Purse Seine
Fishing Procedures & Gear

Introduction

- 30% global catch

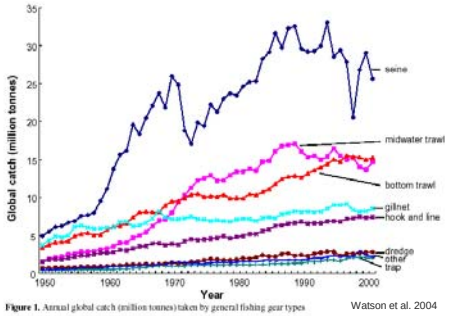
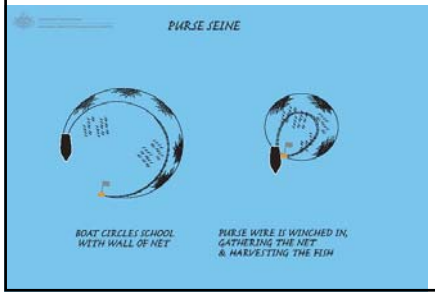


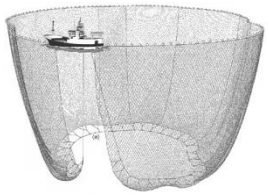
Figure 1. Annual global catch (million tonnes) taken by general fishing gear types

Watson et al. 2004

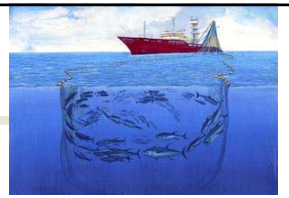
Introduction

- 30% global catch
- Wall of net encircles pelagic fish





Introduction

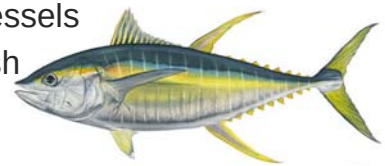


- 30% global catch
- Wall of net encircles fish
- Usually fish close to surface
- Inland, coastal & high-seas

Introduction

- 30% global catch
- Wall of net encircles fish
- Usually fish close to surface
- Inland, coastal & high-seas
- Small & large vessels
- Small & large fish





Introduction - impacts

- No bottom impact
- Bycatch – mammals, turtles, sharks
- Juvenile fish issues with FADs

Objectives

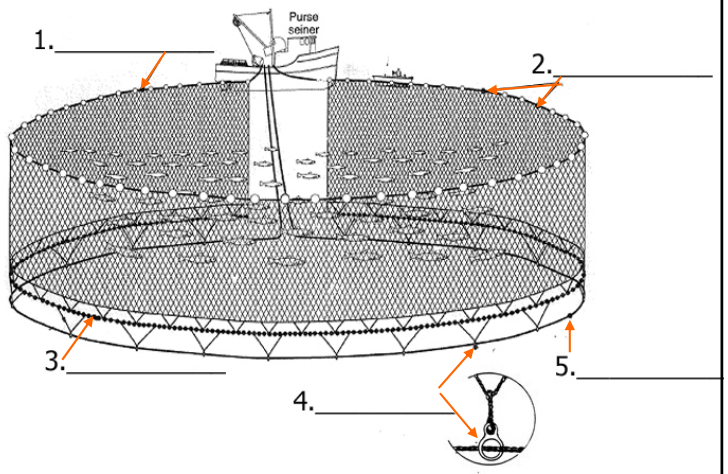
- Describe how purse seine gear works
- Explain how marine mammals can be released safely
- List 4 components of a purse seine and 2 pieces of specialized equipment
- Demonstrate ability to complete the gear description form

Sampling priorities

1. Record vessel activity continuously each day on board;
2. Estimate total catch for each gear deployment;
3. Collect random samples for catch composition of each set and document species retained and discarded;
4. Describe all floating objects sighted, especially those involved in a fishing set;
5. Subsample catch for lengths;
6. Record all sightings and interactions with marine mammals and sea turtles;
7. **Record fishing gear characteristics.**

Activity #1

- Grab a piece of scrap paper
- Complete as much of the following diagram as you can
- You have 3 minutes



Gear description – float line (cork line)

Gear description – lead line, purse line, purse rings

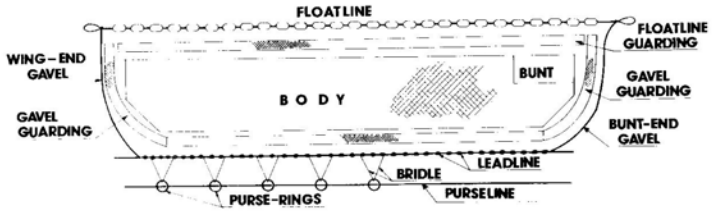


Figure 13. The parts of a purse-seine

BenYami 1987

Gear description

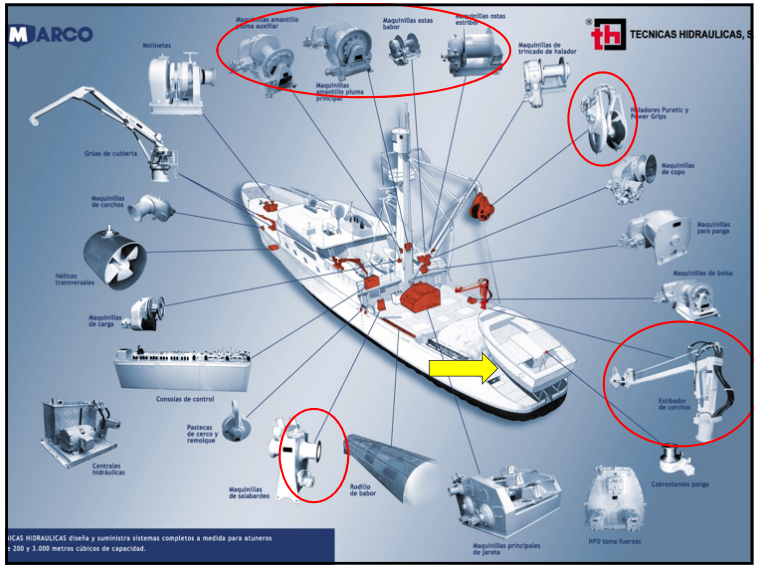
Lead line

Jon Rowley/Flickr.com

Purse ring

Purse line

www.seattlemarine.net



Purse seining – locating fish

lizardwisdom/flickr.com

lizardwisdom/flickr.com

Photo: FADIO/IRD-IFREMER/O.Dugornay

Purse seining – locating fish - cues

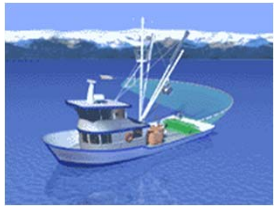
Purse seining – locating fish

Bird radar

Sonar

Purse seining – how it works

- Gear deployment
- Gear retrieval



Animation: *www.montereybayaquarium.org*

Purse seining – how it works

- Video #1
- Video #2 (alternate)

Gear retrieval – net hauling systems

"Duplex" style double sheave power block. (Figure 13 in Itano 2003)

Triplex power block (Gillett) (Figure 14 in Itano 2003)

Petrel_V-type Netwinch *(http://www.petrel.co.za/default.asp)*

Power block *http://tunaseiners.com/blog/es/2009/02/king-of-purse-seine-fishing/*

Gear retrieval – net hauling systems

Retractable deck mounted power block (Figure 19 in Itano 2003)

Sacking up with rail roller and pinch hauler on Japanese group seiner (Figure 23 in Itano 2003)

Side rail rollers
© Alex Hofford ***(http://www.alexhoffordphotography.com)***

Gear retrieval – purse line winch & capstan

Rapp Hydema *(http://www.nauticexpo.com)*

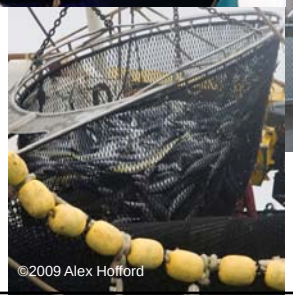
CMT Capstan *(http://www.cmtwinches.com/)*

Gear retrieval – purse rings

Old style steel rings with chain bridles (Figure 3 in Itano 2003)

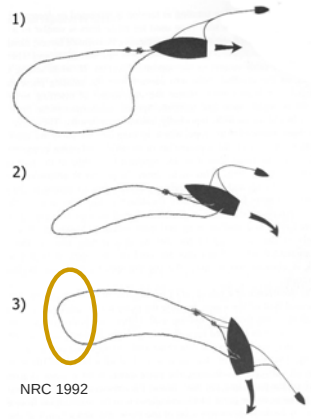
Securing rings to the ring stripper prior to net retrieval (Figure 4 in Itano 2003)

Stainless steel roller snap rings (Figure 5 in Itano 2003)



Marine mammals

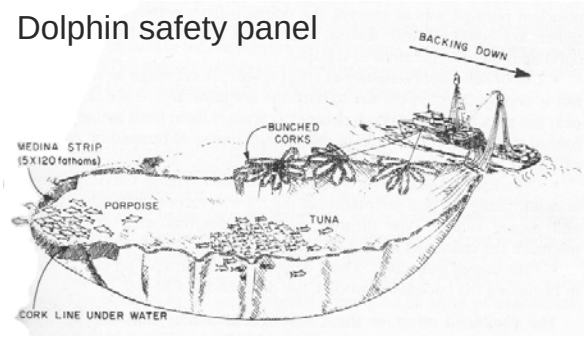
- Backdown procedure



NRC 1992

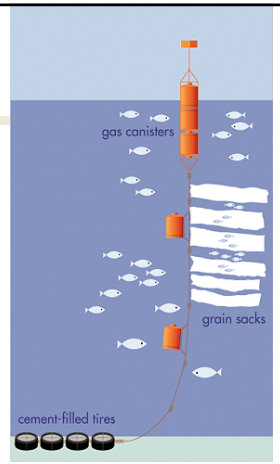
Marine mammals

- Backdown procedure
- Dolphin safety panel

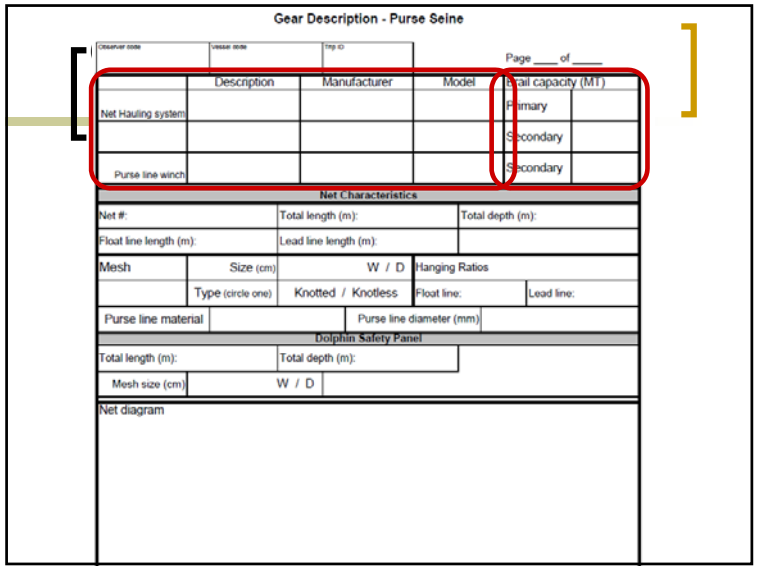


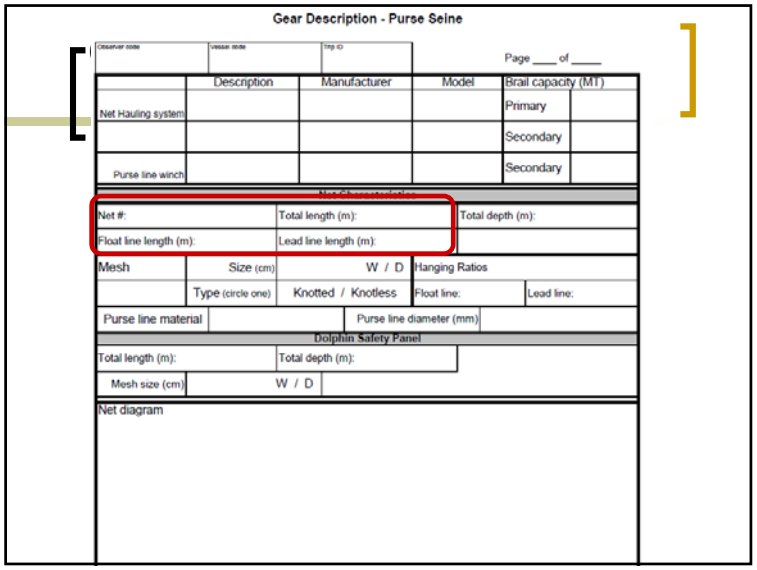
Floating objects

IFREMER/M Toquet



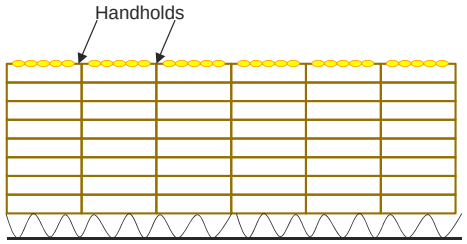
FAO Cape Verde FAD installation:
http://www.fao.org/english/newsroom/highlights/2001/010102-e.htm

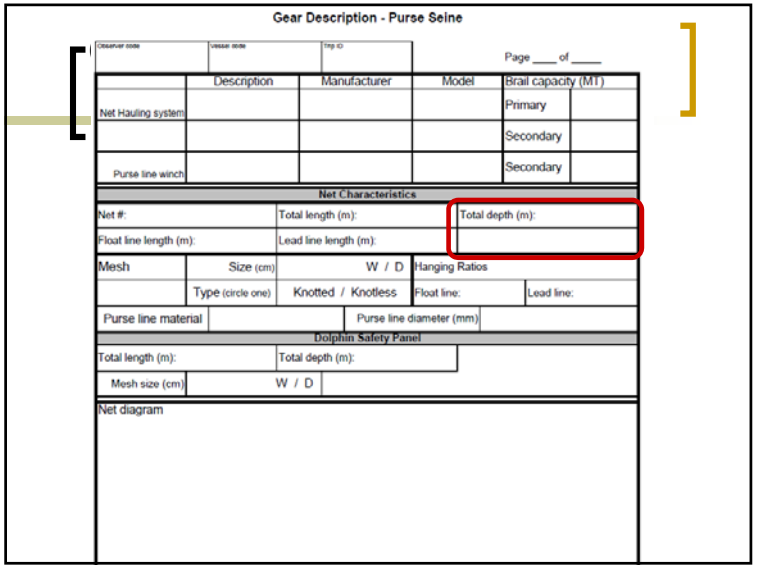




Gear description form

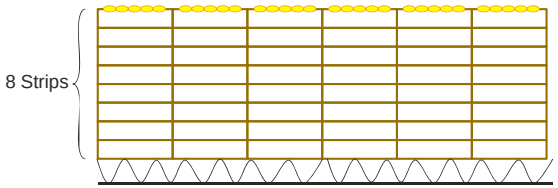
- Total length of net = count of handholds * distance between handholds





Gear description form

- Net depth = # strips * strip height



Gear Description - Purse Seine

Observer code | Vessel code | Trip ID | Page ___ of ___

	Description	Manufacturer	Model	Brail capacity (MT)
Net Hauling system				Primary
				Secondary
Purse line winch				Secondary

Net Characteristics

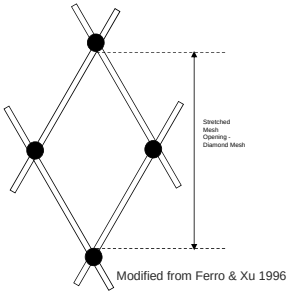
Net #:	Total length (m):	Total depth (m):	
Float line length (m):	Lead line length (m):		
Mesh	Size (cm)	W / D	Hanging Ratios
	Type (circle one)	Knotted / Knotless	Float line: / Lead line:
Purse line material		Purse line diameter (mm)	

Dolphin Safety Panel

Total length (m):	Total depth (m):	
Mesh size (cm)	W / D	

Net diagram

Gear description form



Modified from Ferro & Xu 1996

Knotted braided polyethylene mesh
http://www.haverford.com.au

Knotless twisted nylon mesh
http://www.haverford.com.au

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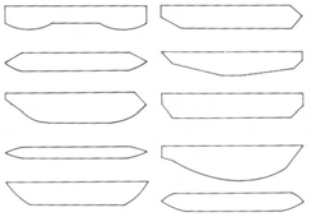
Net diagram

Gear description form

Net diagram

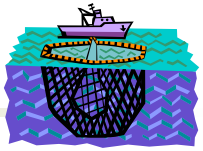


Comments

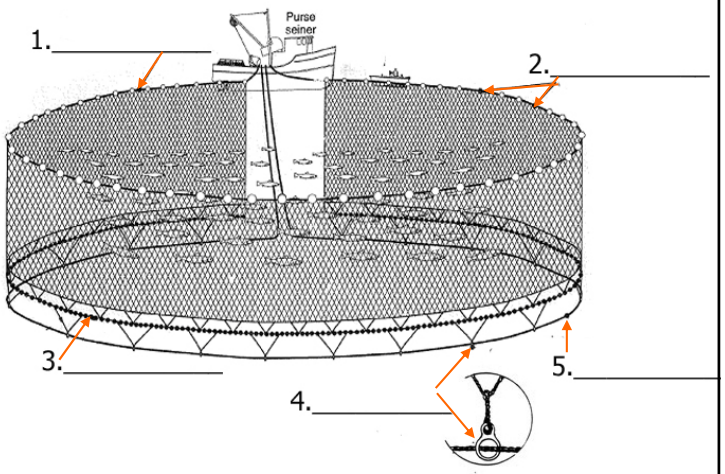
Gear description form

- Questions
- Practice exercise – 15 minutes
- Additional Information:
  - Purseline: 8mm Spectra™

Summary



- Describe how purse seine gear works
- Explain how marine mammals can be released safely



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