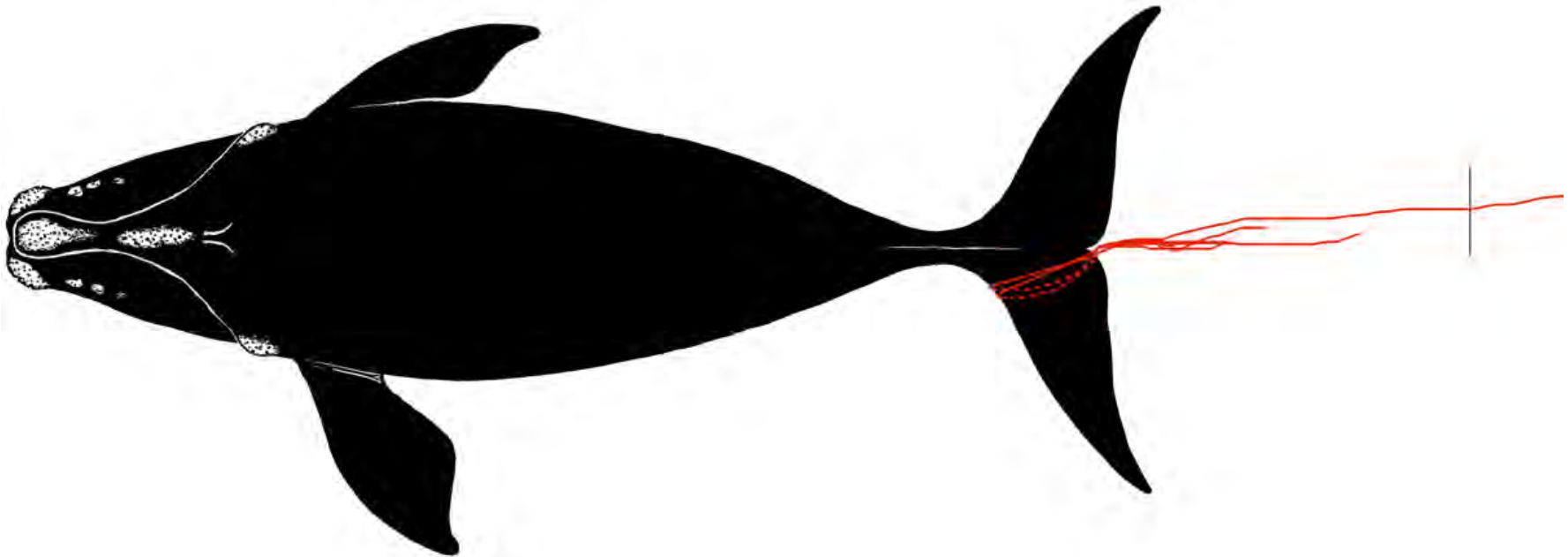


Species		Right Whale		Whale ID		2470	
Date first observed entangled (date seen prior without gear)		13 May 2010 ( 24 Jan 2010 )					
Sex	Male	Birth year	Unknown		Age at entanglement	17+	

Case study ID	CCS	NMFS		GEAR ID
	WR-2010-03			J051310
Gear sample collected?	Yes	Gear type		



Reproductive prior to/after entanglement detection?					
Entanglement injury severity			Severe		
Entanglement configuration risk			High		
Wound severity	Mouth	Head/ Rostrum	Flippers	Body	Flukes
	None	None	None	Unknown	High
Duration of time carrying gear		Minimum 1 day, maximum 106 days			
Disentangled?		Yes - 13 May 2010			
Status		Alive - Last sighted in 2020			
Number of prior entanglement interactions		4			

Entanglement configuration	One continuous piece of line wrapping the left fluke blade twice and trailing aft of the flukes by ~130feet
Anchoring point(s)	Flukes
Gear configuration confidence	High
Remaining questions	
Comments	Line was configured in such a way that the drag of the trailing line kept the fluke wraps tight even as the leading and trailing edges of the flukes eroded.

Polymer Type		Polysteel
Gear Component		
Rope Diameter (inches)		5/8 (0.652)
Breaking Strength (lbs)	Tested	6 480
	New	9 000



13 May 2010 NEFSC



13 May 2010 NMFS



13 May 2010 PCCS



13 May 2010 NEFSC



## DATA SHEET

### FORENSIC ANALYSIS OF ROPES WHALE ENTANGLEMENT PROJECT

**SPECIMEN ID NO.**

**J051310rw**

**NMFS NO.**

**E04-10**

**Gear Description:**

The gear is as seen in the photos below. Algae growth on much of it. Tangling and some severe damage. Some cuts and knots noted by recovery team.





**Rope description:**

J051310-1: Line was  $\frac{5}{8}$  inch white polysteel but measured slightly undersized. There were 18 yarns per strand. The line was soft. An orange tracer is in one strand. Condition was fair overall but some areas showed severe damage.

Tested (T) or adjusted (A) strength	Typical new strength	Rope condition
6,480 lbs (T)	9,000 lbs	Fair



Species	Right Whale	Whale ID	Eg # 1124
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Date first observed entangled (date seen prior without gear)		27 Jun 2010 (5 Jan 2010)			
Sex	Male	Birth year		Age at entanglement	31+

Case study ID	CCS	NMFS		GEAR ID
	WR-2010-07	E08-10		
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	High	High	Unk	Unk
Duration of time carrying gear		Minimum 1 days, maximum 172 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		2			

Entanglement configuration	Multiple wraps embedded around rostrum. Flippers also had deep, chronic wounds
Anchoring points	Mouthline, flippers
Gear configuration confidence	High
Remaining questions	
Comments	Covered with orange cyamids

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



30 June 2010, US Coast Guard, rostrum and left flipper



27 June 2010, US Coast Guard, body and left flipper



27 June 2010, US Coast Guard, left body



1 July 2010, WHOI, deep cut from rope in rostrum



Species	Right Whale	Whale ID	Eg # 1503
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Date first observed entangled (date seen prior without gear)		10 Sep 2010 (12 Apr 2010)			
Sex	Female	Birth year	1985	Age at entanglement	25

Case study ID	CCS	NMFS	GEAR ID
	WR-2010-20	E20-10	
Gear sample collected?	No	Gear type	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection				Yes/No	
Entanglement injury severity				Moderate	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Medium	Unk	None	Medium
Duration of time carrying gear		Minimum 1 days, maximum 150 days			
Disentangled?		No			
Status		Presumed dead. Last seen 2010			
Number of prior entanglements		4			

Entanglement configuration	Three entwined ropes exit left mouth crossing rostrum towards right flipper
Anchoring points	Mouthline, flipper?
Gear configuration confidence	Low
Remaining questions	Involvement of one or both flippers is unknown
Comments	

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



10 Sep 2010, Blue Ocean Society



10 Sep 2010, Blue Ocean Society



10 Sep 2010, Blue Ocean Society



Species	Right Whale	Whale ID	Eg # 3120
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Date first observed entangled (date seen prior without gear)		20 Oct 2010 (19 Oct 2010)			
Sex	Male	Birth year	2001	Age at entanglement	9

Case study ID	CCS	NMFS		GEAR ID
	WR-2010-21	E22-10		
Gear sample collected?	No	Gear type	Gillnet	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	None	High	None	Medium
Duration of time carrying gear		Minimum 89 days, maximum 153 days			
Disentangled?		No			
Status		Alive - last seen in 2019			
Number of prior entanglements		2			

Entanglement configuration	Line around body and probably one or both flippers
Anchoring points	Flippers?, mouthline?
Gear configuration confidence	Low
Remaining questions	Uncertain how mouth and flippers were involved
Comments	Gear shed

Polymer type		
Gear component		Float line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



20 Oct 2010, Blue Ocean Society



20 Oct 2010, Blue Ocean Society



20 Oct 2010, Blue Ocean Society



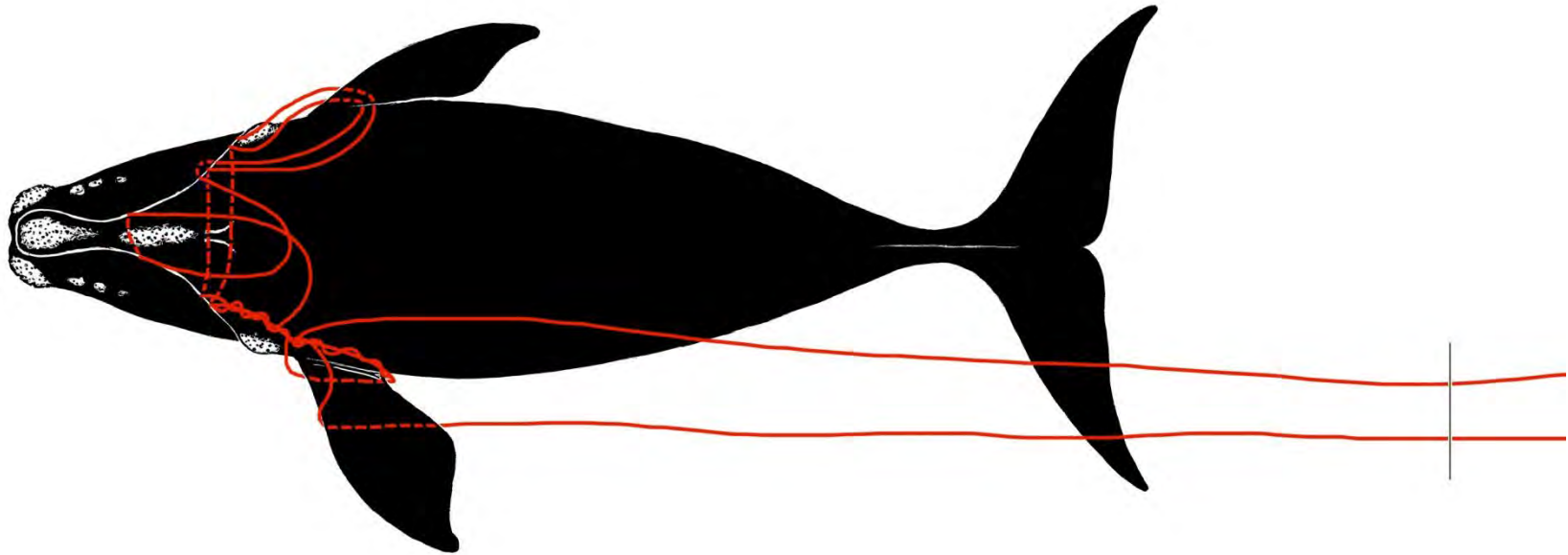
18 Sep 2011, NEAq, deep injury left flipper



Species	Right Whale	Whale ID	Eg # 3911
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Date first observed entangled (date seen prior without gear)		25 Dec 2010 (23 Feb 2010)			
Sex	Female	Birth year	2009	Age at entanglement	2

Case study ID	CCS	NMFS		GEAR ID
	WR-2010-23	E25-10		J122510 rw
Gear sample collected?		yes	Gear type	Trap/pot



Reproductive prior to/after entanglement detection					No/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	Medium	High
Duration of time carrying gear		Minimum 38 days, maximum 342 days			
Disentangled?		Yes, partial			
Status		Dead			
Number of prior entanglements		1			

Entanglement configuration	Ropes through mouth, around both flippers, and trailing ~200 ft
Anchoring points	Moutline, flippers
Gear configuration confidence	High
Remaining questions	
Comments	Poor conditon, succumbed to sharks

Polymer type		Copolymer
Gear component		Floating groundline
Rope diameter (inches)		7/16 (0.4375)
Breaking strength (lbs)	Tested	
	New	4 100



25 Dec 2011, FL FWC



25 Dec 2011, FL FWC



25 Dec 2011, FL FWC



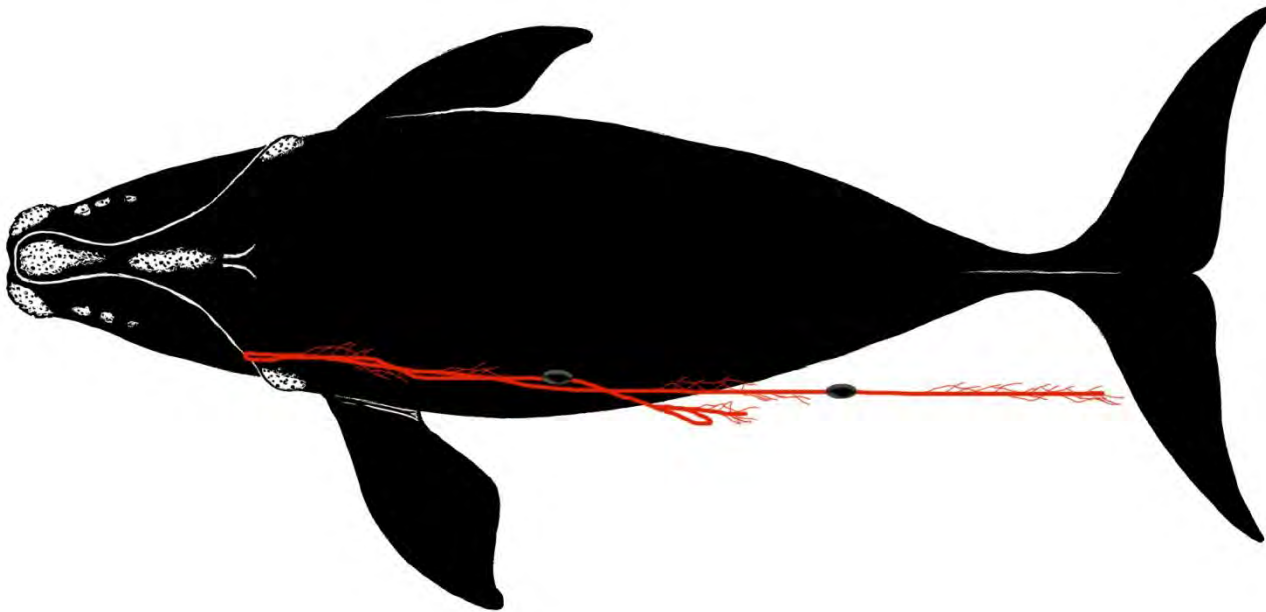
1 Feb 2011, FL FWC



Species	Right Whale	Whale ID	Eg # 3010
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Date first observed entangled (date seen prior without gear)		19 Jan 2011 (31 Dec 2010)			
Sex	Female	Birth year		Age at entanglement	12+

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-02	E02-11		
Gear sample collected?	No	Gear type	Gillnet	



Reproductive prior to/after entanglement detection					Yes/No
Entanglement injury severity					Minor
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	Unk	None	Low
Duration of time carrying gear		Minimum 11 days, maximum 110 days			
Disentangled?		No			
Status		Alive - last seen in 2020			
Number of prior entanglements		1			

Entanglement configuration	Single rope exiting left side of mouth
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Gear shed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



19 Jan 2011, Florida FWC



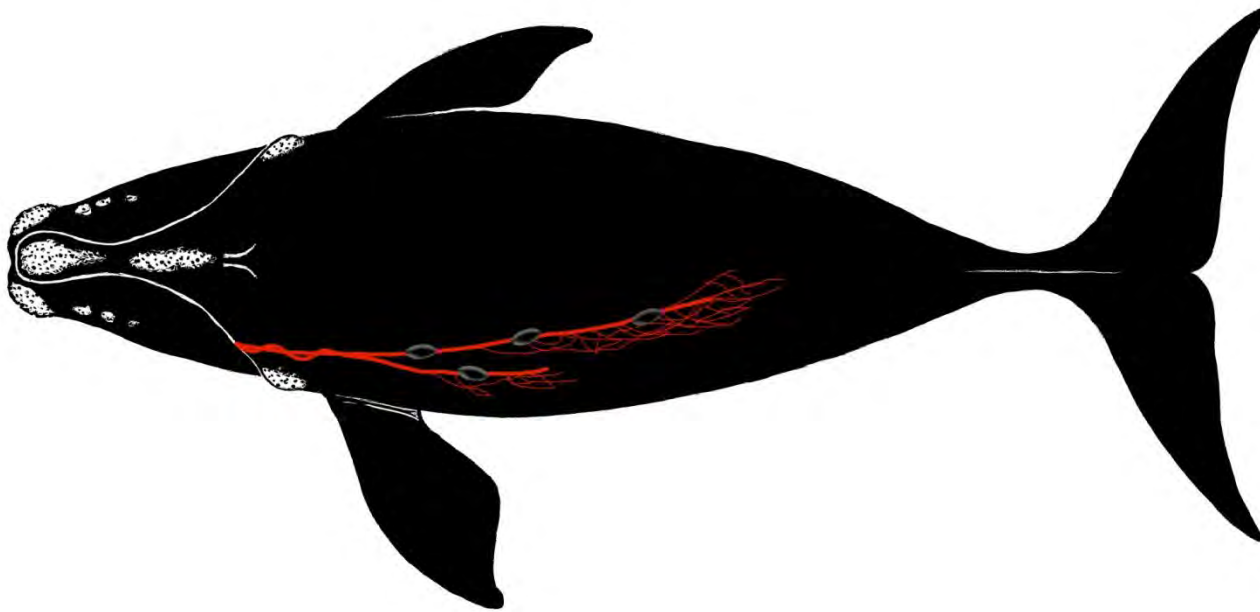
19 Jan 2011, Florida FWC



Species	Right Whale	Whale ID	Eg # 3712
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Date first observed entangled (date seen prior without gear)		30 Jan 2011 (13 Nov 2010)			
Sex	Male	Birth year	2007	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-03	E03-11		
Gear sample collected?	No	Gear type	Gillnet	



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Moderate
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	None	None	None	Medium
Duration of time carrying gear		Minimum 10 days, maximum 163 days			
Disentangled?		No			
Status		Alive - last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Single rope and netting exiting left mouth and halfway down body
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Gear shed

Polymer type		
Gear component		Floatline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



30 Jan 2011, FWRI



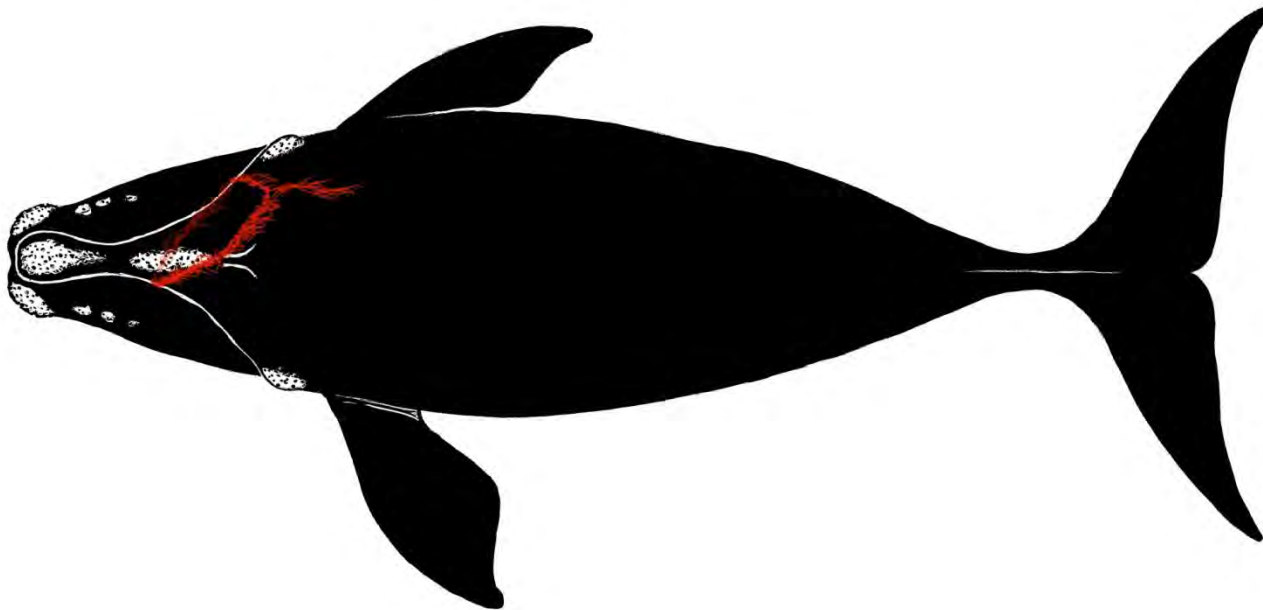
13 Aug 2011, New England Aquarium



Species	Right Whale	Whale ID	Eg # 3760
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Date first observed entangled (date seen prior without gear)		13 Feb 2011 (1 May 2010)			
Sex	Female	Birth year	2007	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-05	E05-11		
Gear sample collected?	No	Gear type	Gillnet	



Reproductive prior to/after entanglement detection					No/No
Entanglement injury severity					Moderate
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	Unk	None	Medium
Duration of time carrying gear		Minimum 1 days, maximum 357 days			
Disentangled?		No			
Status		Alive - last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Netting only extending out of left and right sides of mouth and partway down the body
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Gear shed

Polymer type		
Gear component		Monofilament netting
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



13 Feb 2011, GA DNR



13 Feb 2011, GA DNR



13 Feb 2011, GA DNR



Species	Right Whale	Whale ID	Eg # 3993
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Date first observed entangled (date seen prior without gear)		13 Feb 2011 (20 Apr 2010)			
Sex	Male	Birth year	2009	Age at entanglement	2

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-06	E06-11		
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	None	High	None	Low
Duration of time carrying gear		Minimum 1 days, maximum 298 days			
Disentangled?		No			
Status		Presumed dead. Last seen in 2011			
Number of prior entanglements		1			

Entanglement configuration	Rope wrapped around right flipper and trailing 10 ft behind flukes
Anchoring points	Flipper
Gear configuration confidence	Low
Remaining questions	Unknown if mouth involved
Comments	Poor condition

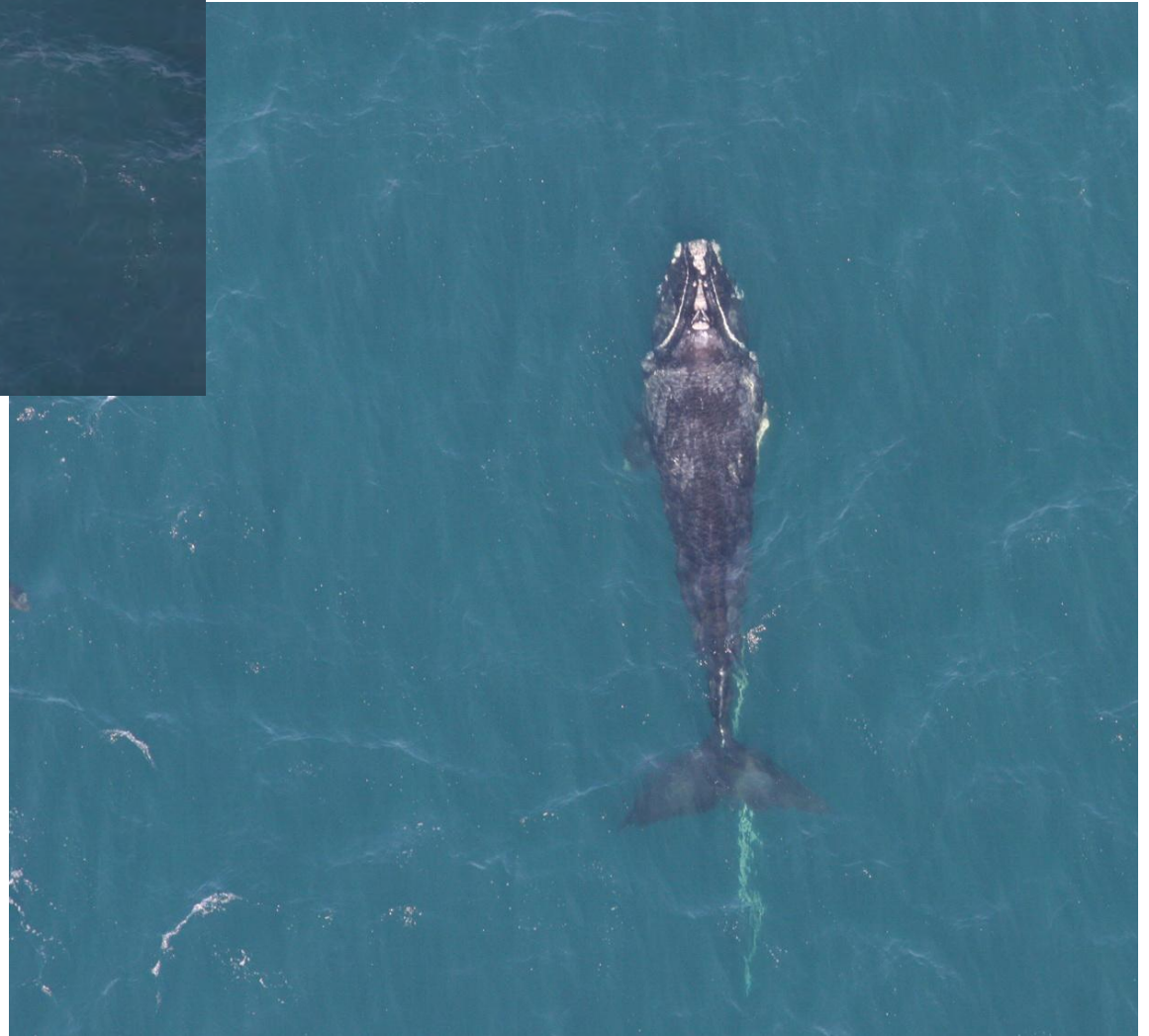
Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



13 Feb 2011, Sea 2 Shore Alliance



13 Feb 2011, Sea 2 Shore Alliance



13 Feb 2011, Sea 2 Shore Alliance



Species	Right Whale	Whale ID	Unknown
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Date first observed entangled (date seen prior without gear)		16 Mar 2011 (Unknown)			
Sex	Unknown	Birth year		Age at entanglement	Unknown

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-07	E07-11		J031611 rw
Gear sample collected?	yes	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Unk	High	Unk	Unk
Duration of time carrying gear		Minimum 1 days, maximum unknown			
Disentangled?		No			
Status		Dead			
Number of prior entanglements					

Entanglement configuration	Two types of rope wrapped 13 times around right flipper
Anchoring points	Flipper
Gear configuration confidence	Low
Remaining questions	Unknown if any other body areas involved
Comments	Very decomposed carcass

Polymer type		Copolymer
Gear component		
Rope diameter (inches)		1/2 (0.50)
Breaking strength (lbs)	Tested	
	New	5,000



16 Mar 2011, NOAA, right flipper



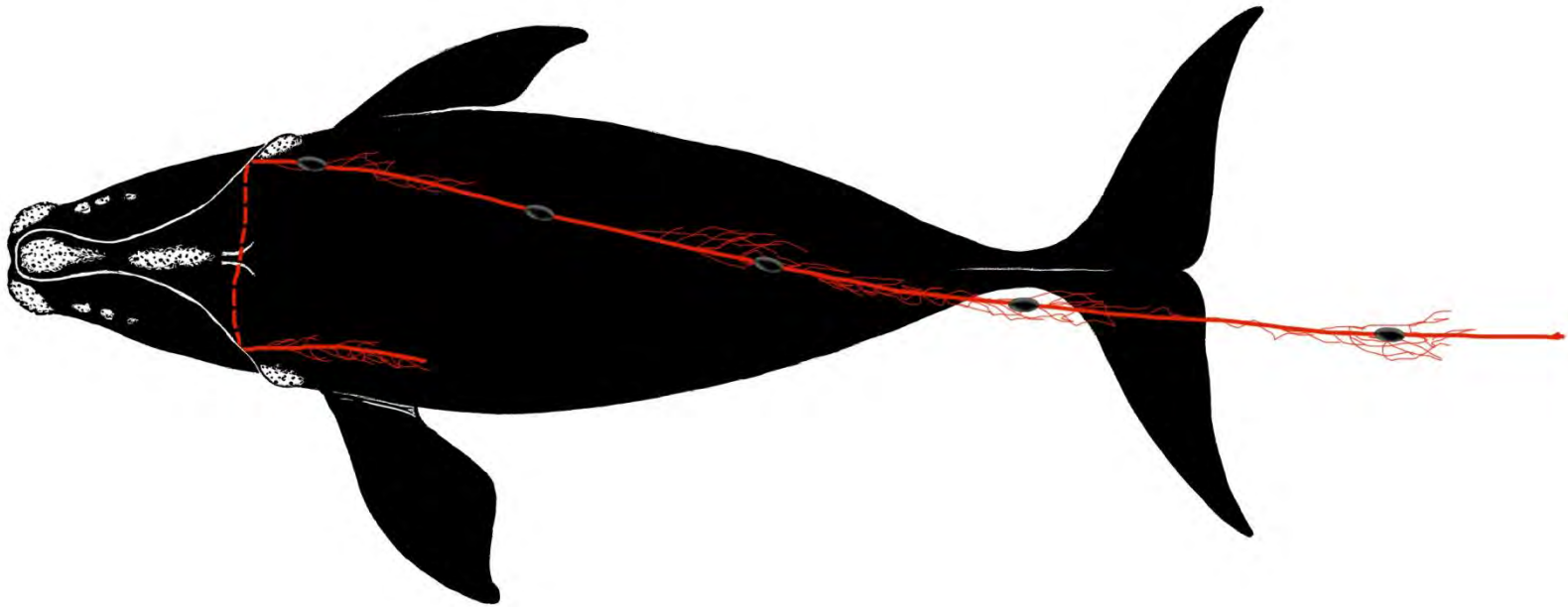
16 Mar 2011, NOAA, right flipper



Species	Right Whale	Whale ID	Eg # 3893
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Date first observed entangled (date seen prior without gear)		17 Mar 2011 (27 Aug 2010)			
Sex	Female	Birth year	2008	Age at entanglement	3

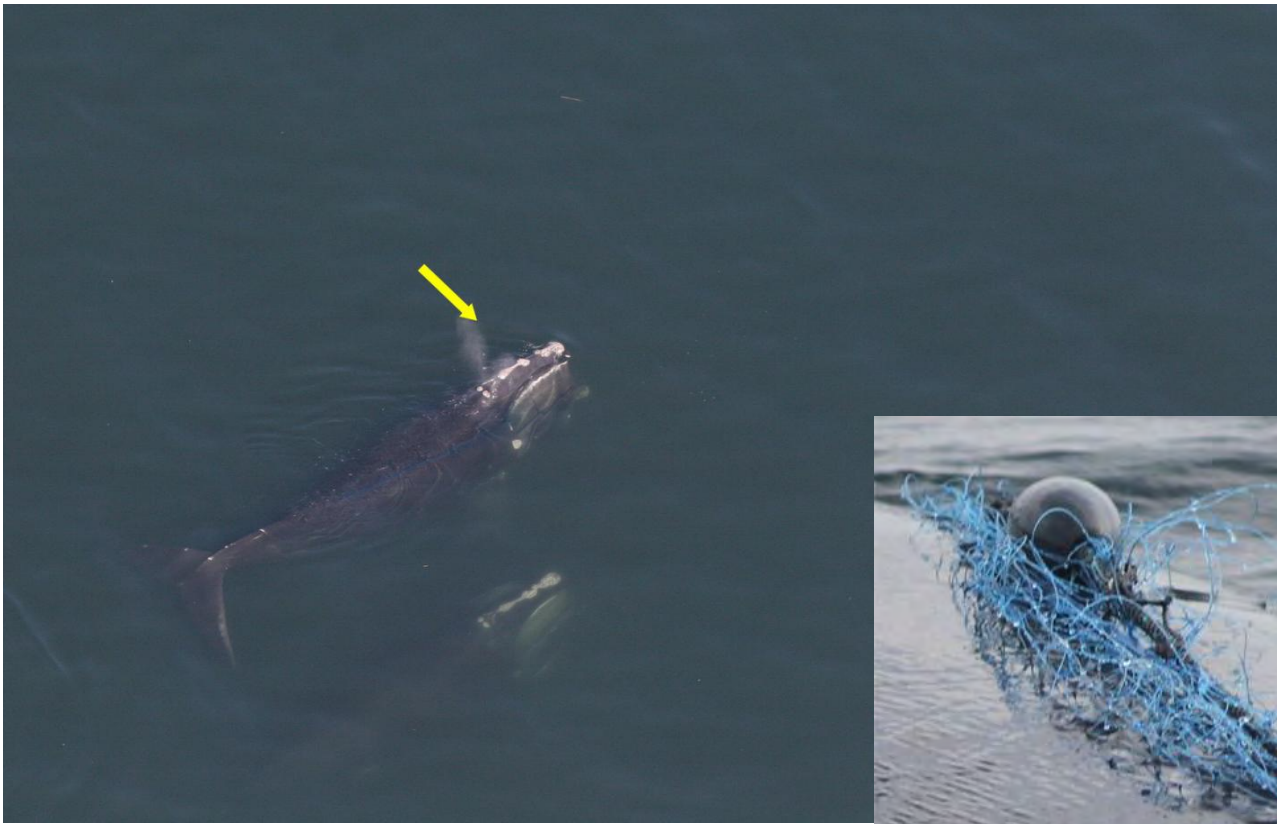
Case study ID	CCS	NMFS		GEAR ID
	WR-2011-10	E08-11		
Gear sample collected?		Gear type	Gillnet	



Reproductive prior to/after entanglement detection					No/No
Entanglement injury severity					Minor
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Low	Low	None	Low
Duration of time carrying gear		Minimum 38 days, maximum 243 days			
Disentangled?		Yes, partial			
Status		Dead in 2018 from a new entanglement			
Number of prior entanglements		0			

Entanglement configuration	Rope and netting through both sides of mouth and extending to flukes on right side
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Remaining gear shed

Polymer type		
Gear component		Floatline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



17 Mar 2011, Center for Coastal Studies



24 Apr 2011, Center for Coastal Studies



Species	Right Whale	Whale ID	Eg # 3302
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Date first observed entangled (date seen prior without gear)		22 Apr 2011 (27 Aug 2010)			
Sex	Male	Birth year	2003	Age at entanglement	8

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-33	E12-11		
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

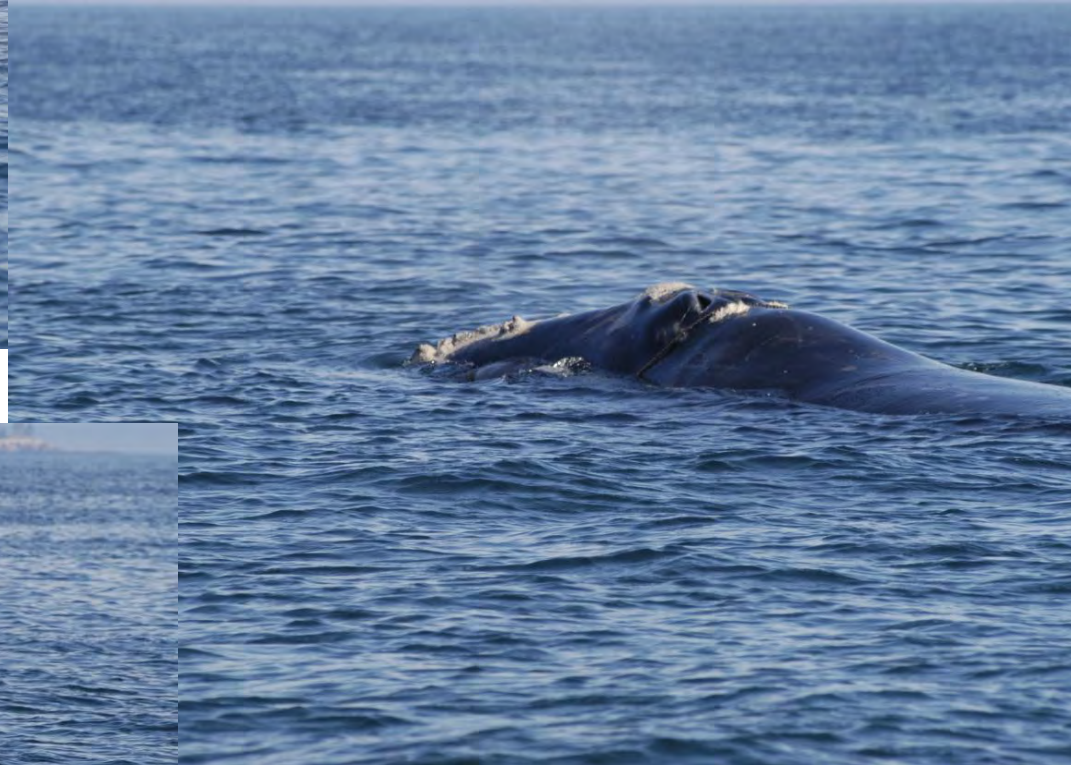
Reproductive prior to/after entanglement detection					
Entanglement injury severity					Minor
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Low	Unk	Low	Low
Duration of time carrying gear		Minimum 201 days, maximum 438 days			
Disentangled?		No			
Status		Presumed dead. Last seen in 2011			
Number of prior entanglements		2			

Entanglement configuration	Single rope across nares and likely leading into mouth. No trailing gear
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Rope is taught across blowholes but not embedded

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



26 Sep 2011, New England Aquarium



26 Sep 2011, New England Aquarium



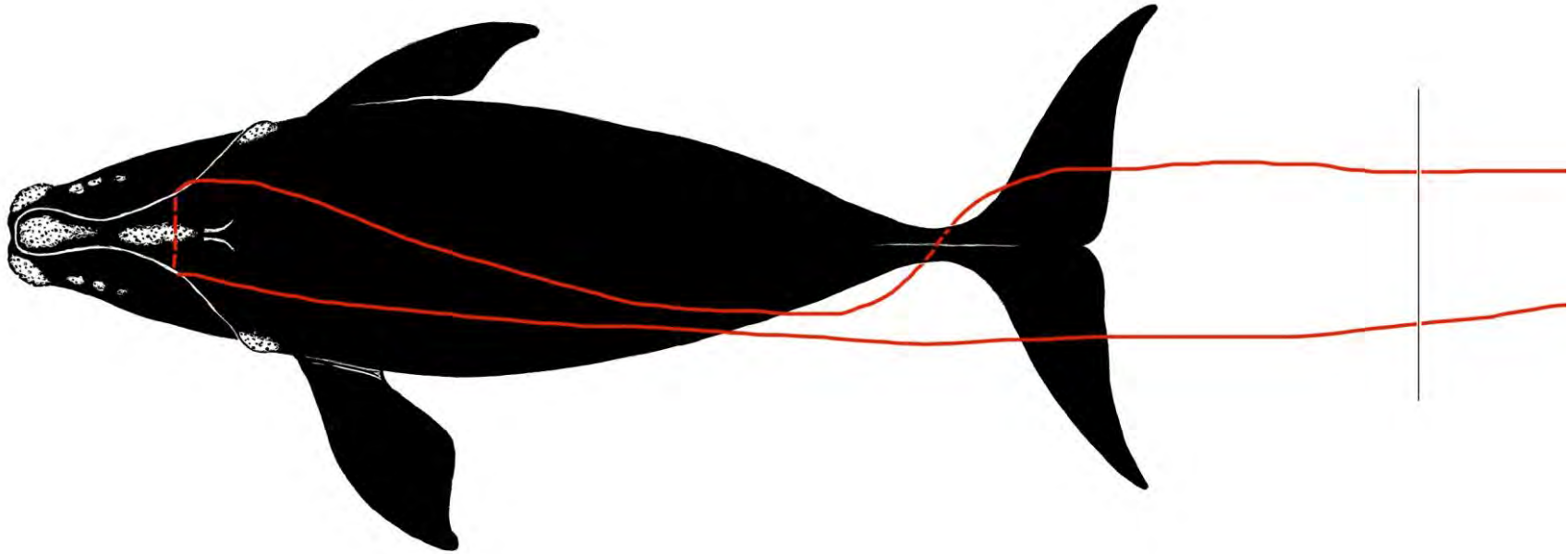
26 Sep 2011, New England Aquarium



Species	Right Whale	Whale ID	Eg # 4040
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Date first observed entangled (date seen prior without gear)		22 Apr 2011 (21 Apr 2010)			
Sex	Female	Birth year		Age at entanglement	2+

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-11	E11-11		J042211 rw-1
Gear sample collected?	yes	Gear type	NE trap/pot, nearshore	



Reproductive prior to/after entanglement detection					No/ Yes
Entanglement injury severity					Moderate
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	Low	Unk	Low	Medium
Duration of time carrying gear		Minimum 1 days, maximum 364 days			
Disentangled?		Yes			
Status		Alive - last seen in 2021			
Number of prior entanglements		0			

Entanglement configuration	Single rope exiting both sides of mouth and extending ~50 feet behind flukes
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



22 Apr 2011, Center for Coastal Studies



22 Apr 2011, Center for Coastal Studies



22 Apr 2011, Center for Coastal Studies



Species	Right Whale	Whale ID	Eg # 3123
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Date first observed entangled (date seen prior without gear)		29 Apr 2011 (14 Apr 2011)			
Sex	Female	Birth year	2001	Age at entanglement	10

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-13	E13-11		
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection				Yes/No	
Entanglement injury severity				Minor	
Entanglement configuration risk				Low	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	None	None	None
Duration of time carrying gear		Minimum 142 days, maximum 339 days			
Disentangled?		No			
Status		Alive but then suffered a severe entglmnt in 2013			
Number of prior entanglements		3			

Entanglement configuration	Short length of line exiting right mouth gape and extending 1/2 of body
Anchoring points	Mouthline, flipper?
Gear configuration confidence	Low
Remaining questions	Uncertain if right flipper was involved
Comments	Gear shed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



29 April 2011, Center for Coastal Studies



18 Sep 2011, New England Aquarium



Species	Right Whale	Whale ID	Eg # 4090
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Date first observed entangled (date seen prior without gear)		18 Sep 2011 (29 Apr 2011)			
Sex	Unknown	Birth year	2010	Age at entanglement	1

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-32	E31-11		J091811 rw
Gear sample collected?	No	Gear type	US NE gillnet	

Photographs inadequate to determine complete entanglement configuration - no drawing available

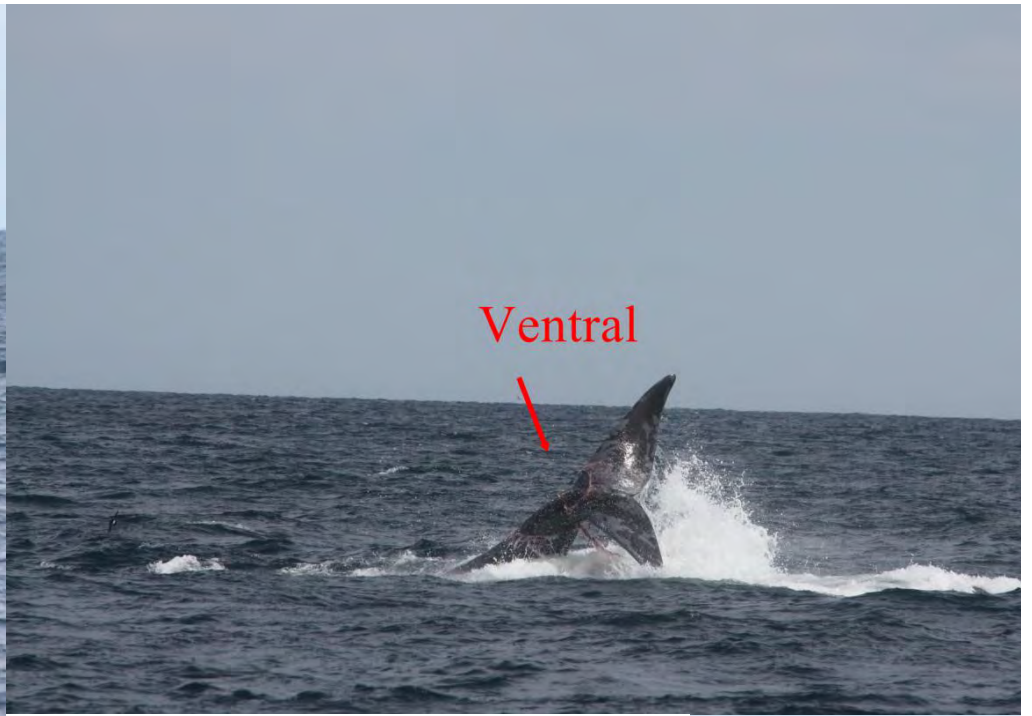
Reproductive prior to/after entanglement detection					
Entanglement injury severity					Low
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	Low	Unk	Unk	Low
Duration of time carrying gear		Minimum 1 days, maximum 141 days			
Disentangled?		No			
Status		Presumed dead - last seen in 2011 entangled			
Number of prior entanglements		1			

Entanglement configuration	Gillnet line and netting through mouth and around tail
Anchoring points	Mouthline, tail
Gear configuration confidence	Low
Remaining questions	Unknown if flippers involved
Comments	Whale thrashing, gear shifting

Polymer type		
Gear component		Floatline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



18 Sep 2011, Blue Ocean Society



18 Sep 2011, Blue Ocean Society



18 Sep 2011, Blue Ocean Society



Species	Right Whale	Whale ID	Eg # 3111
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Date first observed entangled (date seen prior without gear)		26 Sep 2011 (31 May 2011)			
Sex	Male	Birth year	2001	Age at entanglement	10

Case study ID	CCS	NMFS		GEAR ID
	WR-2011-34	E32-11		
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Low	High	Medium	High
Duration of time carrying gear		Minimum 1 days, maximum 276 days			
Disentangled?		Yes, partial			
Status		Presumed dead - last seen in 2012			
Number of prior entanglements		4			

Entanglement configuration	Multiple ropes wrapped around left flipper and trailing around 20 ft behind flukes
Anchoring points	Flipper, mouthline?
Gear configuration confidence	High
Remaining questions	Uncertain if line went into left mouth
Comments	Peduncle injuries are not fully healed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



27 Sep 2011, Campobello Whale Rescue



27 Sep 2011, Campobello Whale Rescue



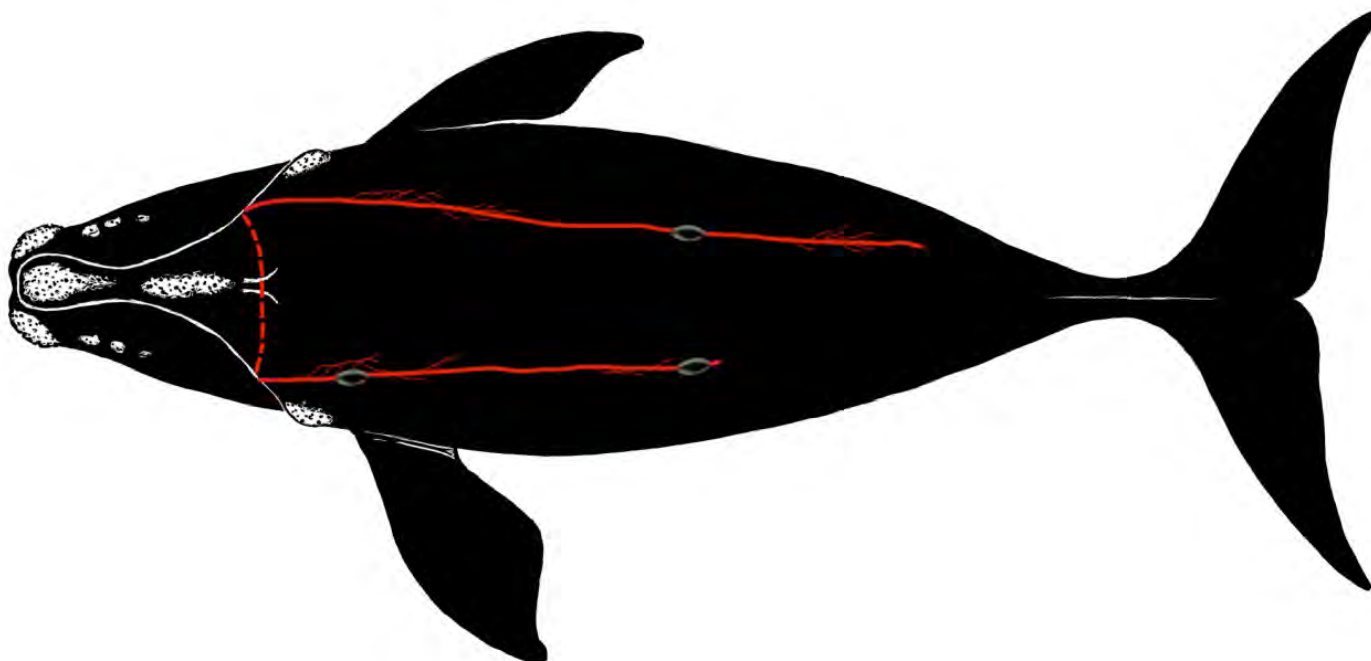
27 Sep 2011, New England Aquarium



«Comments»«Comments»Species	Right Whale	Whale ID	Eg # 3821
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Date first observed entangled (date seen prior without gear)		7 Jan 2012 (2 Sep 2011)			
Sex	Unk	Birth year	2008	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2012-01	E01-12		
Gear sample collected?	No	Gear type	Gillnet	



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Minor
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	None	Unk	None	Low
Duration of time carrying gear		Minimum 823 days, maximum 949 days			
Disentangled?		Yes			
Status		Alive – last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Rope and netting through mouth
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Remaining gear shed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



7 Jan 2012, CCS

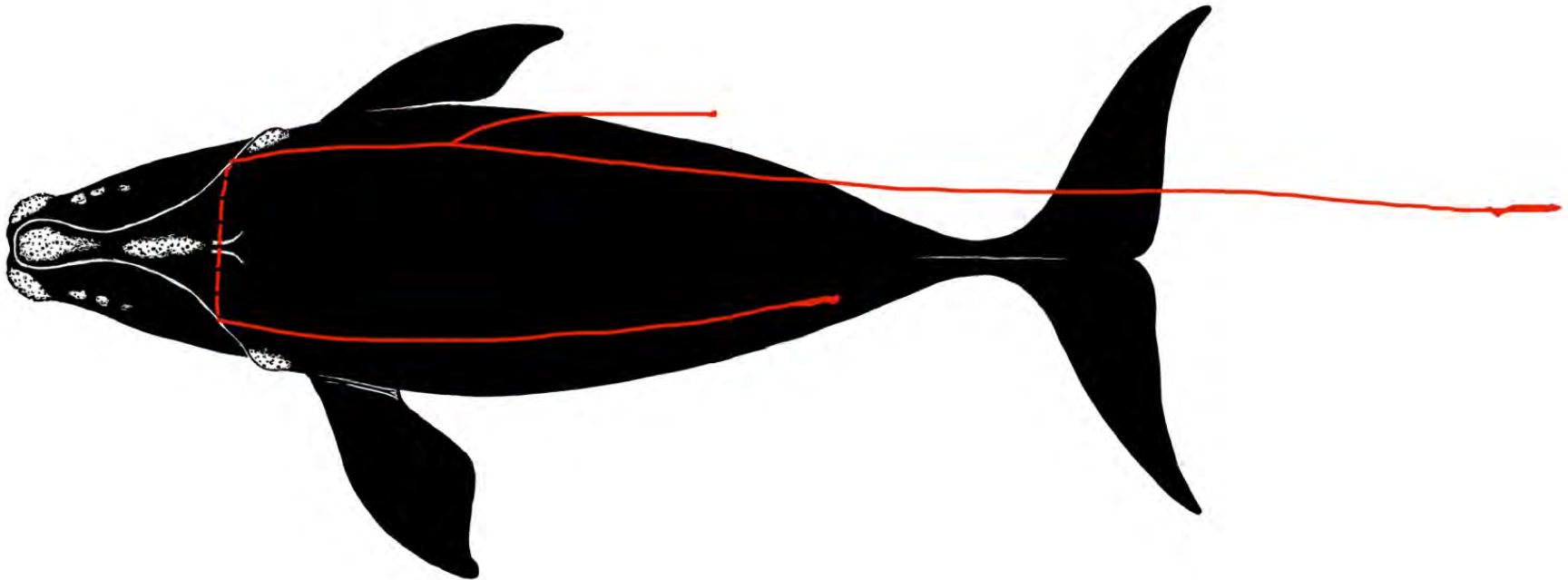


5 Feb 2012, CCS

Species	Right Whale	Whale ID	Eg # 1719
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Date first observed entangled (date seen prior without gear)		19 Jan 2012 (22 Apr 2011)			
Sex	Female	Birth year		Age at entanglement	26+

Case study ID	PCCS	NMFS		GEAR ID
	WR-2012-02	E02-12		
Gear sample collected?	No	Gear type		



Reproductive prior to/after entanglement detection					No/ No
Entanglement injury severity					Moderate
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	No	Unk	None	Medium
Duration of time carrying gear		Minimum 2 days, maximum 694 days			
Disentangled?		No			
Status		Alive – last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Rope through mouth and not trailing behind body
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Gear shed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





19 Jan 2012, Sea to Shore Alliance



19 Jan 2012, Georgia DNR

Species	Right Whale	Whale ID	Eg # 3996
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Date first observed entangled (date seen prior without gear)		15 Feb 2012 (6 Oct 2011)			
Sex	Male	Birth year	2009	Age at entanglement	3

Case study ID	CCS	NMFS		GEAR ID
	WR-2012-05	E05-12		
Gear sample collected?	No	Gear type	Gillnet	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					Moderate
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Medium	Unk	Low	Low
Duration of time carrying gear		Minimum 149 days, maximum unknown			
Disentangled?		No			
Status		Presumed dead - last seen in 2012			
Number of prior entanglements		1			

Entanglement configuration	Rope goes through mouth on both sides and across rostrum, shifted forward and tightened over time
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Uncertain if right flipper involved
Comments	Rope embedded forward of blowholes

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



13 Apr 2012, CCS



9 Sep 2012, BOS





Species	Right Whale	Whale ID	Eg # Unid
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Date first observed entangled (date seen prior without gear)		23 Jul 2012 (Unknown)			
Sex	Female	Birth year		Age at entanglement	Unknown

Case study ID	CCS	DFO		GEAR ID
		86957		X-Canada 4
Gear sample collected?	Yes	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection				Unknown	
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unk	Unk	Unk	Unk	High
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		Unknown			

Entanglement configuration	30 wraps of rope around tail; likely drowned in gear
Anchoring points	Tail
Gear configuration confidence	High
Remaining questions	
Comments	Carcass very decomposed; gear collected by DFO

Polymer type		Co-polymer
Gear component		
Rope diameter (inches)		7/8 (0.843)
Breaking strength (lbs)	Tested	2,600 (left in sun for 4 weeks after removal)
	New	12,800



23 July 2012, WWC Canada

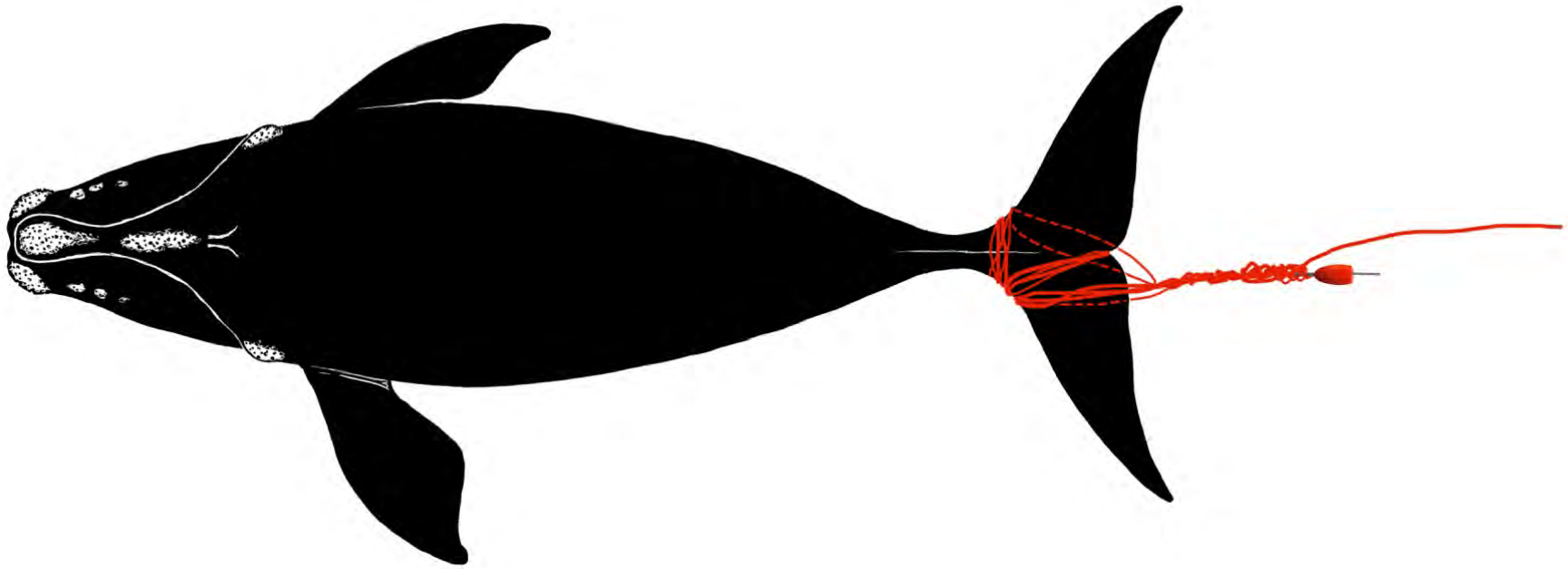


25 July 2012, UPEI

Species	Right Whale	Whale ID	Eg # 4193
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Date first observed entangled (date seen prior without gear)		18 Dec 2012 (28 Jan 2012)			
Sex	Male	Birth year	2011	Age at entanglement	2

Case study ID	PCCS	NMFS		GEAR ID
	WR-2012-42	E43-12		J121812 rw
Gear sample collected?		Yes	Gear type	US NE trap/pot, nearshore



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Medium	Medium	Medium	High
Duration of time carrying gear		Minimum 1 days, maximum 324 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		0			

Entanglement configuration	Three endlines wrapped multiple times around tail
Anchoring points	Tail
Gear configuration confidence	High
Remaining questions	
Comments	Entanglement injuries evident at mouth and flippers

Polymer type		PET; PET/Copolymer; PP
Gear component		End lines with spindle buoys
Rope diameter (inches)		3/8 for all
Breaking strength (lbs)	Tested	
	New	2900; 3400; 2430





19 Dec 2012 UNCW/Florida FWC



19 Dec 2012 UNCW/Florida FWC

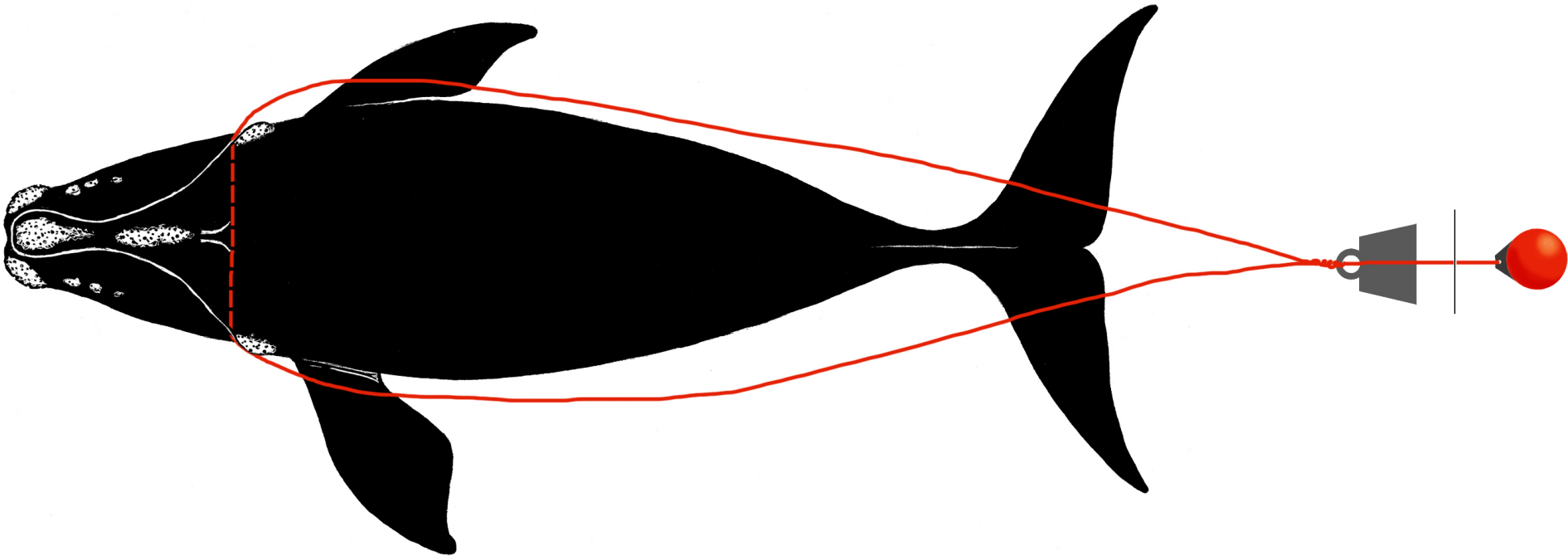


19 Dec 2012 UNCW/Florida FWC

Species	Right Whale	Whale ID	Eg # 3123
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Date first observed entangled (date seen prior without gear)		12 Jul 2013 (20 Mar 2012)			
Sex	Female	Birth year	2001	Age at entanglement	12

Case study ID	CCS	NMFS		GEAR ID
	WR-2013-04	E05-13		
Gear sample collected?	No	Gear type		



Reproductive prior to/after entanglement detection					Yes/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Medium	Medium	None	High
Duration of time carrying gear		Minimum 1 day, maximum 478 days			
Disentangled?		Yes, ad hoc disentanglement			
Status		Likely dead? No subsequent sightings			
Number of prior entanglements		4			

Entanglement configuration	Single line through mouth forming bridle leading to depth with two polyballs several hundred yards behind tail
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Tail injury suggests constant abrasion

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





12 Jul 2013 Opportunistic sighting



17 Jul 2013 SEFSC/AMPS



17 Jul 2013 SEFSC/AMPS



Species	Right Whale	Whale ID	Eg # 1311
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Date first observed entangled (date seen prior without gear)		11 Aug 2013 (21 Apr 2013)			
Sex	Male	Birth year	1983	Age at entanglement	30

Case study ID	CCS	NMFS		GEAR ID
	WR-2013-06			
Gear sample collected?	No	Gear type		

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					Yes/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Medium	Unknown	Medium	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 111 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		2			

Entanglement configuration	Rope through mouth and baleen
Anchoring points	Mouthline
Gear configuration confidence	Low
Remaining questions	Uncertain if flippers or tail involved
Comments	Scavenged heavily by sharks, relatively fresh

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

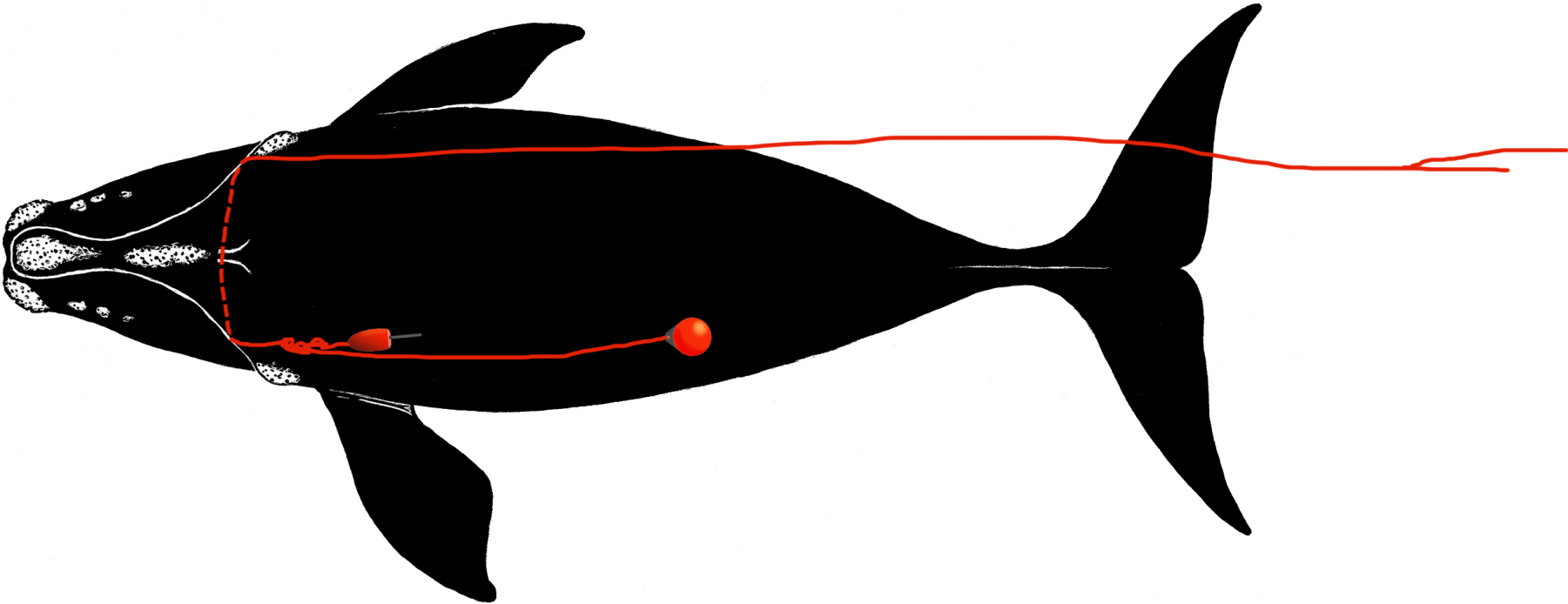


11 Aug 2013 Opportunistic sighting

Species	Right Whale	Whale ID	Eg # 3946
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Date first observed entangled (date seen prior without gear)		20 Sep 2013 (1 May 2013)			
Sex	Female	Birth year	2009	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2013-09	E10-13		
Gear sample collected?		No	Gear type	



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Moderate
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Medium	Medium	Medium	Medium
Duration of time carrying gear		Minimum 1 day, maximum 326 days			
Disentangled?		No			
Status		Alive, last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Line through mouth with polyball and small buoy on left side, no trailing gear
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Unusual lesions on back; gear shed

Polymer type		
Gear component		Endline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





20 Sep 2013 CWI/NEAq

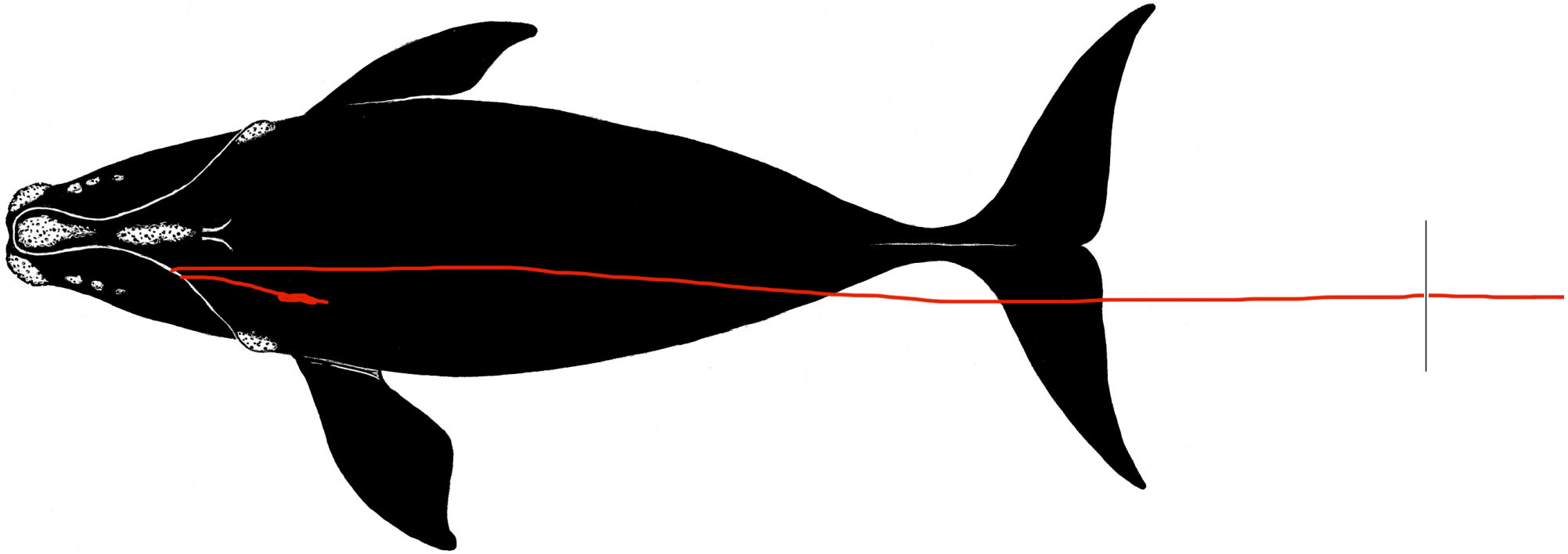


20 Sep 2013 CWI/NEAq

Species	Right Whale	Whale ID	Eg # 4057
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Date first observed entangled (date seen prior without gear)		16 Feb 2014 (18 Mar 2013)			
Sex	Male	Birth year	2010	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-01	E01-14		J021614 rw
Gear sample collected?		Yes	Gear type	Unknown Canadian trap



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	High	High	Low	Medium
Duration of time carrying gear		Minimum 55 days, maximum 389 days			
Disentangled?		Yes, partial			
Status		Alive? (in a different severe entanglement in 2016)			
Number of prior entanglements		3			

Entanglement configuration	Line entering/exiting left side of mouth with one end trailing 100 ft before sinking to depth
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Deep injury across rostrum, blowholes. Remaining gear shed

Polymer type		Copolymer
Gear component		490' of end line with 180' of it leaded line spliced in
Rope diameter (inches)		5/8
Breaking strength (lbs)	Tested	
	New	9,000



16 Feb 2014 Florida FWC



30 Apr 2015 CCS



Species	Right Whale	Whale ID	Eg # 1142
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Date first observed entangled (date seen prior without gear)		1 Apr 2014 (8 Apr 2011)			
Sex	Female	Birth year	Unk	Age at entanglement	37+

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-02	E02-14		
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					Yes/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	High	Unknown	None	Unknown
Duration of time carrying gear		Minimum 1,571 days, maximum 2,659 days			
Disentangled?		No - attempt in 2018 unsuccessful			
Status		Alive? - resighted in 2018 still entangled			
Number of prior entanglements		3			

Entanglement configuration	Single tight wrap on rostrum
Anchoring points	Mouthline
Gear configuration confidence	Low
Remaining questions	Not known if flippers involved
Comments	Condition declined by 2018 sightings

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



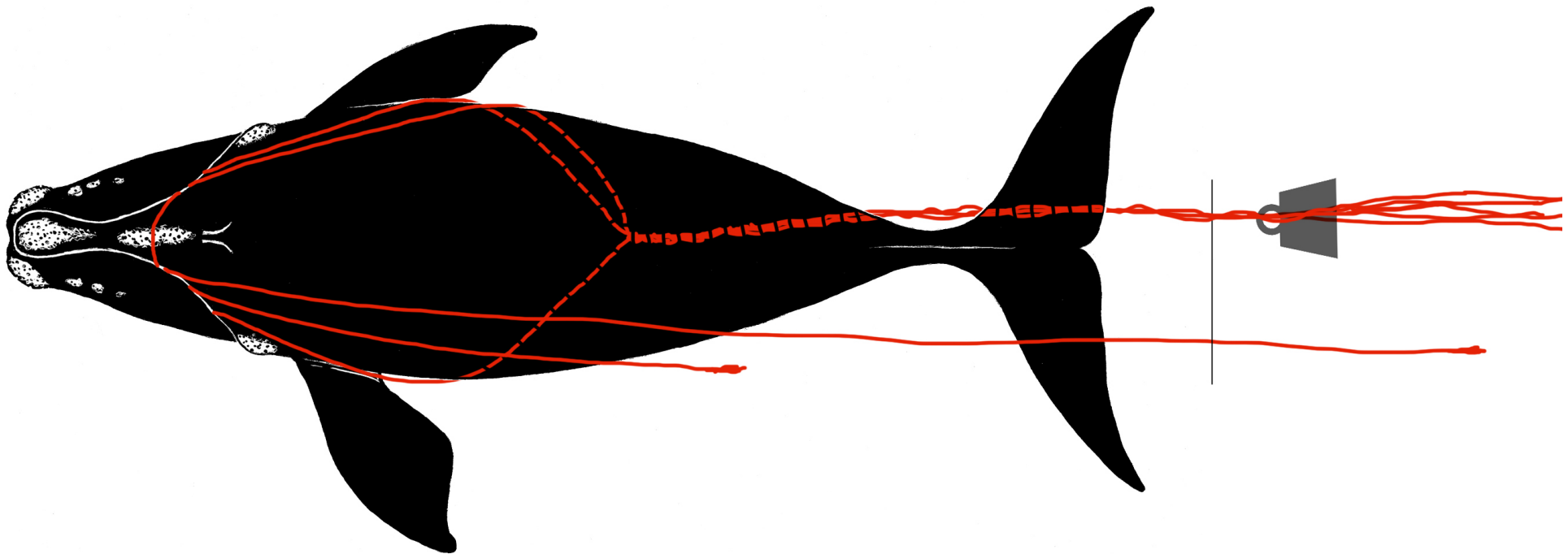
1 Apr 2014, SEFSC/AMAPPS

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Species	Right Whale	Whale ID	Eg # 1131
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Date first observed entangled (date seen prior without gear)	29 Jun 2014 (22 May 2010)				
Sex	Male	Birth year	Unk	Age at entanglement	35+

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-08	E09-14		
Gear sample collected?	No	Gear type		



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	High	High	Unknown	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 1,498 days			
Disentangled?		No			
Status		Likely dead, no subsequent sightings			
Number of prior entanglements		3			

Entanglement configuration	Wrap of rostrum, presumably trailing heavy gear
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Very poor condition

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





29 Jun 2014, NEFSC

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Species	Right Whale	Whale ID	Eg # 4001
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Date first observed entangled (date seen prior without gear)		20 Aug 2014 (12 Apr 2014)			
Sex	Male	Birth year	2010	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-15			
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	High	Unknown	None	None
Duration of time carrying gear		Minimum 38 days, maximum 182 days			
Disentangled?		No			
Status		Likely dead. Last seen in 2014 still entangled			
Number of prior entanglements		2			

Entanglement configuration	Single line across blowholes which has become embedded over time
Anchoring points	Head
Gear configuration confidence	Low
Remaining questions	Flipper involvement, trailing gear unknown
Comments	

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





4 Sep 2014, Coastwise Consulting



4 Sep 2014, NEAq



12 Oct 2014, Opportunistic sighting

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Species	Right Whale	Whale ID	Unid carcass
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Date first observed entangled (date seen prior without gear)		4 Sep 2014 (unknown)			
Sex	Unk	Birth year	Unk	Age at entanglement	Unk

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-17	E18-14		
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Dead			
Number of prior entanglements					

Entanglement configuration	Line wrapped around body and right flipper and crossing head.
Anchoring points	Flipper, mouth?
Gear configuration confidence	Low
Remaining questions	Unsure if left flipper and mouth involved
Comments	Documented during an aerial DFO flight in GoSL

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



VC

4 Sep 2014 DFO/MART

Species	Right Whale	Whale ID	Eg # 3279
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Date first observed entangled (date seen prior without gear)		17 Sep 2014 (21 Apr 2014)			
Sex	Male	Birth year	2002	Age at entanglement	12

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-18	E20-14		
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	High	Unknown	None	High
Duration of time carrying gear		Minimum 1 day, maximum 148 days			
Disentangled?		No			
Status		Likely dead - no subsequent sightings			
Number of prior entanglements		1			

Entanglement configuration	Line embedded in blowholes and also through right mouth
Anchoring points	Mouthline, head
Gear configuration confidence	Low
Remaining questions	Unknown if flippers involved
Comments	Entanglement injuries also at tail

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





17 Sep 2014 CWI/NEAq



17 Sep 2014 CWI/NEAq



17 Sep 2014 CWI/NEAq

Species	Right Whale	Whale ID	Unid carcass
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Date first observed entangled (date seen prior without gear)		27 Sep 2014 (unknown)			
Sex	Unk	Birth year	Unk	Age at entanglement	Unk

Case study ID	CCS	NMFS		GEAR ID
	WR-2014-20	E22-14		J092714 rw
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Dead			
Number of prior entanglements					

Entanglement configuration	Line around right flipper, across rostrum and around body
Anchoring points	Flipper, body
Gear configuration confidence	Low
Remaining questions	Unsure if mouth, left flipper, tail involved
Comments	Orange polyball next to body; observed in southern New England

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



UNCLASSIFIED

SP UNFOV Auto

Day

PCOR-

Rate Aid

R



AGL 1489 FT MSL 1492 FT

Lat: N 40° 44.753 Lon: W 70° 20.788°

Az: -99.3° El: 5.1° 27-Sep-2014 15:05:55Z

27 Sep 2014, US Coast Guard

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Species	Right Whale	Whale ID	Unid
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Date first observed entangled (date seen prior without gear)		13 Jun 2015 (unknown)			
Sex	Unk	Birth year	Unk	Age at entanglement	Unk

Case study ID	CCS	NMFS		GEAR ID
	WR-2015-05			
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Alive at sighting			
Number of prior entanglements					

Entanglement configuration	Towing two balloon buoys after first observed struggling
Anchoring points	Unknown
Gear configuration confidence	Low
Remaining questions	
Comments	Poor photodocumentation

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

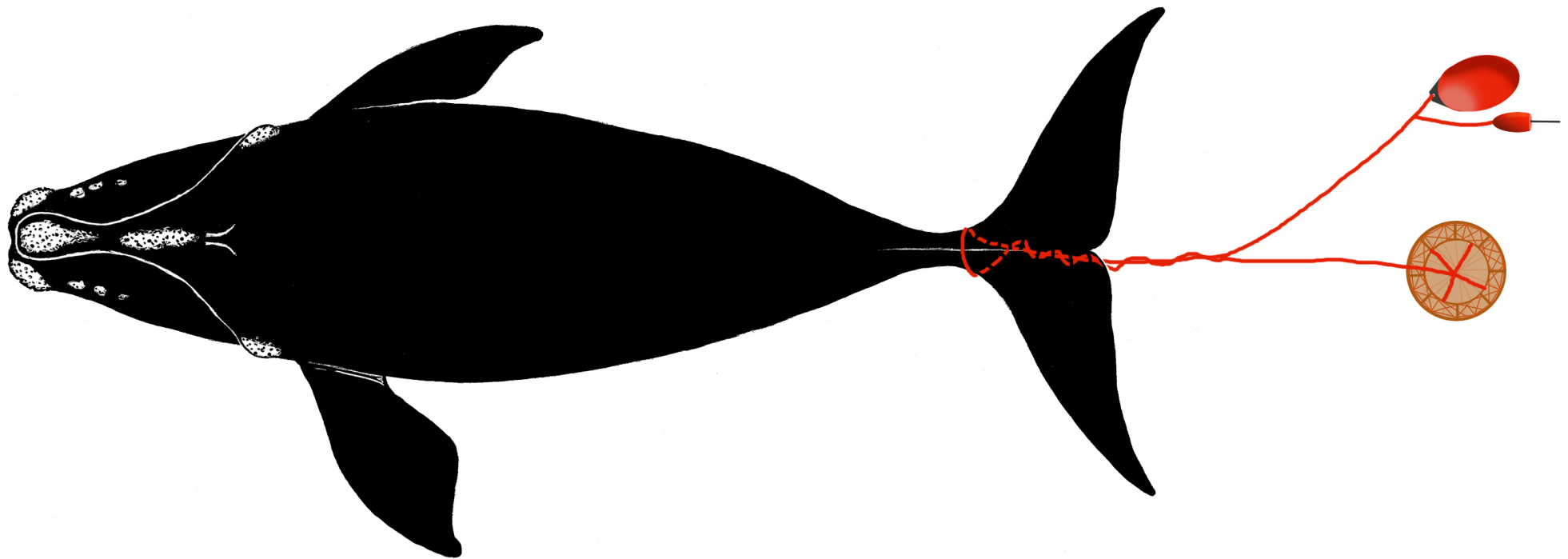
13 Jun 2015, BIWSC



Species	Right Whale	Whale ID	Eg # 3160
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Date first observed entangled (date seen prior without gear)		18 Jul 2015 (28 May 2015)			
Sex	Male	Birth year	2001	Age at entanglement	14

Case study ID	CCS	NMFS		GEAR ID
	WR-2015-12			
Gear sample collected?	No	Gear type	Canadian snow crab	

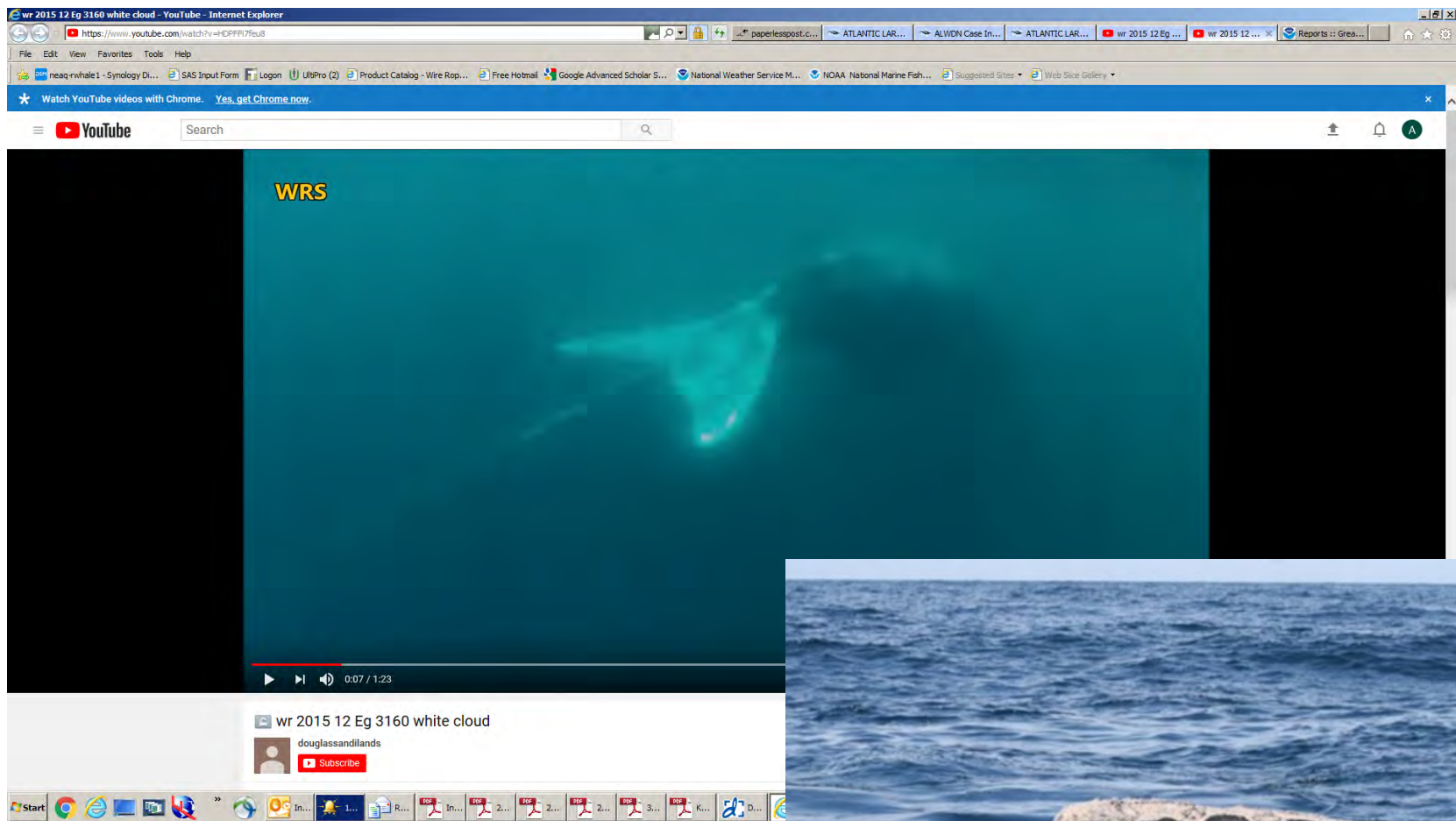


Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Low	Unknown	Unknown	High
Duration of time carrying gear		Minimum 1 day, maximum 50 days			
Disentangled?		Yes			
Status		Likely dead - No subsequent sightings			
Number of prior entanglements		3			

Entanglement configuration	Multiple wraps embedded around peduncle with line going to depth and then back up to buoys.
Anchoring points	Tail
Gear configuration confidence	High
Remaining questions	
Comments	Disentanglers described it as 25 mm polysteel rope

Polymer type		Copolymer
Gear component		
Rope diameter (inches)		~ 1 inch
Breaking strength (lbs)	Tested	
	New	~19,000





18 Jul 2015 DFO



Species	Right Whale	Whale ID	Eg # 1306
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Date first observed entangled (date seen prior without gear)		13 Sep 2015 (8 May 2015)			
Sex	Male	Birth year	Unk	Age at entanglement	32+

Case study ID	CCS	NMFS		GEAR ID
	WR-2015-22			
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection				Yes/Unk	
Entanglement injury severity				Severe	
Entanglement configuration risk				Low	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	Unknown	Low	High
Duration of time carrying gear		Minimum 368 days, maximum 495 days			
Disentangled?		No			
Status		Alive? Last seen in 2016 still entangled			
Number of prior entanglements		3			

Entanglement configuration	Short line woven in front right side of baleen and trailing partway down right body
Anchoring points	Mouthline
Gear configuration confidence	High
Remaining questions	
Comments	Deep wound at right insertion, poor condition

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



15 Sep 2016  
Opportunistic sighting



23 May 2016 NEFSC



Species	Right Whale	Whale ID	Unid
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Date first observed entangled (date seen prior without gear)		28 Sep 2015 (unknown)			
Sex	Unk	Birth year	Unk	Age at entanglement	Unk

Case study ID	CCS	NMFS		GEAR ID
	WR-2015-28			
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity					
Entanglement configuration risk					
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Alive at sighting			
Number of prior entanglements					

Entanglement configuration	Two lines trailing off tail to depth when fluking
Anchoring points	Unknown
Gear configuration confidence	Low
Remaining questions	Is there weighted gear attached?
Comments	Poor photodocumentation

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

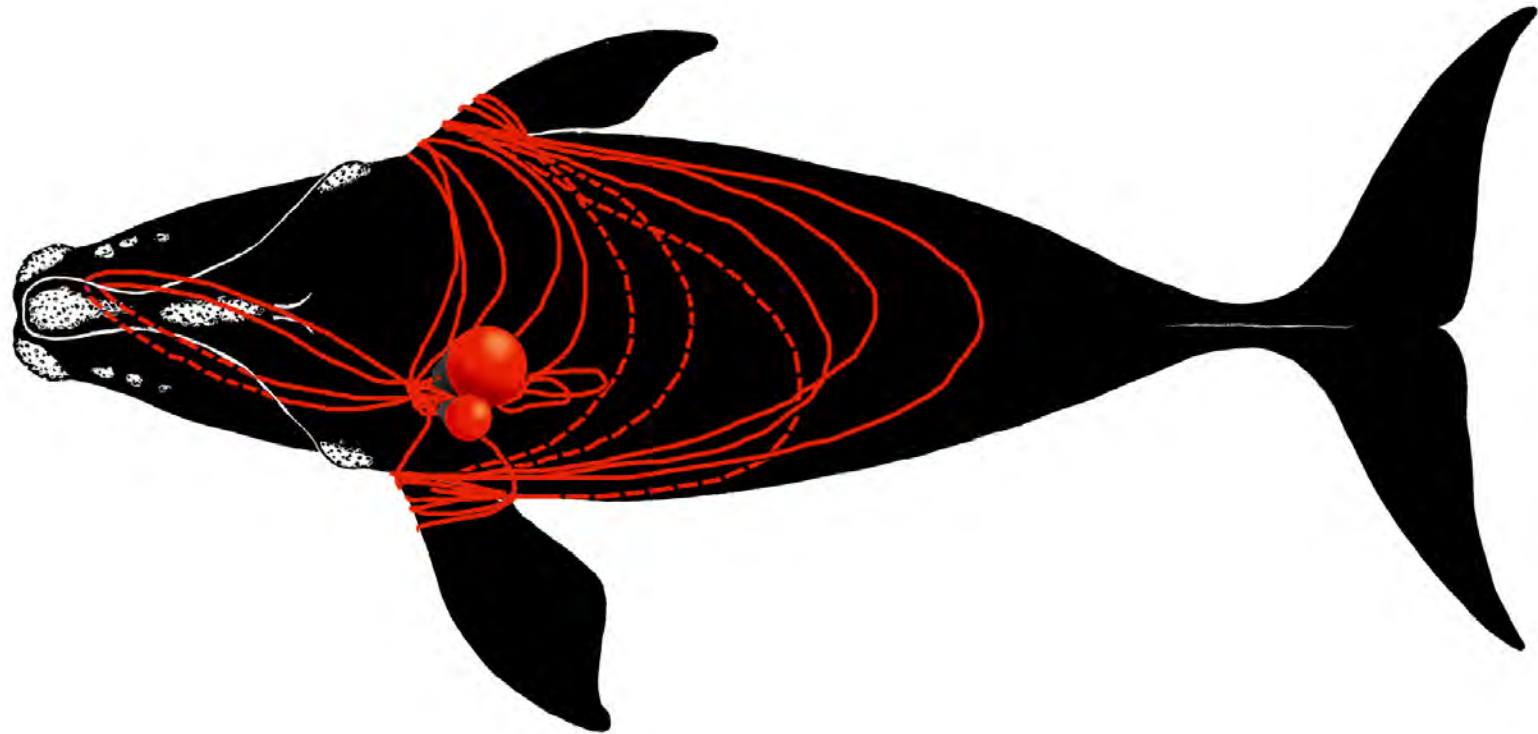


28 Sep 2015, Whale watch boat

Species	Right Whale	Whale ID	4057
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Date first observed entangled (date seen prior without gear)		13 Aug 2016 (30 Mar 2016)			
Sex	Male	Birth year	2010	Age at entanglement	6

Case study ID	CCS	NMFS		GEAR ID
	WR-2016-20	E22-16		
Gear sample collected?		Yes	Gear type	Canadian snow crab



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	Unknown	Unknown	High
Duration of time carrying gear		Minimum 1 day, maximum 135 days			
Disentangled?		Yes			
Status		Likely dead - no subsequent sightings			
Number of prior entanglements		4			

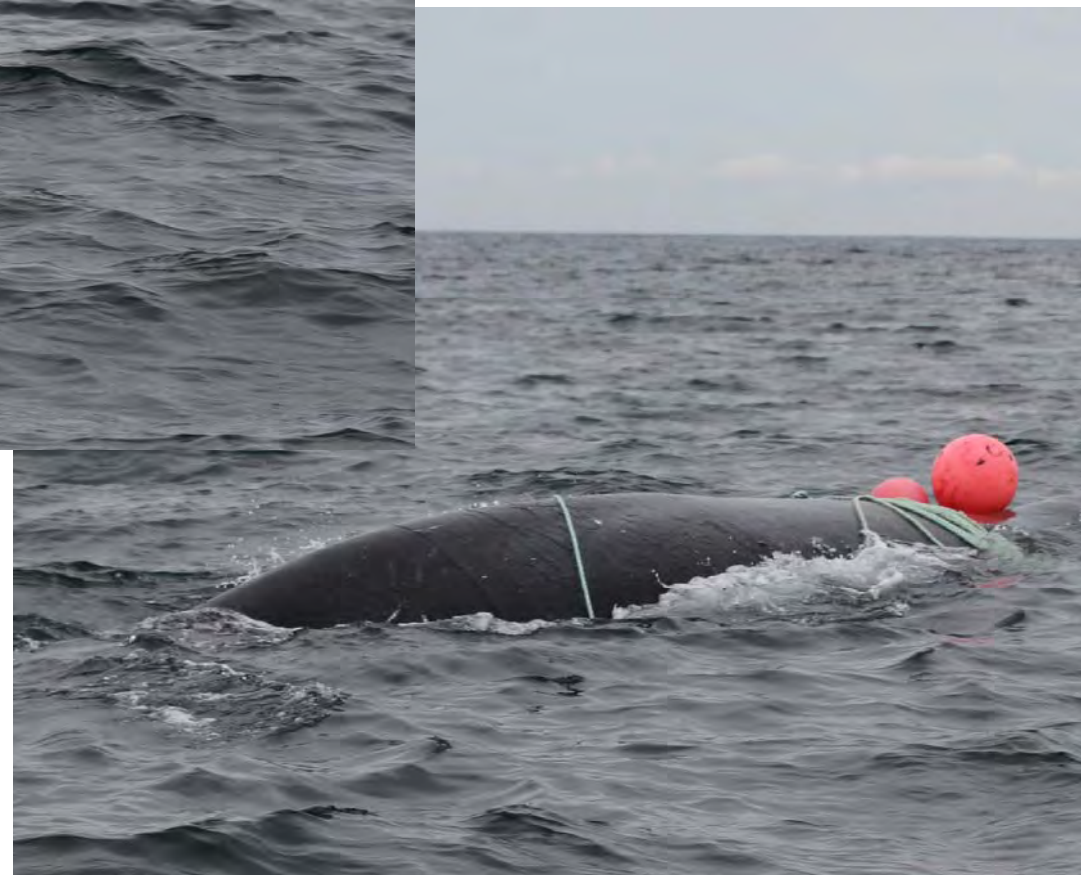
Entanglement configuration	Multiple lines through mouth, across back and wrapping both flippers
Anchoring points	Mouth, flippers
Gear configuration confidence	High
Remaining questions	None
Comments	Whale in poor condition

Polymer type		Copolymer
Gear component		Buoys and endline - float and leaded sink
Rope diameter (inches)		5/8 (0.625)
Breaking strength (lbs)	Tested	
	New	9 000





13 Aug 2016 GMWSRS



Species	Right Whale	Whale ID	1152
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Date first observed entangled (date seen prior without gear)		16 Aug 2016 (6 Apr 2016)			
Sex	Male	Birth year	Unk	Age at entanglement	36+

Case study ID	CCS	NMFS		GEAR ID
	WR-2016-23	E26-16		
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Unknown	
Entanglement configuration risk				Low?	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Unknown	Unknown	Unknown	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 131 days			
Disentangled?		No			
Status		Alive? Last seen in 2016 entangled			
Number of prior entanglements		5			

Entanglement configuration	Spindle buoy trailing ~ 1/2 body length behind whale, black lines observed across back
Anchoring points	Flipper or mouth
Gear configuration confidence	Low
Remaining questions	Unsure how the gear is attached; may be gear free
Comments	Initially seen from shore, DFO responded

Polymer type		
Gear component		Buoy and end line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



16 Aug 2016 DFO



Species	Right Whale	Whale ID	2608
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Date first observed entangled (date seen prior without gear)		28 Aug 2016 (1 Aug 2016)			
Sex	Male	Birth year	1996	Age at entanglement	20

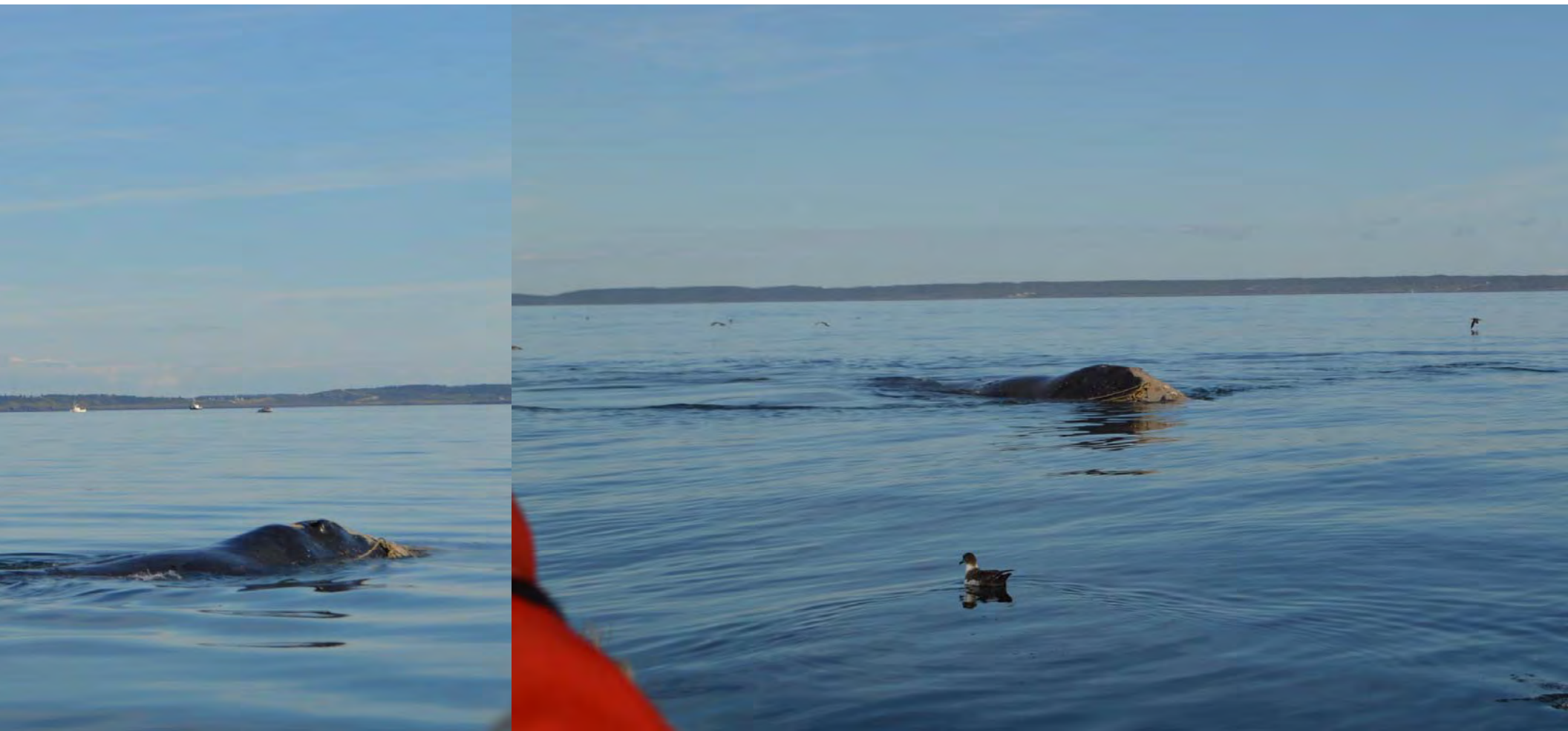
Case study ID	CCS	NMFS		GEAR ID
	WR-2016-25	E28-16		
Gear sample collected?	No	Gear type		

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Low	Unknown	Unknown	Unknown
Duration of time carrying gear		Minimum 27 days, maximum 367 days			
Disentangled?		No			
Status		Alive? - last seen in 2016 entangled			
Number of prior entanglements		3			

Entanglement configuration	One line wrapped over rostrum with a cluster of other lines attached
Anchoring points	Mouth, flipper?
Gear configuration confidence	Low
Remaining questions	Unsure where rope is attached
Comments	On 8/1/16 had severe entanglement injuries but no rope observed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



28 Aug 2016 BIWSC

Species	Right Whale	Whale ID	4320
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Date first observed entangled (date seen prior without gear)		1 Sep 2016 (17 Apr 2016)			
Sex	Male	Birth year	2013	Age at entanglement	3

Case study ID	CCS	NMFS		GEAR ID
		E30-16		
Gear sample collected?	Yes	Gear type	Canadian snow crab	

No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Unknown	High	Unknown	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 136 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		2			

Entanglement configuration	Multiple constricting wraps around right flipper
Anchoring points	Flipper
Gear configuration confidence	Low
Remaining questions	Unsure what other body parts were involved
Comments	Found dead on Sable Island, Nova Scotia; decomposed

Polymer type		
Gear component		Buoys and end line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



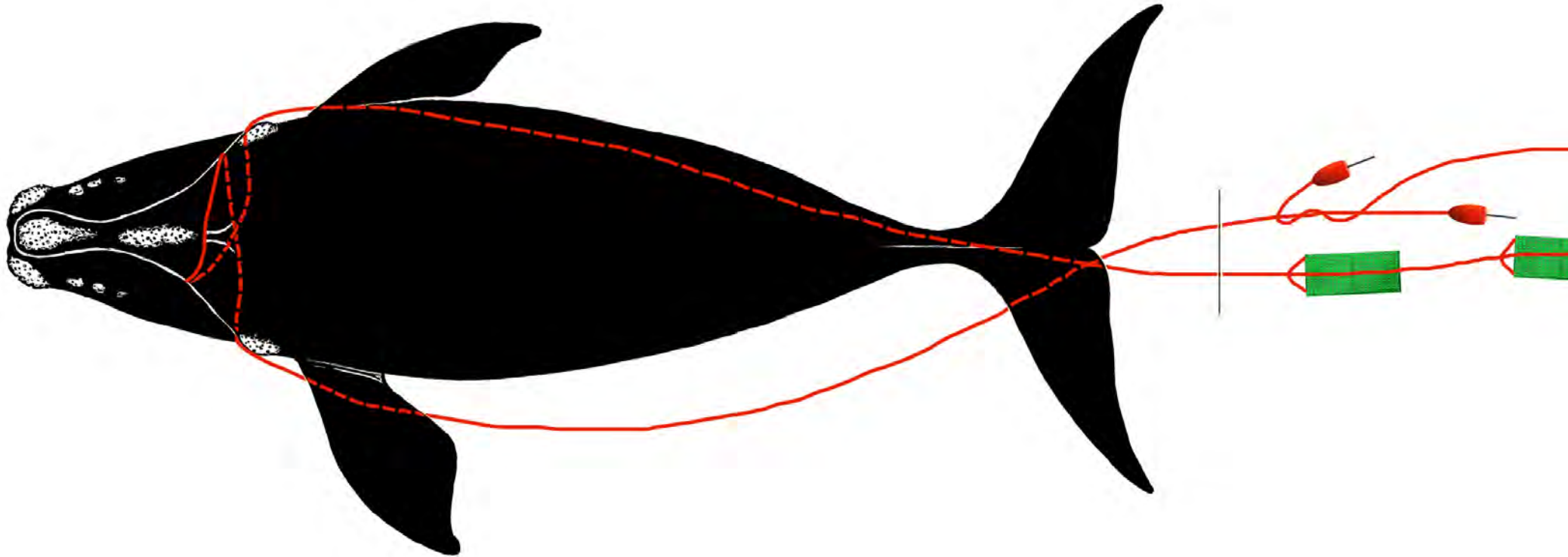


1 Sep 2016 PCAN

Species	Right Whale	Whale ID	3823
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Date first observed entangled (date seen prior without gear)		22 Sep 2016 (19 Sep 2016)			
Sex	Female	Birth year	2008	Age at entanglement	8

Case study ID	CCS	NMFS		GEAR ID
	WR-2016-33	E36-16		
Gear sample collected?	Yes	Gear type	US NE trap/pot, nearshore	



Reproductive prior to/after entanglement detection					No/ No
Entanglement injury severity					Moderate
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Low	Unknown	Unknown	Medium
Duration of time carrying gear		Minimum 1 day, maximum 4 days (based on gear set date)			
Disentangled?		Yes, partial			
Status		Alive - last seen in 2020			
Number of prior entanglements		3			

Entanglement configuration	Single line through mouth across head leading to heavy gear below
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	None
Comments	Found 2 buoy lines from 2 20-pot trawls set in MA state waters

Polymer type		PP/PET
Gear component		2 buoys and 2 endlines
Rope diameter (inches)		3/8 (0.375); 7/16 (0.4375)
Breaking strength (lbs)	Tested	
	New	2 600; 3 600





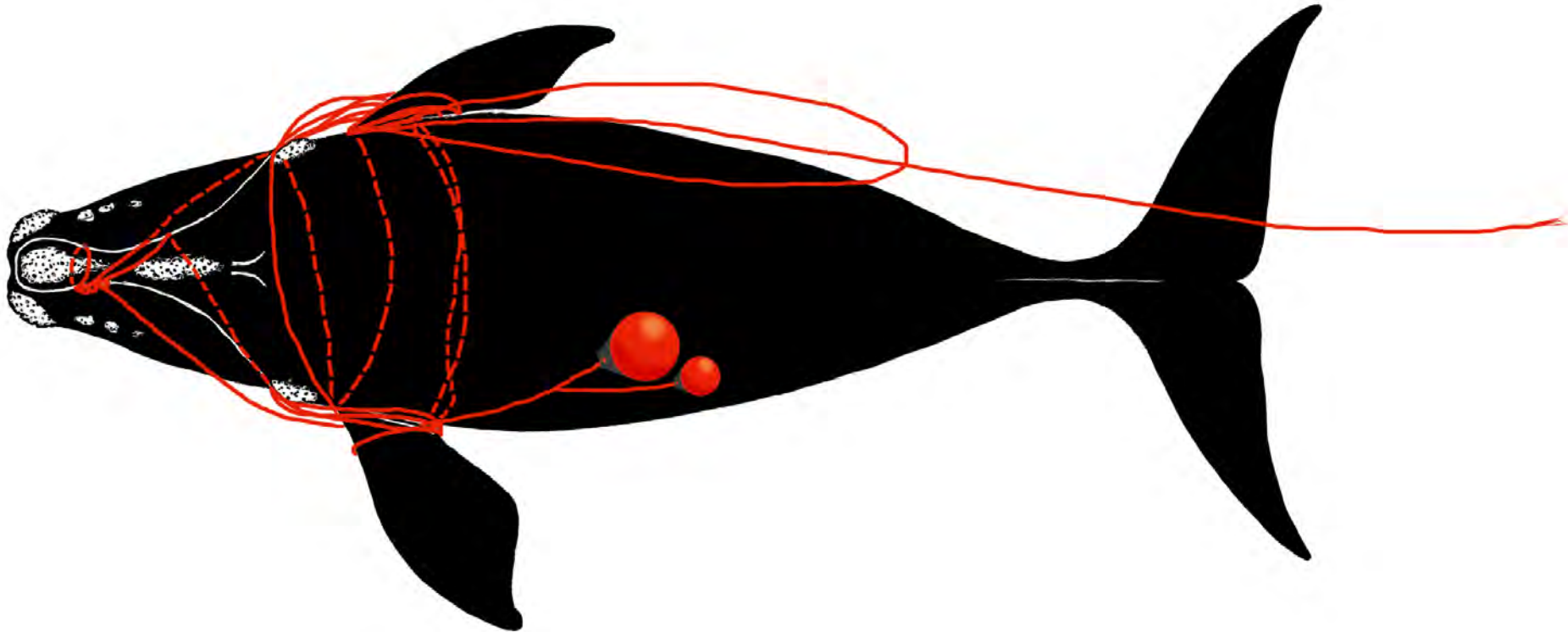
22 Sep 2016 CCS



Species	Right Whale	Whale ID	3694
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Date first observed entangled (date seen prior without gear)		23 Sep 2016 (12 Feb 2016)			
Sex	Female	Birth year	Unk	Age at entanglement	11+

Case study ID	CCS	NMFS		GEAR ID
		E37-16		
Gear sample collected?	Yes	Gear type	Canadian snow crab	



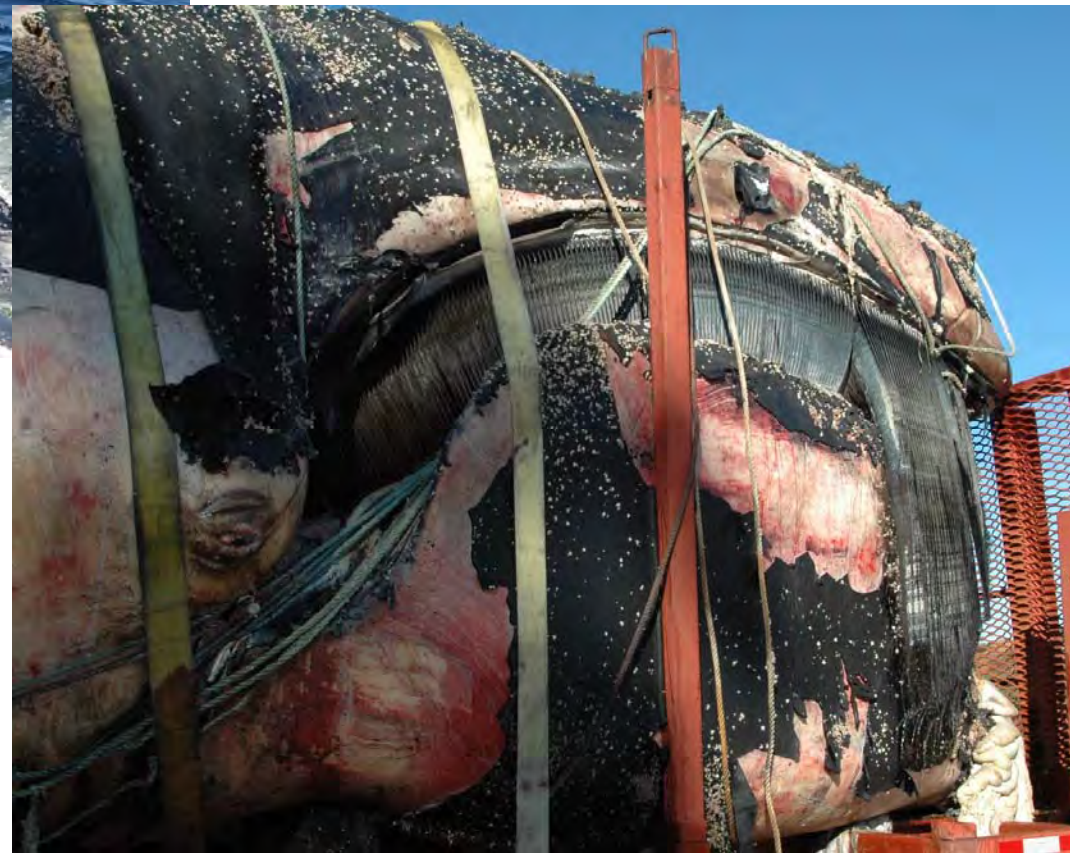
Reproductive prior to/after entanglement detection		No/ -			
Entanglement injury severity		Severe			
Entanglement configuration risk		High			
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	Medium	High
Duration of time carrying gear		Minimum 1 day, maximum 223 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		2			

Entanglement configuration	Line wrapped multiple times over rostrum, around head, thru baleen, and around both flippers
Anchoring points	Flippers, mouth
Gear configuration confidence	High
Remaining questions	None
Comments	Found floating dead off Boothbay, ME

Polymer type		Copolymer
Gear component		Buoy and end line - float and lead sink
Rope diameter (inches)		5/8 (0.625)
Breaking strength (lbs)	Tested	
	New	9 000



23 Sep 2016  
MMOME



Species	Right Whale	Whale ID	3405
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Date first observed entangled (date seen prior without gear)		4 Dec 2016 (4 Sep 2016)			
Sex	Female	Birth year	2004	Age at entanglement	12

Case study ID	CCS	NMFS		GEAR ID
	WR-2016-41	E44-16		
Gear sample collected?	No	Gear type	Gillnet	

No drawing available

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	Low	Unknown	Unknown	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 90 days			
Disentangled?		No			
Status		Alive? Last seen in 2016 entangled			
Number of prior entanglements		1			

Entanglement configuration	Two lines with gillnetting tightly wrapped from right head, across blowholes, towards left flipper
Anchoring points	Flipper, mouth?
Gear configuration confidence	Low
Remaining questions	Unsure if left flipper and mouth involved
Comments	Documented near Rockaway Inlet near New York City

Polymer type		
Gear component		Gillnet webbing and ropes
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





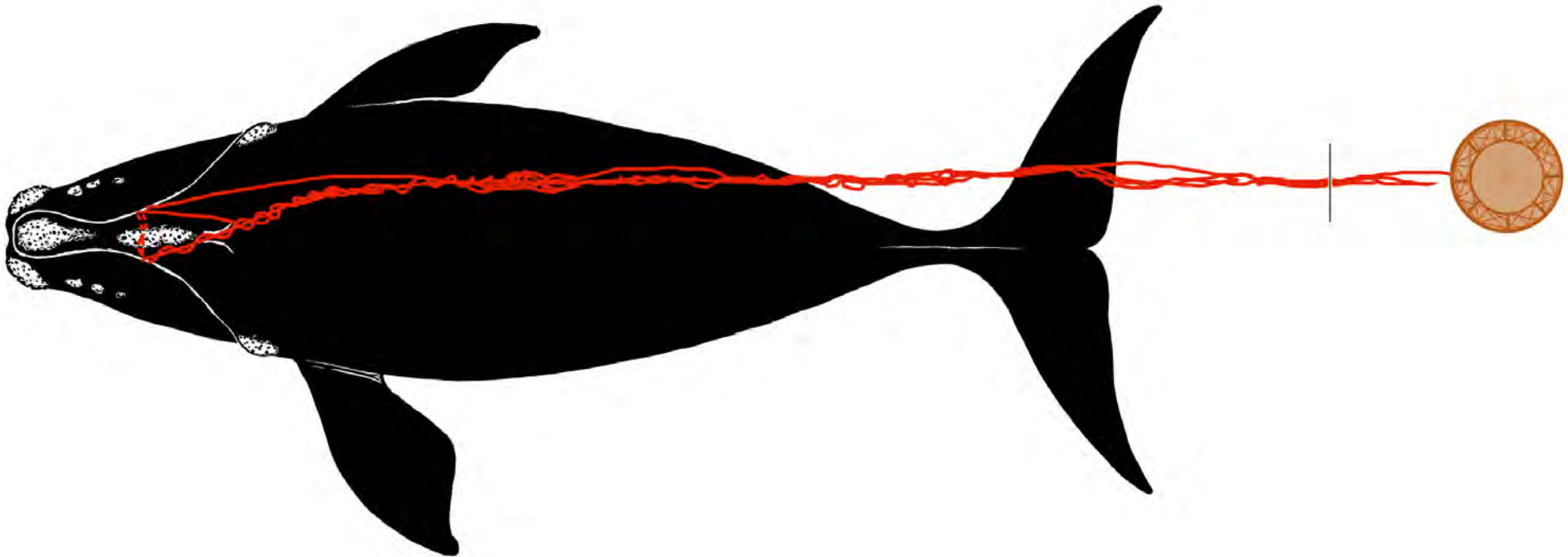
© Artie Raslick Photography

Opportunistic sighting  
4 December 2016

Species	Right Whale	Whale ID	3530
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Date first observed entangled (date seen prior without gear)		5 Jan 2017 (14 Aug 2016)			
Sex	Male	Birth year	2004	Age at entanglement	13

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-02	E02-17		
Gear sample collected?	Yes	Gear type	Canadian snow crab	



Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown??	Low	Unknown	Low	High
Duration of time carrying gear		Minimum unknown, maximum 143 days			
Disentangled?		Yes			
Status		Alive, last seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Two lines exiting either side of mouth forming a bridle and trailing behind whale at depth
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	None
Comments	451 ft of endline and crab pot recovered

Polymer type		Rope assessment in progress
Gear component		Endline and crab pot
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

This case study was developed at the New England Aquarium with financial support from NOAA Fisheries. Whale data were provided by the North Atlantic Right Whale Consortium ([www.narwc.org](http://www.narwc.org)). All images are listed with appropriate credit information and taken under permit. Retrieved gear is assessed and archived by NOAA Fisheries. Entanglement diagrams courtesy of S. Landry, Center for Coastal Studies. Please contact Amy Knowlton ([aknowlton@neaq.org](mailto:aknowlton@neaq.org)) for potential use.





5 Jan 2017 GDNR



5 Jan 2017 FWRI

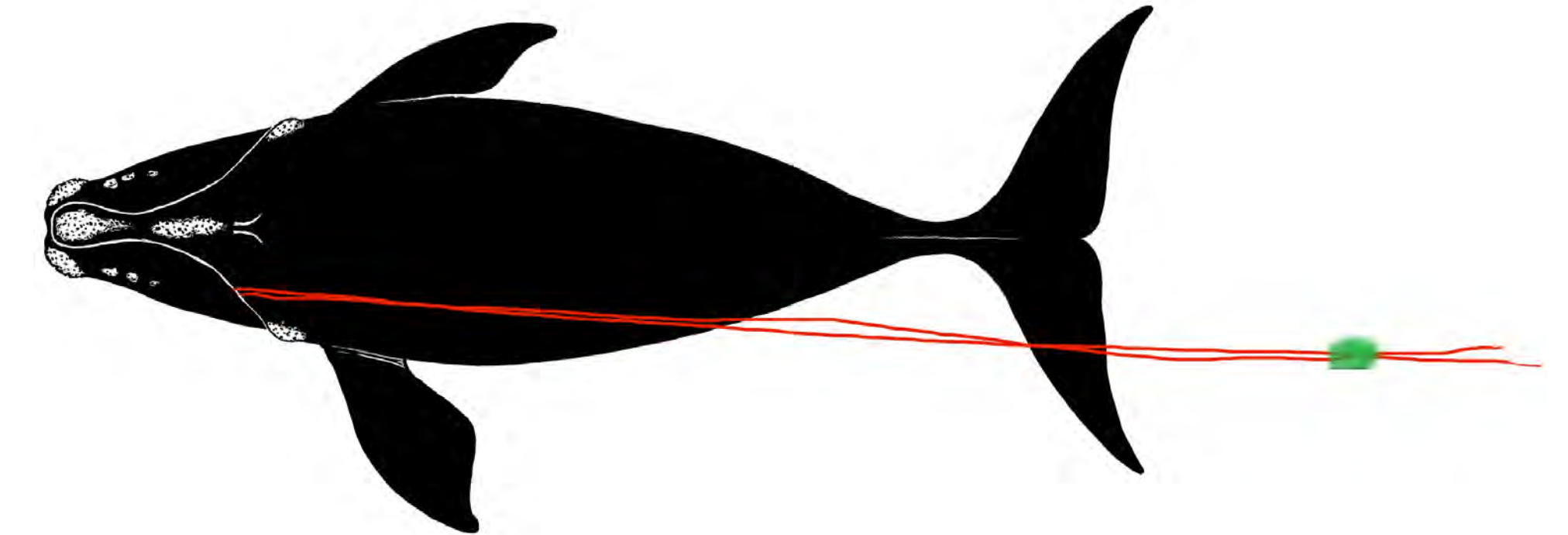




Species	Right Whale	Whale ID	4146
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Date first observed entangled (date seen prior without gear)		23 Apr 2017 (12 Apr 2017)			
Sex	Female	Birth year	2011	Age at entanglement	6

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-03	E03-17		
Gear sample collected?	No	Gear type	US NE nearshore lobster	



Reproductive prior to/after entanglement detection					No/ No
Entanglement injury severity					Minor
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	None	Low	Low
Duration of time carrying gear		Minimum 1 day, maximum 12 days			
Disentangled?		No			
Status		Alive, last seen in 2019			
Number of prior entanglements		1			

Entanglement configuration	Line caught left side of mouth and trailing ~1 body length. Whale moving fast in Cape Cod Bay, fresh scars on tail.
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Gear eventually shed

Polymer type		
Gear component		
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



23 April 2017 CCS

Species	Right Whale	Whale ID	3603
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Date first observed entangled (date seen prior without gear)		21 Jun 2017 (23 Apr 2017)			
Sex	Female	Birth year	2006	Age at entanglement	11

Case study ID	CCS	NMFS		GEAR ID
		E05-17		
Gear sample collected?	No, except buoy #s	Gear type	Canadian snow crab	

No drawing available

Reproductive prior to/after entanglement detection				No/no	
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	Unknown	High	Unknown	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 10 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		2			

Entanglement configuration	Multiple ropes with buoys attached through mouth, around both flippers and across ventrum
Anchoring points	Mouth, flippers
Gear configuration confidence	Low
Remaining questions	At least 2 sets of gear, maybe 4.
Comments	Found anchored in gear, dragged first gear 8 miles

Polymer type		
Gear component		Buoys and end line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

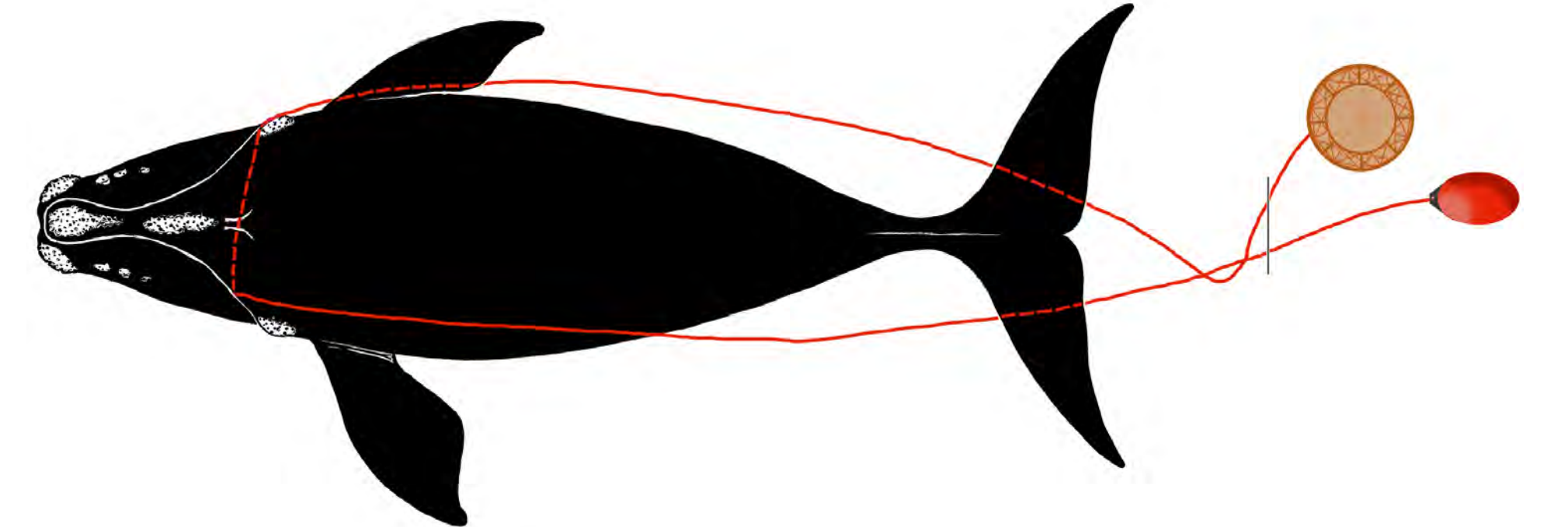




Species	Right Whale	Whale ID	4510
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Date first observed entangled (date seen prior without gear)		5 Jul 2017 (25 Jun 2017)			
Sex	Female	Birth year		Age at entanglement	3+

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-06	E06-17		
Gear sample collected?	Yes	Gear type	Canadian snow crab	



Reproductive prior to/after entanglement detection					No/ No
Entanglement injury severity					Moderate
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Low	Unknown	Unknown	Medium
Duration of time carrying gear		Minimum 1 day, maximum 9 days			
Disentangled?		Yes			
Status		Alive, last seen in 2021			
Number of prior entanglements		0			

Entanglement configuration	Rope and buoy exiting left mouth and fouled on line out of right mouth and going to weight at depth; anchored/dragging gear
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Extensive rope burn on body, raw wounds at tail

Polymer type		
Gear component		End line and crab trap (per DFO)
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





5 July 2017 NEA/CWI

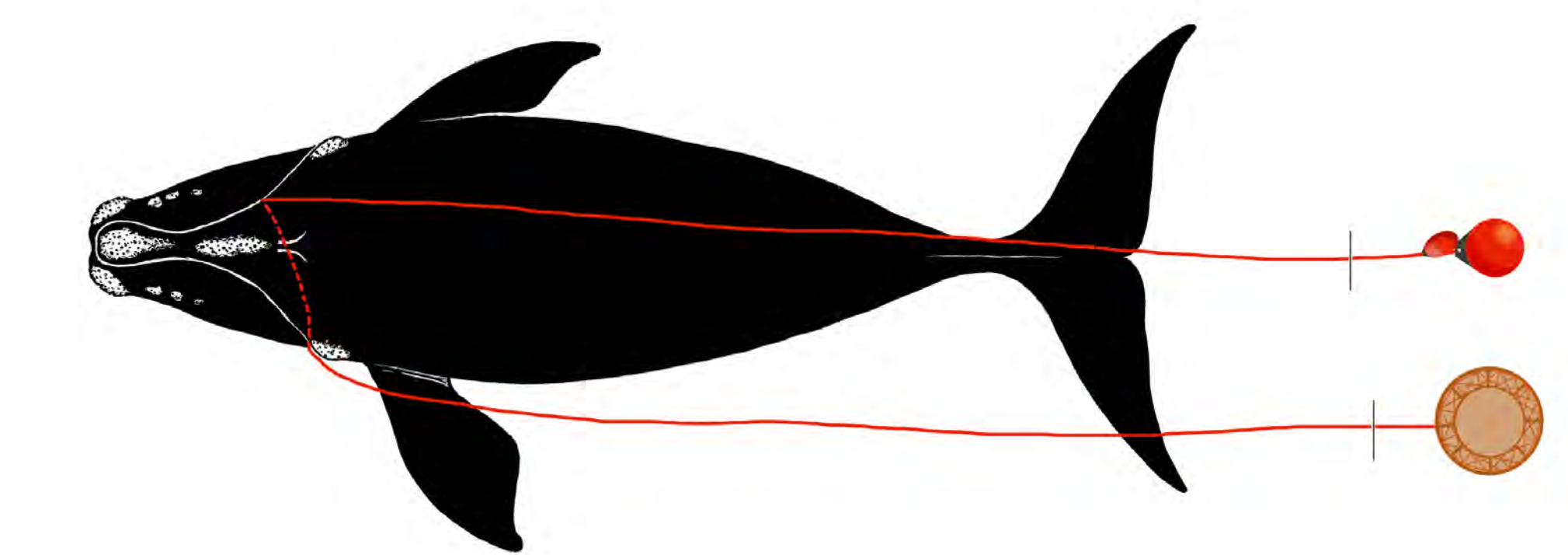




Species	Right Whale	Whale ID	1317
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Date first observed entangled (date seen prior without gear)		8 Jul 2017 (23 Apr 2017)			
Sex	Male	Birth year	1983	Age at entanglement	34

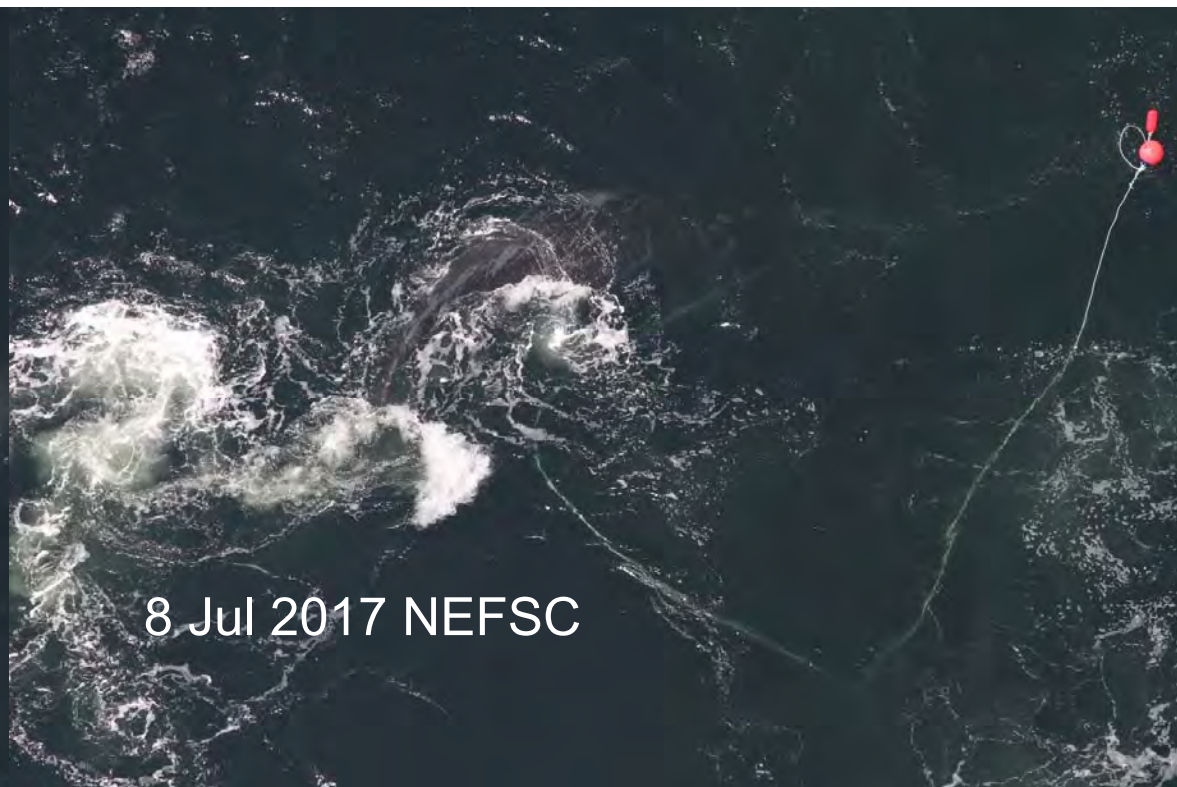
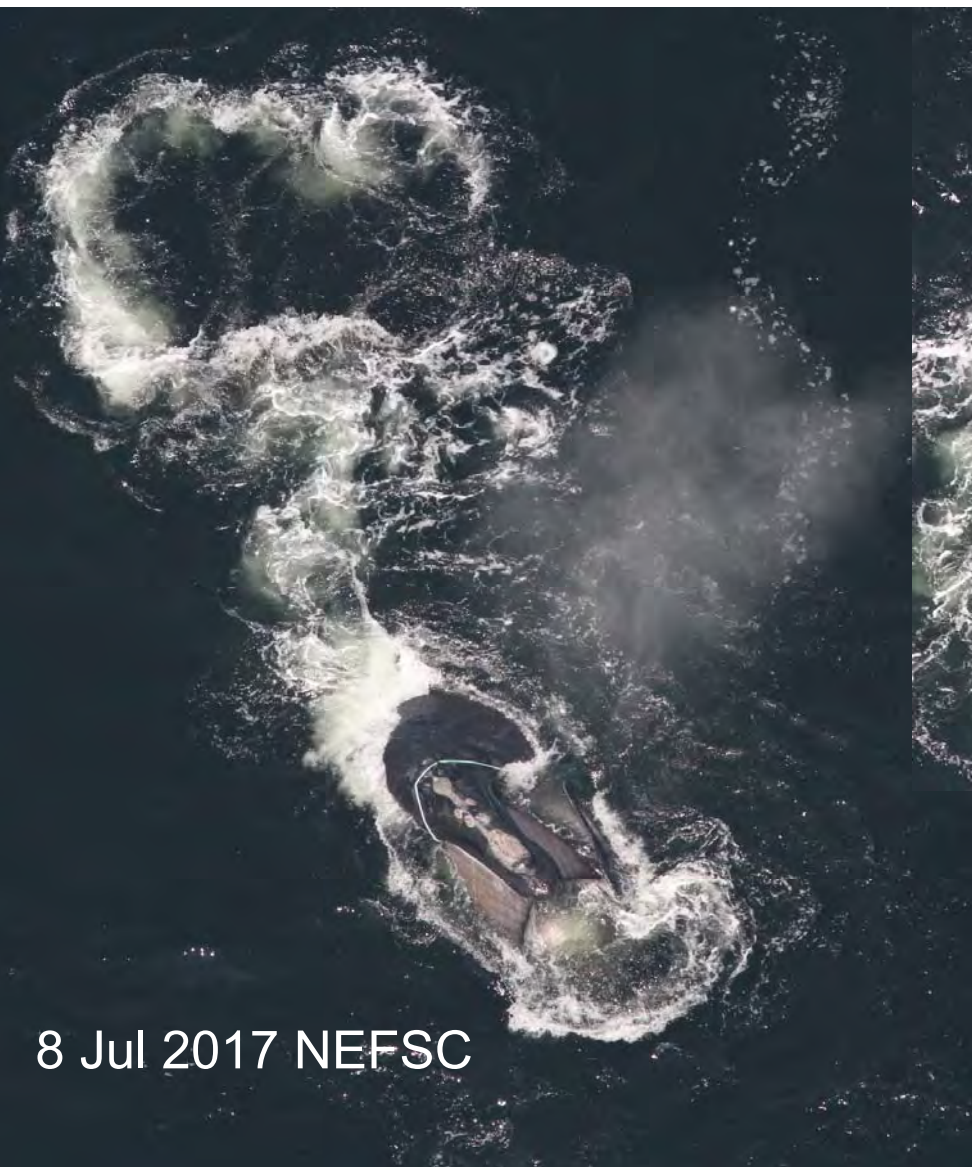
Case study ID	CCS	NMFS		GEAR ID
	WR-2017-09	E09-17		
Gear sample collected?	Yes	Gear type	Canadian snow crab	



Reproductive prior to/after entanglement detection		Yes/			
Entanglement injury severity		Severe			
Entanglement configuration risk		Low			
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	None	Unknown	None	High
Duration of time carrying gear		Minimum 1 day, maximum 91 days			
Disentangled?		No			
Status		Alive, last seen in 2020			
Number of prior entanglements		4			

Entanglement configuration	Single line through mouth and over rostrum
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Gear shed; length of buoy line not reported
Comments	Blood in water from injuries at tail stock, prob recent

Polymer type		
Gear component		End line and crab pot (per DFO)
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



Species	Right Whale	Whale ID	4123
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Date first observed entangled (date seen prior without gear)		9 Jul 2017 (8 Jul 2017)			
Sex	Male	Birth year	2011	Age at entanglement	6

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-10	E10-17		
Gear sample collected?	No	Gear type	Canadian snow crab	

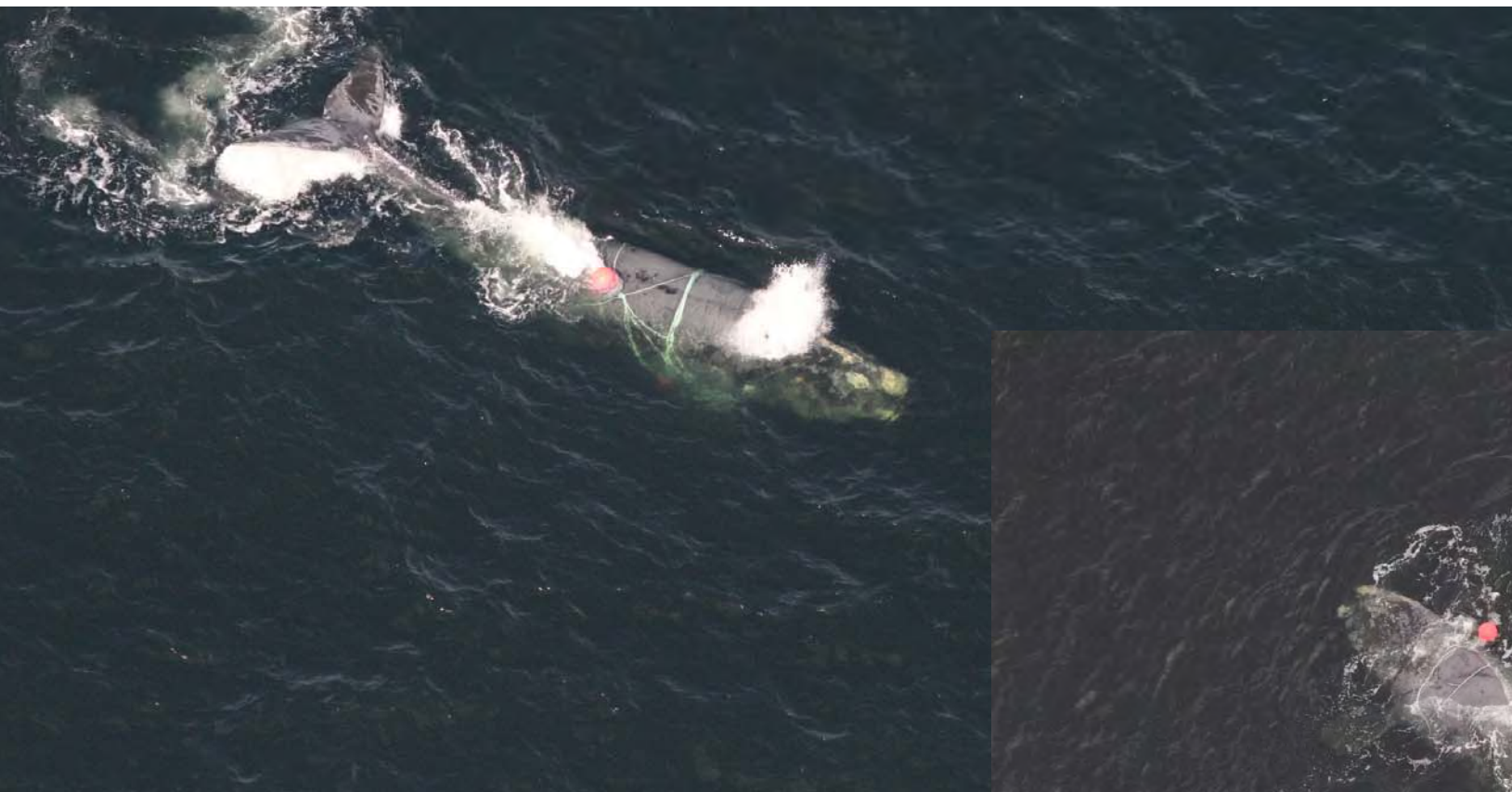
No drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Moderate	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	None	Unknown	Low	Medium
Duration of time carrying gear		Minimum 2 days, maximum 3 days			
Disentangled?		Yes - July 10, 2017			
Status		Alive, last seen in 2018			
Number of prior entanglements		1			

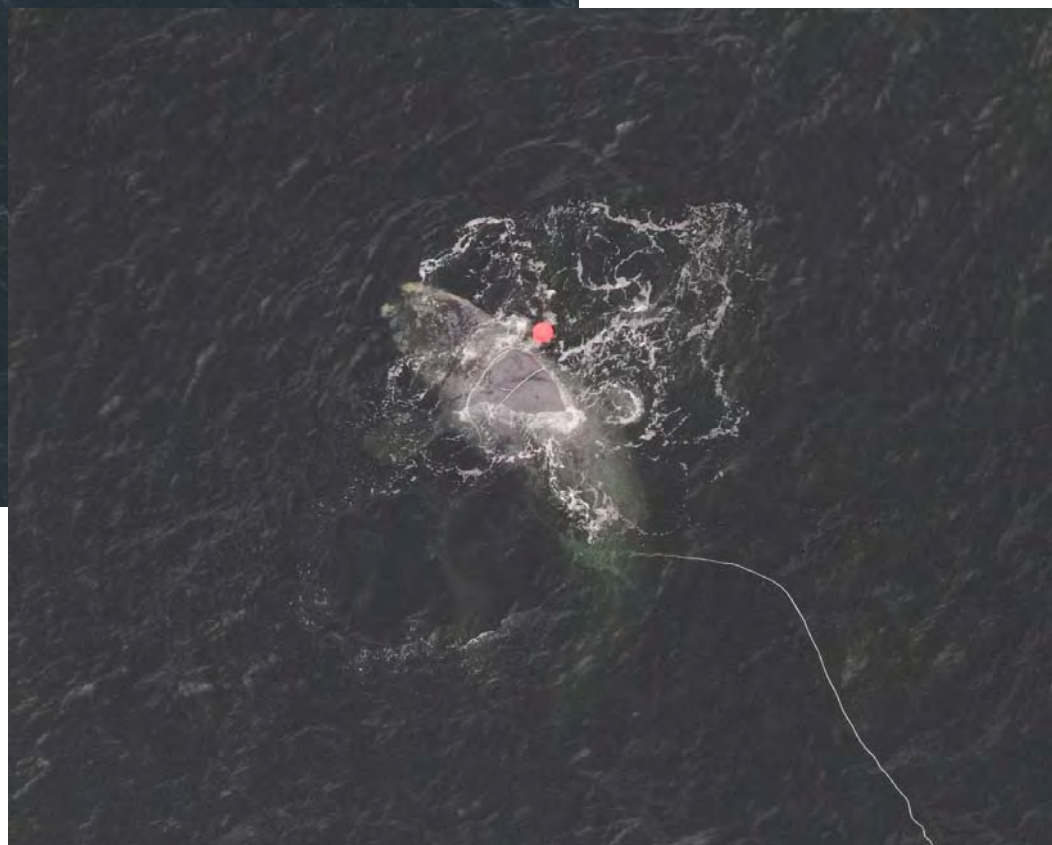
Entanglement configuration	Multiple wraps of endline and buoy around body with weighted gear heading to seafloor
Anchoring points	Unsure if mouth and/or flippers involved
Gear configuration confidence	Low
Remaining questions	
Comments	Whale appeared to be semi-anchored

Polymer type		
Gear component		Buoy and end line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





10 July 2017 NOAA/NEFSC



Species	Right Whale	Whale ID	4094
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Date first observed entangled (date seen prior without gear)		19 Jul 2017 (23 Apr 2017)			
Sex	Female	Birth year	2010	Age at entanglement	7

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-13	E13-17		
Gear sample collected?	No	Gear type	Canadian snow crab	

No drawing available

Reproductive prior to/after entanglement detection					Yes/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Medium	Unknown	High	High
Duration of time carrying gear		Minimum 1 day, maximum 86 days			
Disentangled?		No			
Status		Likely dead - no subsequent sightings			
Number of prior entanglements		2			

Entanglement configuration	Single line through mouth and trailing about 1 body length to a poly buoy
Anchoring points	Mouth
Gear configuration confidence	O
Remaining questions	Unclear if weighted gear attached aft of buoy
Comments	Whale in poor condition, deep injuries at tail

Polymer type		
Gear component		Buoy and end line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



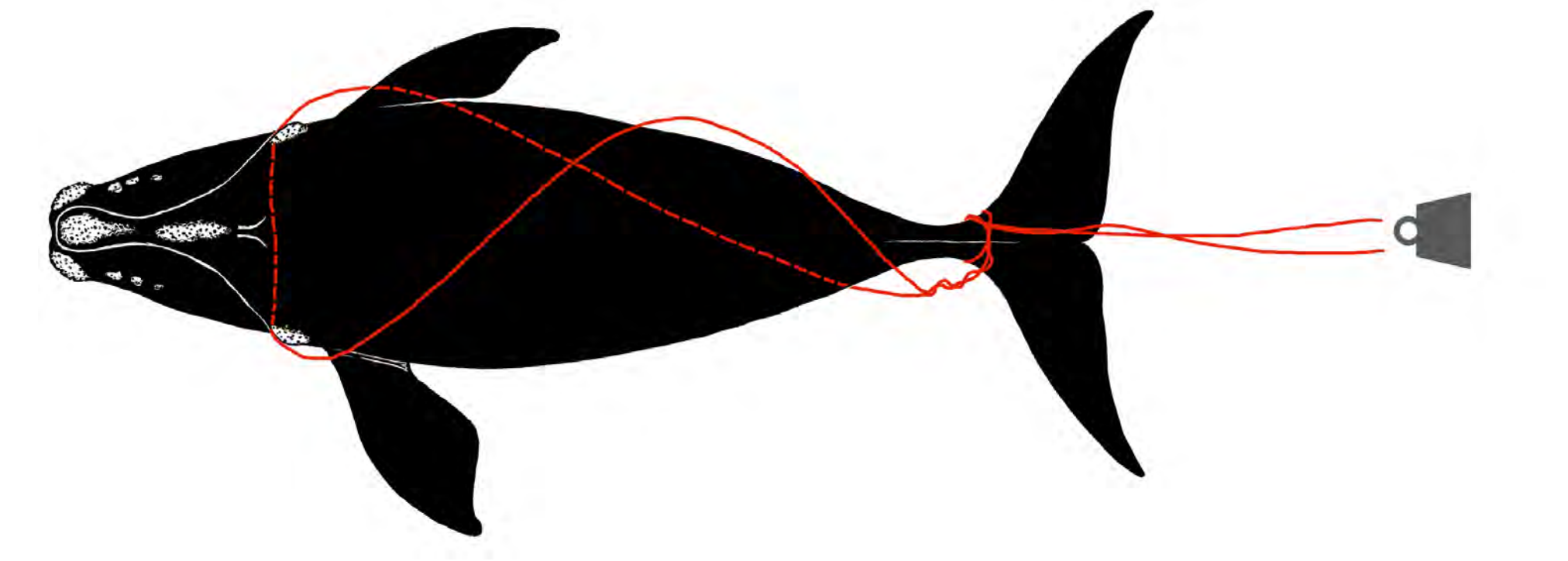
19 July 2017 NOAA/NEFSC



Species	Right Whale	Whale ID	3245
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Date first observed entangled (date seen prior without gear)		28 Aug 2017 (25 Aug 2017)			
Sex	Male	Birth year	2002	Age at entanglement	15

Case study ID	CCS	NMFS		GEAR ID
	WR-2017-27	E28-17		
Gear sample collected?		No	Gear type	Canadian - unknown



Reproductive prior to/after entanglement detection					
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	None	Unknown	None	High
Duration of time carrying gear		Minimum 1 day, maximum 3 days			
Disentangled?		No			
Status		Alive, last seen in 2020			
Number of prior entanglements		1			

Entanglement configuration	Line through mouth and around peduncle
Anchoring points	Mouth, tail
Gear configuration confidence	High
Remaining questions	Weight may have been attached
Comments	Gear shed; entangled in Gulf of St Lawrence

Polymer type		
Gear component		
Rope diameter (inches)		Noted as larger diameter rope
Breaking strength (lbs)	Tested	
	New	



28 Aug 2017 TC



Species	Right Whale	Whale ID	4504
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Date first observed entangled (date seen prior without gear)		15 Sep 2017 (29 Jul 2017)			
Sex	Female	Birth year	2015	Age at entanglement	2

Case study ID	CCS	NMFS		GEAR ID
		E31-17		
Gear sample collected?	Yes	Gear type	Canadian snow crab	

No drawing available

Reproductive prior to/after entanglement detection					No/ -
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	Medium	Unknown
Duration of time carrying gear		Minimum 1 day, maximum 47 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		0			

Entanglement configuration	Three lines through mouth and two wraps around body and flippers; may have drowned in gear
Anchoring points	Mouth, flipper
Gear configuration confidence	Low
Remaining questions	Old pot but new ropes - not sure if derelict or active
Comments	499 ft line in 3 sections of 3/4 in and 7/8 in

Polymer type		Uncertain but will presume polypro/polyester (weakest)
Gear component		End line and crab trap
Rope diameter (inches)		3/4 (0.7848); 7/8 (0.875)
Breaking strength (lbs)	Tested	
	New	8 500; 10 225





15 Sep 2017 DFO



19 Sep 2017 Unk

Species	Right Whale	Whale ID	3893
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Date first observed entangled (date seen prior without gear)		22 Jan 2018 (29 Jul 2017)			
Sex	Female	Birth year	2008	Age at entanglement	10

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-01	E20-18		
Gear sample collected?	Yes	Gear type	Canadian snow crab	

Drawing in progress

Reproductive prior to/after entanglement detection					No/ --
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	High	Unknown
Duration of time carrying gear		Minimum unknown, maximum 176 days			
Disentangled?		No			
Status		Dead			
Number of prior entanglements		3			

Entanglement configuration	Multiple wraps thru baleen, over rostrum, around body and flippers; carcass decomposed
Anchoring points	Mouth, flippers
Gear configuration confidence	High
Remaining questions	
Comments	Carcass retrieved; ~271 ft of line removed at necropsy

Polymer type		Copolymer with lead strand in sections
Gear component		Buoy line
Rope diameter (inches)		5/8
Breaking strength (lbs)	Tested	
	New	9,000





26 Jan 2018 VAQF



28 Jan 2018 VAQF



Species	Right Whale	Whale ID	4091
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Date first observed entangled (date seen prior without gear)		12 May 2018 (6 May 2018)			
Sex	Female	Birth year	2010	Age at entanglement	8

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-03	E04-18		
Gear sample collected?	No	Gear type	US NE unknown	

Drawing in progress

Reproductive prior to/after entanglement detection					No/ No
Entanglement injury severity					Minor
Entanglement configuration risk					Low
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	None	None	Low	None	Low
Duration of time carrying gear		Minimum 1 day, maximum 250 days			
Disentangled?		No			
Status		Alive, last seen in 2020			
Number of prior entanglements		3			

Entanglement configuration	Single line wrapped on right flipper, trailing 50 ft, bullet buoy on right side of body
Anchoring points	Flipper
Gear configuration confidence	High
Remaining questions	Gear shed
Comments	Occurred between Cape Cod Bay and Great S. Channel

Polymer type		
Gear component		Buoy line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



12 May 2018 NEFSC

Species	Right Whale	Whale ID	3312
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Date first observed entangled (date seen prior without gear)		13 Jul 2018 (13 Jul 2018)			
Sex	Male	Birth year	2003	Age at entanglement	15

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-09	E10-18		
Gear sample collected?	No	Gear type	Canadian unknown	

Drawing in progress

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Moderate	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	Low	Low	Medium
Duration of time carrying gear		Minimum 1 day, maximum unknown			
Disentangled?		No			
Status		Alive? Not seen since 13 Jul 2018			
Number of prior entanglements		3			

Entanglement configuration	Single line through mouth and trailing several body lengths on both sides; entangled in Gulf of St Lawrence
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Unclear if bottom gear attached to line
Comments	Agitated, fresh blood, seen earlier in the day gear free

Polymer type		
Gear component		Buoy line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





13 Jul 2018 NEFSC

Species	Right Whale	Whale ID	3843
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Date first observed entangled (date seen prior without gear)		30 Jul 2018 (7 Jun 2018)			
Sex	Male	Birth year	2008	Age at entanglement	10

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-18	E20-18		
Gear sample collected?	No	Gear type	Unknown	

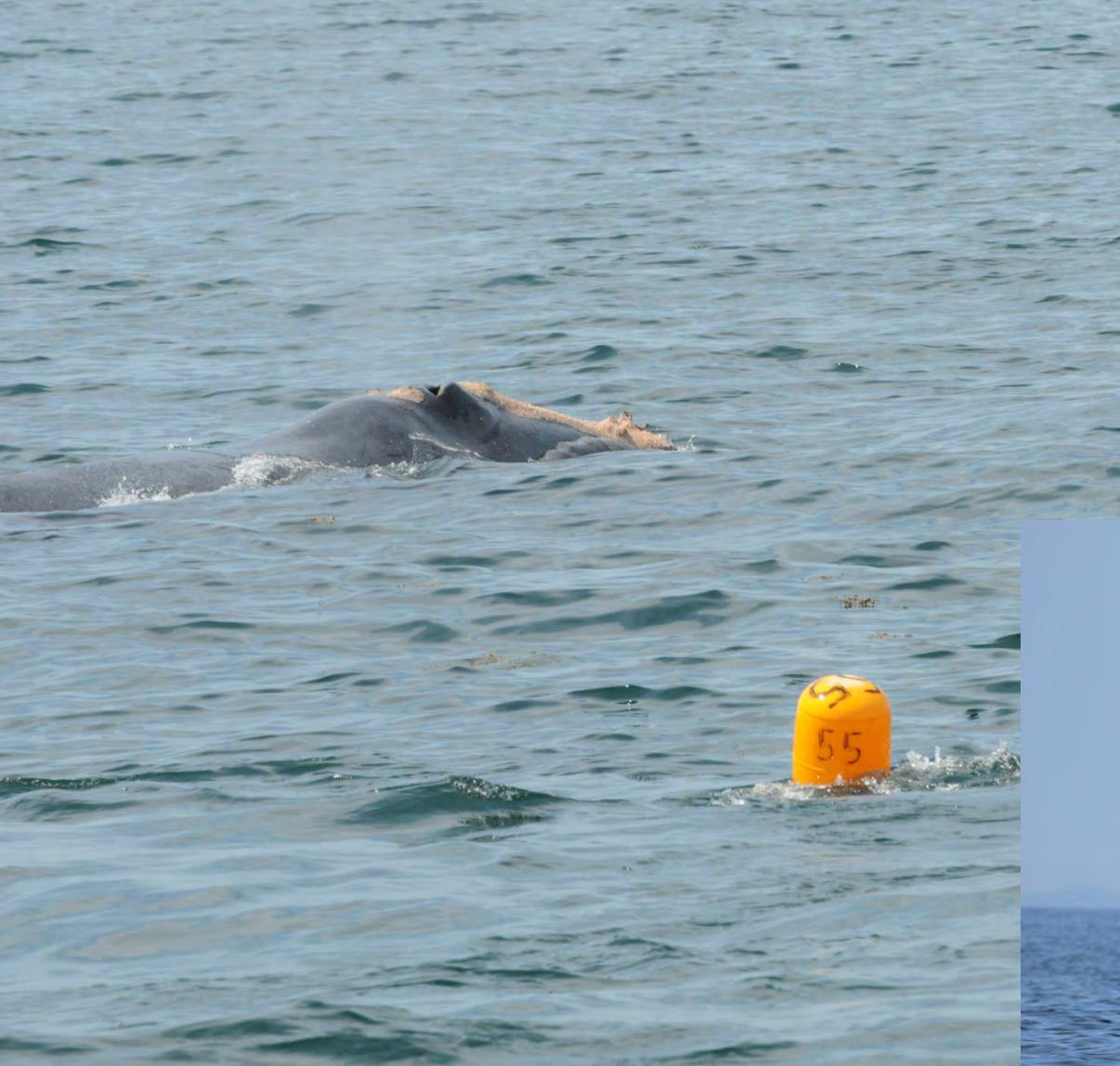
Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	High	Unknown	Unknown	High
Duration of time carrying gear		Minimum 153 days, maximum 205 days			
Disentangled?		Yes, partial			
Status		Alive? Last seen in Dec 2018 still entangled			
Number of prior entanglements		1			

Entanglement configuration	Rope thru mouth, across front rostrum; line with low drag buoy trailing ~ 1 body length; line likely weighted below whale
Anchoring points	Mouth
Gear configuration confidence	Low
Remaining questions	Unsure if rostrum wrap remains
Comments	Small amount of gear remains at left mouth; condition improving

Polymer type		
Gear component		Buoy line
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





30 Jul 2018 NEA



30 Jul 2018 GMWSRS



30 Jul 2018 GMWSRS



Species	Right Whale	Whale ID	3960
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Date first observed entangled (date seen prior without gear)		20 Aug 2018 (6 Aug 2018)			
Sex	Male	Birth year	2009	Age at entanglement	9

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-29	E30-18		
Gear sample collected?	No	Gear type	Canadian unknown	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	Low	None	None	High
Duration of time carrying gear		Minimum 1 day, maximum 13 days			
Disentangled?		No			
Status		Alive, last seen in 2020			
Number of prior entanglements		0			

Entanglement configuration	Multiple lines thru mouth, over rostrum,, around body and tail stock; fresh blood at tail
Anchoring points	Mouth,, flukes
Gear configuration confidence	Low
Remaining questions	Weight attached? Gear shed during observation
Comments	Damaged baleen; whale thrashed for 2+ hours

Polymer type		
Gear component		Buoy line and unknown (multiple ropes involved)
Rope diameter (inches)		Larger diameter
Breaking strength (lbs)	Tested	
	New	





20 Aug 2020 NEA



Species	Right Whale	Whale ID	2310
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Date first observed entangled (date seen prior without gear)		20 Dec 2018 (12 Apr 2018)			
Sex	Male	Birth year		Age at entanglement	25+

Case study ID	CCS	NMFS		GEAR ID
	WR-2018-51	E48-18		
Gear sample collected?	No	Gear type	Unknown	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity		Severe (due to duration)			
Entanglement configuration risk		High			
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	None	Unknown	None	Low
Duration of time carrying gear		Minimum 126 days, maximum unknown			
Disentangled?		No			
Status		Alive, last seen in 2019 still entangled			
Number of prior entanglements		0			

Entanglement configuration	Single line through mouth and trailing 1-2 body lengths on right side before sinking out of sight
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Length of trailing gear uncertain; rope shifted to bridle
Comments	Whale showing signs of decline at last sighting; long duration with gear

Polymer type		
Gear component		Unknown
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	

This case study was developed at the New England Aquarium with financial support from NOAA Fisheries. Whale data were provided by the North Atlantic Right Whale Consortium ([www.narwc.org](http://www.narwc.org)). All images are listed with appropriate credit information and taken under permit. Retrieved gear is assessed and archived by NOAA Fisheries. Entanglement diagrams courtesy of S. Landry, Center for Coastal Studies. Please contact Amy Knowlton ([aknowlton@neaq.org](mailto:aknowlton@neaq.org)) for potential use.



Trailing line



20 Dec 2018 NEA/A

Species	Right Whale	Whale ID	4423
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Date first observed entangled (date seen prior without gear)		25 Apr 2019 (20 Aug 2018)			
Sex	Male	Birth year	2014	Age at entanglement	5

Case study ID	CCS	NMFS		GEAR ID
	WR-2019-03	E04-19		
Gear sample collected?	No	Gear type	Unknown	

Drawing in progress

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	Low	Medium	None	High
Duration of time carrying gear		Minimum 113 days, maximum 432 days			
Disentangled?		Yes, partial - 11 Jul 2019, gear free 28 Oct 2019			
Status		Alive, seen in 2020			
Number of prior entanglements		2			

Entanglement configuration	Line through mouth, forming bridle, and trailing to buoy and weighted line behind buoy
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Rope wrapping around baleen plates

Polymer type		
Gear component		Line and buoy
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



25 April 2019 NEFSC





Species	Right Whale	Whale ID	4440
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Date first observed entangled (date seen prior without gear)		29 Jun 2019 (14 Apr 2019)			
Sex	Male	Birth year	2014	Age at entanglement	5

Case study ID	CCS	NMFS		GEAR ID
	WR-2019-09	E09-19		
Gear sample collected?	No	Gear type	Unknown	

Drawing in progress

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Medium	Low	Unknown	Low	High
Duration of time carrying gear		Minimum 20 days, maximum 120 days			
Disentangled?		Yes, partial - 16 Jul 2019			
Status		Alive, last seen in 2020			
Number of prior entanglements		1			

Entanglement configuration	Single line through mouth and wrapped tightly multiple times around tailstock with buoy under tail
Anchoring points	Mouth, tail
Gear configuration confidence	High
Remaining questions	
Comments	Whale hogtied. Gear shed by 14 Aug 2019 after line cut along body

Polymer type		
Gear component		Line and buoy
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



5 July 2019 N. Hawkins

5 July 2019 NEA/CWI



Species	Right Whale	Whale ID	3125
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Date first observed entangled (date seen prior without gear)		4 Jul 2019 (11 Apr 2019)			
Sex	Male	Birth year	2001	Age at entanglement	18

Case study ID	CCS	NMFS		GEAR ID
	WR-2019-10	E10-19		
Gear sample collected?	Yes	Gear type	Canadian snow crab?	

Drawing in progress

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	Medium	High
Duration of time carrying gear		Minimum 29 days, maximum 112 days			
Disentangled?		Yes, partial - 24/25 July and 2 Aug 2019			
Status		Likely dead - last seen in very poor condition			
Number of prior entanglements		1			

Entanglement configuration	Line through the mouth with multiple wraps around rostrum and entire head, around both flippers, and trailing
Anchoring points	Mouth, flippers
Gear configuration confidence	High
Remaining questions	
Comments	Damaged baleen, rope embedded, orange cyamids

Polymer type		Copolymer float with portion of leaded rope
Gear component		Endline
Rope diameter (inches)		3/4 (0.75)
Breaking strength (lbs)	Tested	
	New	11 500





19 July 2019 NEFSC



2 August 2019 CCS



2 August 2019 CCS

Species	Right Whale	Whale ID	1226
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Date first observed entangled (date seen prior without gear)		6 Aug 2019 (21 Jul 2019)			
Sex	Male	Birth year	Unk	Age at entanglement	40+

Case study ID	CCS	NMFS		GEAR ID
	WR-2019-21	E22-19		
Gear sample collected?	No	Gear type	Canadian, unknown	

Photographs inadequate to determine complete entanglement configuration - no drawing available

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	High	High	High	Unknown	High
Duration of time carrying gear		Minimum 1 day, maximum 55 days			
Disentangled?		No			
Status		Dead, 16 Sep 2019			
Number of prior entanglements		3			

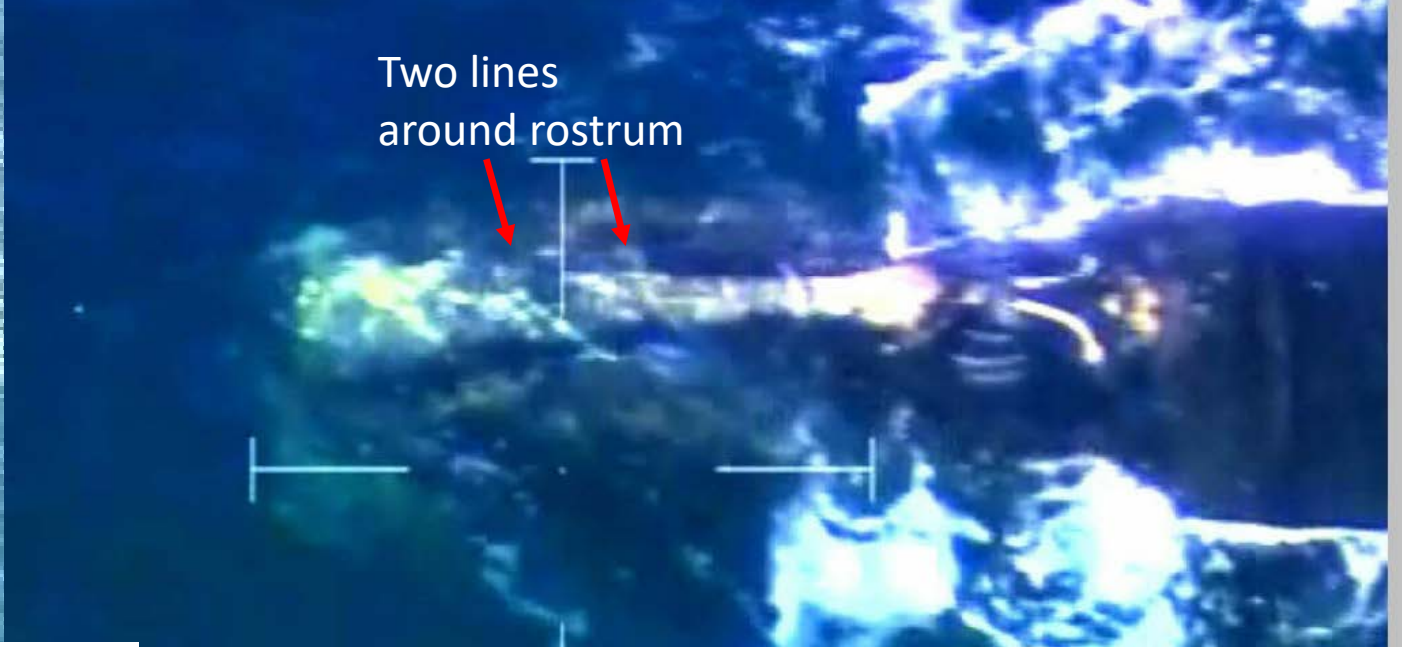
Entanglement configuration	Two wraps around rostrum with trailing bitter end. Extensive damage at tail. May be anchored
Anchoring points	Mouth
Gear configuration confidence	Low
Remaining questions	Unsure if anchored; more rope may be involved
Comments	Found dead off Fire Island, NY. Decomposed, no gear remaining

Polymer type		
Gear component		Unknown
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	





Two lines  
around  
rostrum

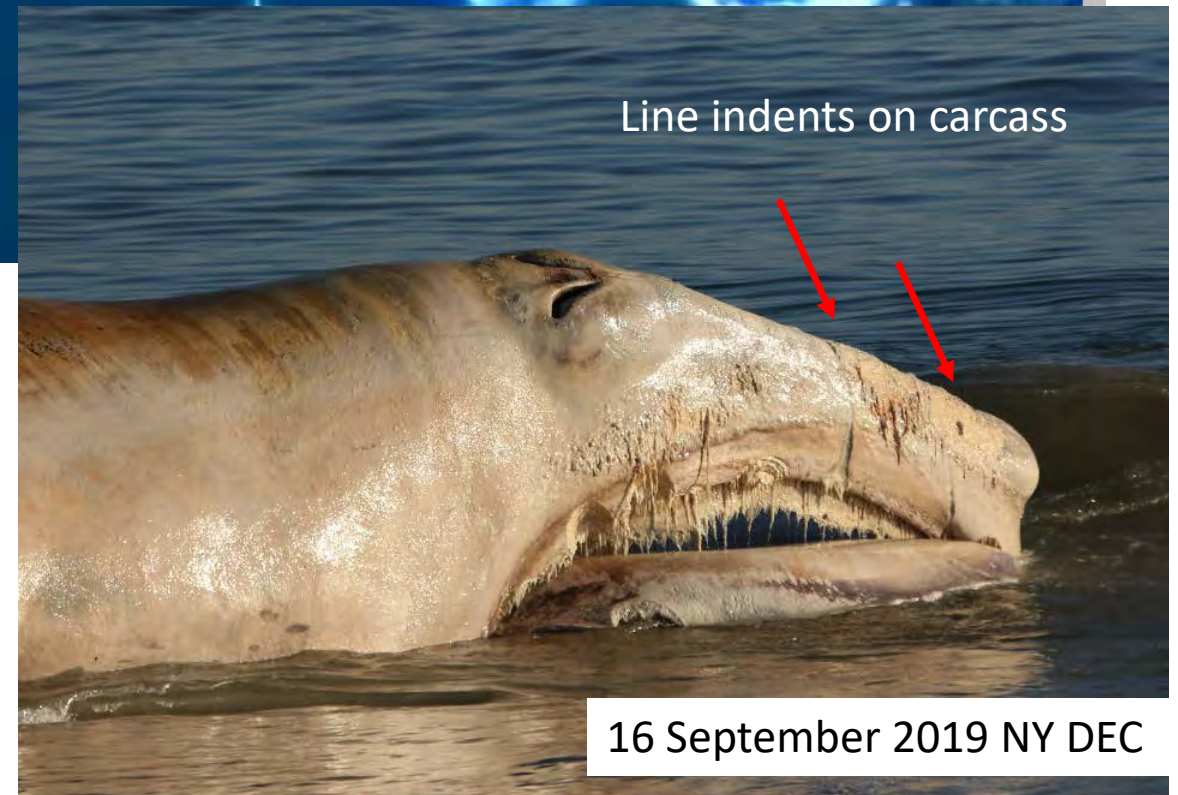


Two lines  
around rostrum

6 August 2019 DFO



Line



Line indents on carcass

16 September 2019 NY DEC



Species	Right Whale	Whale ID	3466
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Date first observed entangled (date seen prior without gear)		21 Dec 2019 (29 Apr 2019)			
Sex	Male	Birth year	1994	Age at entanglement	15

Case study ID	CCS	NMFS		GEAR ID
	WR-2019-33	E35-19		
Gear sample collected?	No	Gear type	Unknown	

Drawing in progress

Reproductive prior to/after entanglement detection					
Entanglement injury severity				Minor	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	None	Unknown	None	Low
Duration of time carrying gear		Minimum 41 days, maximum 707 days			
Disentangled?		No			
Status		Alive, last seen in 2021			
Number of prior entanglements		3			

Entanglement configuration	Multiple yellow lines through mouth and trailing with a jumble of rope at one bitter end
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	None
Comments	Observed gear free in April 2021

Polymer type		
Gear component		Unknown
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



21 December 2019 NEFSC