes			
Entanglement injury severity		Moderate			
Entanglement configuration risk		High			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Medium	Medium	None	Low	Medium
Duration of time carrying gear		Minimum 280 days, maximum 425 days			
Disentangled?		Yes			
Status		Alive - Last sighted in 2016			
Number of prior entanglement interactions		5			

Entanglement configuration	One continuous piece of line entered and exited right mouthline, leading over body to left flipper; line then lead into and out of left mouthline, trailing to ~200feet aft of the flukes.
Anchoring point(s)	Mouthline
Gear configuration confidence	Low
Remaining questions	Unclear if flippers were wrapped at time of first sighting.
Comments	

Polymer type	Polysteel
Gear component	Vertical line
Rope diameter (inches)	1/2
Breaking strength (lbs)	Tested 4 838
	New 5 000



02 Feb 2001 PCCS



04 Feb 2001 PCCS



04 Feb 2001 PCCS

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J081800

NMFS NO.

E24-08

Gear Description:

Long length of line - probably end line for trap gear.

Similar construction and surface wear pattern to J082500 except that was $\frac{9}{16}$ inch diameter. Note recovery dates are only separated by 5 days.



Rope description:

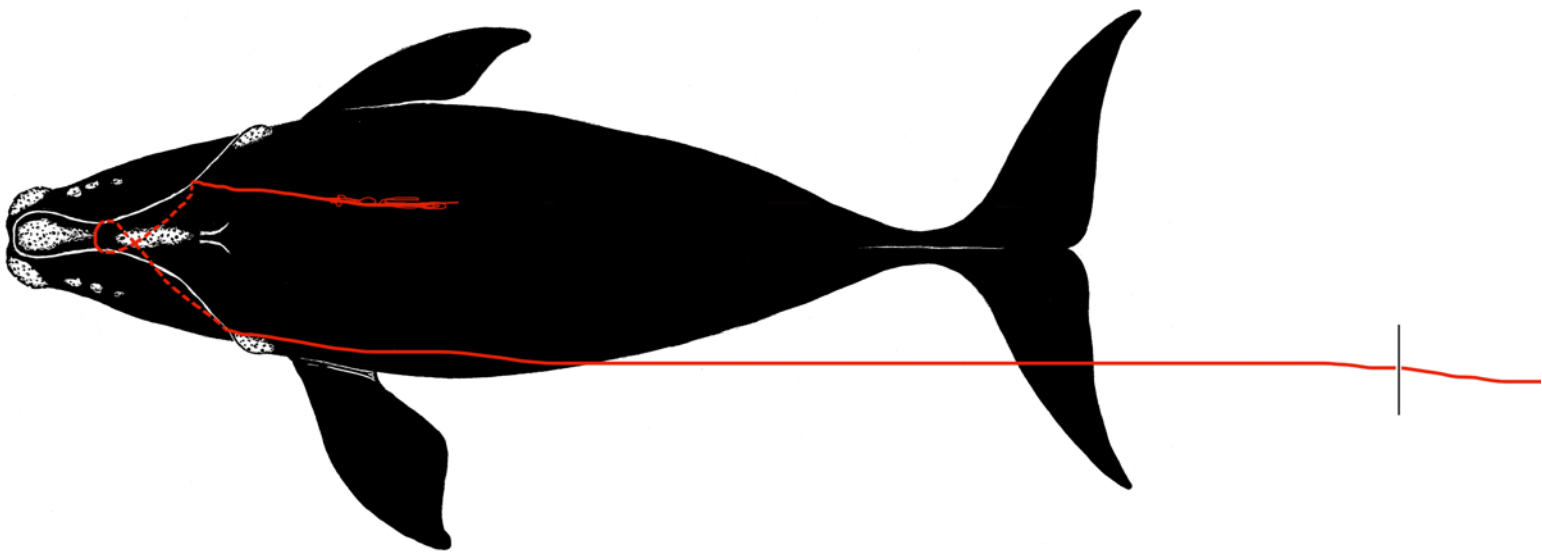
$\frac{1}{2}$ inch diameter 3-strand pale blue Polysteel fribulated filament with 12 rope yarns per strand.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
4,838 lbs (T)	3,780 lbs	Good



Species		Right Whale		Whale ID		Eg #1102	
Date first observed entangled (date seen prior without gear)		08 Jun 2001 (06 Aug 1998)					
Sex	Male	Birth year	Unknown		Age at entanglement	22+	

Case study ID	PCCS	NMFS		GEAR ID
		E06-01		J060801
Gear sample collected?	Yes	Gear type	Unknown	



Reproductive prior to/after entanglement detection?			Yes/No		
Entanglement injury severity			Severe		
Entanglement configuration risk			High		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	High	Unknown	Low	Medium
Duration of time carrying gear		Minimum 100 days, maximum 1 136 days			
Disentangled?		No			
Status		Dead 16 Sep 2001			
Number of prior entanglement interactions		1			

Entanglement configuration	Single rostrum wrap with lines exiting right and left mouthline to 35 feet aft of the flukes and mid-back.
Anchoring point(s)	Mouthline
Gear configuration confidence	High
Remaining questions	None
Comments	Addition of drag from a telemetry buoy to the left line shortened the right line but this was hindered by knots near the bitter end.

Polymer type		PP/Lead	
Gear component			
Rope diameter (inches)		3/4 (0.7848)	
Breaking strength (lbs)	Tested	7 639	
	New	7 650	



09 Jun 2001 PCCS



09 Jun 2001 PCCS



10 Jul 2001 PCCS



30 Aug 2001 PCCS



06 Aug 2001 NMFS



30 Aug 2001 PCCS

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J060801

NMFS NO.

E6-01

Gear Description:

Polypro line with lead making it sinking, 36 ft long as seen in photo.



Rope description:

$\frac{3}{4}$ inch blue-green PP with tiny orange marker and 1.8mm dia. lead wire core. Specific gravity of 1.15 makes this a rope that sinks readily even though the fiber is buoyant. The lead core has broken into small segments, probably due to rope usage over haulers and/or sheaves.

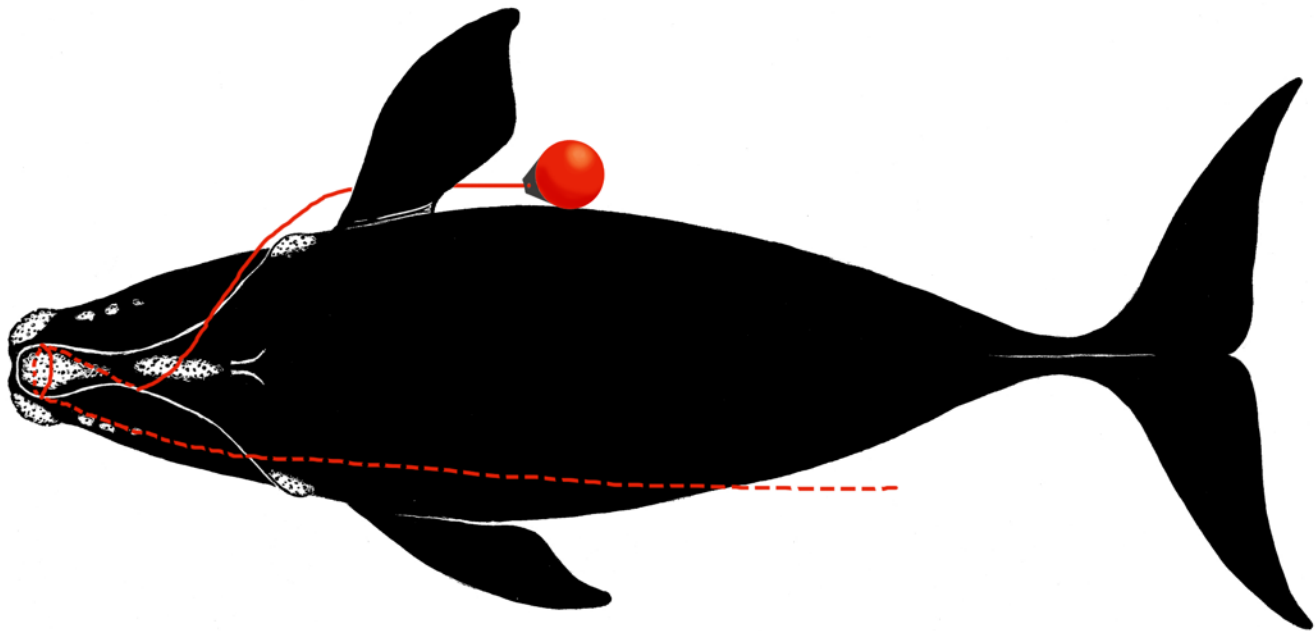
Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
7,639 lbs (T)	7,500 lbs	Moderate



3-strand rope with 19 yarn ends per strand and lead core in center of each strand. Broken core segments seen in photo.

Species		Right Whale		Whale ID	Eg #2427
Date first observed entangled (date seen prior without gear)		20 Jul 2001 (17 Mar 2001)			
Sex	Male	Birth year	1994	Age at entanglement	7

Case study ID	PCCS	NMFS	GEAR ID
		E09-01	J072001 a-b
Gear sample collected?	Yes	Gear type	Lobster offshore



Reproductive prior to/after entanglement detection?					
Entanglement injury severity		Severe			
Entanglement configuration risk		High			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Medium	High	Unknown	None	Medium
Duration of time carrying gear		Minimum 1 day, maximum 211 days			
Disentangled?		Yes - 20 Jul 2001			
Status		Alive - Last sighted in 2014			
Number of prior entanglement interactions		4			

Entanglement configuration	Single rostrum wrap with line exiting left mouthline, over rostrum and leading to a balloon float at right flipper. Line did not appear to wrap flipper; line exiting left mouthline was not documented.
Anchoring point(s)	Mouthline
Gear configuration confidence	High
Remaining questions	Nature of bitter end (dashed line)
Comments	Baleen pulled from mouth

Polymer Type		PP/PET	Polysteel
Gear Component		Surface system	Surface system
Rope Diameter (inches)		9/16 (0.575)	5/8 (0.685)
Breaking Strength (lbs)	Tested	2 029	4 339
	New	5 000	9 000



28 Jul 2001 PCCS



20 Jul 2001 PCCS



28 Jul 2001 PCCS



20 Jul 2001 PCCS



20 Jul 2001 PCCS

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J072001

NMFS NO.

E9-01

Gear Description:

Part of mooring gear for a high flyer marker buoy system. The smaller line was PP/PET combo rope and the larger was 3-strand polysteel. Because of its short length no specimen was taken for the polysteel line.



Rope description:

J072001-a $\frac{9}{16}$ inch 3-strand PP/PET combo rope. Line relatively small but closer to $\frac{9}{16}$ than $\frac{1}{2}$ inch.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
2,029 lbs (T)	5,000 lbs	Fair

J072001-b $\frac{5}{8}$ inch Polysteel 3-strand rope. Line relatively large but closer to $\frac{5}{8}$ than $\frac{3}{4}$ inch.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
4,339 lbs (T)	9,000 lbs	Fair

Species		Right Whale		Whale ID		Eg #3040	
Date first observed entangled (date seen prior without gear)			13 Sep 2001 (24 Jul 2000)				
Sex	Male	Birth year	Unknown		Age at entanglement		6+

Case study ID	PCCS		NMFS		GEAR ID	
Gear sample collected?		No		Gear type		

No drawing available

Reproductive prior to entanglement detection?					
Reproductive after entanglement detection?					
Entanglement severity			Low		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	Low	Unknown	None	Low
Duration of time carrying gear		Minimum 280 days, maximum 695			
Disentangled?		No			
Status		Alive - last sighted in 2016			
Number of prior entanglement interactions		0			

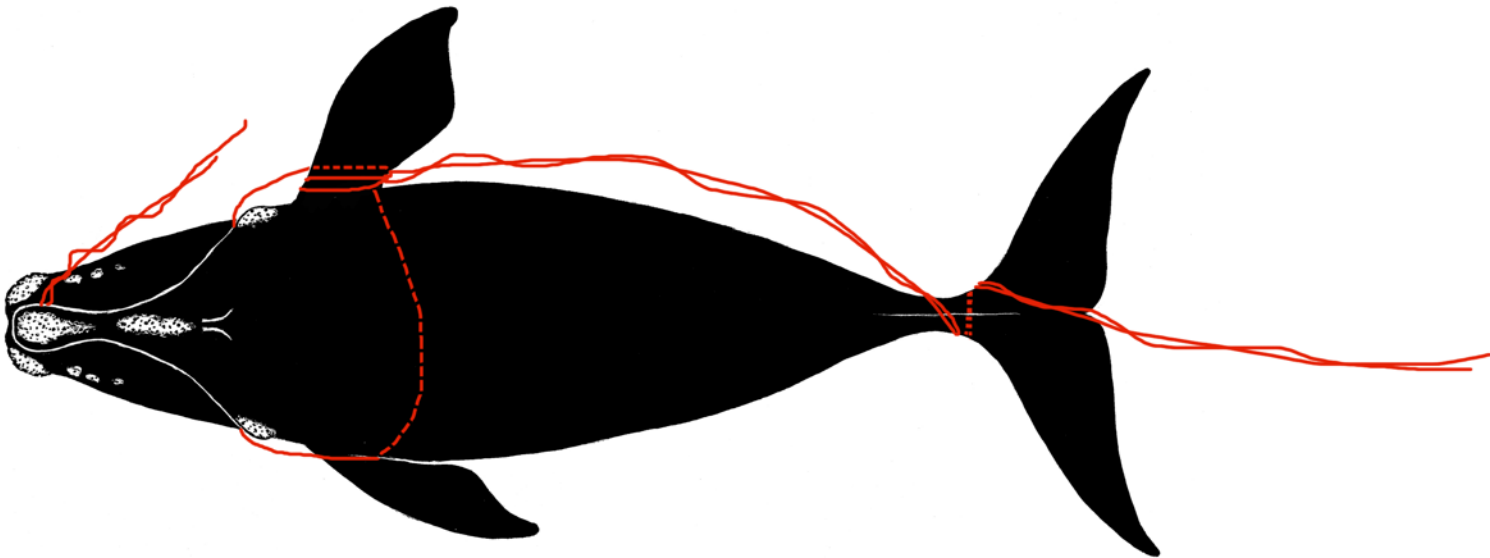
Entanglement configuration	Short length of rope seen under left flipper and along left body. May have originated from right side of mouth.
Anchoring point(s)	Mouth
Gear configuration confidence	Moderate
Remaining questions	Not certain if rope also exited left mouth
Comments	



13 Sep 2001 NEA

Species		Right Whale		Whale ID		Eg #1238	
Date first observed entangled (date seen prior without gear)		25 Oct 2001 (25 Jun 2001)					
Sex	Male	Birth year	Unknown		Age at entanglement		20+

Case study ID	PCCS		NMFS		GEAR ID	
					J102501 a-b	
Gear sample collected?		Yes		Gear type	Danish Seine	



Reproductive prior to/after entanglement detection?			Yes/No		
Entanglement injury severity			Severe		
Entanglement configuration risk			High		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	None	High	Medium	Medium
Duration of time carrying gear		Minimum 1 day, maximum 121 days			
Disentangled?		No			
Status		Dead 25 Oct 2001			
Number of prior entanglement interactions		2			

Entanglement configuration	Twisted line(s) entered the mouth and exited both sides at the gape; on the left side line passed over the flipper and under the chest to the right flipper; line exiting the right mouthline wrapped the flipper multiple times and lead to wraps at the peduncle.	
Anchoring point(s)	Mouthline, flipper, peduncle	
Gear configuration confidence	Moderate	
Remaining questions	Unclear what was going on inside the mouth.	
Comments	The assessment was based on observations at necropsy. By that time some gear may have been moved or removed. Animal may have drowned in gear.	

Polymer type		Polysteel/Lead		Polysteel	
Gear component					
Rope diameter (inches)		3/4 (0.787)		3/4 (0.768)	
Breaking strength (lbs)	Tested	8 776		8 392	
	New	11 500		11 500	



11 Nov 2001 DFO



11 Nov 2001 DFO



11 Nov 2001 DFO



11 Nov 2001 DFO

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J102501

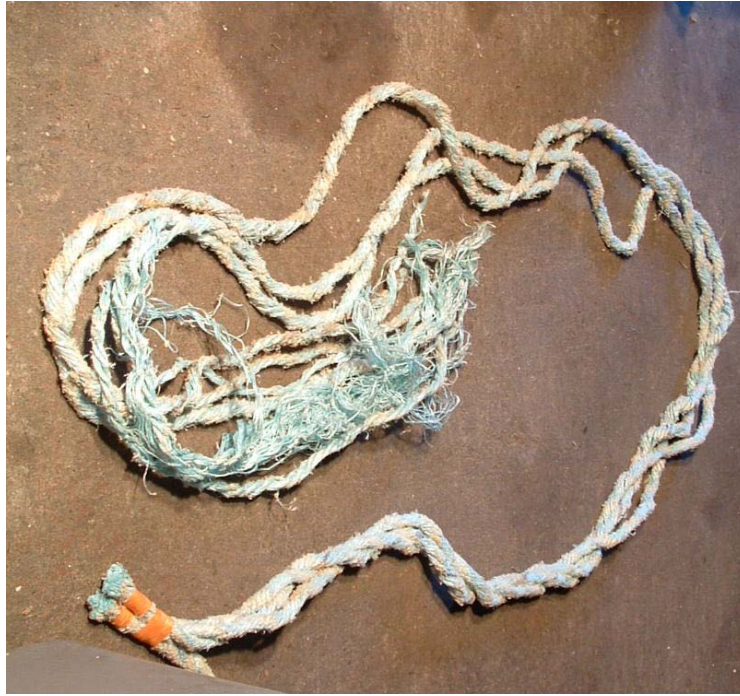
NMFS NO.

E25-01

Gear Description:

Typical of Danish seine gear used in Gulf of St. Lawrence where gear was recovered. The lines included polysteel float rope and polysteel with lead that had negative buoyancy. A short length of unwound polysteel strand was with the gear but not analyzed.





Rope description:

J102501-a $\frac{3}{4}$ inch 3-strand polysteel with small lead core in each strand making it sinking with a specific gravity of 1.120. Moderate surface wear.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
8,776 lbs (T)	11,500 lbs	Good



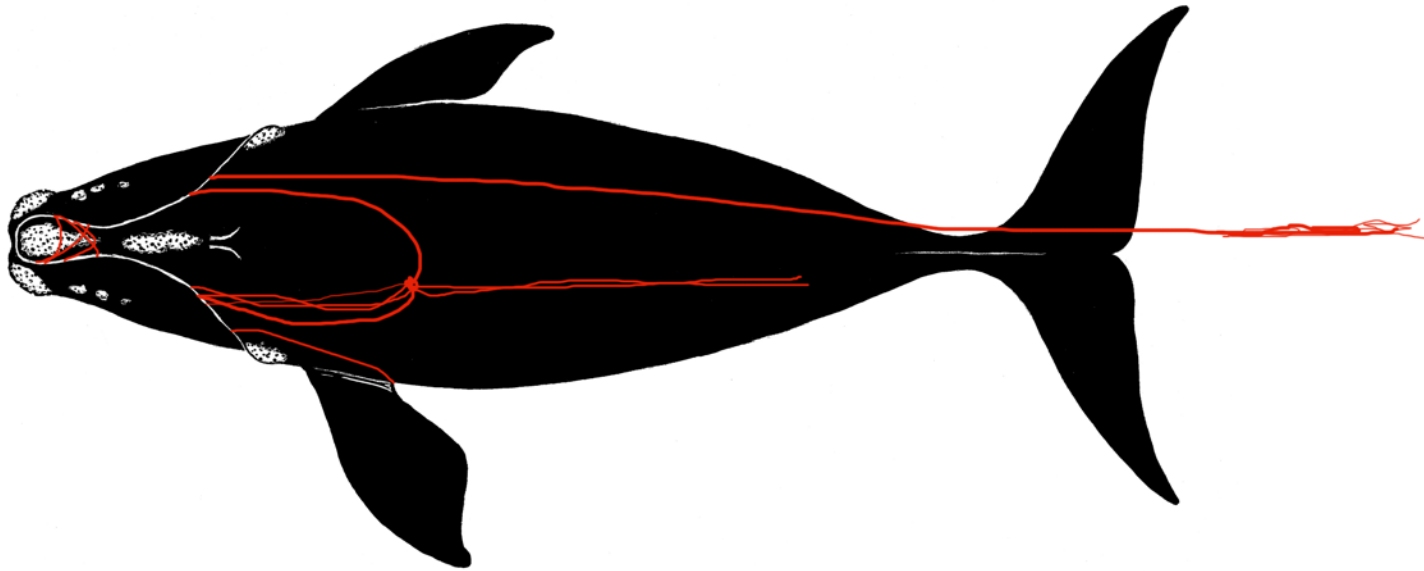
J102501-b $\frac{3}{4}$ inch 3-strand polysteel with extensive surface wear.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
8,392 lbs (T)	11,500 lbs	Fair



Species		Right Whale		Whale ID	Eg #1424
Date first observed entangled (date seen prior without gear)		12 Feb 2002 (17 Sep 2001)			
Sex	Male	Birth year	1980	Age at entanglement	22

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-01	E02-02	
Gear sample collected?	No	Gear type	

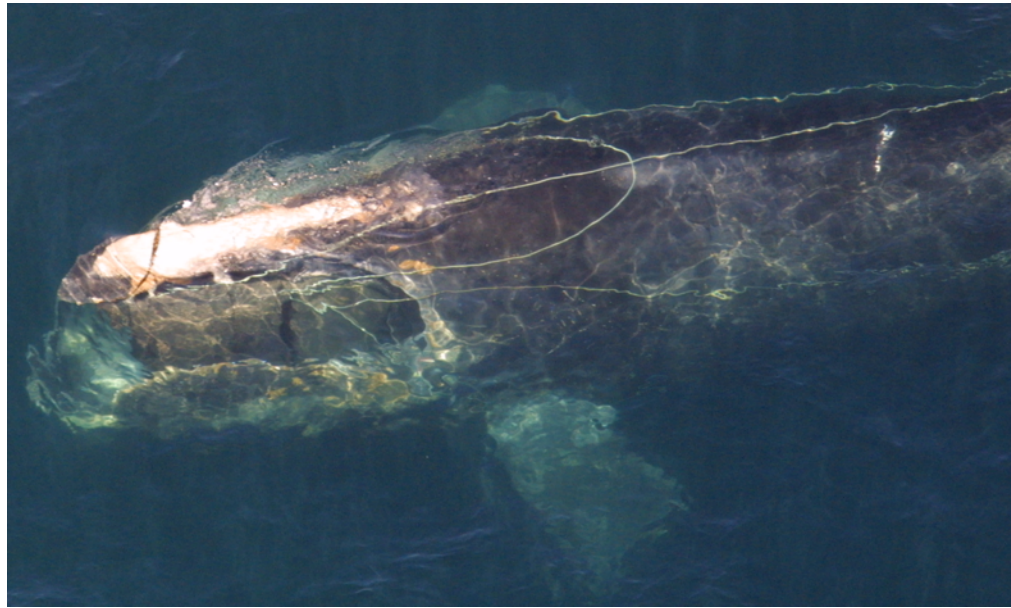


Reproductive prior to entanglement detection?					
Reproductive after entanglement detection?					
Entanglement severity		Severe			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	High	Medium	None	Medium
Duration of time carrying gear		Minimum			
Disentangled?		No			
Status		Dead - 25 Mar 2007			
Number of prior entanglement interactions		1			

Entanglement configuration	Multiple lines (or unlaied line) wrapping upper jaw four times, exiting mouth to loop of line(s) on back; bitter end exiting right mouth trailed to just aft of flukes.
Anchoring point(s)	Mouthline
Gear configuration confidence	Low
Remaining questions	Line exiting lower lip leads to unknown area (may wrap under chest to right mouth or wrap left flipper and re-enter left mouth); considering amount of line entering mouth, internal configuration remained unknown but presumed complex.
Comments	This entanglement persisted for five years with significant shedding of line including all but one wrap at jaw. The carcass of this whale, with its entanglement remaining, was discovered on 3/25/2007, cause of death could not be determined.



12 May 2002 NEFSC



18 Jun 2002 NEFSC



15 Sep 2004 NEA



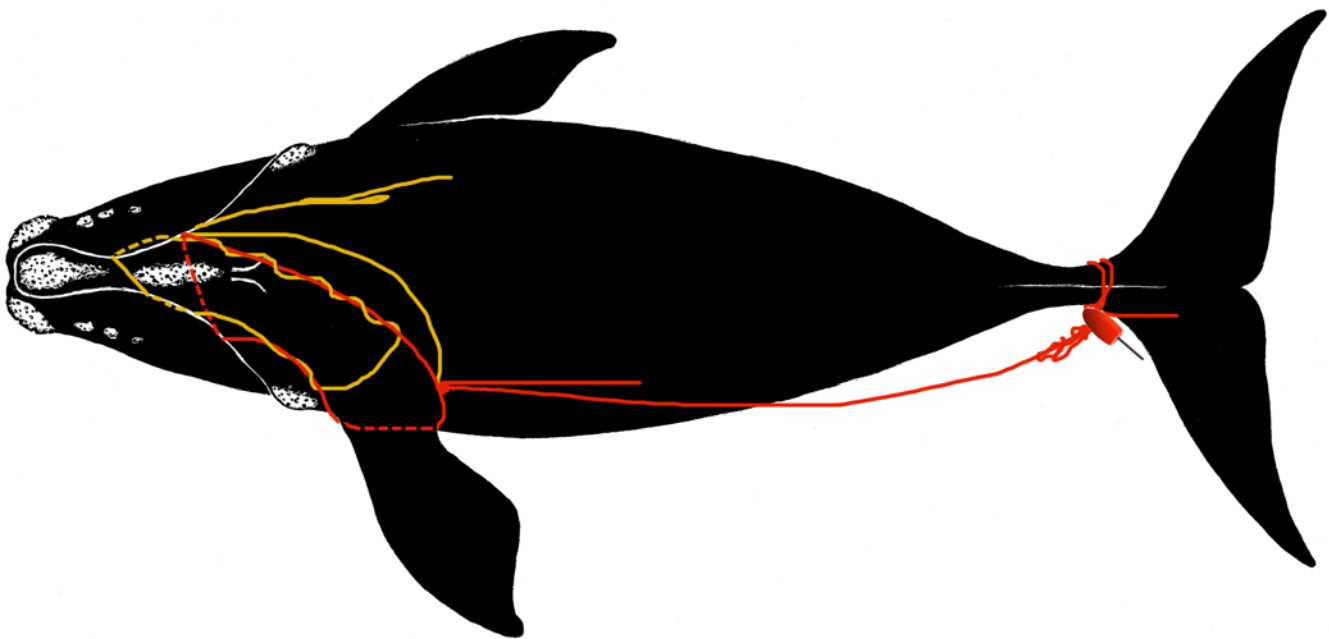
15 Sep 2004 NEA



23 Mar 2007 DFO

Species		Right Whale		Whale ID		Eg #3120	
Date first observed entangled (date seen prior without gear)		07 Apr 2002 (23 Sep 2001)					
Sex	Male	Birth year	2001		Age at entanglement		1

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-04	E07-02	J040702 a-c
Gear sample collected?	Yes	Gear type	Lobster inshore



Reproductive prior to/after entanglement detection?						
Entanglement injury severity		Moderate				
Entanglement configuration risk		High				
Wound severity	Mouth	Head/Rostrum	Flippers	Body	Flukes	
	Medium	Medium	Unknown	Low	Medium	
Duration of time carrying gear		Minimum 433 days, maximum 808 days				
Disentangled?		Yes, partially - 24 Aug 2002				
Status		Alive - Last sighted in 2015				
Number of prior entanglement interactions		1				

Entanglement configuration	Very complex and changed substantially over time; at worst whale had tight rostrum wrap and tight wrap behind head anchored by the right mouthline and left flipper; line trailed along flank to wraps and buoy at peduncle.
Anchoring point(s)	Rostrum, mouthline, flipper, peduncle
Gear configuration confidence	Moderate
Remaining questions	Unclear if either flipper was truly wrapped.
Comments	Peduncle wrap was removed during disentanglement and remaining gear was shed by the whale over time.

Polymer type		PP	PP	Polypro/PET
Gear component				
Rope diameter (inches)		5/16 (0.323)	3/8 (0.402)	3/8 (0.390)
Breaking strength (lbs)	Tested	1 726	1 811	1 580
	New	1 700	2 430	2 600



07 Apr 2002 PT



21 Aug 2002 NEA



21 Aug 2002 NEA



21 Aug 2002 NEA

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J070402

NMFS NO.

E7-02

Gear Description:

Lobster gear as seen in photo. There are 3 lines attached to a lobster buoy. A small, loosely laid, 3-strand PP mono line was knotted in line (c).





Sinking line (c) is connected to the buoy and then knotted to line (b). Line (a) is joined to (b) by a knot. Line (c) displays a tensile break (lower center of photo).

Rope description:

J070402 –a: $\frac{5}{16}$ inch 3-strand green PP mono knotted to line (c). End displayed a tensile failure and length leading up to this end displayed extensive surface abrasion. 3 rope yarns per strand.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
1,726 lbs (T)	1,700 lbs	Fair



070402 –b: $\frac{3}{8}$ inch 3-strand PP mono, purple, blue and orange. One end showed a tensile break

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
1,811 lbs (T)	2,430 lbs	Good



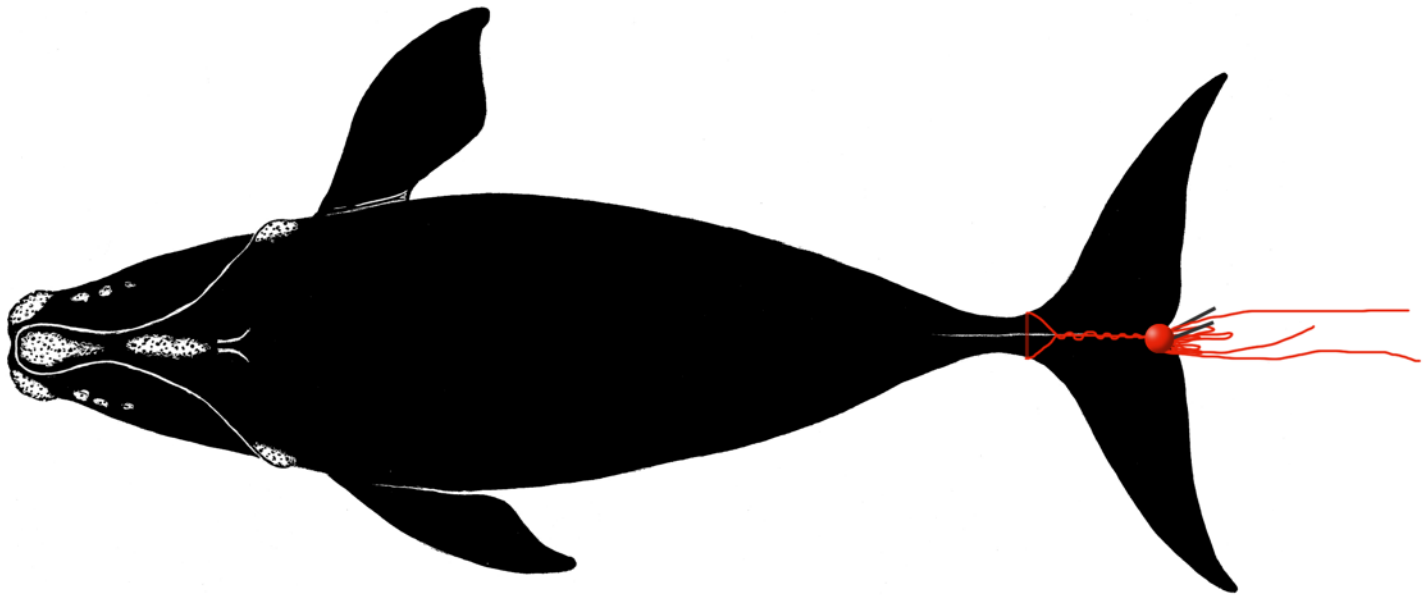
070402 –c: This is a $\frac{3}{8}$ inch PP/PET combo sinking line. PET is wrapped around blue mono poly in each rope yarn.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
1,580 lbs (T)	2,600 lbs	Poor



Species		Right Whale		Whale ID		Eg #3107	
Date first observed entangled (date seen prior without gear)		06 Jul 2002 (08 Dec 2001)					
Sex	Female	Birth year	2001		Age at entanglement	1	

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-12	E15-02	J070602
Gear sample collected?	Yes	Gear type	Lobster inshore



Reproductive prior to/after entanglement detection?			No/ No		
Entanglement injury severity			Severe		
Entanglement configuration risk			High		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Unknown	None	None	None	High
Duration of time carrying gear		Minimum 57 days, maximum 266 days			
Disentangled?		Yes - 01 Sep 2002			
Status		Dead - 13 Oct 2002			
Number of prior entanglement interactions		1			

Entanglement configuration	Single line wraps once around tailstock, tightly twisted back on self, leading to small, hard buoy, two buoy sticks and a tangle of line; little gear trailing
Anchoring point(s)	Tailstock
Gear configuration confidence	High
Remaining questions	None
Comments	Line was relatively thin and deeply embedded within tailstock. All gear was removed but whale found dead a month and a half later. Animal seen once in very poor condition after disentanglement and before found dead.

Polymer Type	Polysteel/PET
Gear Component	Vertical
Rope Diameter (inches)	3/8 (0.370)
Breaking Strength (lbs)	Tested 2 254
	New 3 400

This case study was developed under NOAA Award # NA09NMF4520413 to the Consortium for Wildlife Bycatch Reduction, administered at the New England Aquarium, Boston, MA, USA (available at www.bycatch.org).
 See: Knowlton, A.R., J. Robbins, S. Landry, H.A. McKenna, S.D. Kraus, T. B. Werner. 2015. Effects of fishing rope strength on the severity of large whale entanglements. Conservation Biology DOI: 10.1111/cobi.12590



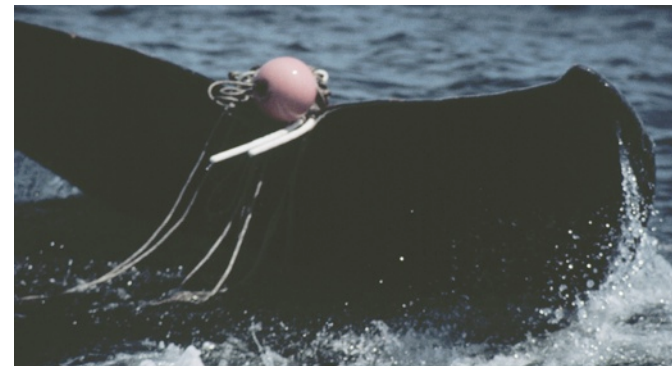
06 Jul 2002 BIWSC



01 Aug 2002 NEA



06 Jul 2002 BIWSC



01 Aug 2002 NEA



30 Aug 2002 NOAA

August 30, 2002

Courtesy of NOAA



13 Oct 2002 WHOI

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J070602

NMFS NO.

E15-02

Gear Description:

Long length of $\frac{3}{8}$ inch 3-strand PP/PET combo rope. Identified as inshore lobster gear.



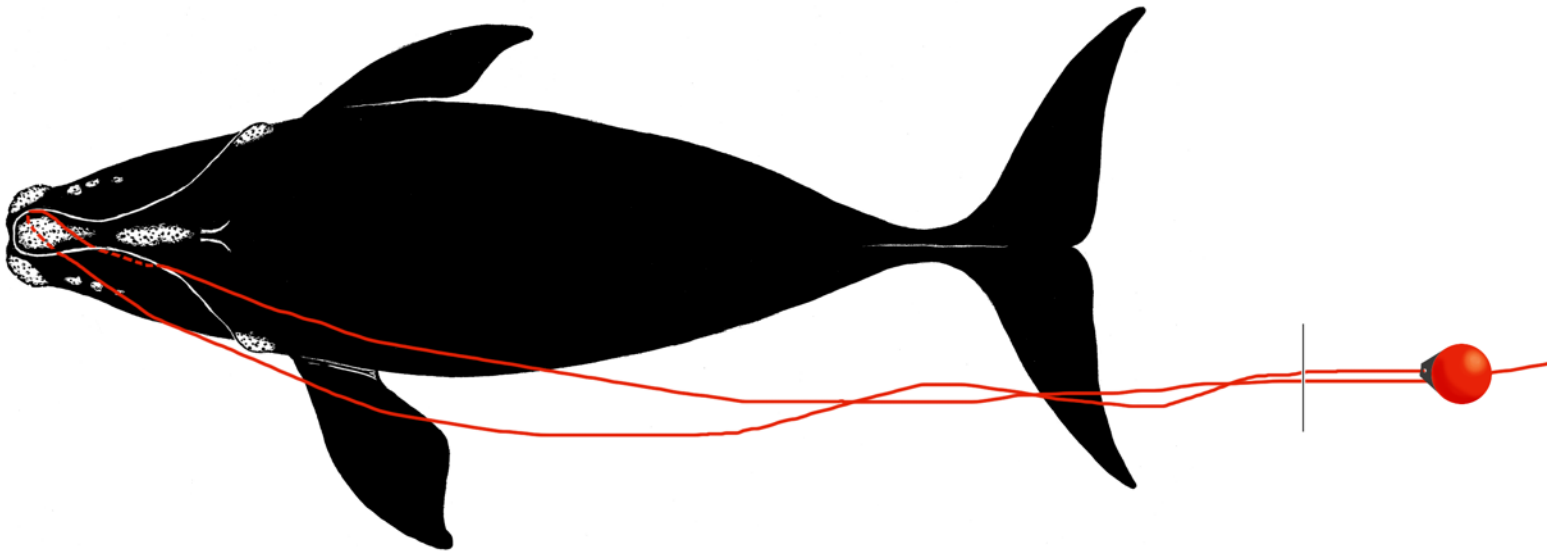
Rope description:

J070602: $\frac{3}{8}$ inch 3-strand Polysteel/PET combo rope with small red marker strand. PET wrapped around pale blue Polysteel. Some localized surface abrasion and kinks set into the line but generally in good condition. Hard lay with 4 rope yarns per strand.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
2,254 lbs (T)	3,400 lbs	Good

Species		Right Whale		Whale ID		Eg #1427	
Date first observed entangled (date seen prior without gear)			12 Jul 2002 (08 May 2002)				
Sex	Male	Birth year	1984		Age at entanglement	18	

Case study ID	PCCS	NMFS		GEAR ID
	WR-2002-14	E17-02		J071202
Gear sample collected?	Yes	Gear type	Unknown	



Reproductive prior to/after entanglement detection?					
Entanglement injury severity			Moderate		
Entanglement configuration risk			High		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Medium	Medium	Unknown	Low	Medium
Duration of time carrying gear		Minimum 9 days, maximum 485 days			
Disentangled?		No -Gear shed			
Status		Alive - Last sighted in 2016			
Number of prior entanglement interactions		4			

Entanglement configuration	Line caught in mouthline, far forward on the head and leading to ~150ft of trailing line and balloon buoy.
Anchoring point(s)	Mouthline
Gear configuration confidence	High
Remaining questions	Flippers do not appear to have been involved but not possible to verify.
Comments	Whale was tagged for possible disentanglement but this was removed by recreational boater; whale seen months later gear-free.

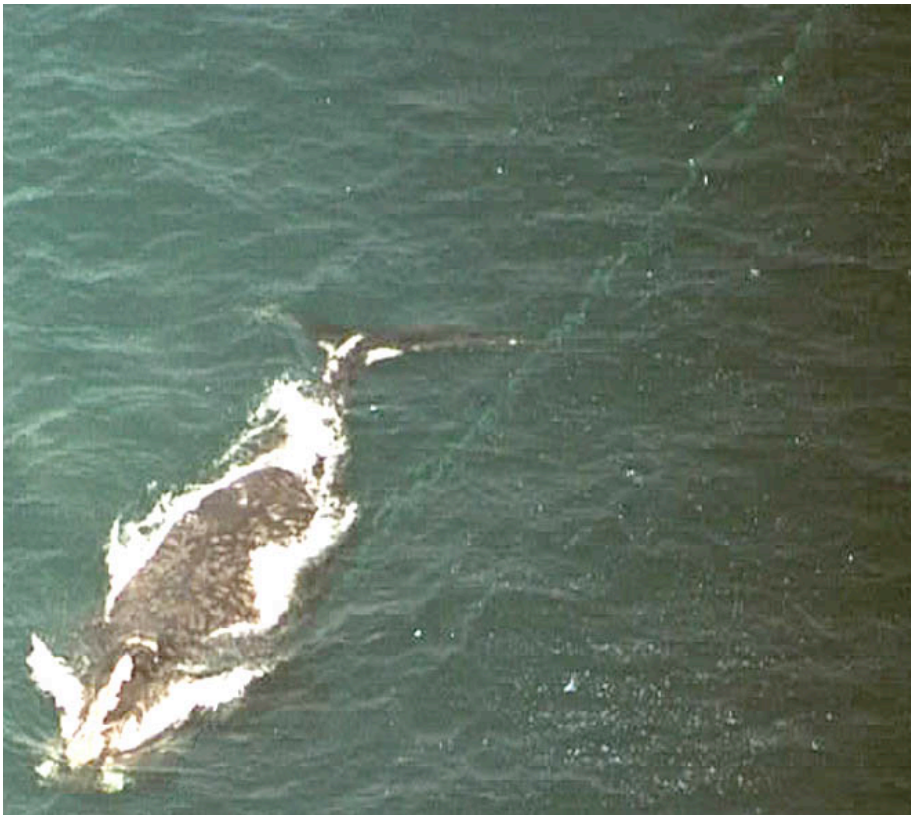
Polymer type		Polysteel
Gear component		Vertical line
Rope diameter (inches)		5/8 (0.630)
Breaking strength (lbs)	Tested	7 241
	New	9 000



12 Jul 2002 PCCS



15 Jul 2002 PCCS



16 Jul 2002 NMFS

DATA SHEET

FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

SPECIMEN ID NO.

J071202

NMFS NO.

E17-02

Gear Description:

3 coils of $\frac{5}{8}$ inch polysteel 3-strand: coils of 50, 100 and 118 feet.

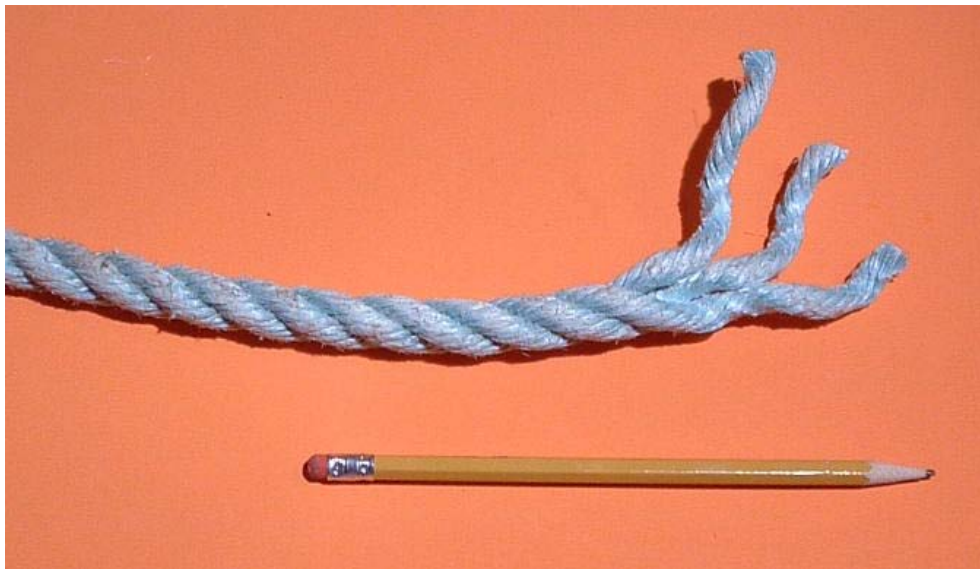
No photo

No information on origin.

Rope description:

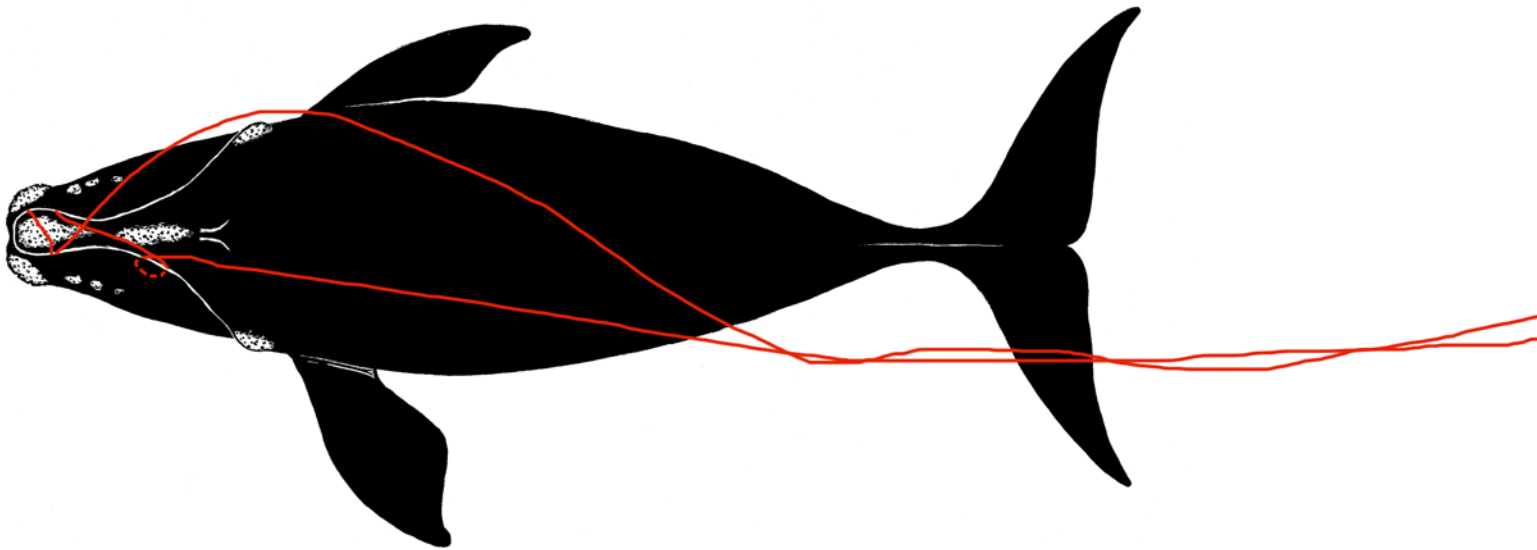
$\frac{5}{8}$ inch pale blue Polysteel 3-strand.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
7,241 lbs (T)	9,000 lbs	Good



Species		Right Whale		Whale ID		Eg #2320		
Date first observed entangled (date seen prior without gear)		04 Aug 2002 (02 Aug 2002)						
Sex	Female	Birth year		Unknown		Age at entanglement		10+

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-18	E21-02	
Gear sample collected?	No	Gear type	



Reproductive prior to entanglement detection?			No		
Reproductive after entanglement detection?			Yes		
Entanglement severity			Moderate		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Medium	Medium	Unknown	Low	Medium
Duration of time carrying gear		Minimum 782 days, maximum 884 days			
Disentangled?		No			
Status		Alive until seen dead in 2015 unknown cause			
Number of prior entanglement interactions		2			

Entanglement configuration	Not well-understood and changed in detail over time; lines wrap rostrum at least three times, one of the wraps, tightly; line did not appear to involve the flippers and trailed the flukes an unknown distance.
Anchoring point(s)	Rostrum
Gear configuration confidence	Low
Remaining questions	Nature of flippers
Comments	Extensive weaving of baleen was documented well into entanglement history; gear eventually shed.



04 Aug 2002 ECE



04 Aug 2002 ECE



24 Mar 2003 PCCS



24 Mar 2003 PCCS



28 Apr 2003 PCCS



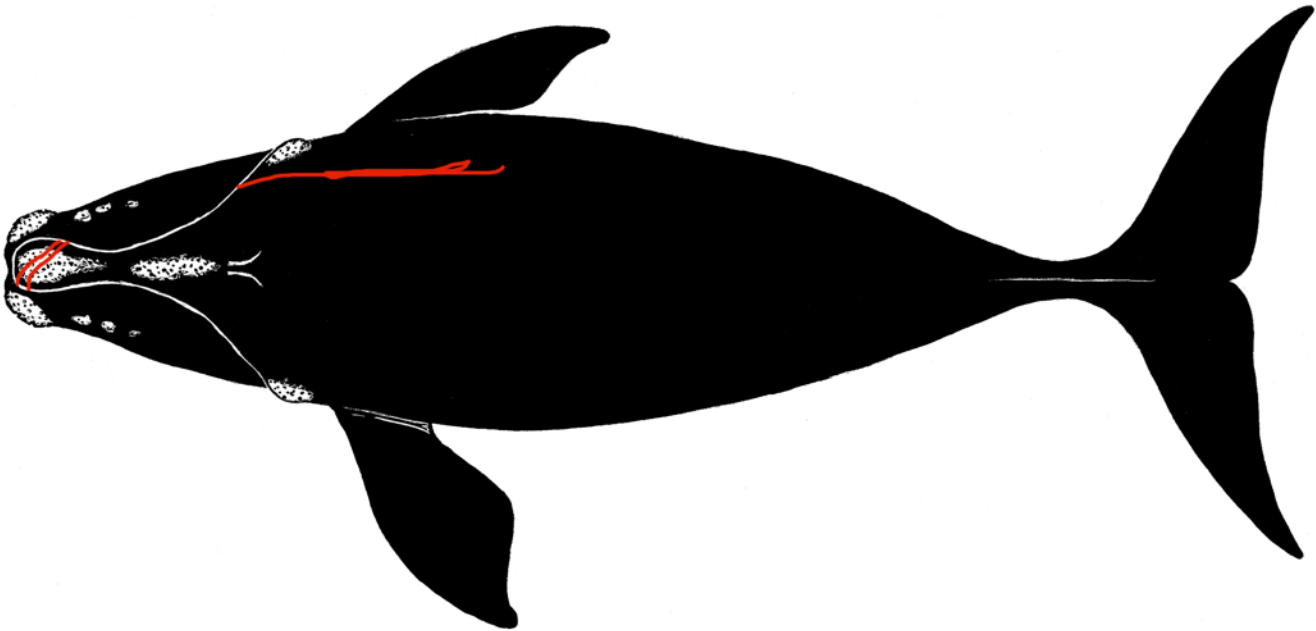
19 Apr 2004 PCCS



19 Apr 2004 PCCS

Species		Right Whale		Whale ID	Eg # 2040
Date first observed entangled (date seen prior without gear)		10 Aug 2002 (03 Jul 2002)			
Sex	Female	Birth year	1990	Age at entanglement	12

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-21	E25-02	
Gear sample collected?	No	Gear type	



Reproductive prior to entanglement detection?		Yes			
Reproductive after entanglement detection?		Yes			
Entanglement severity		Moderate			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Low	Low	Unknown	Low	Medium
Duration of time carrying gear		Minimum 14 days, maximum 74			
Disentangled?		No			
Status		Alive - Last sighted in 2014			
Number of prior entanglement interactions		2			

Entanglement configuration	Not well-understood; 1-2 tight rostrum wraps with some trailing line exiting right mouthline.
Anchoring point(s)	Rostrum
Gear configuration confidence	Low
Remaining questions	Whereabouts of bitter ends entering and exiting the mouthline; nature of flippers, trailing line.
Comments	Entanglement was likely more extensive prior to discovery; baleen pulled from mouth.



24 Aug 2002 CG



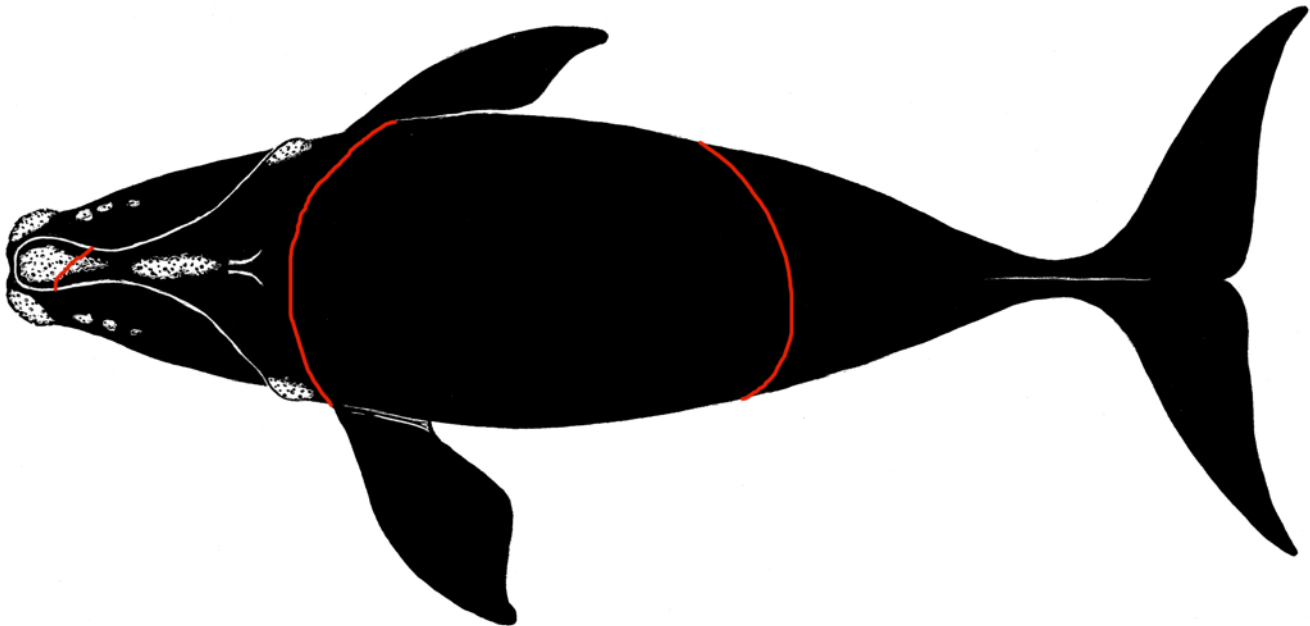
24 Aug 2002 CG



17 Sep 2002 NEA

Species		Right Whale		Whale ID	Eg #1815
Date first observed entangled (date seen prior without gear)		22 Aug 2002 (20 Sep 2001)			
Sex	Female	Birth year	Unknown	Age at entanglement	15+

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-25	E27-02	
Gear sample collected?	No	Gear type	



Reproductive prior to entanglement detection?		Yes			
Reproductive after entanglement detection?		No			
Entanglement severity		Severe			
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	Unknown	High	Unknown	Medium	Low
Duration of time carrying gear		Minimum 1 day, maximum 335 days			
Disentangled?		No			
Status		Presumed dead - Last sighted in 2002			
Number of prior entanglement interactions		2			

Entanglement configuration	Not well-understood; tight rostrum wrap, tight wrap behind head and wrap of back.
Anchoring point(s)	Rostrum, body
Gear configuration confidence	Low
Remaining questions	Whereabouts of bitter end entering and exiting the mouthline; nature of flippers, trailing line.
Comments	Whale has not been seen since entanglement sighting.



22 Aug 2002 NEFSC



22 Aug 2002 NEFSC



22 Aug 2002 NEFSC



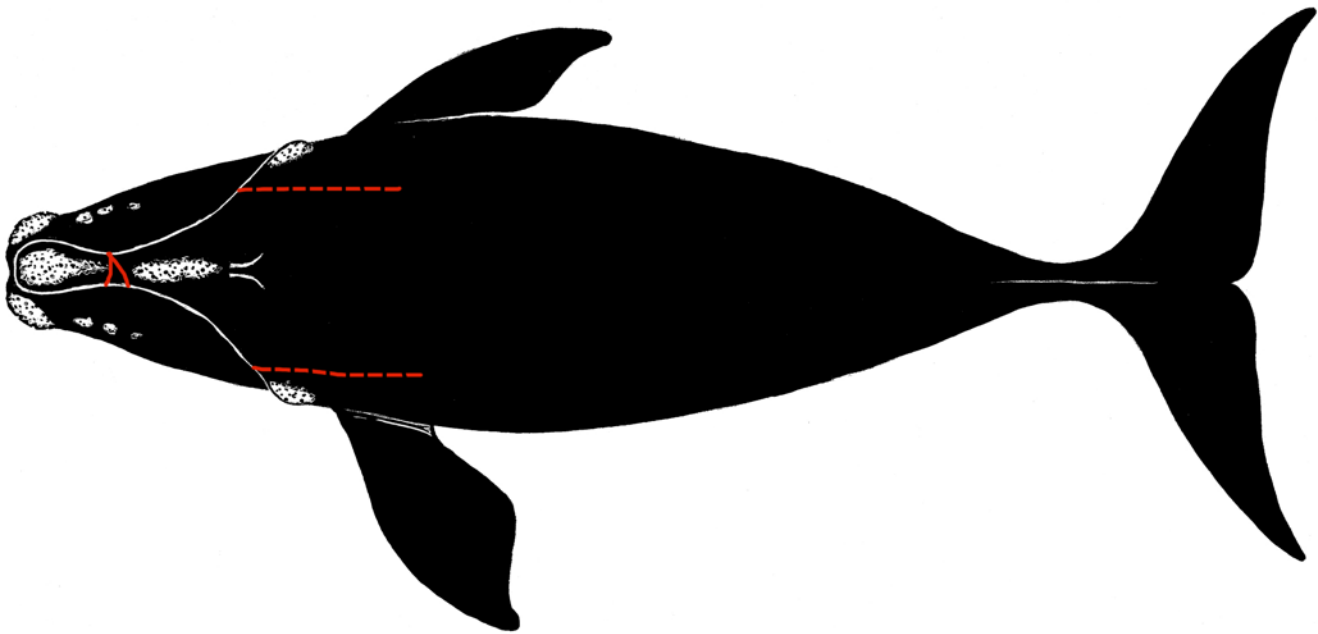
22 Aug 2002 NEFSC



22 Aug 2002 NEFSC

Species		Right Whale		Whale ID		Eg #3210		
Date first observed entangled (date seen prior without gear)			28 Aug 2002 (Unknown)					
Sex	Male	Birth year		Unknown		Age at entanglement		1+

Case study ID	PCCS	NMFS	GEAR ID
	WR-2002-27	E29-02	
Gear sample collected?	No	Gear type	



Reproductive prior to entanglement detection?						
Reproductive after entanglement detection?						
Entanglement severity						Severe
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes	
	Unknown	High	Unknown	None	Low	
Duration of time carrying gear		Minimum 1092 days, maximum unknown				
Disentangled?		No				
Status		Presumed dead - Last sighted in 2005				
Number of prior entanglement interactions		0				

Entanglement configuration	Two wraps of line tight around rostrum; no trailing line seen.
Anchoring point(s)	Rostrum
Gear configuration confidence	Low
Remaining questions	Whereabouts of bitter ends entering and exiting the mouthline.
Comments	Considered potentially lethal due to constricting wraps of line around rostrum.



30 Aug 2002 NEA



25 Sep 2002 NEA



30 Aug 2002 NEA



25 Sep 2002 NEA



30 Aug 2002 NEA



19 May 2004 NEFSC