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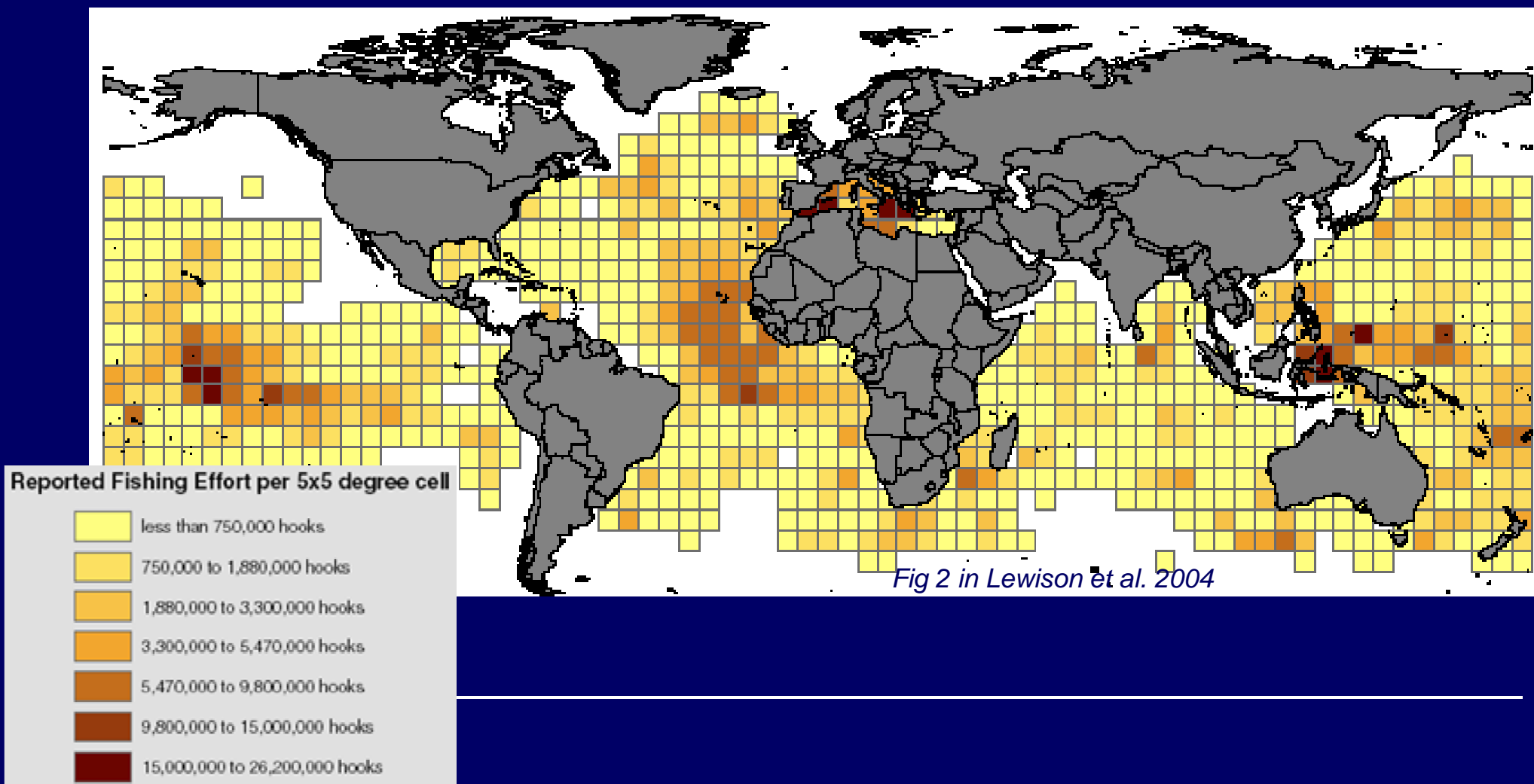
# Pelagic Longline

## Fishing Procedures & Gear



# Introduction

□ Pelagic longlining is global





# Objectives

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

- Hook & line gear – uses bait to attract fish in pelagic zone
- Pelagic = open ocean (usu. <250m fishing depth)

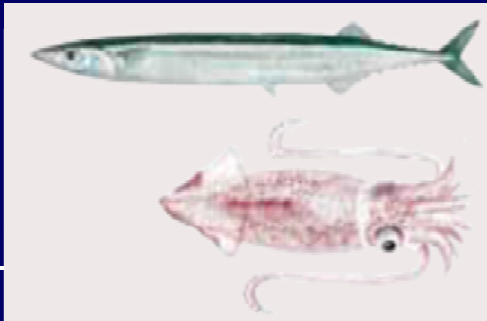
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- Pelagic = open ocean (usu. <250m fishing depth)
- Primary targets: tuna, swordfish, sharks
- Bait – fish or squid depending on target
- Fishery impacts – bycatch of turtles, seabirds, sharks





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# Data collection priorities

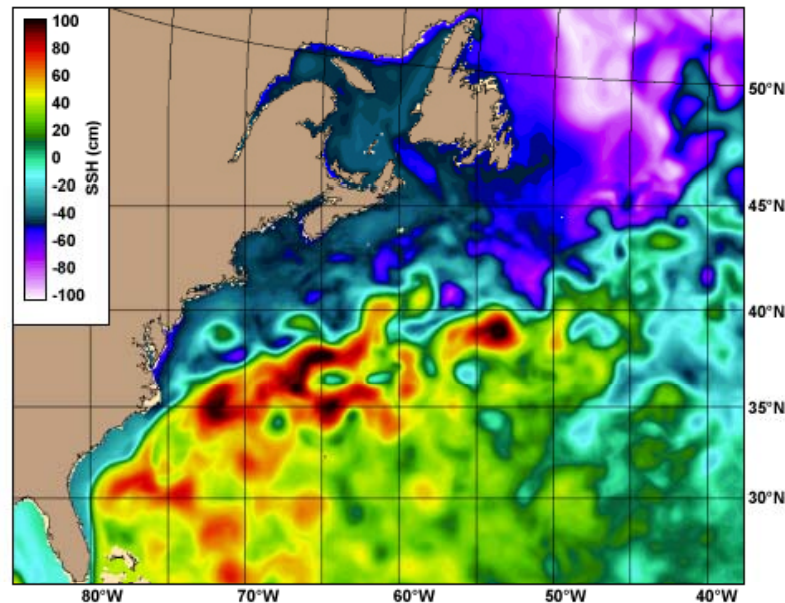
1. Estimate effort for each gear deployment;
  2. Identify every individual caught on each set and assess catch condition and fate;
  3. Collect biological information on target and other identified species as requested;
  4. Record all sightings and interactions with marine mammals and sea turtles;
  5. **Record vessel and fishing gear characteristics.**
-



# How is gear fished?

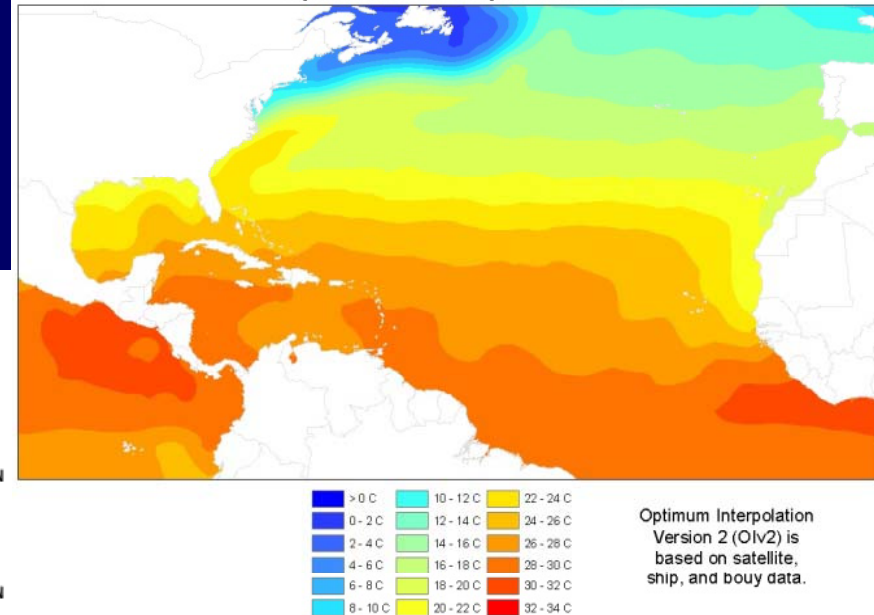
## □ Strategies

Sea Surface Height (cm)  
HYCOM Nowcast 0000 UTC 28 July 2008



NRL /U.S. Navy

Atlantic Ocean Sea Surface Temperature  
April 18 2010 to April 24 2010

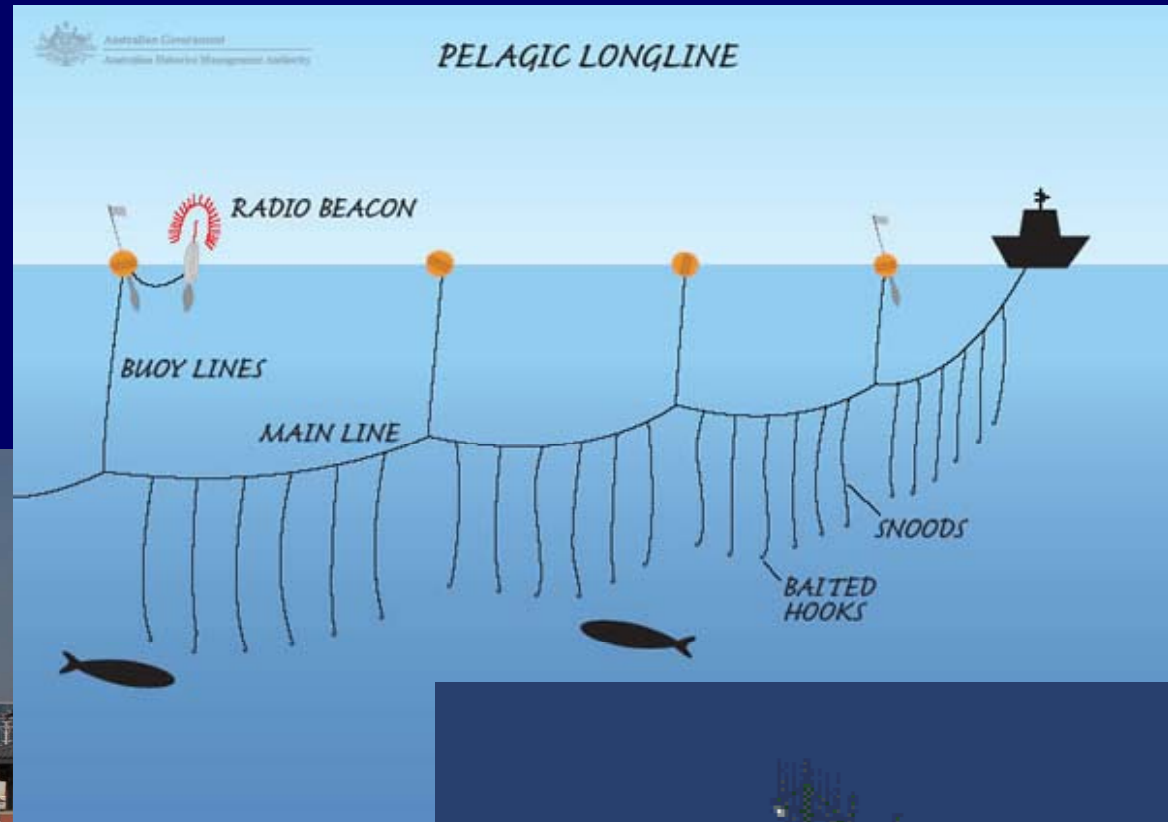


<http://www.cpc.noaa.gov/>

<http://www.meted.ucar.edu>

# How is gear fished?

- ❑ Strategies
- ❑ Deployment

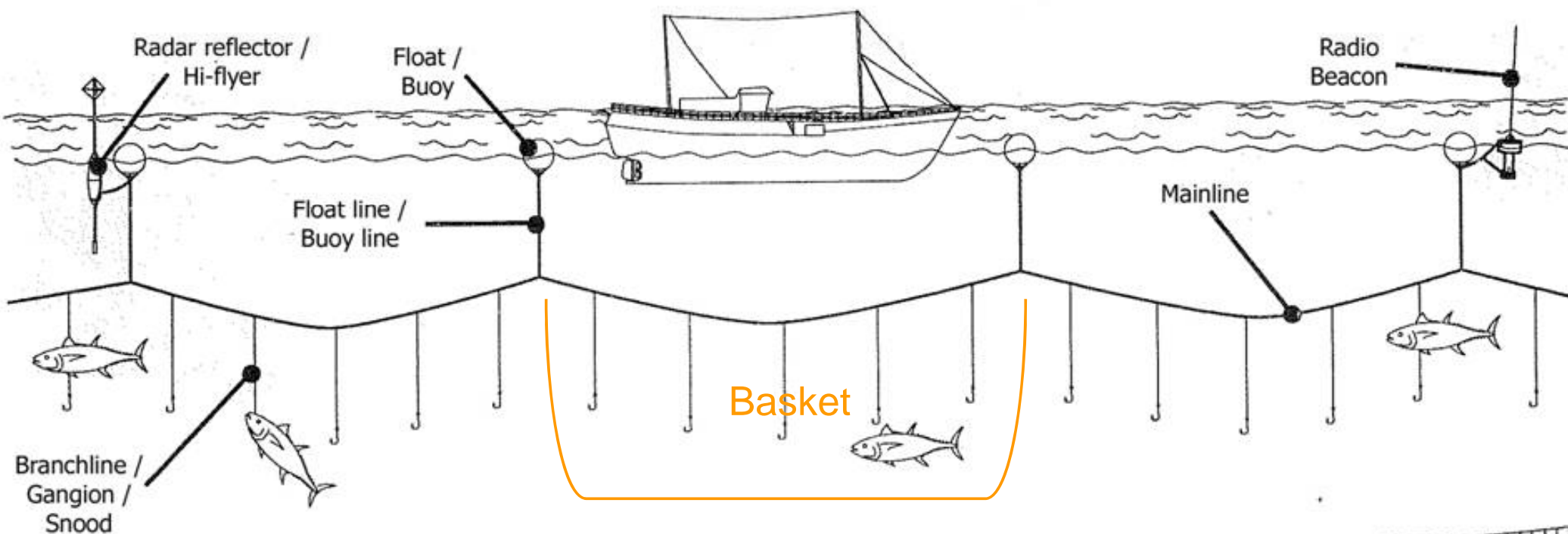


# How is gear fished?

- Strategies
- Deployment
- Retrieval
- Video



# Gear components - overview





# Gear components - mainline

**MONOFILAMENT LONGLINE - MAIN LINE**  
**YM WORLD PrimeLine BRAND**



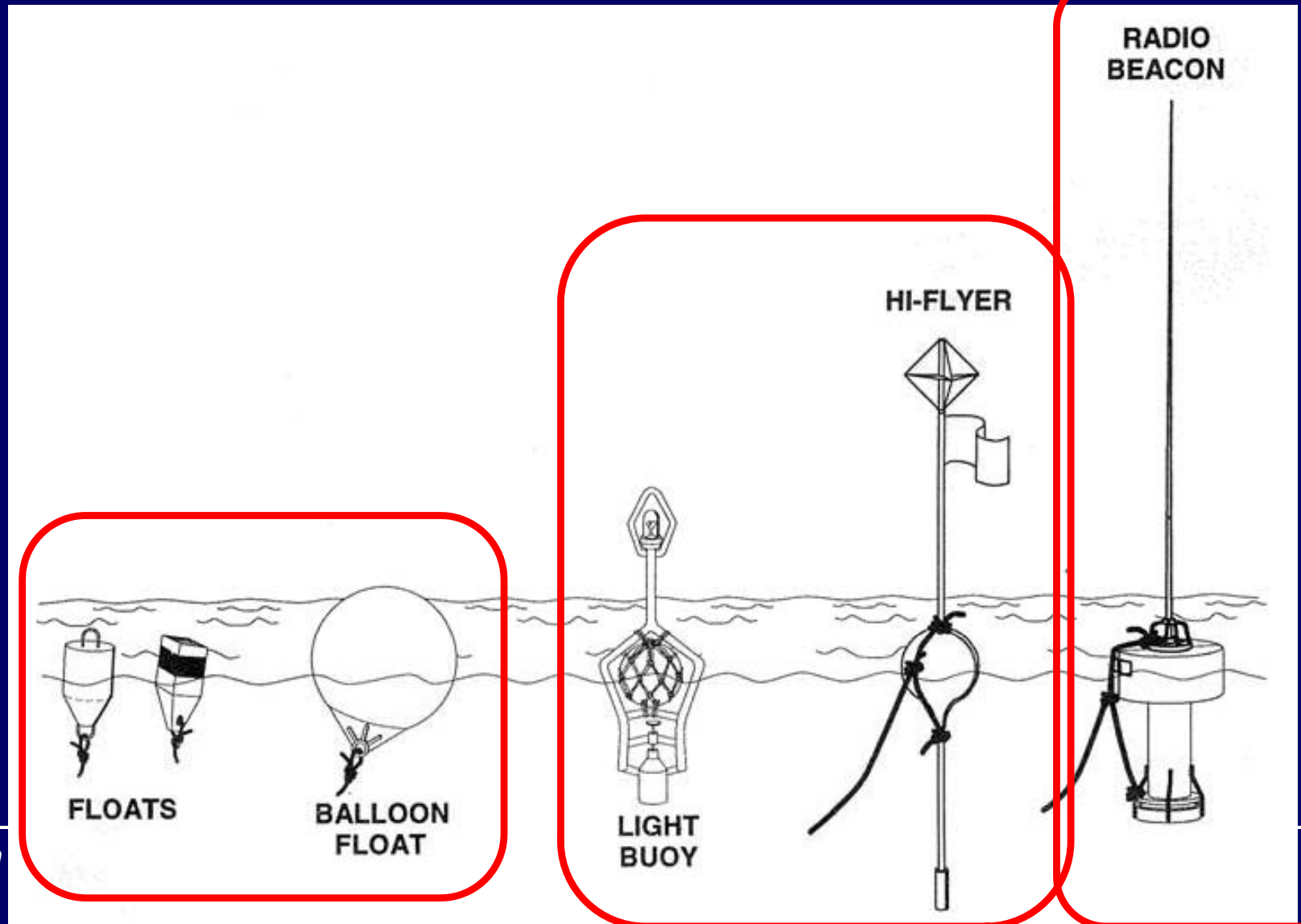
**Monofilament Braided Hi-Tec Main Line**



**8 Braided & 12 Braided Line**

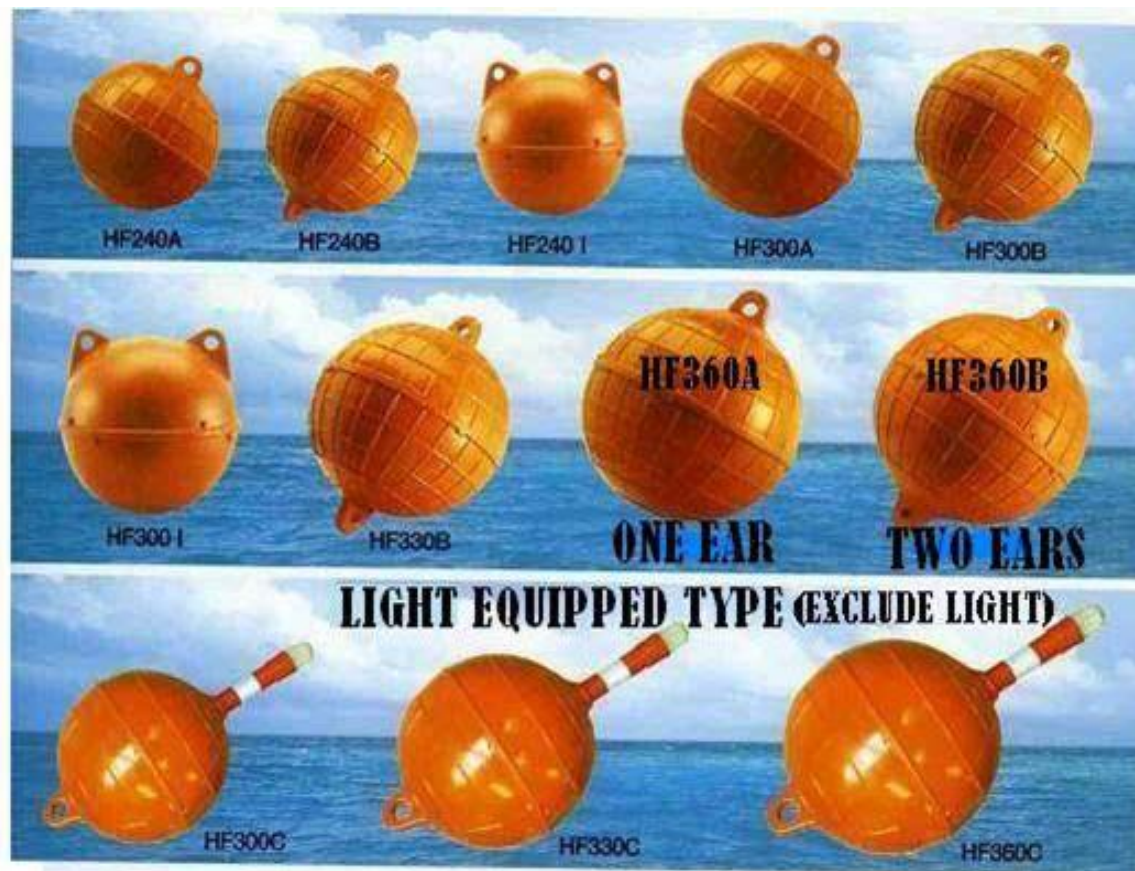


# Gear components – gear markers



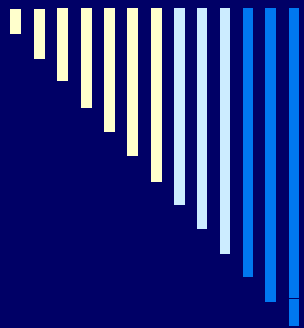
*Drawing modified from  
Hanrahan et al. 1997*



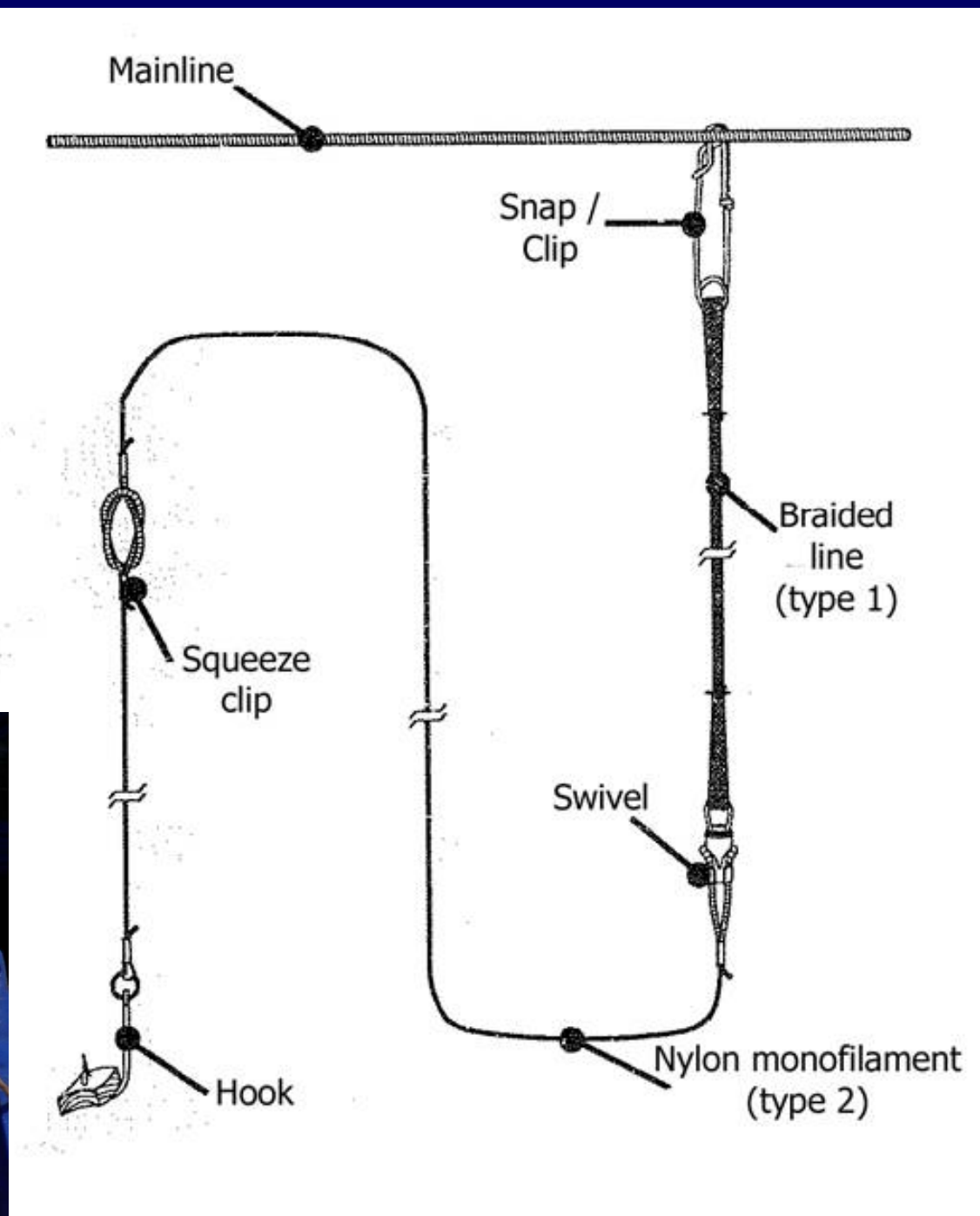




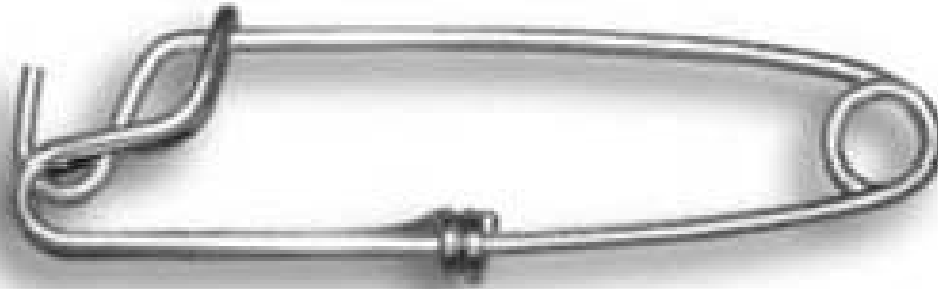
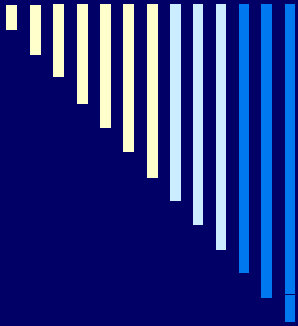




# Gear components - branchline



Drawing modified from Hanrahan et al. 1997



**Snap** (clip; [www.leadertec.com](http://www.leadertec.com))



Eight swivel



Crane swivel



Bullet swivel



Futuba swivel



BL swivel



Leaded swivel



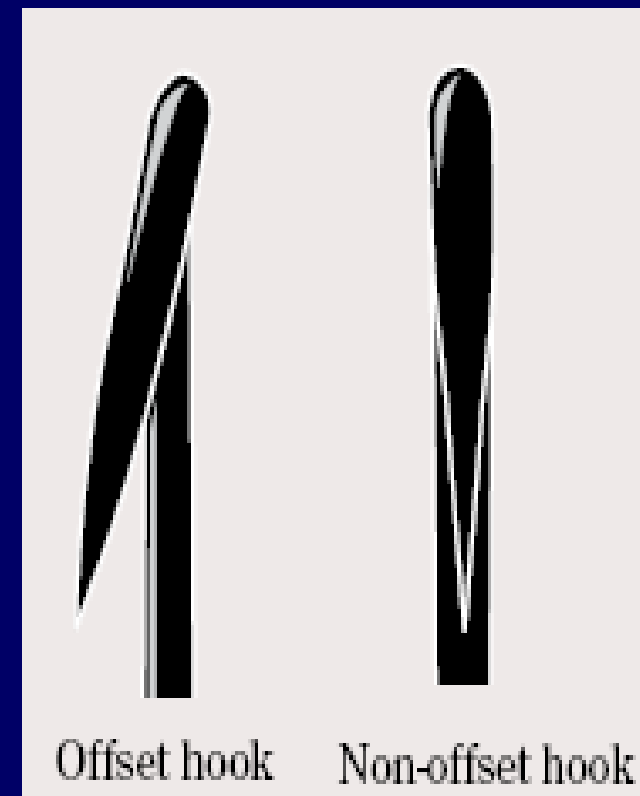
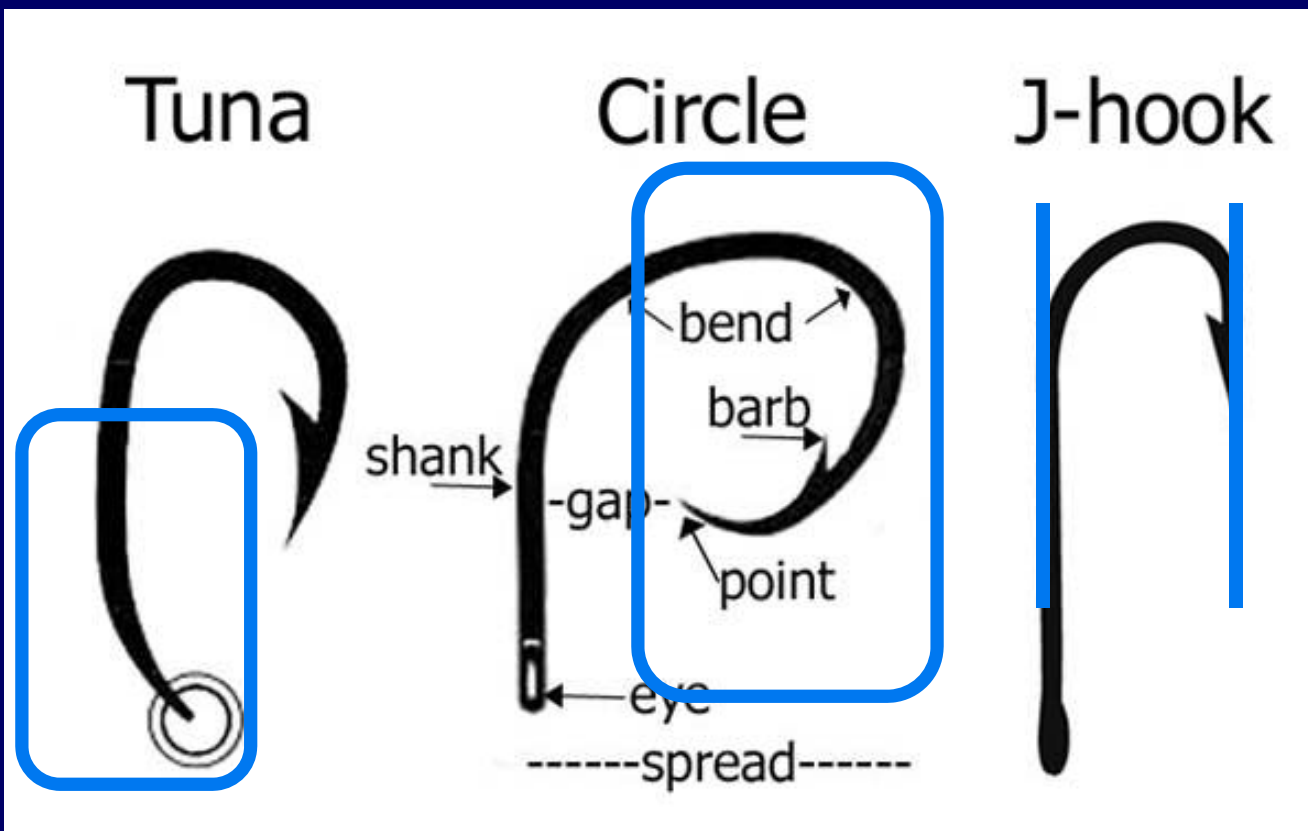
Barrel swivel



Box swivel

**Swivels** (Beverly 2009)

# Gear components - hooks





# Gear components – other fish attracting devices

## Chemical lights

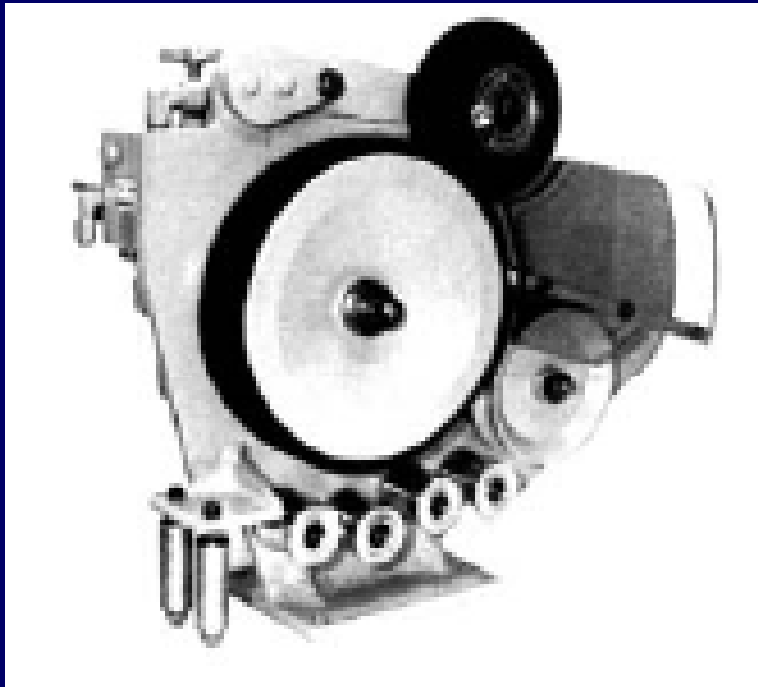


## Glow beads



# Gear – setting devices

□ Line setter



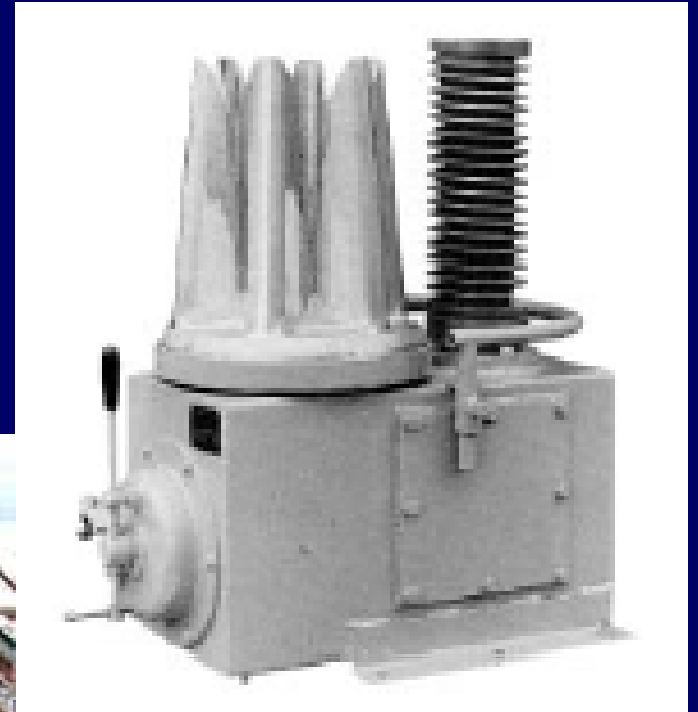
□ Bait caster



Drawing: BirdLife International 2010

# Gear – hauling devices

□ Branchline coiler



□ Mainline drum



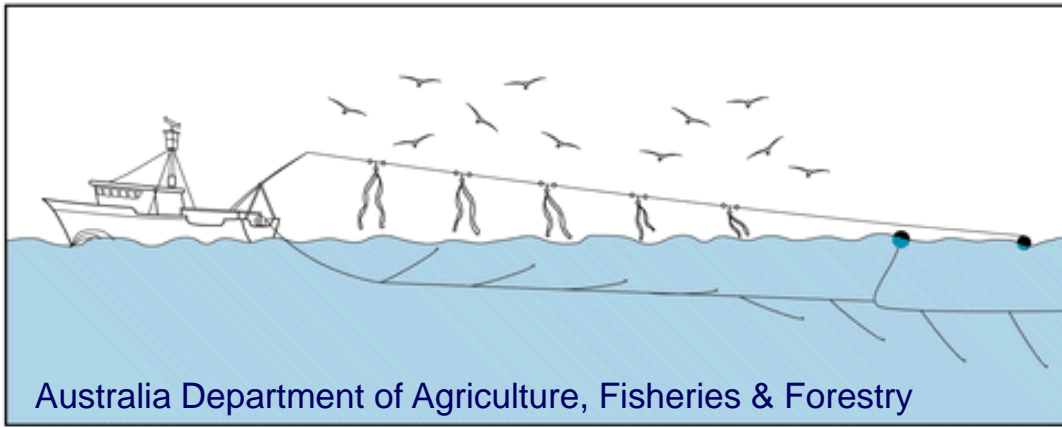
□ [video](#)

□ Line hauler

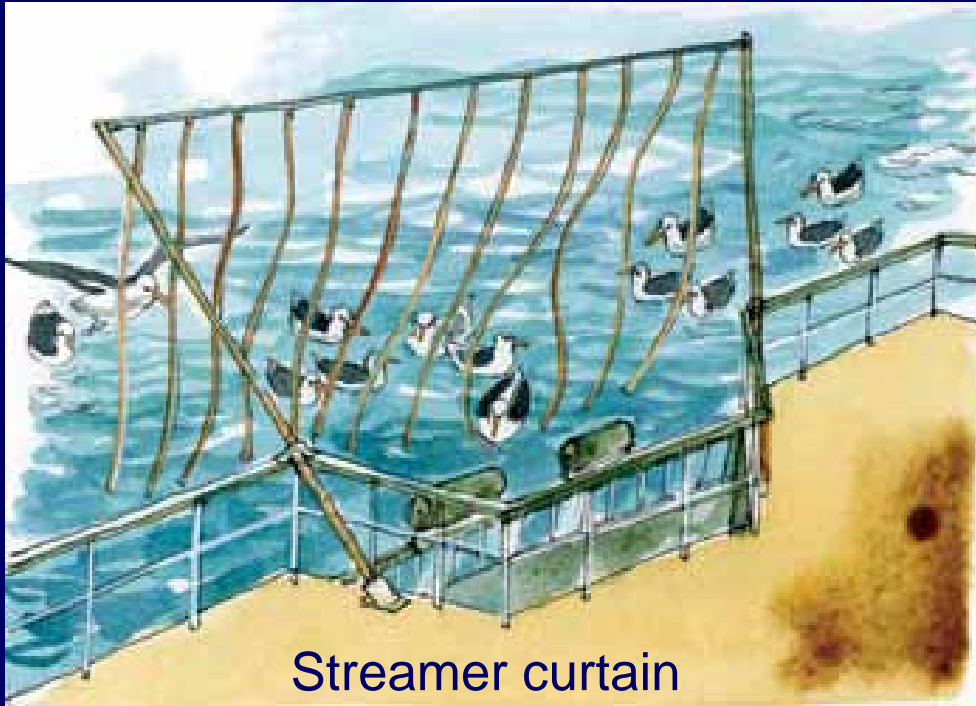




# Gear – seabird mitigation



# Gear – seabird mitigation





## Gear Description - Pelagic Longline

Observer code	Vessel code	Trip ID
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Lines		Type	Material	Diameter (mm)	Breaking strength (kg)	# strands	Color	Comments
Mainline	1		↑	↑	↑	↑	↑	
Mainline	2		↑	↑	↑	↑	↑	
Floatline	1							
Floatline	2							
Branchline	1							
Branchline	2							
Branchline	3							
Branchline	4							

### Material Codes

- |                           |                |
|---------------------------|----------------|
| 1 Monofilament            | 4 Steel wire   |
| 2 Multifilament / -strand | 5 Other: _____ |
| 3 Cotton / natural fiber  |                |

### 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					

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### Material Codes

- 1 Monofilament
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### Hooks

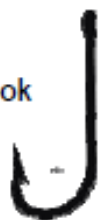
Type	Manufacturer	Model/pattern	Size	Material	Offset
1					
2					
3					
4					

### Model/pattern types

Tuna



J-hook



Circle



Other (describe):

### Gear Deployment Location

- ☐ Stern
- ☐ Stbd, distance from stern \_\_\_\_\_m
- ☐ Port, distance from stern \_\_\_\_\_m

- ☐ Propeller up-wash
- ☐ Propeller down-wash

## Other Equipment

		Usage
Mainline hauler	Y / N	
Branchline hauler / coiler	Y / N	
Line shooter	Y / N	
Bait caster	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

## 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

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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

Comments



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# 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
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# Summary

- Describe pelagic longlining
  - What are the potential impacts of this fishery?
  - Describe 4 components of pelagic longline gear
  - List 2 types of specialized equipment you may encounter on pelagic longline vessels
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# References

- Beverly, S. 2009. Longline terminal gear Identification guide - Draft. Submitted to the Western and Central Pacific Fisheries Commission, Scientific Committee, Fifth Regular Session, 10-21 August 2009, Port Vila, Vanuatu, WCPFC-SC5-2009/FT-IP-01, Secretariat of the Pacific Community, Marine Resources Division, Coastal Fisheries Programme, Noumea Cedex, New Caledonia.
  - BirdLife International Bycatch Mitigation Fact Sheet 11 (Version 1)
  - BirdLife International Bycatch Mitigation Fact Sheet 12 (Version 1)
  - Hanrahan, J., D. J. Melindy, and J. V. Pelrine. 1997. At-sea Observer Program Operations Manual: A Training Aid and Field Reference. National At-sea Fisheries Observer Program, Department of Fisheries and Oceans, Ottawa, Canada.
  - Lewison, R. L., S. A. Freeman, and L. B. Crowder. 2004. Quantifying the effects of fisheries on threatened species: the impact of pelagic longlines on loggerhead and leatherback sea turtles. *Ecology Letters* 7:221-231.
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