

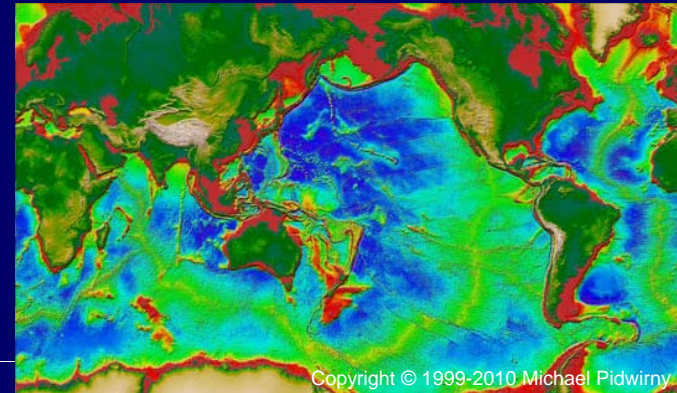
Demersal Longline

Fishing Procedures & Gear
INSERT presenter name here



Introduction

- Demersal longlining is global

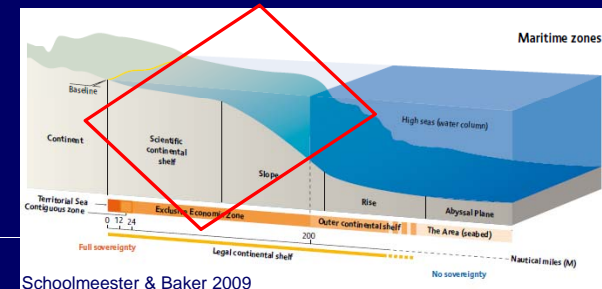


Objectives

- Define demersal longlining & describe 1 potential impact
- Describe 3 components of demersal longline gear
- List 2 types of specialized equipment you may encounter
- Demonstrate ability to complete the Gear Description form

What is demersal longlining?

- Hook & line gear – uses bait to attract fish in on or near bottom
- Usually on continental shelf or slope



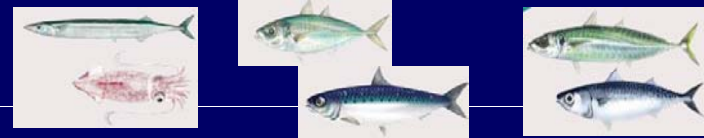
What is demersal longlining?

- Hook & line gear – uses bait to attract fish on or near bottom
- Usually on continental shelf & slope
- Primary targets: gadiiformes, sharks



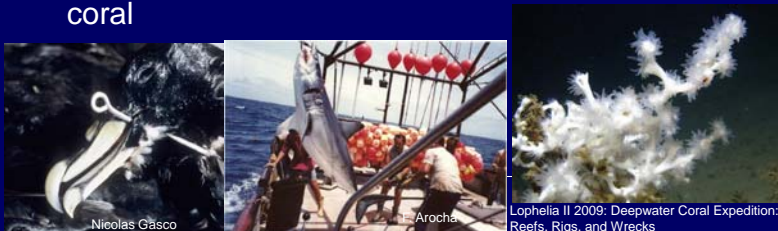
What is demersal longlining?

- Hook & line gear – uses bait to attract fish on or near bottom
- Usually on continental shelf & slope
- Primary targets: gadoids, sharks
- Bait = fish or squid depending on target



What is demersal longlining?

- Hook & line gear – uses bait to attract fish on or near bottom
- Usually on continental shelf & slope
- Primary targets: gadoids, sharks
- Bait = fish or squid depending on target
- Fishery impacts – bycatch of seabirds, sharks, coral




Data collection priorities

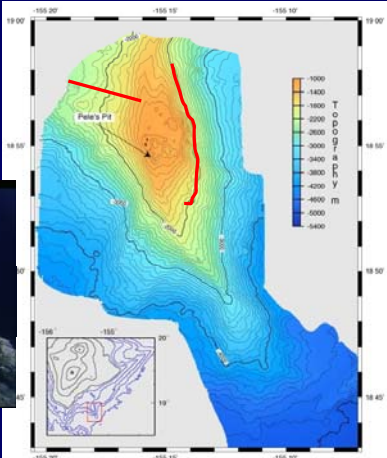
1. Estimate effort for each gear deployment;
2. Identify every individual caught in subsample and estimate percent retained;
3. Collect biological information on target and other identified species as requested;
4. Record all sightings and interactions with marine mammals and sea turtles;
5. **Record vessel and fishing gear characteristics.**

How is gear fished?

- Strategies

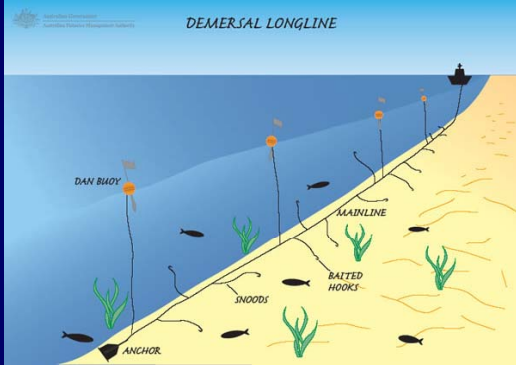


http://flowergarden.noaa.gov/image_library/deepreefimages.html



How is gear fished?

- Strategies
- Deployment (videos - 1 - 2 - 3)



How is gear fished?

- Strategies
- Deployment
- Retrieval



B. Richardson 2005 SEASWAP

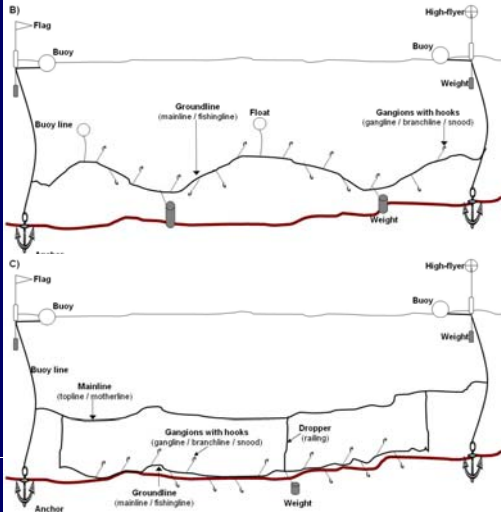


Andy Murch, <http://sharkdiver.wordpress.com/>



John Bennett - <http://sanaspiring.wordpress.com>

Gear components - overview



Single line

Double line

Gear components - groundline

Polyester longline;
<http://www.artisanalfish.com>

Choice of ropes

"Twin-rib" profile for extra strength

Welded Swivel eye

Unique stopper design

Interlock seam for extra strength

Patented flexi-stopper design

Bulb for extra strength

<http://www.mustad-autoline.com>

Mustad longline;
<http://www.mustad.com>

Gear components - gangion

Gangion spacing

Splice

Mainline

Gangion

Hook

Gangion length

Drawing modified from Hanrahan et al. 1997

Photo: K. Dietrich 2010

Snap (clip; www.leadertec.com)

Swivels (Beverly 2009)

Gear components - hooks

Tuna

Circle

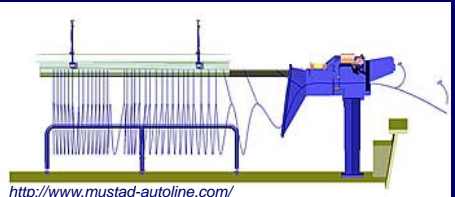
J-hook

Offset hook


Non-offset hook

Gear – setting devices


- Autobiater – Autoline system
- Setting tube



<http://www.mustad-autoline.com/>

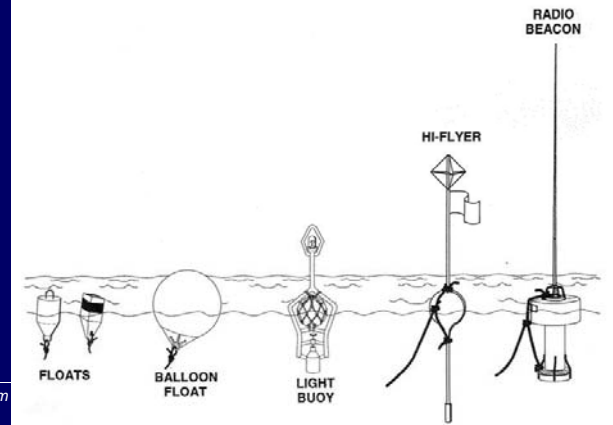


<http://www.beauline.com/mustadautoline.htm>



MARCO Circle Matic Baler

Gear components – gear markers



FLOATS BALLOON FLOAT LIGHT BUOY HI-FLYER RADIO BEACON

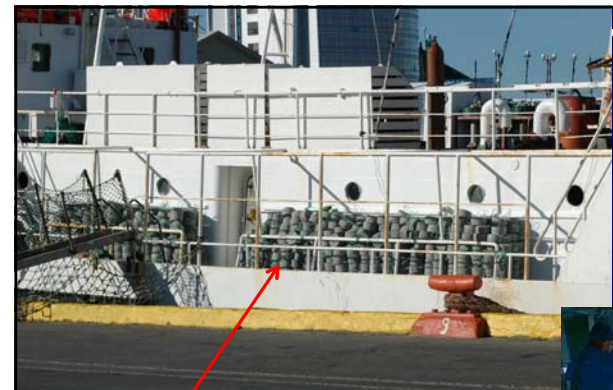
Drawing modified from Hanrahan et al. 1997




<http://williamsmarine ltd.ca/Manufacturing.html>



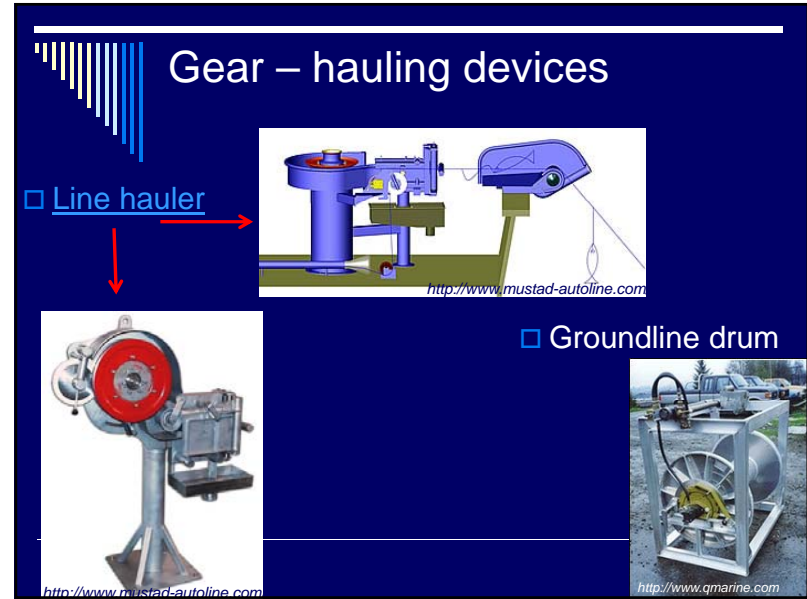
<http://store.vernondeon.com/>



Concrete cylinders, Chilean longliner, K. Dietrich 2010



Lead sphere; www.seamar.net Richardson 2005



Gear Description Form

Gear Description - Demersal Longline




Observer code: _____ Vessel code: _____ Trip ID: _____

Lines	Type	Material	Diameter (mm)	Breaking strength (kg)	# strands	Color	Comments
Groundline	1						
Gangion	1						
Gangion	2						
Dropper	1						

Material Codes
 1 Monofilament 4 Steel wire
 2 Multifilament 5 Other: _____
 3 Cotton






Color codes
 1 White 4 Green 7 Clear 10 Other
 2 Pink 5 Blue 8 Orange 11 Multi-color
 3 Black 6 Red 9 Yellow

Hooks	Type	Manufacturer	Model/pattern	Size	Material	Offset
1						
2						
3						

Model/pattern types
 Tuna  J-hook  Circle  Other (describe): _____

Gear Description Form

Floats				Weights		
Type	Shape	Dimensions	Material	Type	Material	Weight (kg)
1				1		
2				2		
3				3		

Float shapes
 Bullet  Cylinder  Oval  Round  Cigar  Other (describe): _____

Gear Deployment Location
 Stern
 Stbd, distance from stern _____ m
 Port, distance from stern _____ m
 Propeller up-wash
 Propeller down-wash

Gear Description Form

Other Equipment		Usage
Mainline hauler	Y / N	
Line shooter	Y / N	
Autobalancing machine	Y / N	
Setting tube	Y / N	
Weighing scales	Y / N	
Other:	Y / N	
Other:	Y / N	
Other:	Y / N	
Other:	Y / N	
Other:	Y / N	

Usage Codes
 1 Used continuously during fishing
 2 Used often during fishing
 3 Used sometimes during fishing
 4 Broken during this trip but used normally
 5 Rarely used
 6 Used only during transit
 7 No longer used
 8 Unknown

Gear Description Form

Seabird Mitigation

Describe all techniques and equipment to deter birds from hooks during the set (e.g. streamer lines) and haul (e.g. bird curtain). Include diagrams with measurements of streamer lines and other equipment as necessary.

Set

Haul



Gear Description Form

- Questions about gear or the gear form?
 - Practice exercise
 - Groups of 3-4
 - 10 minutes to complete Gear Description Form
 - Break – 10 minutes
 - Discuss exercise
-



Summary

- Describe the difference between demersal & semi-pelagic longlining
 - What are the potential impacts of this fishery?
 - Describe 3 components of demersal longline gear
 - List 2 types of specialized equipment you may encounter on demersal longline vessels
-

Activity - Gear Description Form – Demersal longline

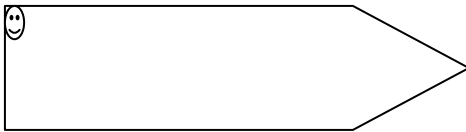
Gather in groups. Use your manual, the gear we're passing out and the information that follows to complete the Gear Description form.

Your observer code is Z007 and you are aboard the f/v Rainy Days (code SLE005). This is trip 24.

The vessel did not use any floats but regularly attached rocks to the gear to keep it on the bottom. You weighed 25 of the rocks to get an average weight. Your weights are as follows:

4.8	5.9	5.62	5.36	5.48
4.8	5.8	5.13	5.4	5.5
5.6	4.9	5.4	5.36	4.87
4.3	5.1	4.98	5.06	4.97
5.2	5.2	5.6	5.33	5.54

The smiley face in the diagram below indicates the location of the setting station and the propeller is turning clockwise.



The vessel uses a mainline hauler every set. The vessel occasionally deployed 50m of 3-strand blue polypro line with packing straps attached every 2 m. There was small (0.3m diameter) float attached to the end for drag.

Gear Description - Demersal Longline




Observer code	Vessel code	Trip ID
---------------	-------------	---------

Lines	Type	Material	Diameter (mm)	Breaking strength (kg)	# strands	Color	Comments
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	2					
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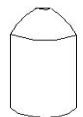




Model/pattern types

Tuna  J-hook  Circle  Other (describe): _____

Floats

Type	Shape	Dimensions	Material
1			
2			
3			

Float shapes

Bullet  Cylinder  Oval  Round  Cigar  Other (describe): _____

Weights

Type	Material	Weight (kg)
1		
2		
3		

Gear Deployment Location

<input type="checkbox"/> Stern <input type="checkbox"/> Stbd, distance from stern _____ m <input type="checkbox"/> Port, distance from stern _____ m	<input type="checkbox"/> Propeller up-wash <input type="checkbox"/> Propeller down-wash
--	--

Other Equipment

		Usage
Mainline hauler	Y / N	
Line shooter	Y / N	
Autobaiting machine	Y / N	
Setting tube	Y / N	
Weighing scales	Y / N	
Other:	Y / N	
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Set

Haul

Comments