

Species	Right Whale	Whale ID	3180
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Date first observed entangled (date seen prior without gear)		24 Feb 2020 (11 Apr 2019)			
Sex	Female	Birth year	2001	Age at entanglement	19

Case study ID	CCS	NMFS		GEAR ID
	WR-2020-01	E04-20		
Gear sample collected?	No	Gear type	Unknown	

Photographs inadequate to determine complete entanglement configuration - no drawing available

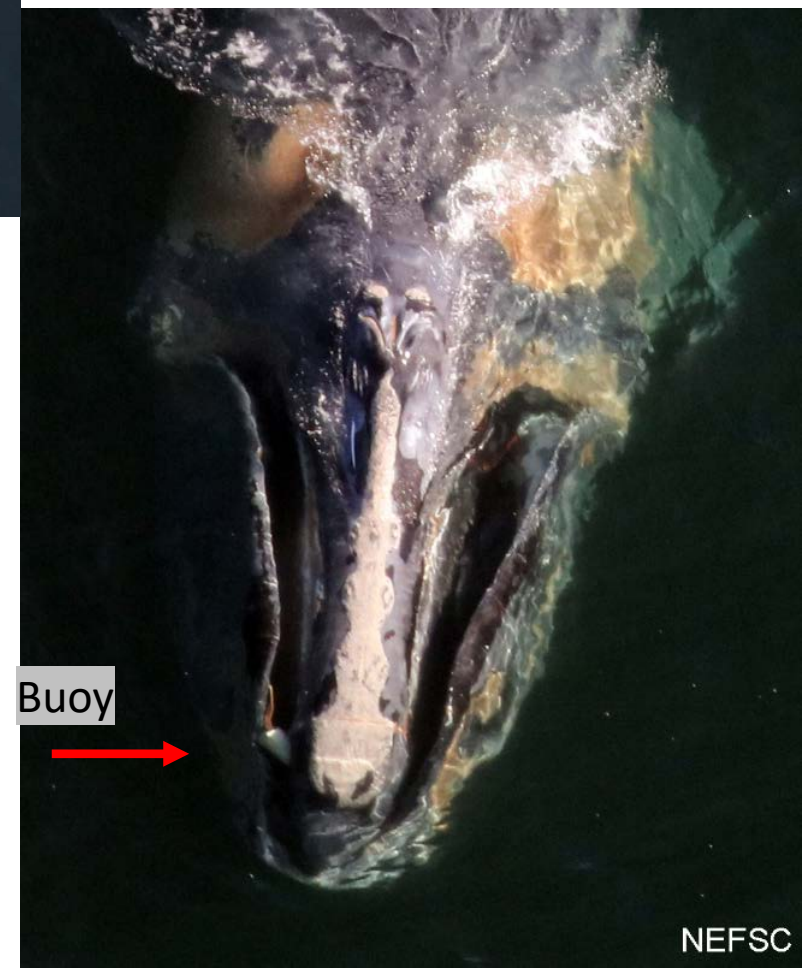
Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	High	Unknown	Unknown	Low
Duration of time carrying gear		Minimum 1 day, maximum 318 +days			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		3			

Entanglement configuration	Single tight wrap over rostrum, white bullet buoy lodged in mouth, no trailing gear evident
Anchoring points	Mouth
Gear configuration confidence	Low
Remaining questions	
Comments	Mouth wedged open, whale in very poor condition

Polymer type		
Gear component		Buoy and portion of endline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



24 Feb 2020 NEFSC



Species	Right Whale	Whale ID	4680
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Date first observed entangled (date seen prior without gear)		11 Oct 2020 (7 Jul 2020)			
Sex	Male	Birth year	2016	Age at entanglement	4

Case study ID	CCS	NMFS		GEAR ID
	WR-2020-17	E21-20		
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
	Unknown	High	Unknown	High	High
Duration of time carrying gear		Minimum 1 day, maximum 95+ days			
Disentangled?		No			
Status		Likely dead - no subsequent sightings			
Number of prior entanglements		1			

Entanglement configuration	Two tight wraps of rope around rostrum
Anchoring points	Mouth
Gear configuration confidence	Low
Remaining questions	Not sure if flippers involved or if trailing gear present
Comments	Gaping wound in left shoulder, whale in poor condition

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



11 Oct 2020

Artie Raslich/Gotham Whale

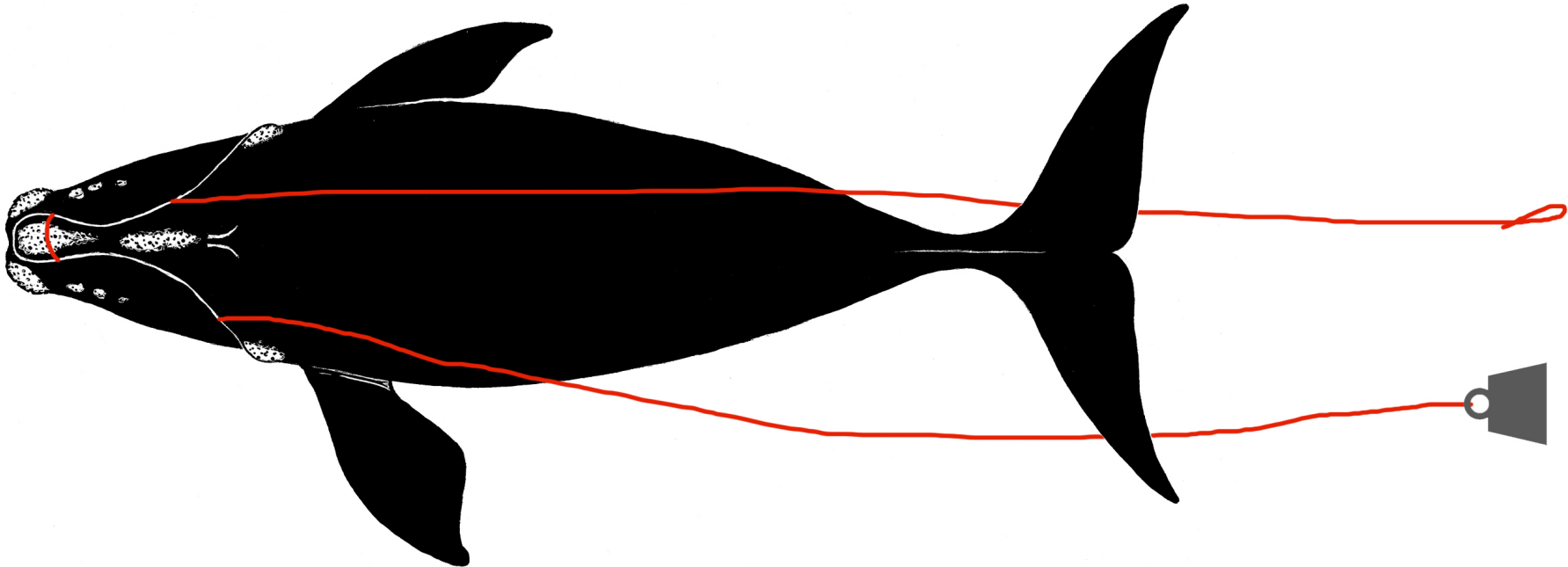


Artie Raslich/Gotham Whale

Species	Right Whale	Whale ID	3920
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Date first observed entangled (date seen prior without gear)		19 Oct 2020 (16 Mar 2020)			
Sex	Male	Birth year	2009	Age at entanglement	11

Case study ID	CCS	NMFS		GEAR ID
	WR-2020-18	E22-20		
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
	Low	High	Unknown	None	High
Duration of time carrying gear		Minimum 122 days, maximum 338 days			
Disentangled?		No			
Status		Dead, 27 Feb 2021			
Number of prior entanglements		2			

Entanglement configuration	Embedded rope in upper jaw, trailing 4-5 body lengths
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Unknown if rope had weight attached
Comments	Found dead off South Carolina

Polymer type		Poly float and poly leaded (assumed copolymer)	
Gear component		Endline	
Rope diameter (inches)		5/8	
Breaking strength (lbs)	Tested		
	New	9 000	



CCS

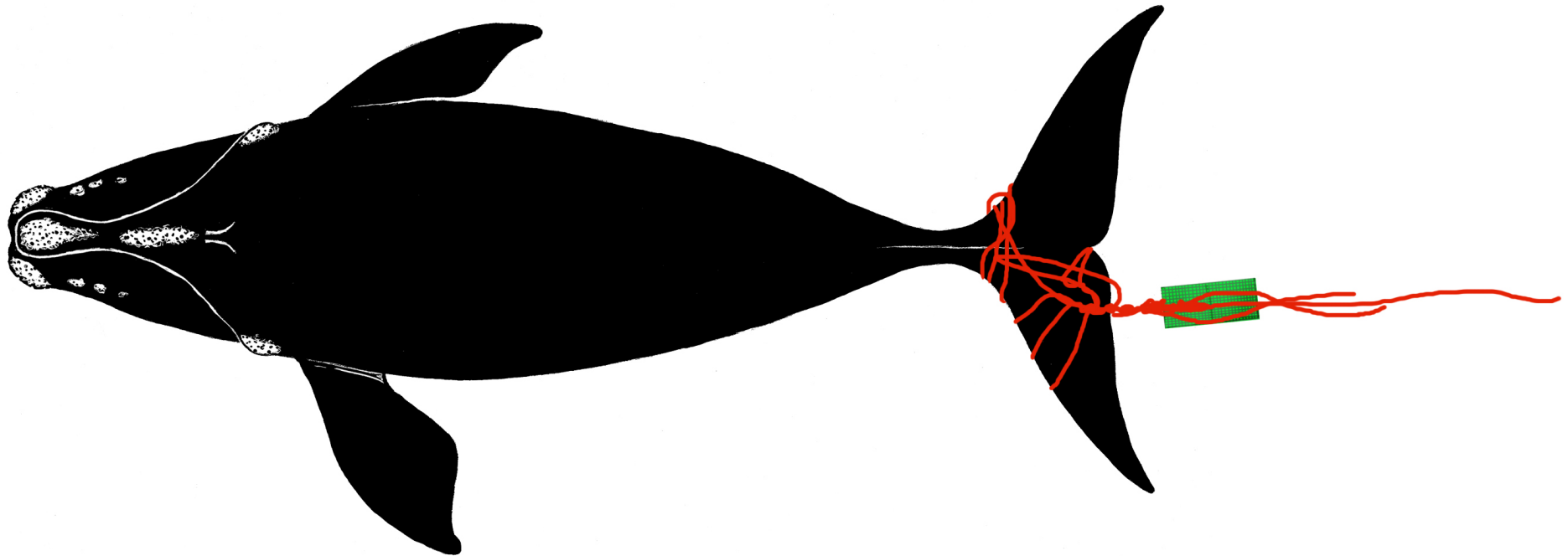
19 Oct 2022 CCS



Species	Right Whale	Whale ID	1803
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Date first observed entangled (date seen prior without gear)		11 Jan 2021 (7 Apr 2019)			
Sex	Male	Birth year	1988	Age at entanglement	33

Case study ID	CCS	NMFS		GEAR ID
	WR-2021-02	E02-21		
Gear sample collected?	No	Gear type	Trap/pot, unknown	

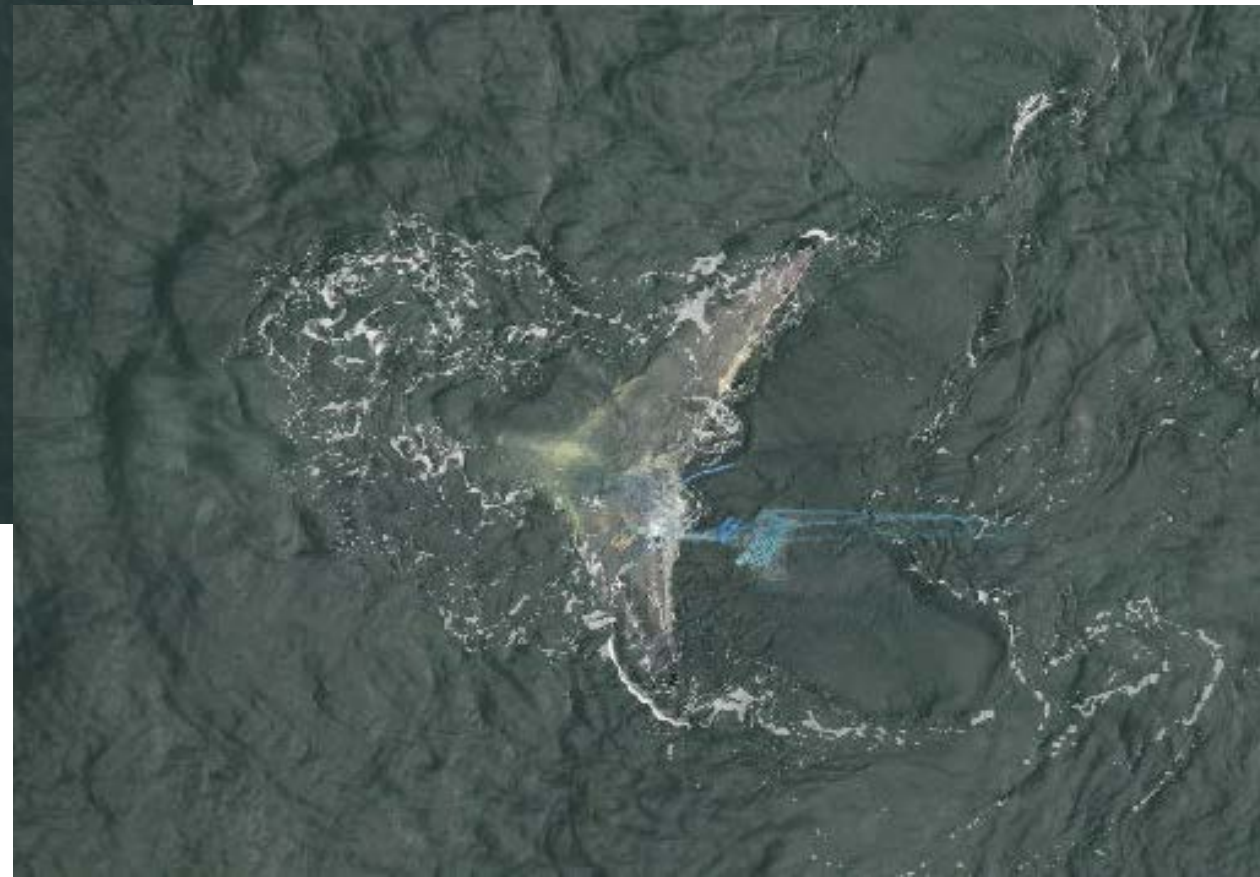


Reproductive prior to/after entanglement detection					
Entanglement injury severity				Severe	
Entanglement configuration risk				High	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	None	Low	None	High
Duration of time carrying gear		Minimum 1+ day, maximum 644 days			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		3			

Entanglement configuration	Tight wraps around peduncle and left fluke blade, single trap aft of flukes, and line trailing ~60 ft
Anchoring points	Tail
Gear configuration confidence	High
Remaining questions	
Comments	Whale in poor condition

Polymer type		
Gear component		Line and trap
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.

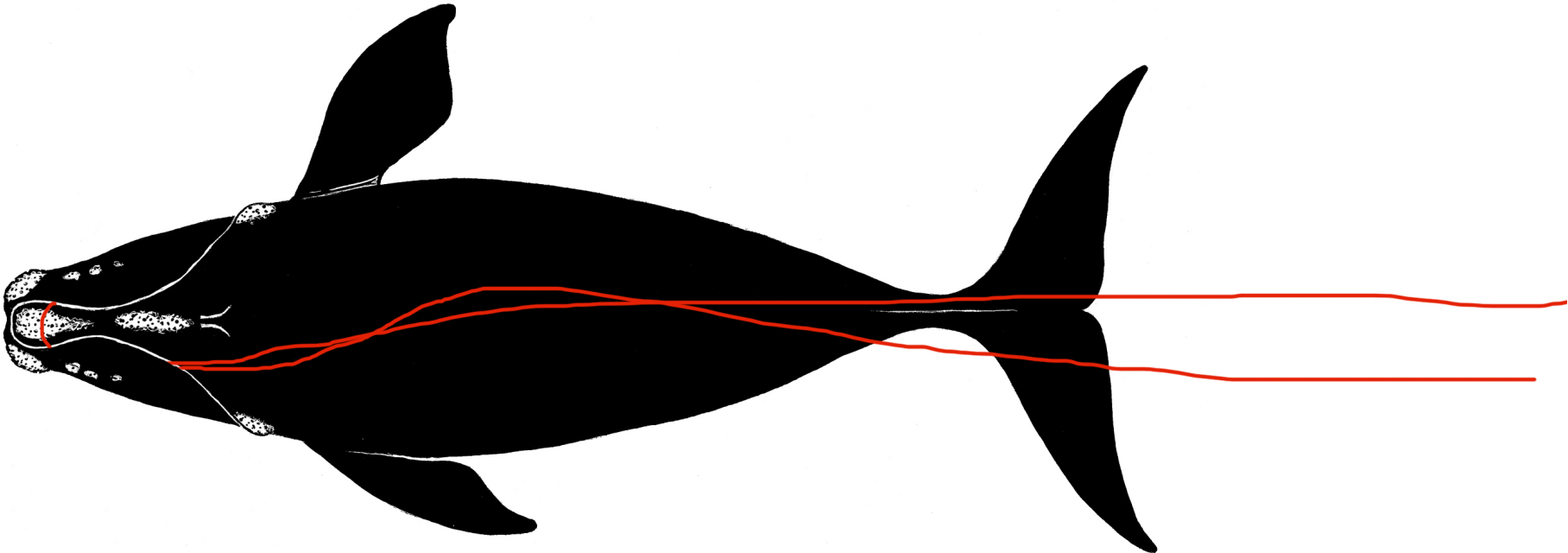


11 Jan 2021 CMARI

Species	Right Whale	Whale ID	3560
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Date first observed entangled (date seen prior without gear)		10 Mar 2021 (24 Jul 2020)			
Sex	Female	Birth year	2005	Age at entanglement	16

Case study ID	CCS	NMFS		GEAR ID
	WR-2021-04	E04-21		
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	Unknown	Low
Duration of time carrying gear		Minimum 560 days, maximum 787 days			
Disentangled?		Yes, partial in Mar and May 2021			
Status		Likely dead, new entanglement on 21 Sep 2022			
Number of prior entanglements		4			

Entanglement configuration	Single tight wrap embedded in forward rostrum, two lines trailing, one at least 300 feet
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	Seen with calf in Dec 2021; calf disappeared by Jul 2022
Comments	3560 in very poor condition in Sep 2022

Polymer type		Copolymer
Gear component		Likely endline
Rope diameter (inches)		5/8
Breaking strength (lbs)	Tested	
	New	9 000



10 Mar 2021 CCS



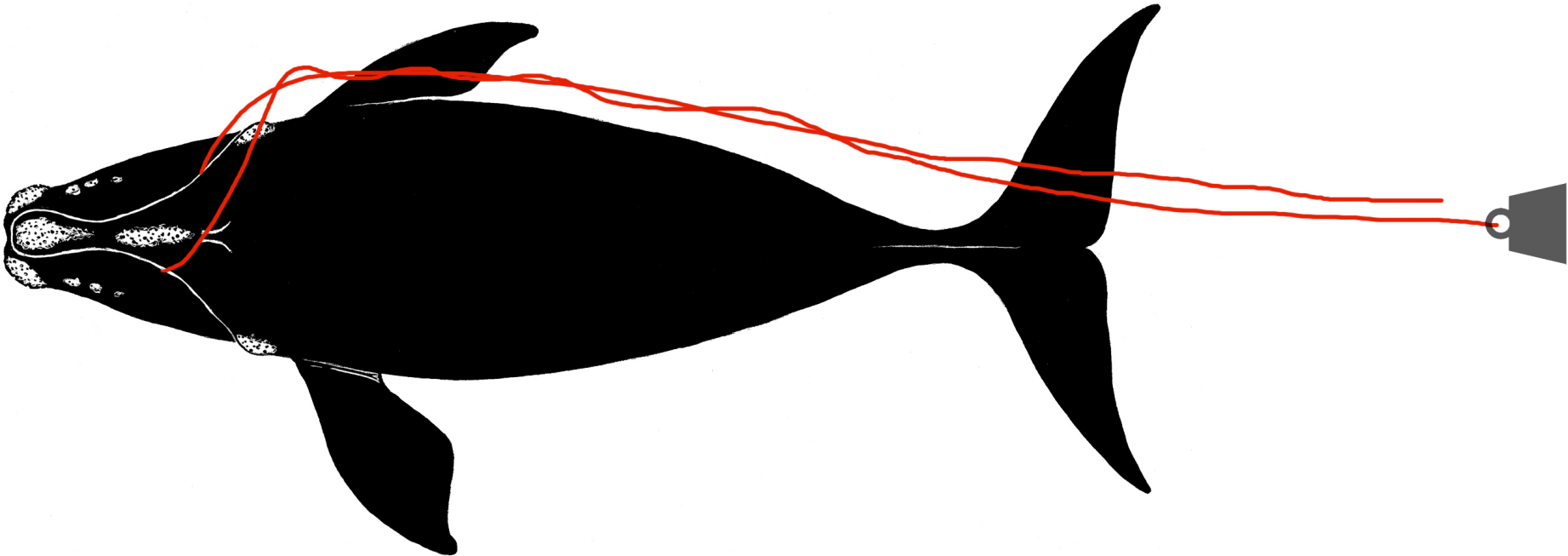
5 Aug 2021 NEA/CWI

19 Jan 2022 FWRI

Species	Right Whale	Whale ID	4615
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Date first observed entangled (date seen prior without gear)		13 Jul 2021 (13 Jul 2021)			
Sex	Male	Birth year	2016	Age at entanglement	5

Case study ID	CCS	NMFS		GEAR ID
	WR-2021-13	E13-21		
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
	Low	High	Unknown	Low	High
Duration of time carrying gear		Minimum 2 days, maximum unknown			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		4			

Entanglement configuration	Single tight wrap over aft rostrum with rope trailing. Initially wraps at peduncle but gone by day 2
Anchoring points	Mouth, tail (initially)
Gear configuration confidence	High
Remaining questions	Likely weighted gear attached
Comments	Same day entanglement; active thrashing, rolling, head raises, blood at tail stock; still thrashing next day

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

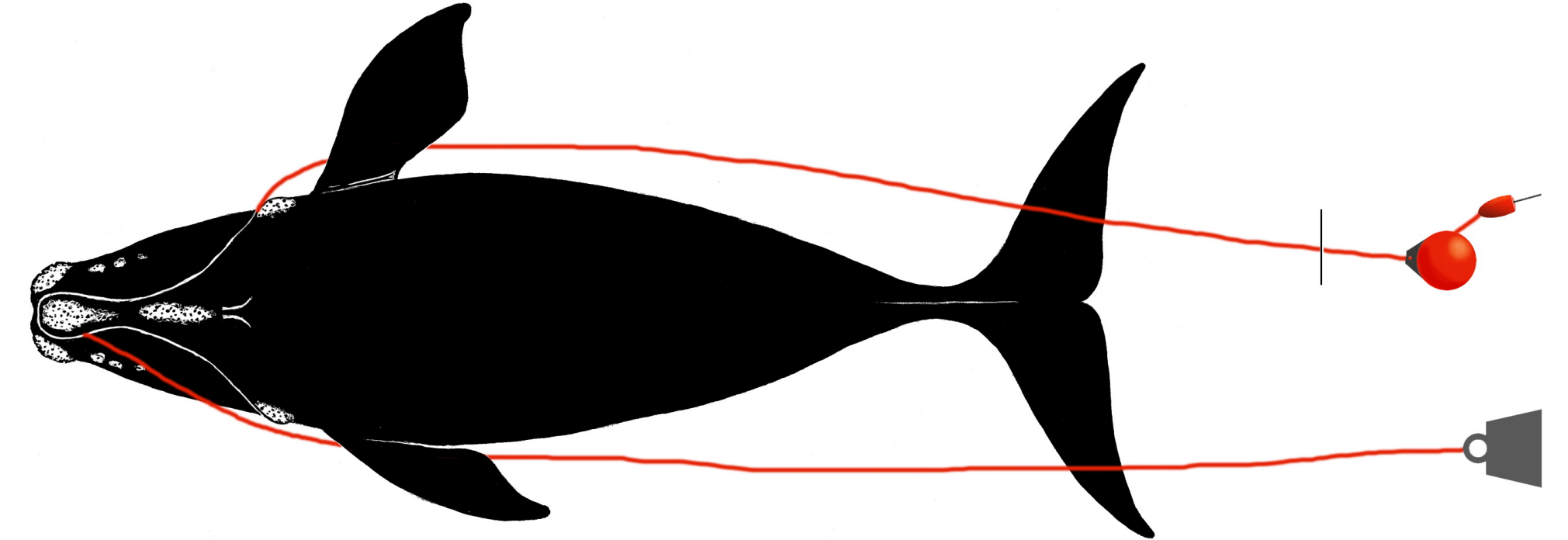


13 Jul 2021 GLL-DR

Species	Right Whale	Whale ID	3823
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Date first observed entangled (date seen prior without gear)		19 May 2022 (11 Mar 2022)			
Sex	Female	Birth year	2008	Age at entanglement	14

Case study ID	CCS	NMFS		GEAR ID
	WR-2022-02	E02-22		
Gear sample collected?	No	Gear type	Unknown	



Reproductive prior to/after entanglement detection					No/No
Entanglement injury severity					Severe
Entanglement configuration risk					High
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Low	High	Unknown	Low	High
Duration of time carrying gear		Minimum 1 day, maximum 68 days			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		5			

Entanglement configuration	Line thru mouth to pass bridle under chin; trailing gear ~6 body lengths with bullet buoy and poly ball; other end may be weighted
Anchoring points	Mouth
Gear configuration confidence	High
Remaining questions	
Comments	Rope burn on body indicating likely recent

Polymer type		
Gear component		Buoy and portion of endline
Rope diameter (inches)		
Breaking strength (lbs)	Tested	
	New	



Old scars



19 May 2022  
NEFSC



Species	Right Whale	Whale ID	1403
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Date first observed entangled (date seen prior without gear)		25 Jun 2022 (07 Mar 2022)			
Sex	Male	Birth year	1984	Age at entanglement	38

Case study ID	CCS	NMFS		GEAR ID
	WR-2022-10	E09-22		
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
	Unknown	None	Unknown	Low	High
Duration of time carrying gear		Minimum 12 days, maximum 121 days			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		4			

Entanglement configuration	Single line across aft part of body; angled forward, attached to flippers or mouth; trailing gear of unk length noted
Anchoring points	Mouth or flippers
Gear configuration confidence	Low
Remaining questions	
Comments	Old notable entanglement scar across rostrum

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



30 Jun 2022 DFO

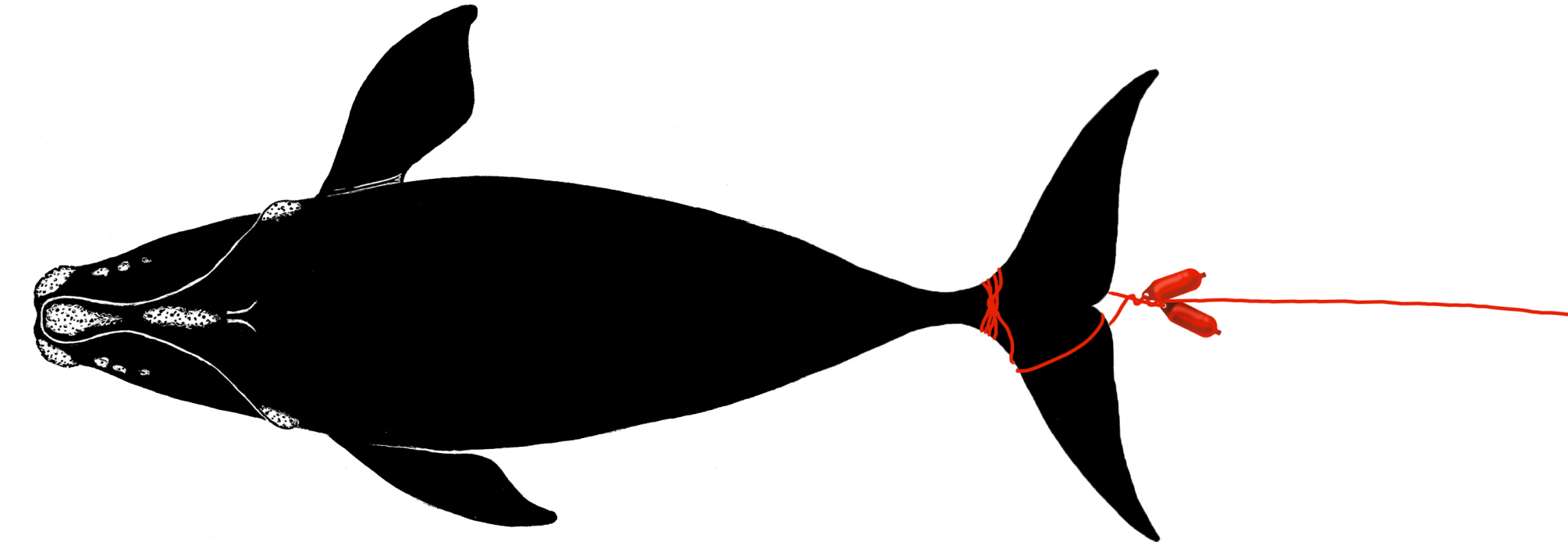


7 Jul 2022 NEA/CWI

Species	Right Whale	Whale ID	5120
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Date first observed entangled (date seen prior without gear)		20 Aug 2022 (01 May 2022)			
Sex	Female	Birth year	2021	Age at entanglement	1

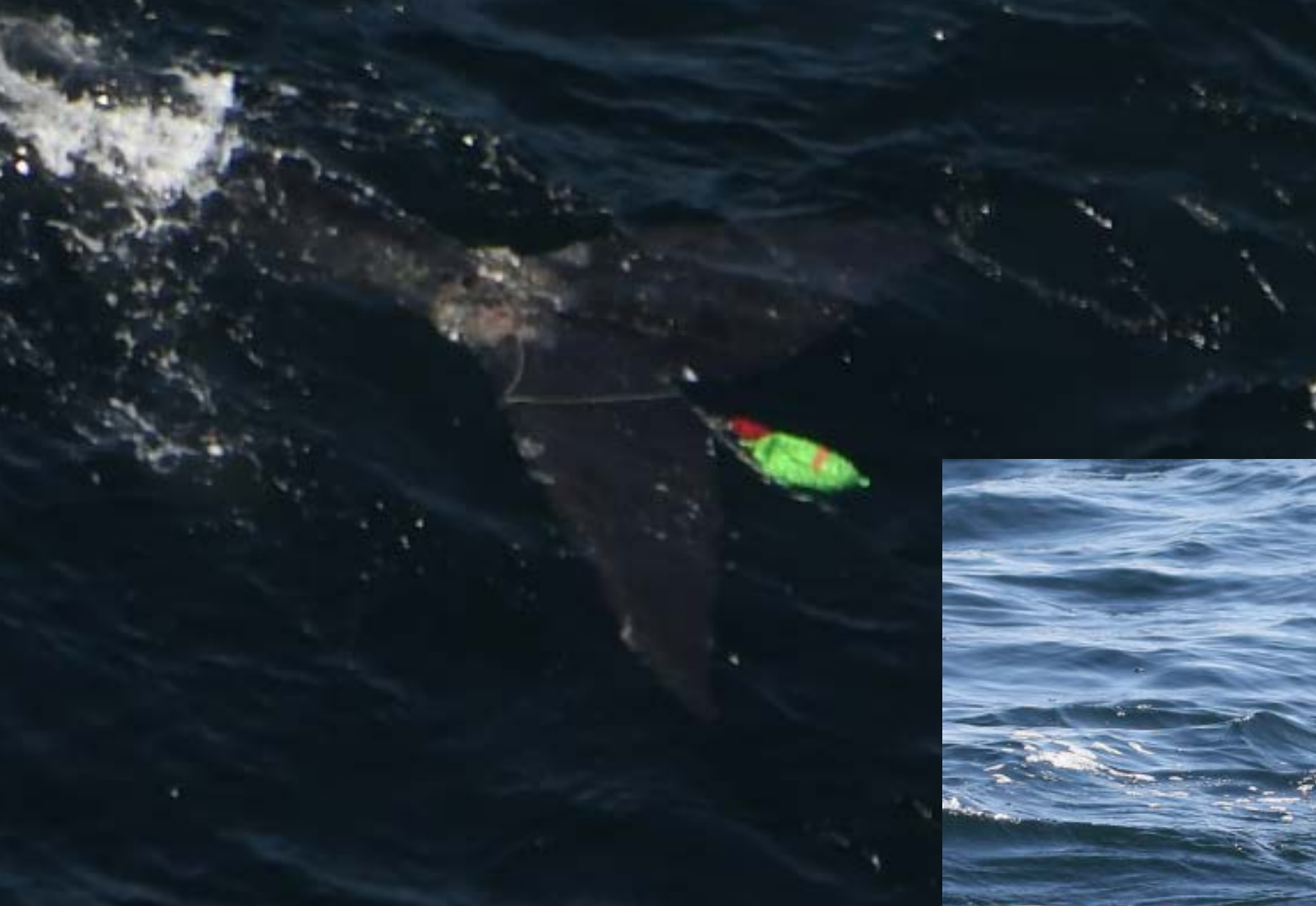
Case study ID	CCS	NMFS		GEAR ID
	WR-2022-17	E16-22		
Gear sample collected?	Yes	Gear type	US lobster (Maine)	



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 526 days, maximum 636 days			
Disentangled?		No			
Status		Dead, 28 Jan 2024			
Number of prior entanglements		0			

Entanglement configuration	Four wraps of rope around peduncle, two small buoys near flukes, ~200 feet of trailing line
Anchoring points	Tail
Gear configuration confidence	High
Remaining questions	
Comments	Ropes deeply embedded in peduncle at death

Polymer type		Unknown, likely copolymer
Gear component		Buoys and portion of endline
Rope diameter (inches)		3/8; 1/2
Breaking strength (lbs)	Tested	
	New	3 280; 5 100



20 Aug 2022  
DFO

30 Jan 2023  
CCS



Species	Right Whale	Whale ID	4501
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Date first observed entangled (date seen prior without gear)		24 Aug 2022 (24 Aug 2022)			
Sex	Male	Birth year	2015	Age at entanglement	7

Case study ID	CCS	NMFS		GEAR ID
	WR-2022-18	E17-22		
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				Minor	
Entanglement configuration risk				Low	
Wound severity	Mouth	Head/ rostrum	Flippers	Body	Flukes
	Unknown	Unknown	Unknown	Low	Medium
Duration of time carrying gear		Minimum 1 day, maximum 1 day			
Disentangled?		No			
Status		Alive			
Number of prior entanglements		2			

Entanglement configuration	One rope across mid body and another at peduncle
Anchoring points	Unknown
Gear configuration confidence	Low
Remaining questions	
Comments	Gear apparently shed on same day; whale agitated

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

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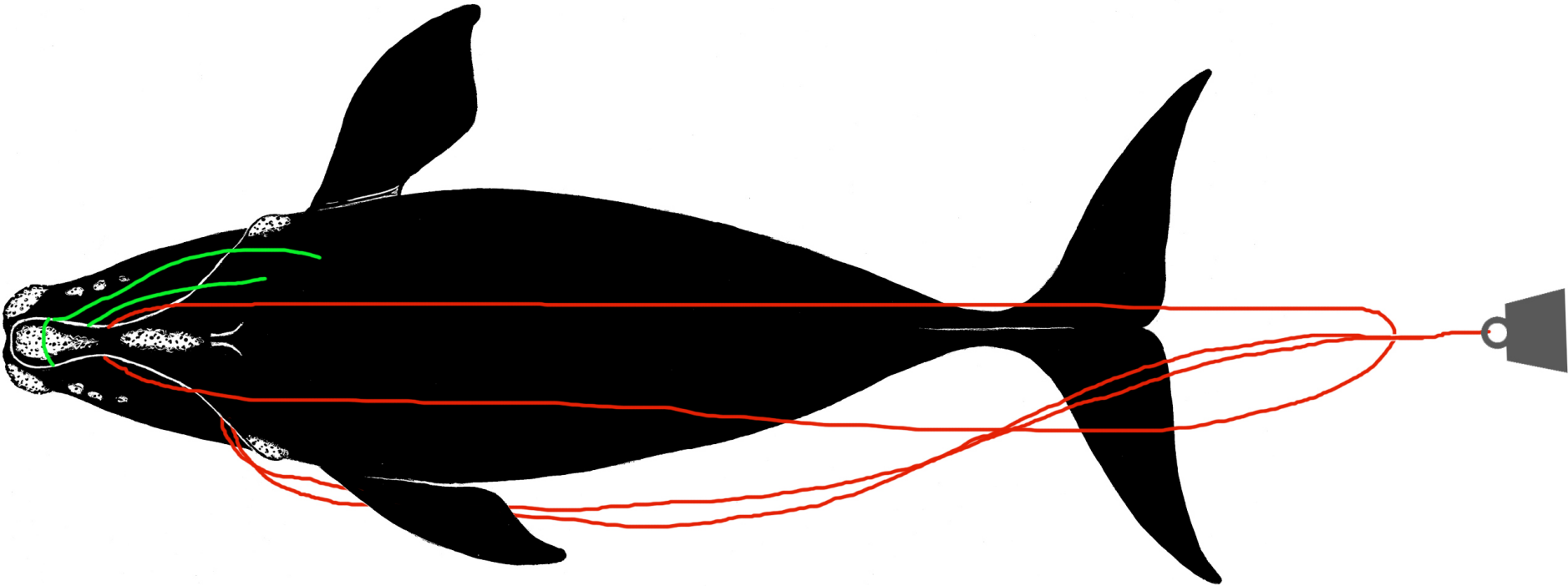
24 Aug 2022  
DFO



Species	Right Whale	Whale ID	3560
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Date first observed entangled (date seen prior without gear)		21 Sep 2022 (23 Jul 2022)			
Sex	Female	Birth year	2005	Age at entanglement	17

Case study ID	CCS	NMFS		GEAR ID
	WR-2021-04	E22-22		
Gear sample collected?	No	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
	Unknown	Low	Unknown	Unknown	High
Duration of time carrying gear		Minimum 1 day, maximum 59 days			
Disentangled?		No			
Status		Likely dead, no additional sightings			
Number of prior entanglements		5			

Entanglement configuration	Multiple lines exiting mouth, likely involving left flipper; gear trailing and appears weighted
Anchoring points	Mouth, flipper
Gear configuration confidence	Low
Remaining questions	
Comments	Previous entanglement still present (green); whale in poor condition

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



21 Sep 2022 NEAq