

Metode Penangkapan Ikan



KRITERIA TEKNOLOGI PENANGKAPAN IKAN RAMAH LINGKUNGAN (TPIRL)

- **SELEKTIVITAS TINGGI**
- **TIDAK DESTRUKTIF TERHADAP HABITAT**
- **TIDAK MEMBAHAYAKAN NELAYAN**
- **MENGHASILKAN IKAN BERMUTU BAIK**
- **PRODUK TIDAK MEMBAHAYAKAN KONSUMEN**

LANJUTAN ...

- **MINIMUM HASIL TANGKAPAN YANG TERBUANG**
- **DAMPAK MINIMUM TERHADAP KEANEKARAGAMAN SUMBERDAYA HAYATI**
- **TIDAK MENANGKAP SPESIES YANG DILINDUNGI ATAU TERANCAM PUNAH**
- **DAPAT DITERIMA SECARA SOSIAL**

KRITERIA UNTUK KEGIATAN PENANGKAPAN IKAN BERKELANJUTAN

- **MENERAPKAN TPIRL**
- **JUMLAH HASIL TANGKAPAN TIDAK MELEBIHI JUMLAH TANGKAPAN YANG DIPERBOLEHKAN**
- **MENGUNTUNGGAN**
- **INVESTASI RENDAH**
- **PENGUNAAN BAHAN BAKAR MINYAK RENDAH**
- **MEMENUHI KETENTUAN HUKUM DAN PERUNDANG-UNDANGAN YANG BERLAKU**

Jalur penangkapan ikan di Indonesia



MENGENAL JALUR PENANGKAPAN IKAN

Adalah wilayah perairan yang merupakan bagian dari wilayah pengelolaan perikanan Negara Republik Indonesia dan laut lepas untuk pengaturan dan pengelolaan kegiatan penangkapan yang menggunakan alat penangkapan ikan yang diperbolehkan dan/atau dilarang.



Humas Ditjen
Perikanan Tangkap



Ditjen Perikanan Tangkap



@djpt_kkp



@djpt_kkp



kkp.go.id/djpt

KETENTUAN DAERAH PENANGKAPAN IKAN

SK. MENTAN NO. 392/1999 TENTANG JALUR-JALUR PENANGKAPAN IKAN

JALUR PENANGKAPAN IKAN	ALAT TANGKAP/KAPAL PERIKANAN YANG DIPERBOLEHKAN
JALUR PENANGKAPAN IKAN I : PERAIRAN PANTAI DIUKUR DARI PERMUKAAN AIR LAUT PADA SURUT TERENDAH PADA SETIAP PULAU SAMPAI DENGAN 6 MIL LAUT KE ARAH LAUT.	(1) 0 → 3 MIL LAUT : • ALAT PENANGKAP IKAN YANG MENETAP. • ALAT PENANGKAP IKAN TIDAK MENETAP YANG TIDAK DIMODIFIKASI. • KAPAL PERIKANAN TANPA MOTOR ≤ 10 M. (2) 3 → 6 MIL LAUT : • ALAT PENANGKAP IKAN TIDAK MENETAP YANG DIMODIFIKASI. • KAPAL PERIKANAN TANPA MOTOR ATAU BERMOTOR TEMPEL UKURAN ≤ 12 M ATAU ≤ 5 GT. • PUKAT CINCIN (<i>PURSE SEINE</i>) ≤ 150 M. • JARING INSANG HANYUT ≤ 1000 M.
JALUR PENANGKAPAN IKAN II : PERAIRAN DI LUAR JALUR PENANGKAPAN IKAN I SAMPAI DENGAN 12 MIL LAUT KE ARAH LAUT.	• KAPAL PERIKANAN MOTOR DALAM, MAKSIMUM 60 GT. • PUKAT CINCIN, MAKSIMUM 600 M (1 KAPAL), MAKSIMUM 1000 M (2 KAPAL). • JARING INSANG HANYUT, MAKSIMUM 2500 M.

JALUR PENANGKAPAN IKAN III :

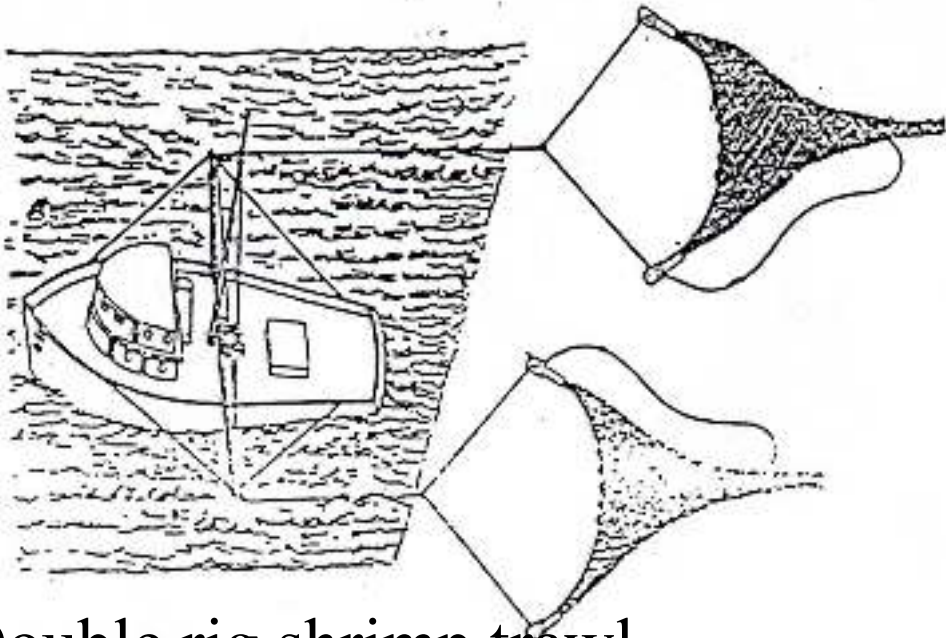
PERAIRAN DI LUAR JALUR PENANGKAPAN IKAN II SAMPAI BATAS TERLUAR ZONA EKONOMI EKSKLUSIF INDONESIA (ZEEI).

- KAPAL PERIKANAN BERBENDERA INDONESIA, MAKSIMUM 200 GT, KECUALI *PURSE SEINE* PELAGIS BESAR DI TELUK TOMINI, LAUT MALUKU, LAUT SERAM, LAUT BANDA, LAUT FLORES, LAUT SAWU DILARANG.
- ZEEI SELAT MALAKA BOLEH UNTUK KAPAL PERIKANAN BERBENDERA INDONESIA, MAKSIMUM 200 GT, KECUALI PUKAT IKAN MINIMAL BERUKURAN 60 GT.
- ZEEI DI LUAR SELAT MALAKA, BOLEH DIBAGI :
 - 1) KAPAL PERIKANAN INDONESIA DAN ASING ≤ 350 GT.
 - 2) KAPAL *PURSE SEINE* > 350 GT – 800 GT, DI LUAR 100 MIL DARI GARIS PANGKAL KEPULAUAN INDONESIA.
 - 3) KAPAL *PURSE SEINE* SISTEM GROUP HANYA BOLEH DILUAR 100 MIL LAUT DARI GARIS PANGKAL KEPULAUAN INDONESIA.

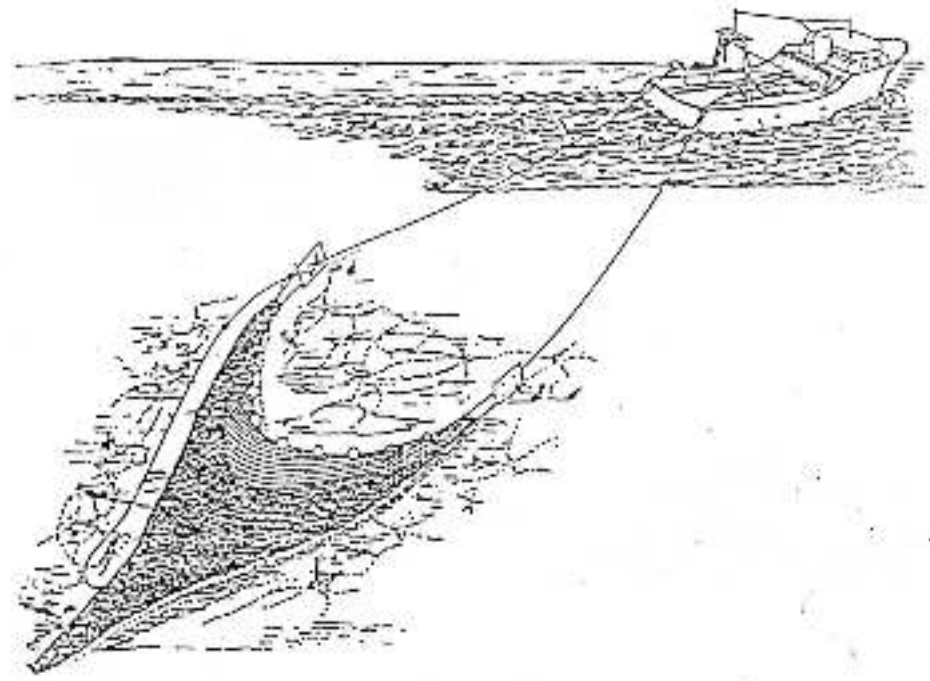
ALAT/METODE PENANGKAPAN IKAN DI INDONESIA

**KLASIFIKASI ALAT / METODE PENANGKAPAN
DI INDONESIA
(STANDAR NASIONAL)**

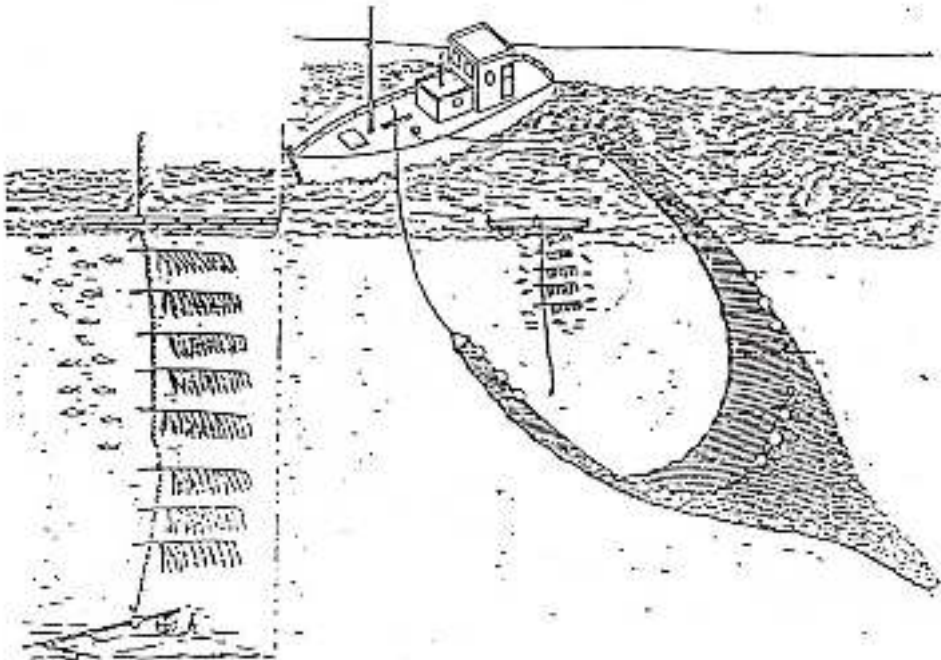
KELOMPOK	CONTOH
1. PUKAT UDANG = TRAWL WITH BED	(1) TRAWL UDANG GANDA (DOUBLE RIG SHRIMP TRAWL) (2) OTTER TRAWL
2. PUKAT KANTONG = SEINE NET	(1) PAYANG (BOAT SEINE) (2) DOGOL (DANISH SEINE) (3) PUKAT PANTAI (BEACH SEINE)
3. PUKAT CINCIN = PURSE SEINE	PUKAT CINCIN
4. JARING INSANG = GILLNET	(1) JARING INSANG HANYUT (DRIFT GILLNET) (2) JARING INSANG LINGKAR (ENCIRCLING GILLNET) (3) JARING KLITIK (SHRIMP GILLNET) (4) JARING INSANG TETAP (SET GILLNET)
5. JARING ANGKAT = LIFT NET	(1) BAGAN PERAHU / RAKIT (BOAT / RAFT LIFT NET) (2) BAGAN TANCAP (FIXED LIFT NET) (3) SEROK (SCOOP NET) (4) JARING ANGKAT LAINNYA (OTHER LIFT NET)
6. PANCING = HOOK	(1) RAWAI TUNA (TUNA LONGLINE) (2) RAWAI HANYUT (DRIFT LONGLINE) (3) RAWAI TETAP (SET LONGLINE) (4) HUHATE (POLE AND LINE) (5) PANCING LAINNYA (OTHER LINES) (6) PANCING TONDA (TROLL LINE)
7. PERANGKAP = TRAP	(1) SERO (GUIDING BARRIER) (2) JERMAL (STOW NET) (3) BUBU (TRAP) (4) PERANGKAP LAINNYA (OTHER TRAPS)
8. ALAT PENGUMPUL KERANG DAN RUMPUT LAUT = COLLECTORS	(1) ALAT PENGUMPUL KERANG (SHELLFISH COLLECTOR) (2) ALAT PENGUMPUL RUMPUT LAUT (SEAWEED COLLECTOR)
9. MURO-AMI = DRIVE-IN NET	MURO-AMI (TERMASUK SOMA MALLALUGIS)
10. LAIN-LAIN = OTHERS	JALA, TOMBAK DAN LAIN-LAIN



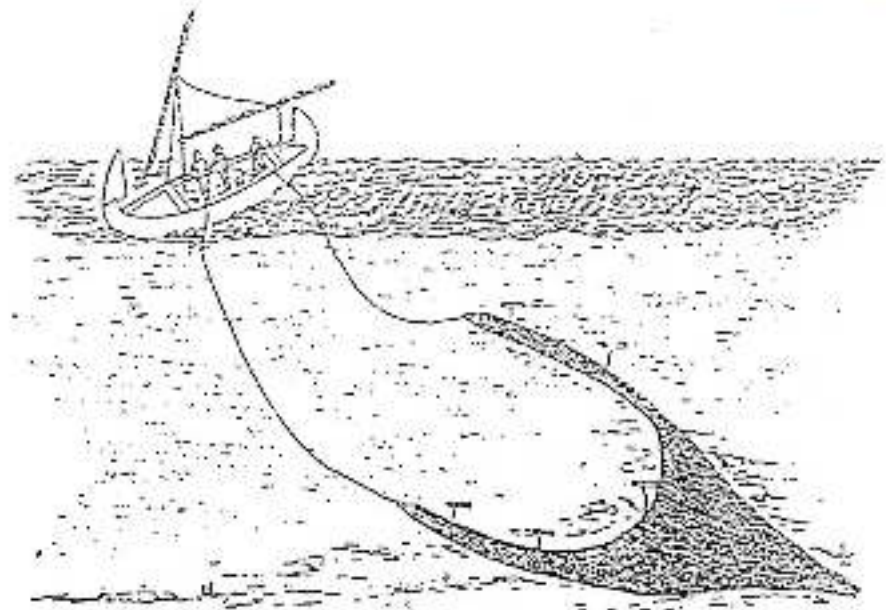
Double rig shrimp trawl



Otter Trawl

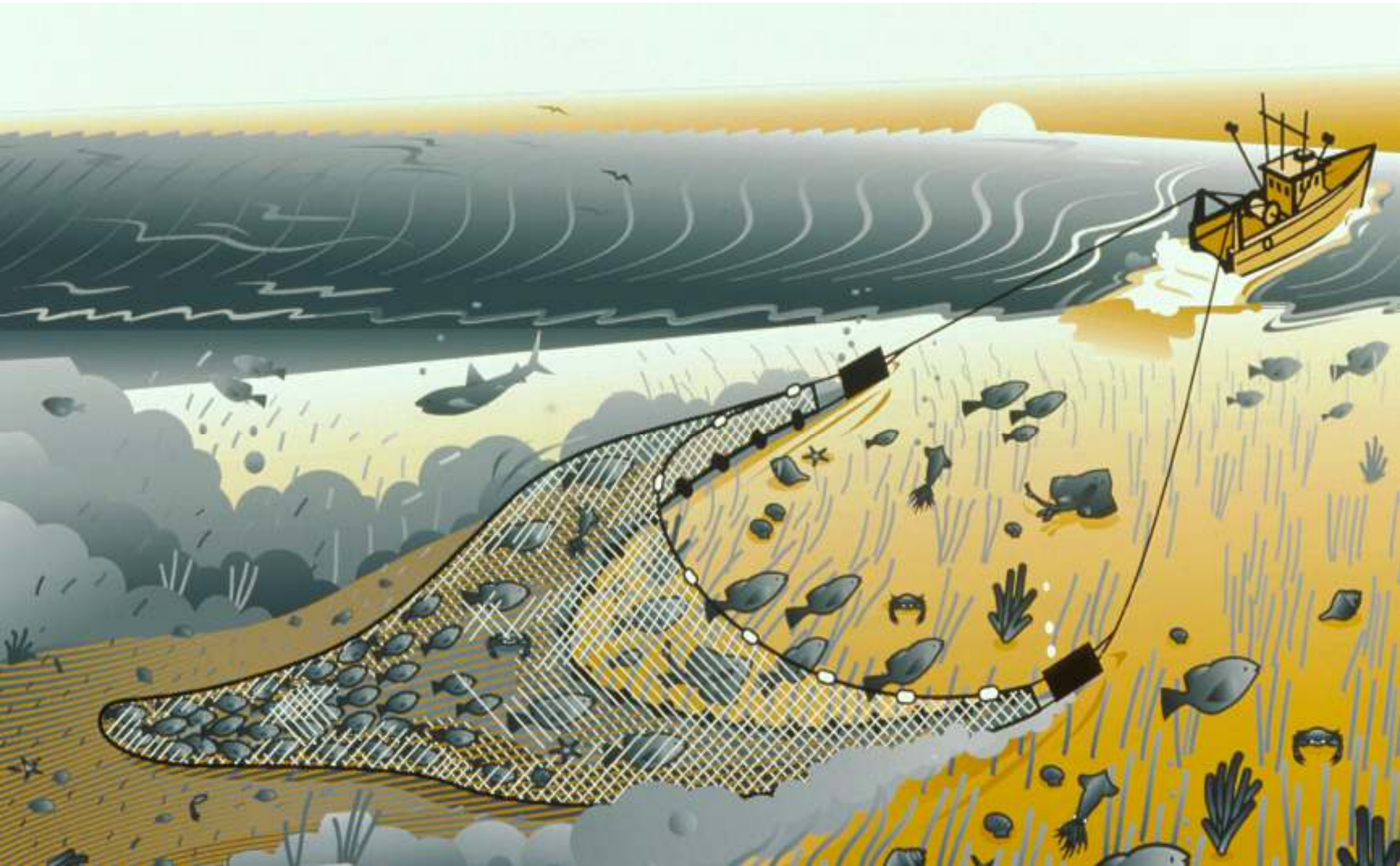


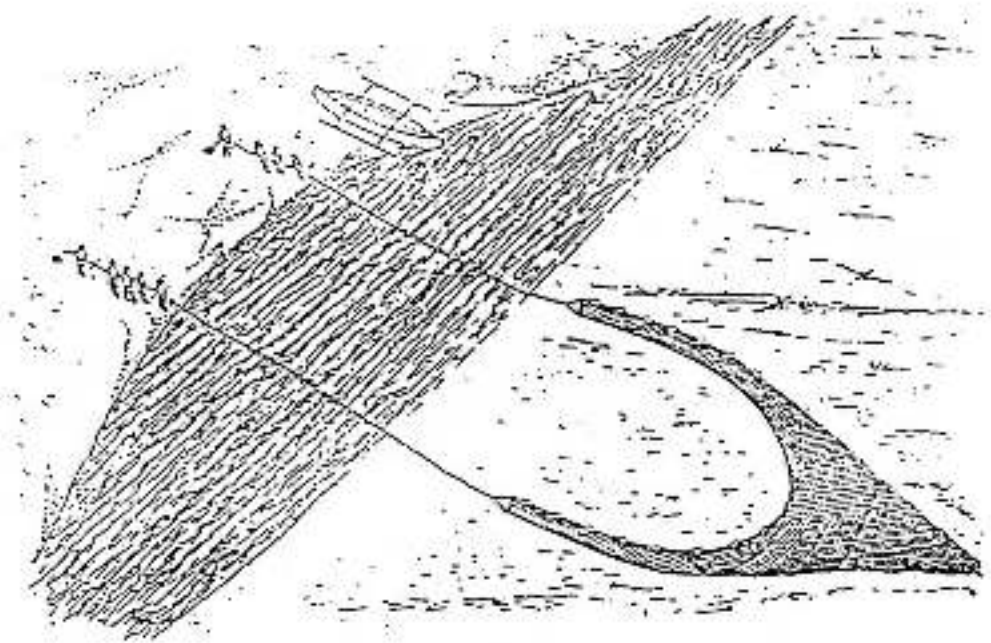
"Payang" is a kind of Boat Seine



Danish Seine

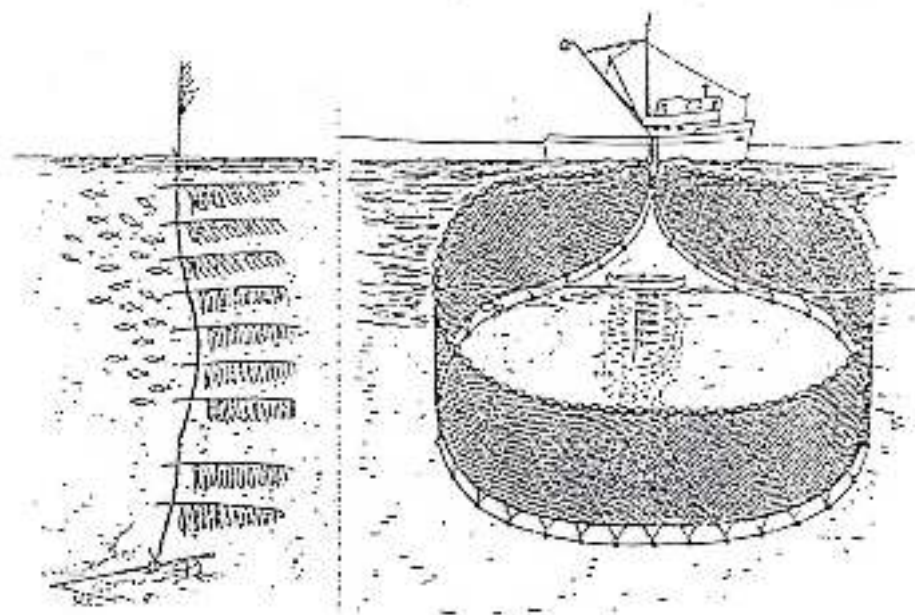
Bottom trawl



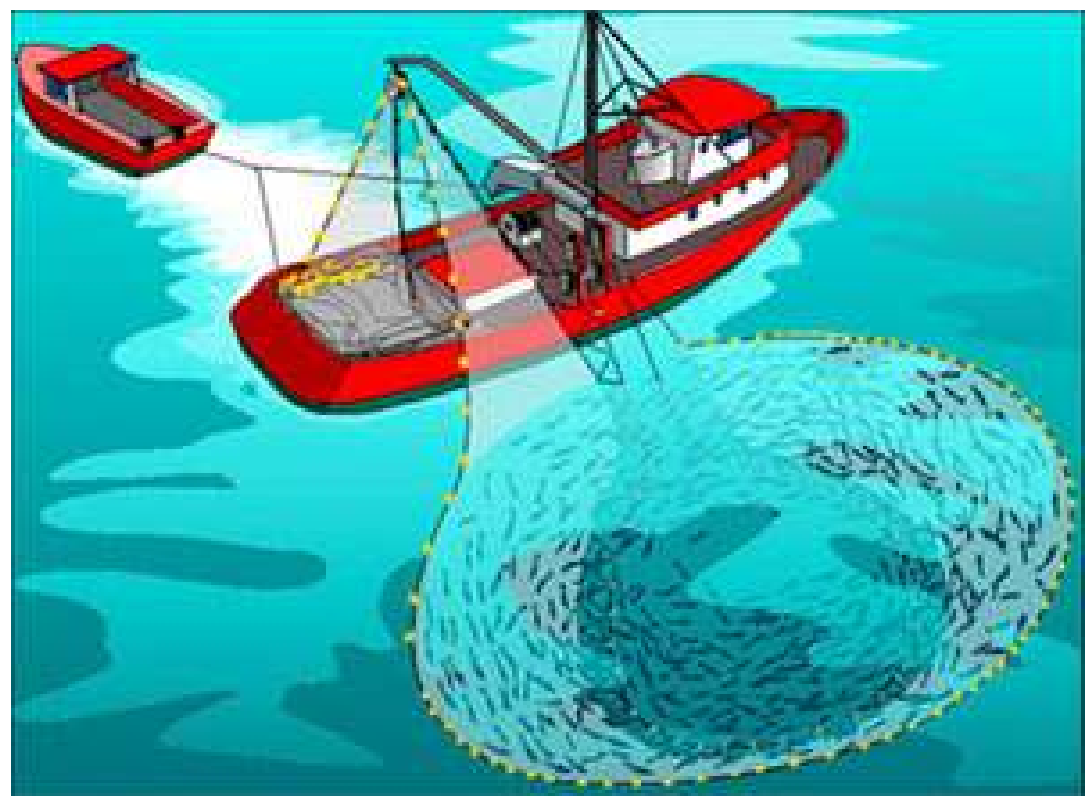
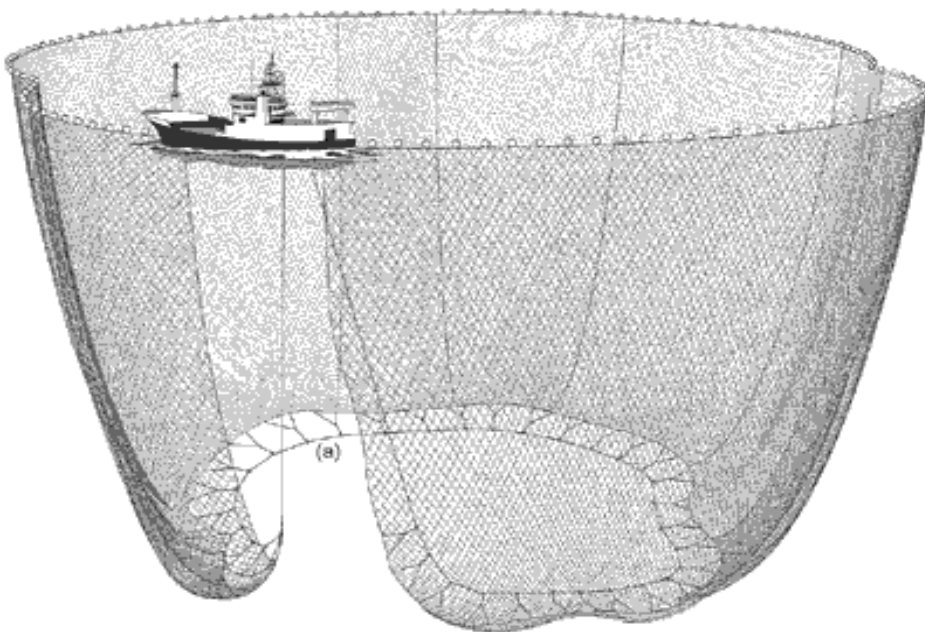
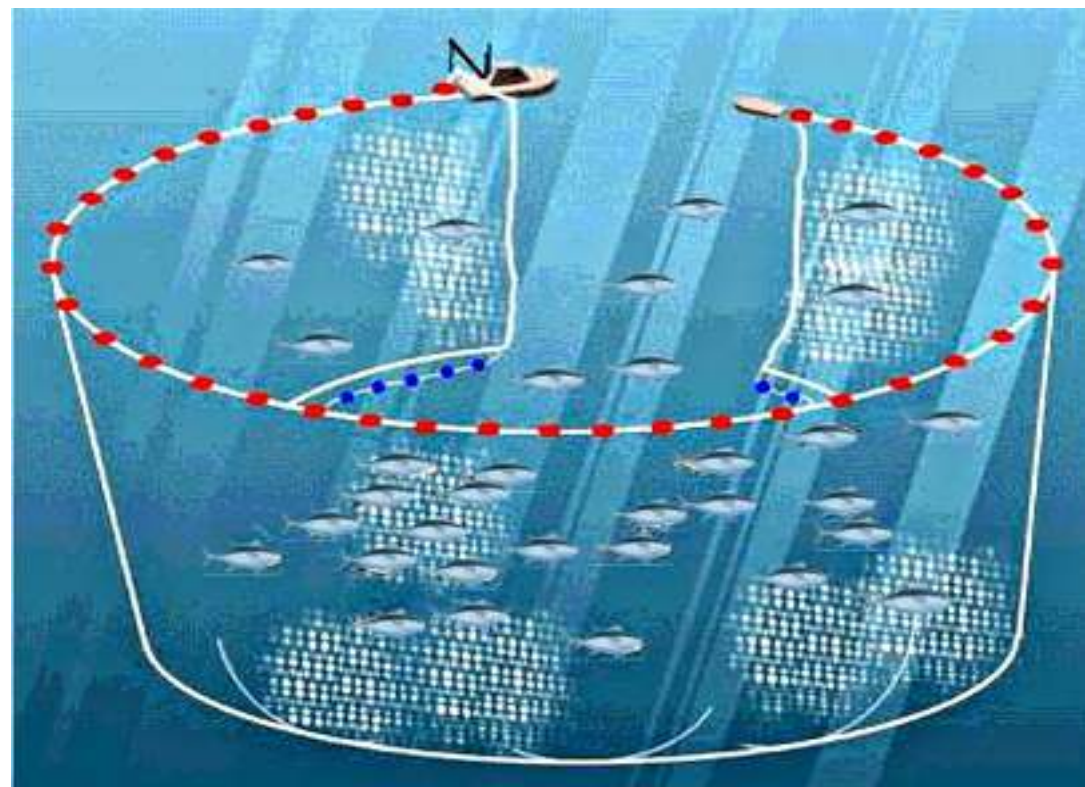


Beach Seine





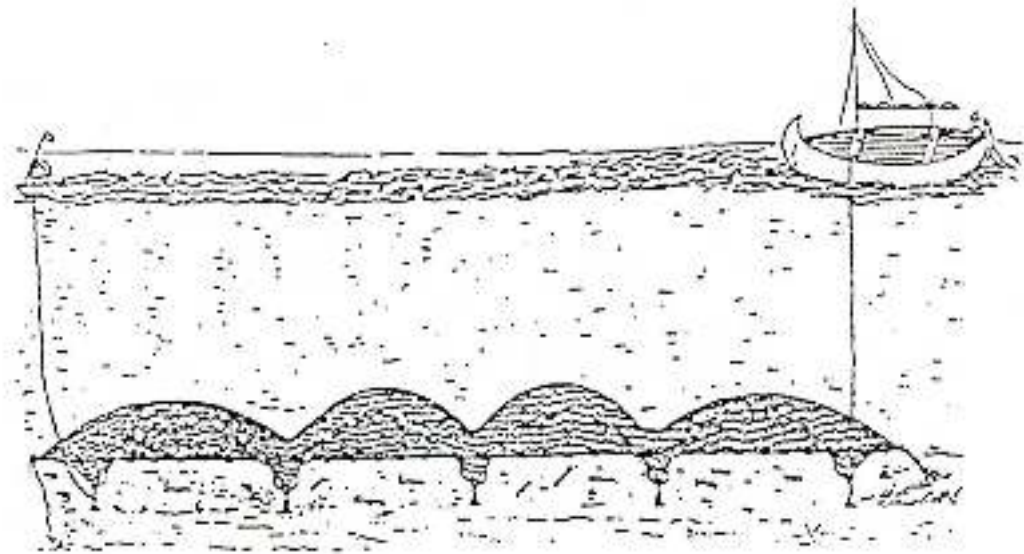
Purse Seine



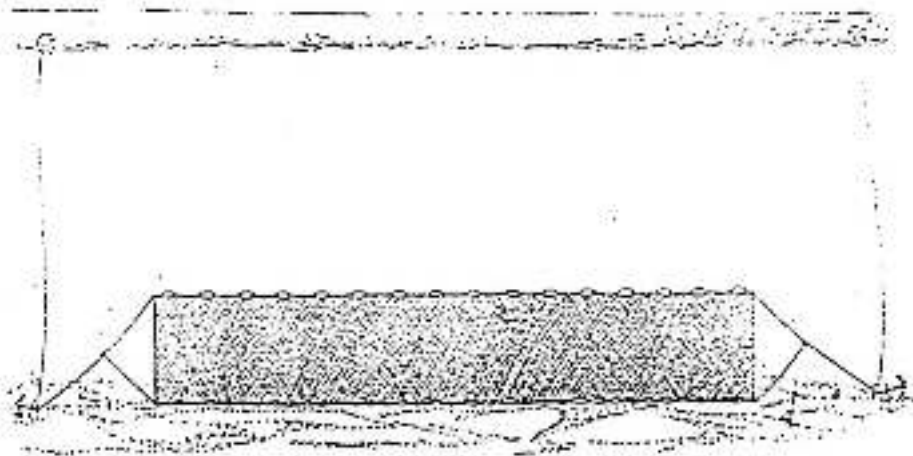




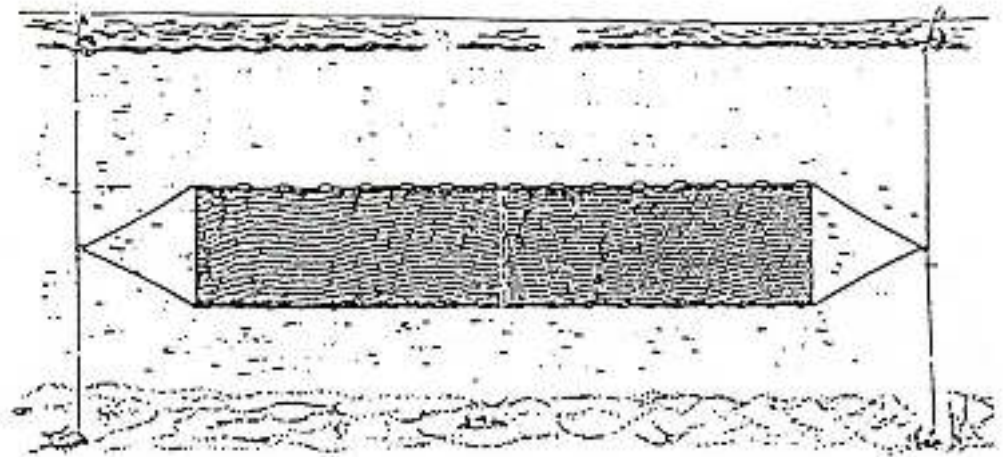
Shrimp Gillnet



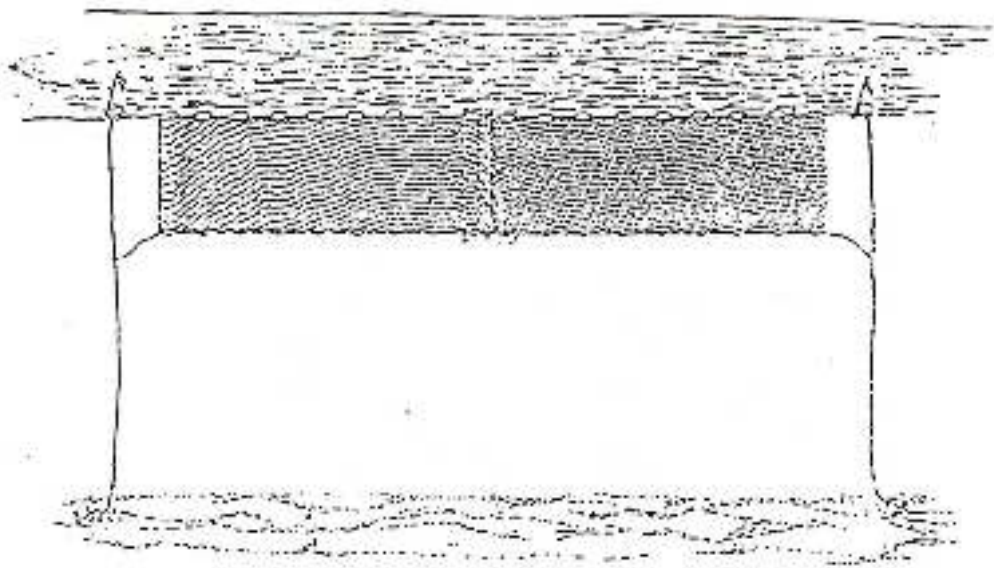
Shrimp gillnet in operation



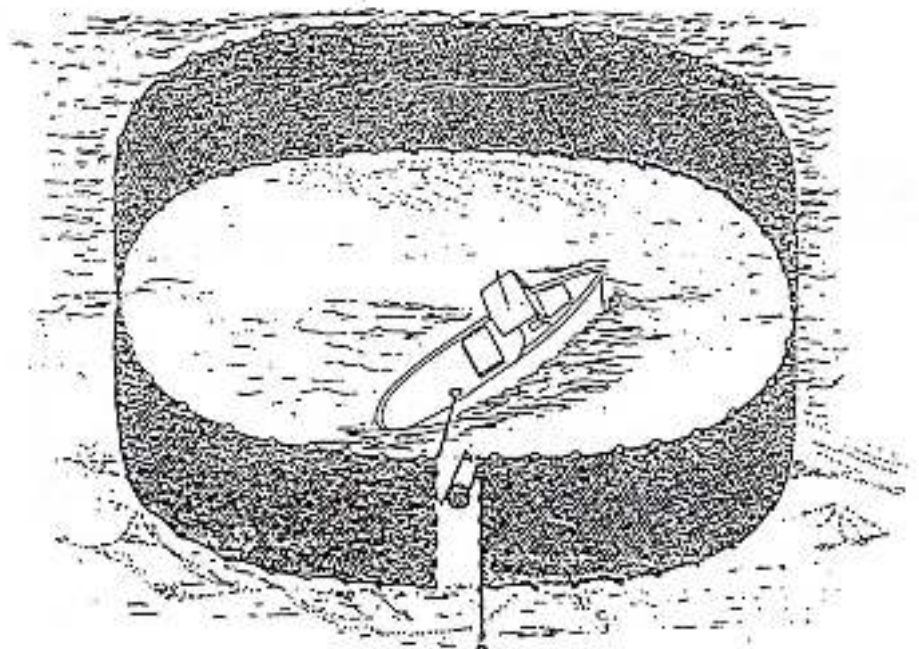
Bottom Gillnet



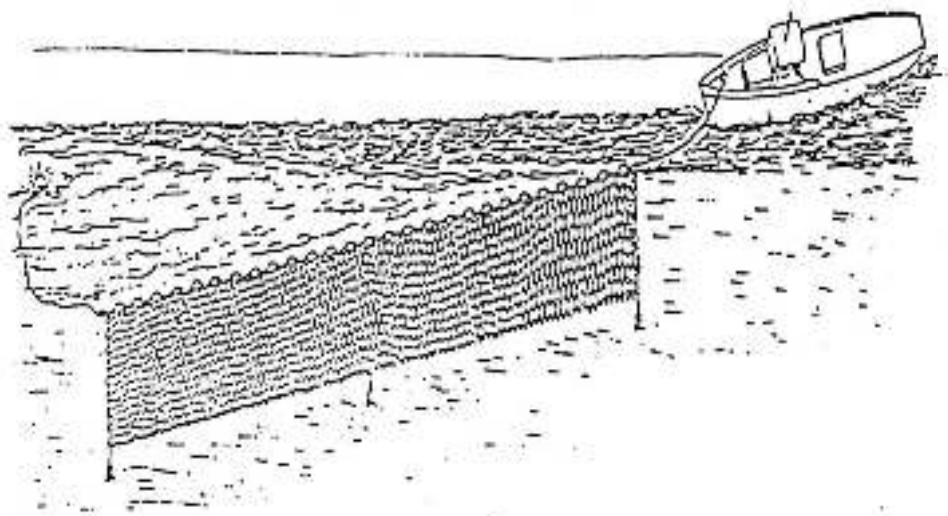
Midwater Gillnet



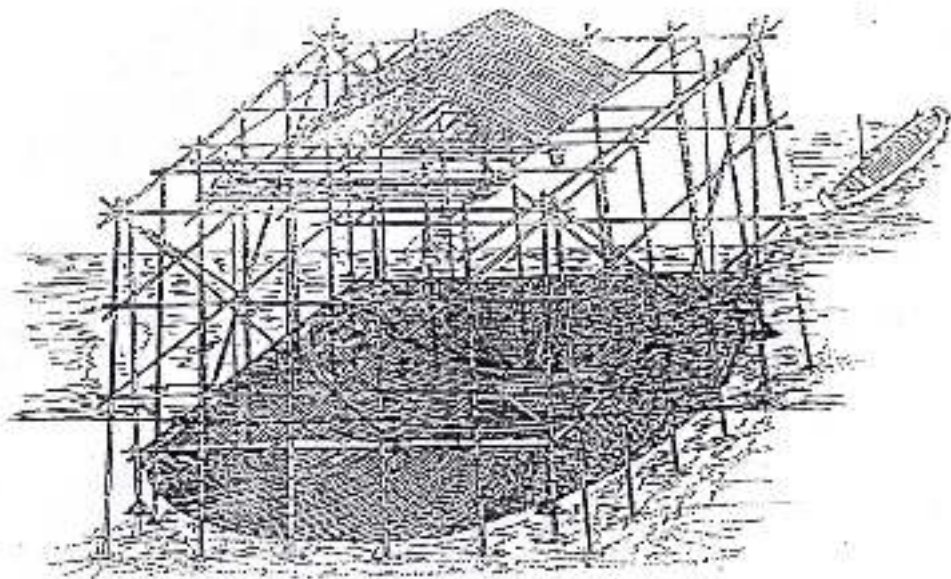
Surface Gillnet



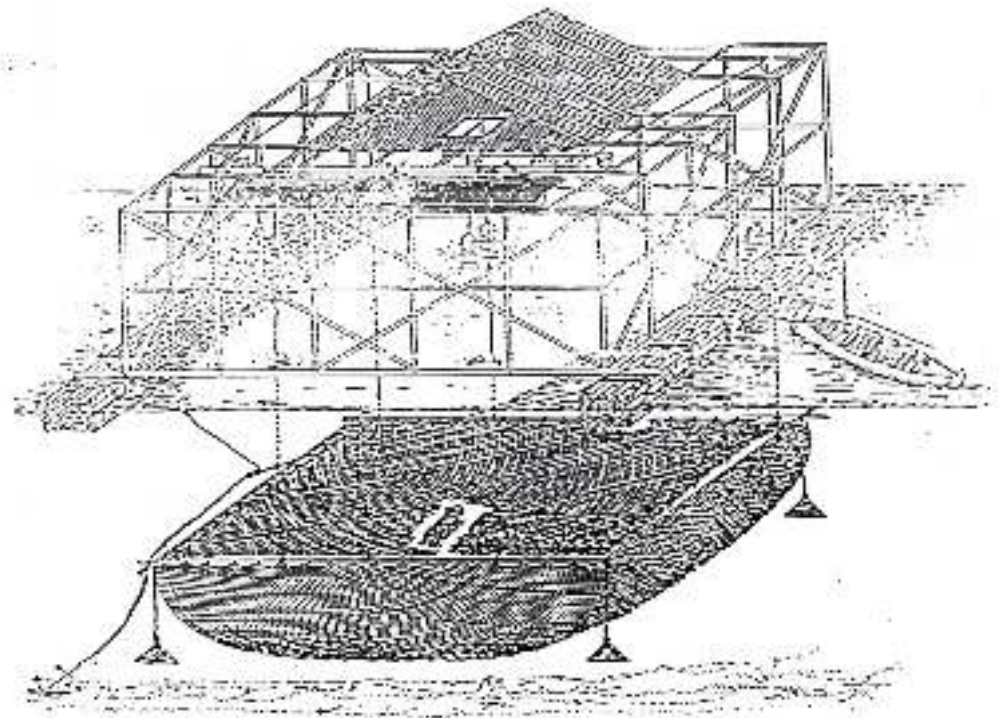
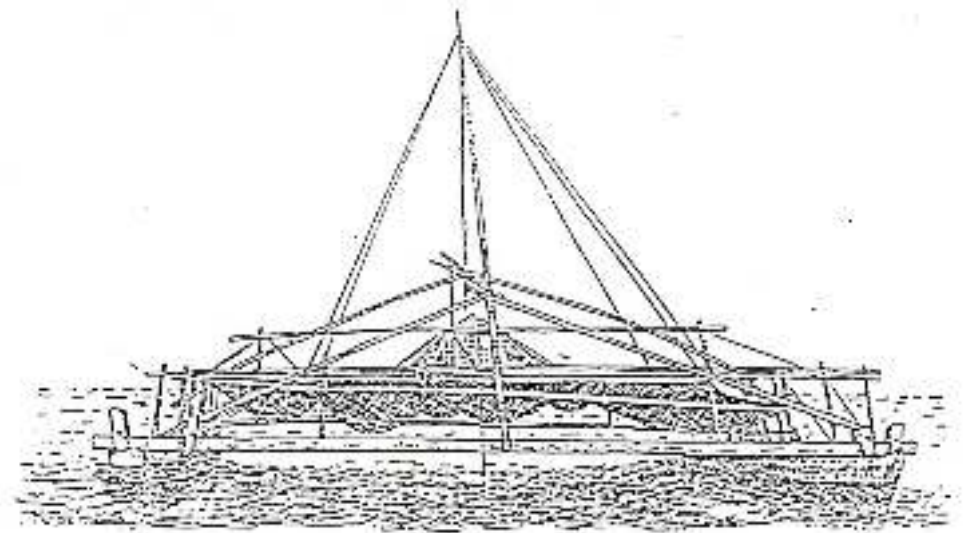
Encircling Gillnet



Drift gillnet

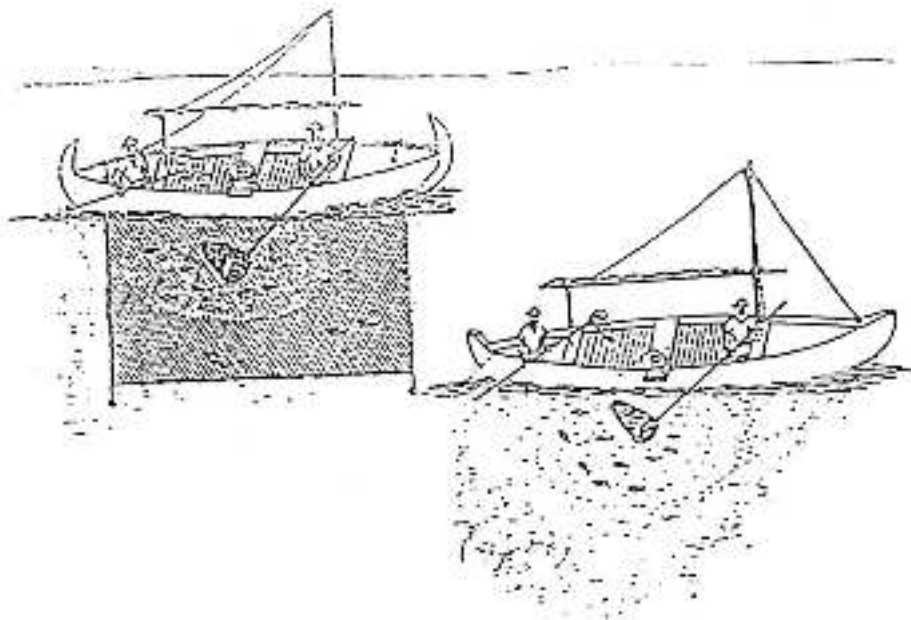


Fixed Bagan

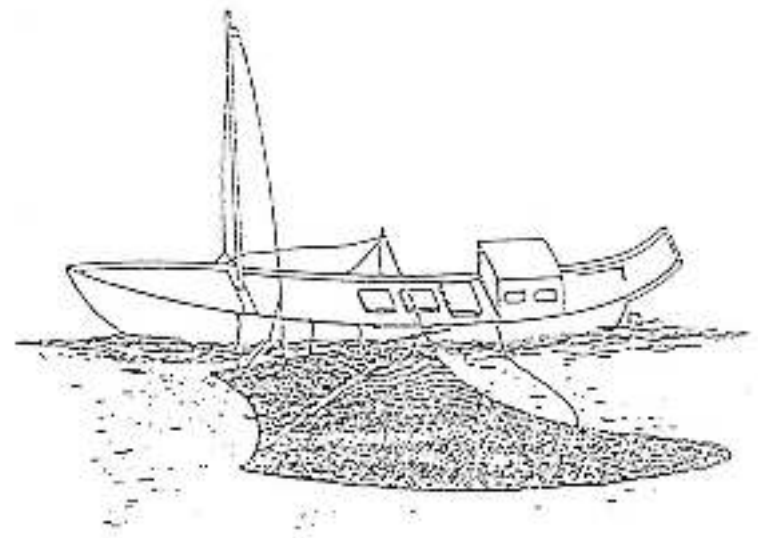


Raft Lift Net

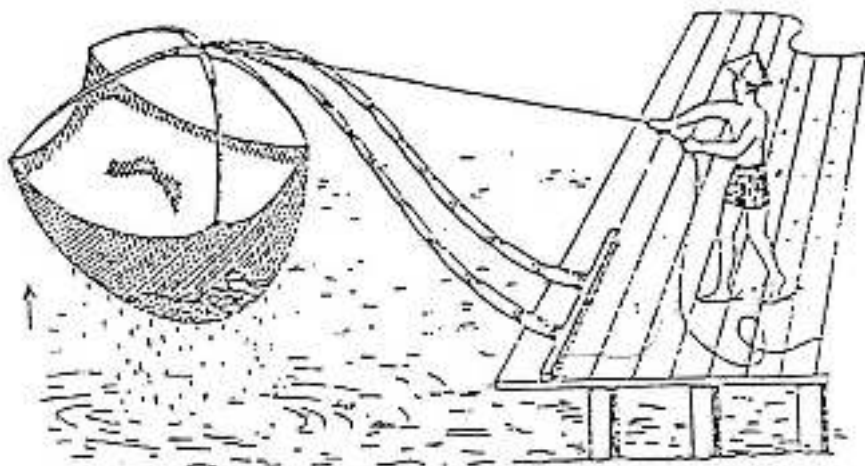




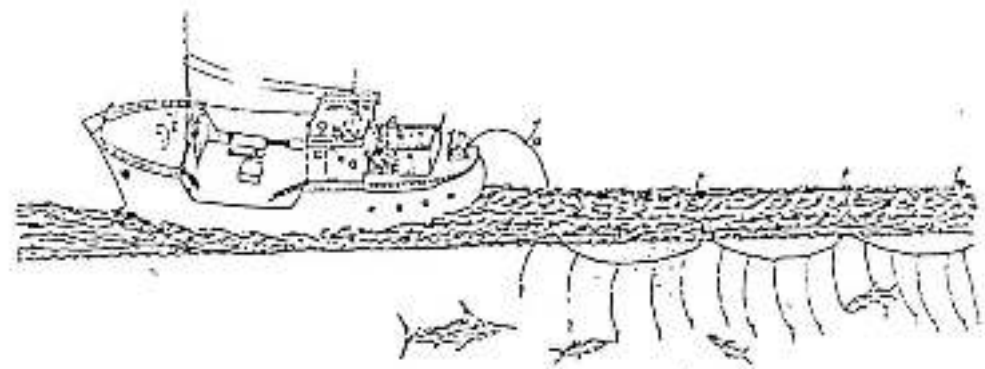
Scoop Net



Scoop Net



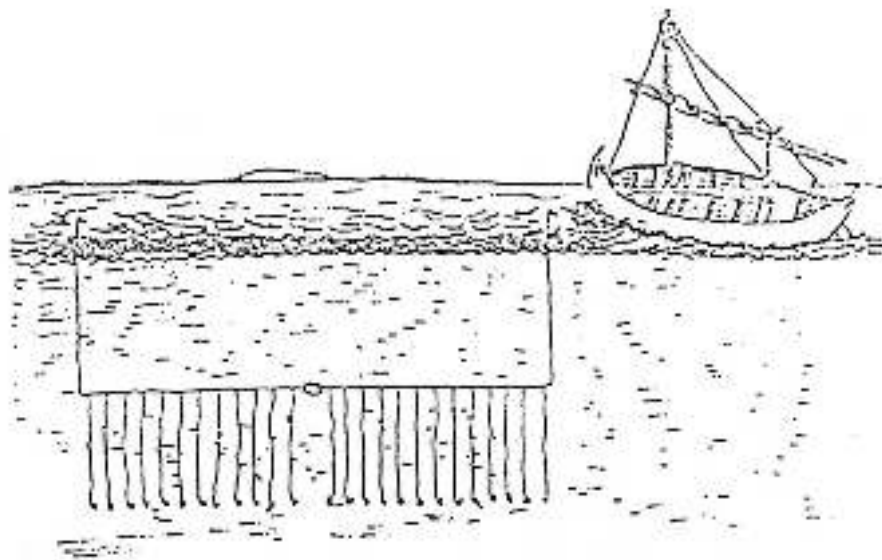
Other Lift Nets



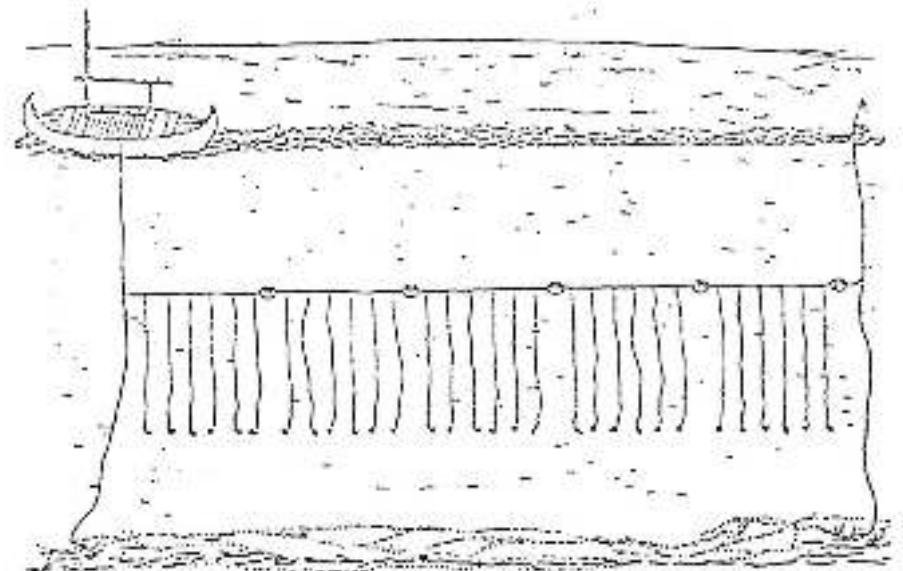
Tuna Longline



Other lift net

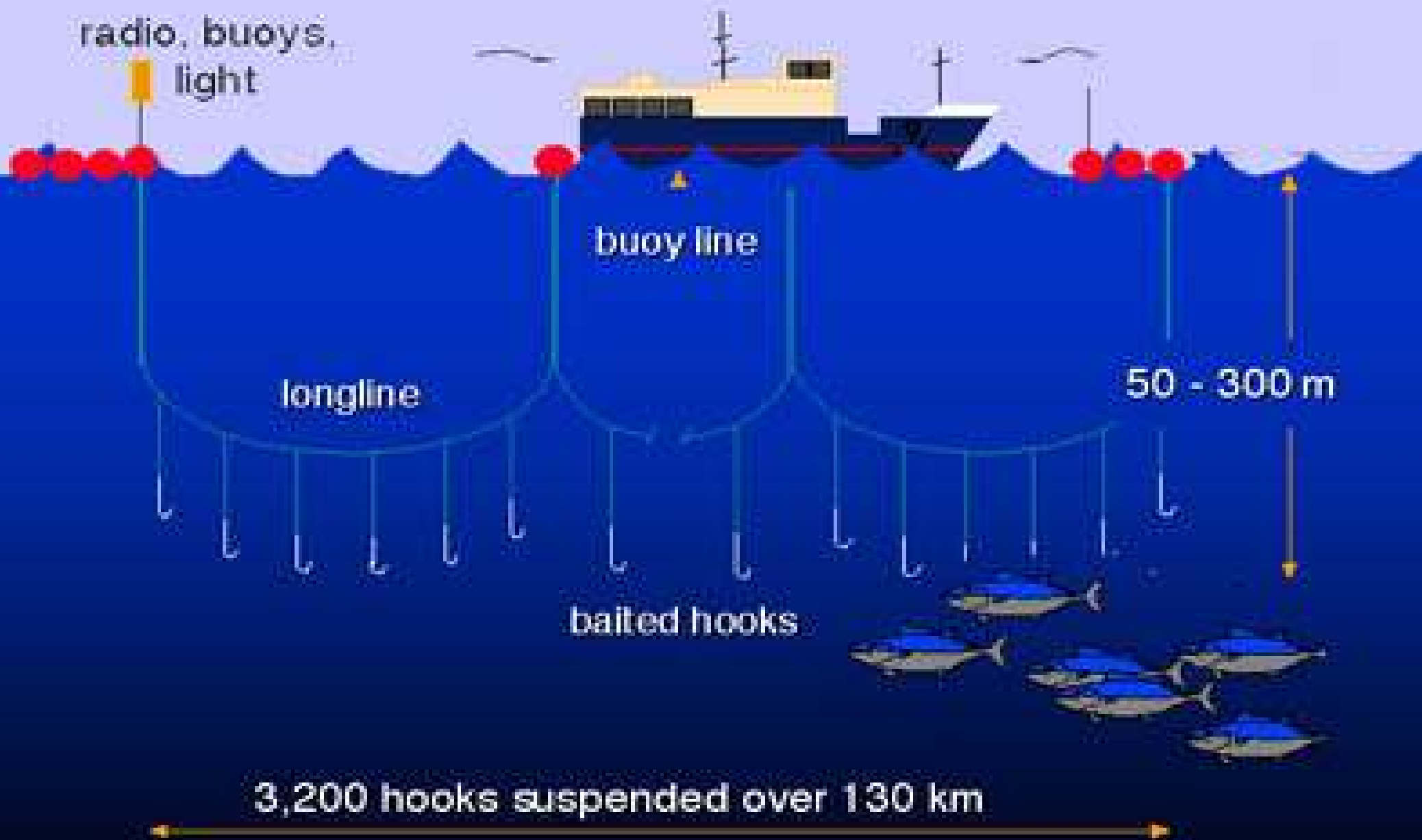


Drift Longline other than Tuna Longline

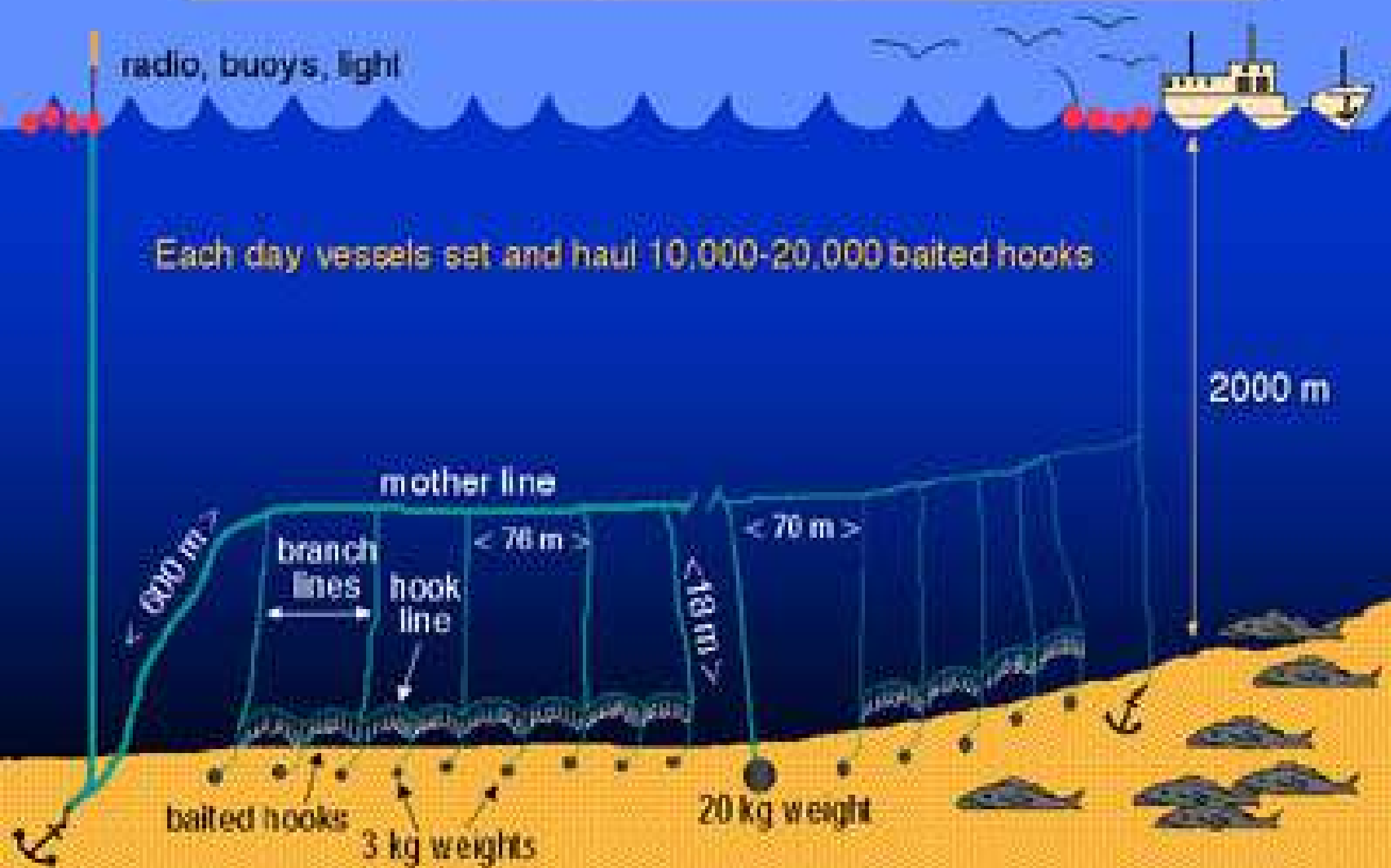


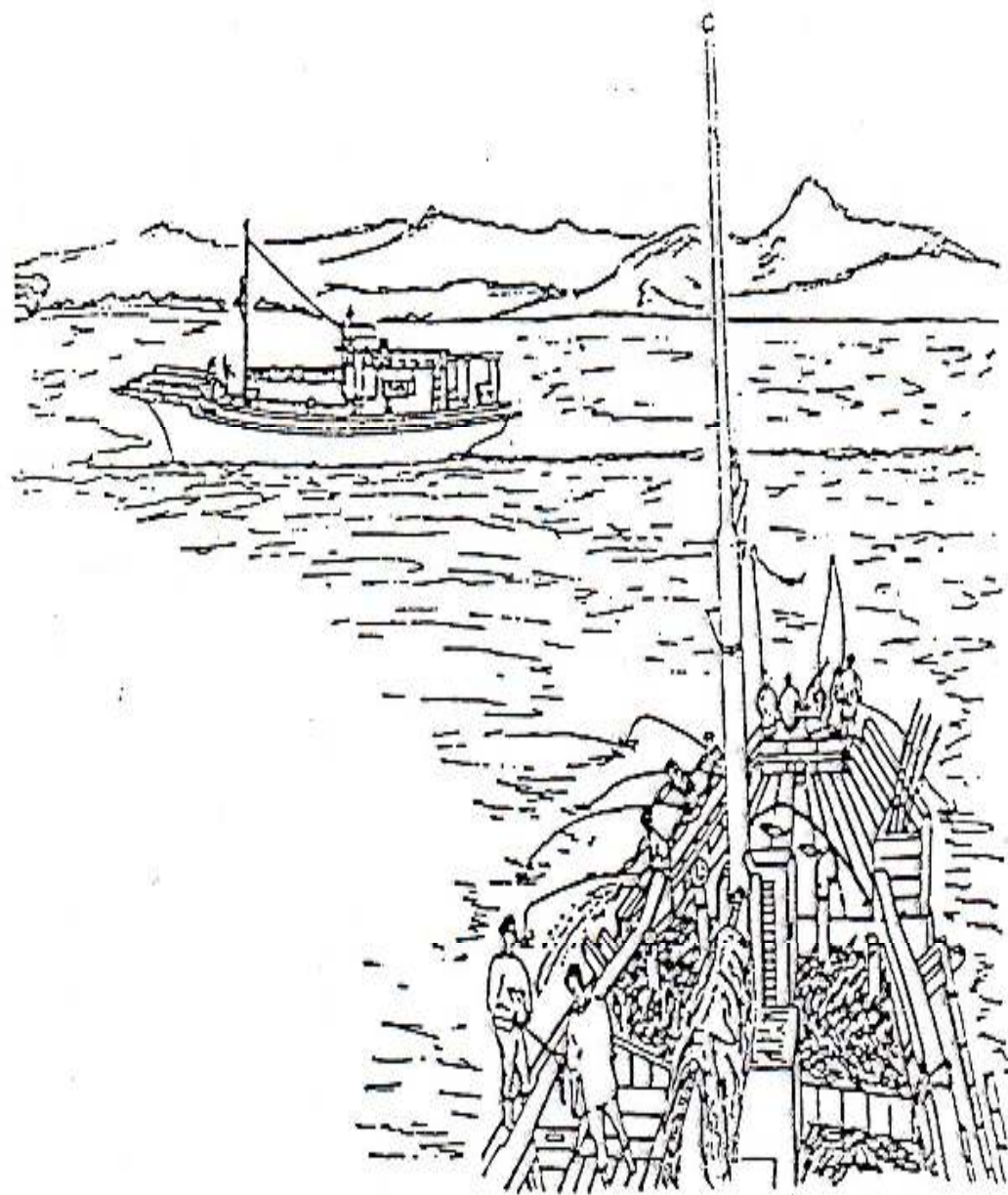
Set Longline

Surface longlining for tunas and swordfish

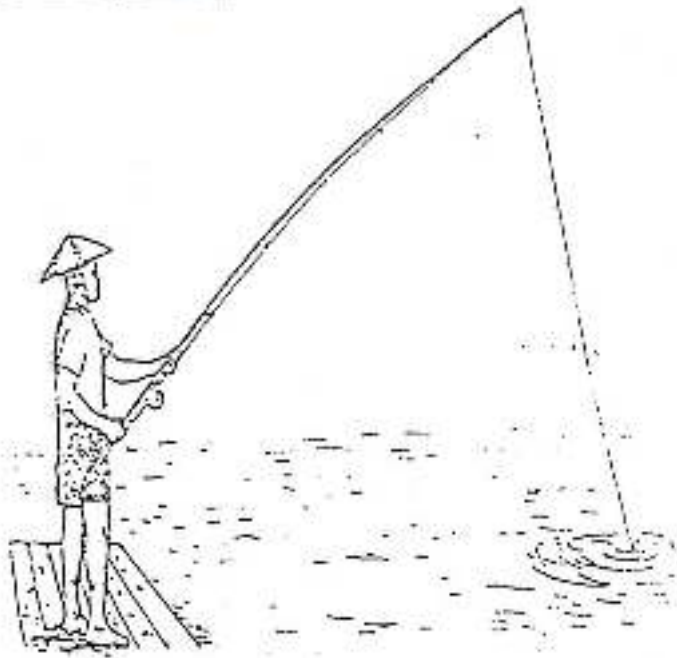


Bottom longlining for Patagonian toothfish

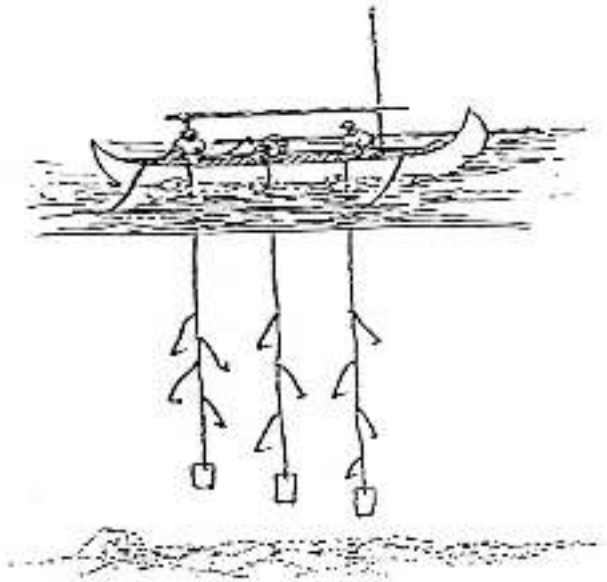
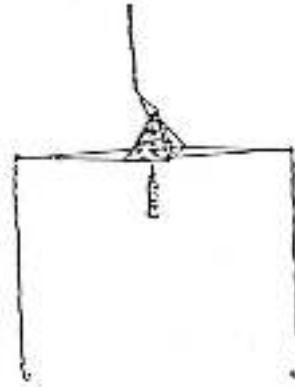




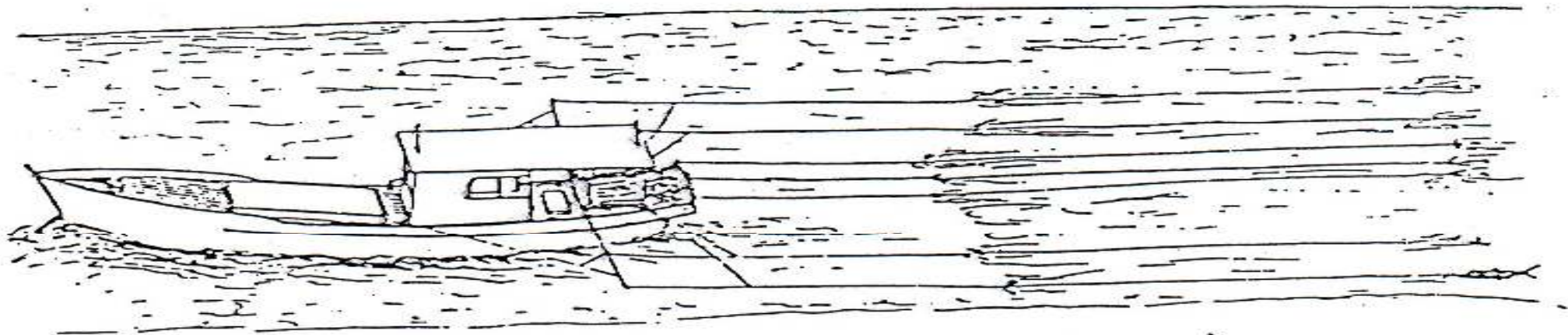
Skipjack Pole and Line



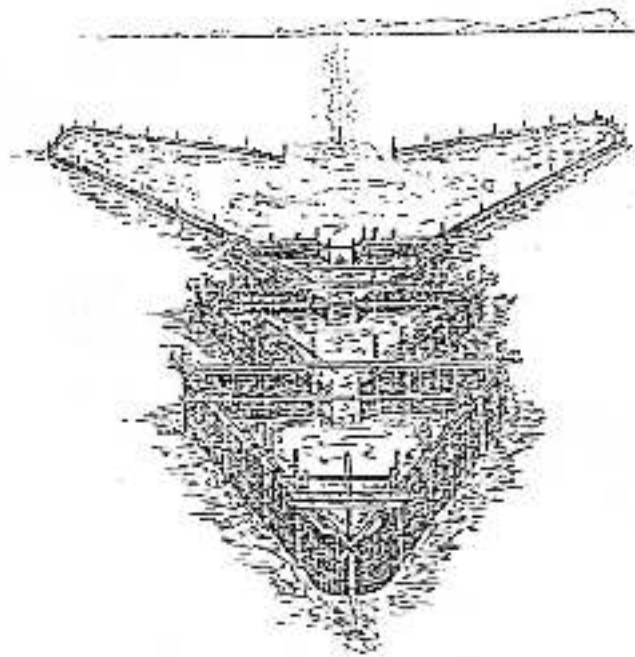
Other Pole and Line



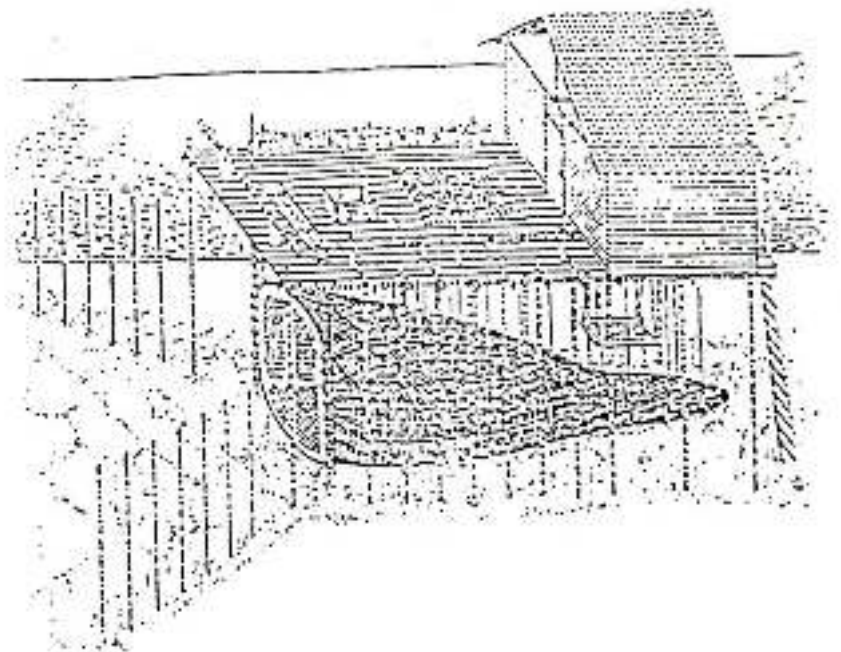
Hand Line



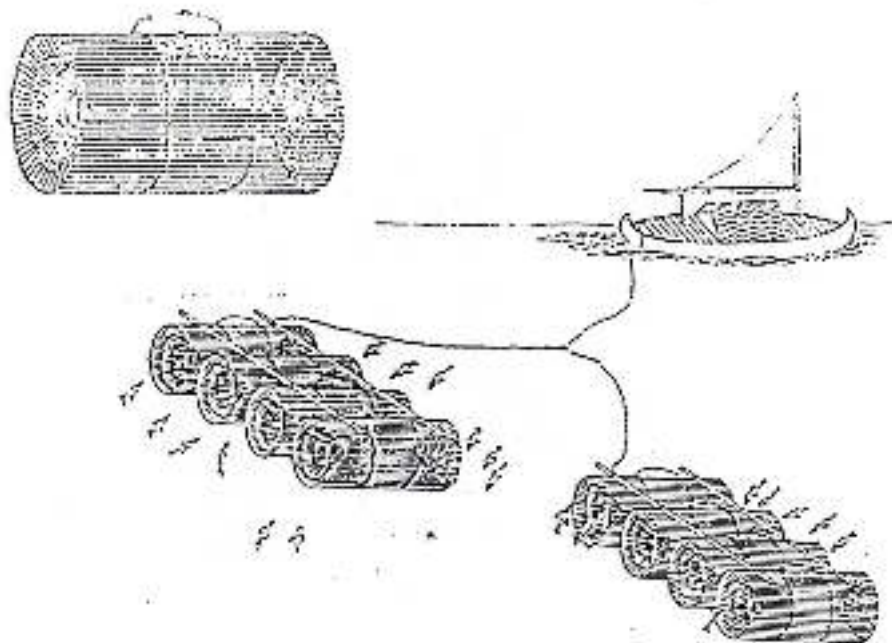
Troll Lines



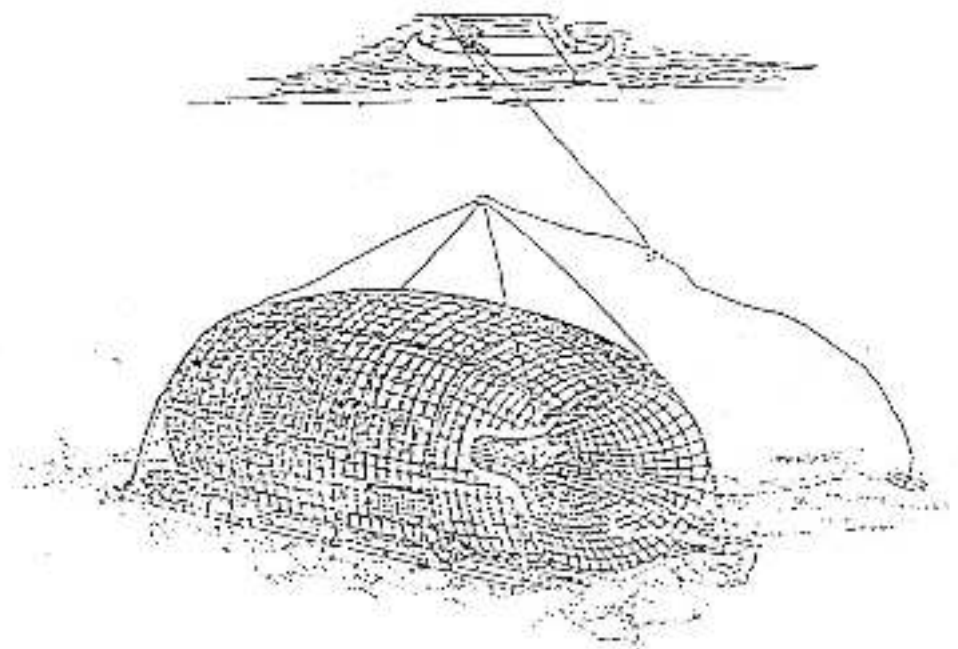
Guiding Barrier



Stow Nets

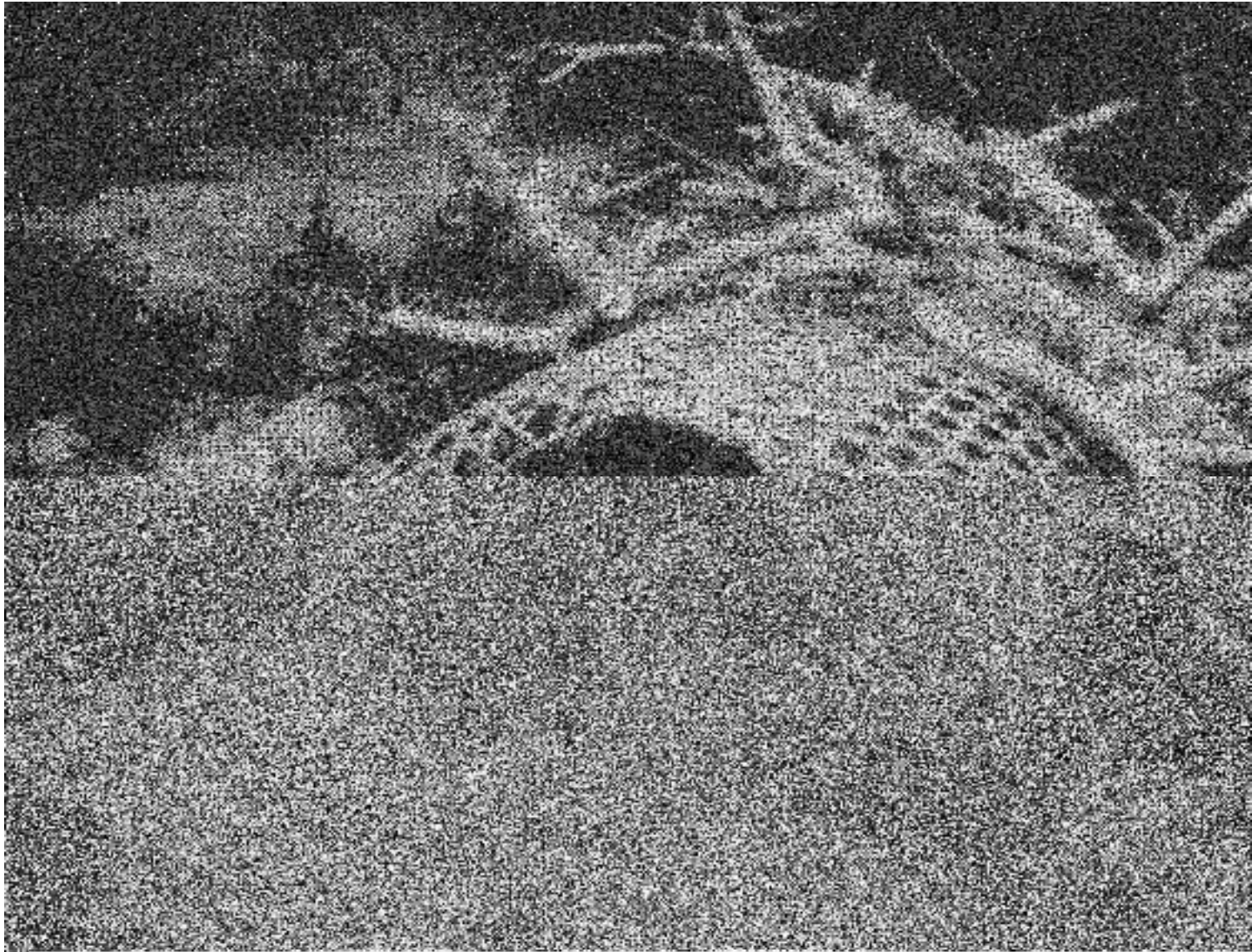


Floating Traps



Bottom Traps

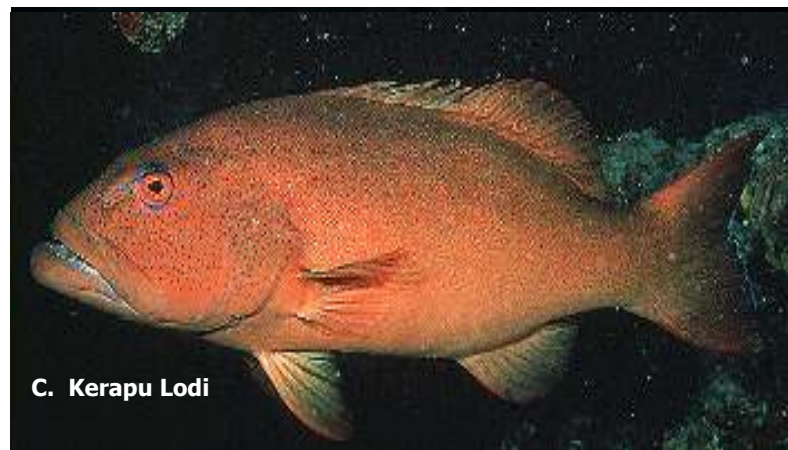
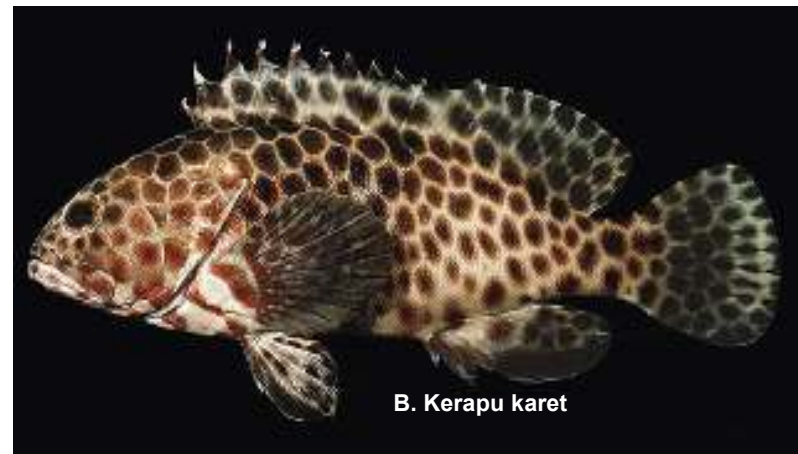




Cara pemasangan bubu yg merusak terumbu karang (Sukmara dkk, 2001)

PEMASANGAN BUBU KARANG DI PULAU PUHAWANG, LAMPUNG





Famili serranidae yg tertangkap saat penelitian



JELEK MATA



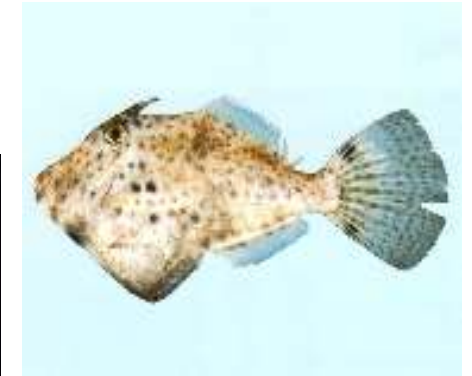
KEPE-KEPE



UCRIT



SESERAK



AMPLAS TANDUK



NYAI-NYAI



UDANG-UDANG



CUNUNG



BARONANG



KERAPU KLEKEK



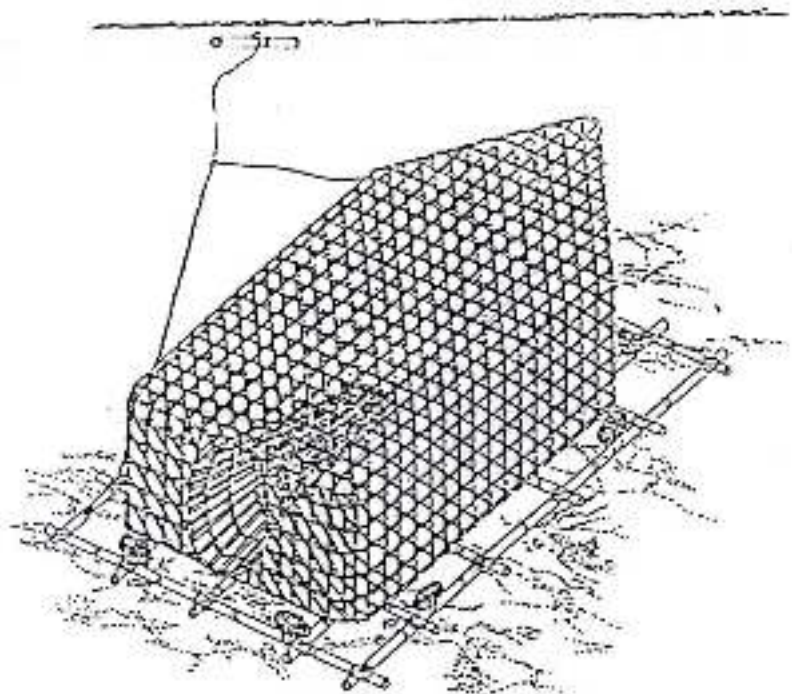
LELIYUT



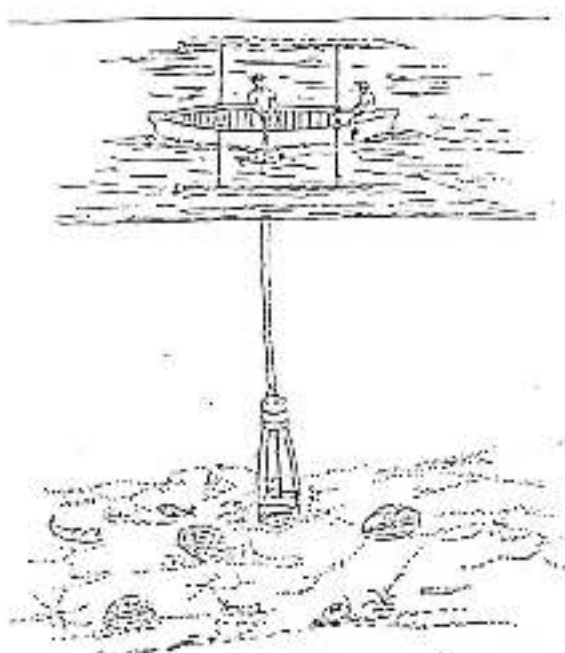
BUNTAL KOTAK



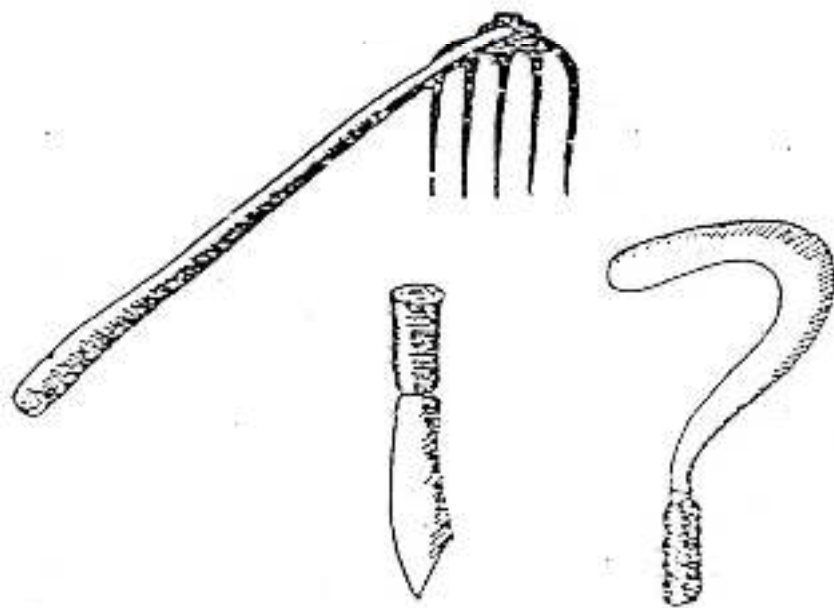
HIU TUTUL



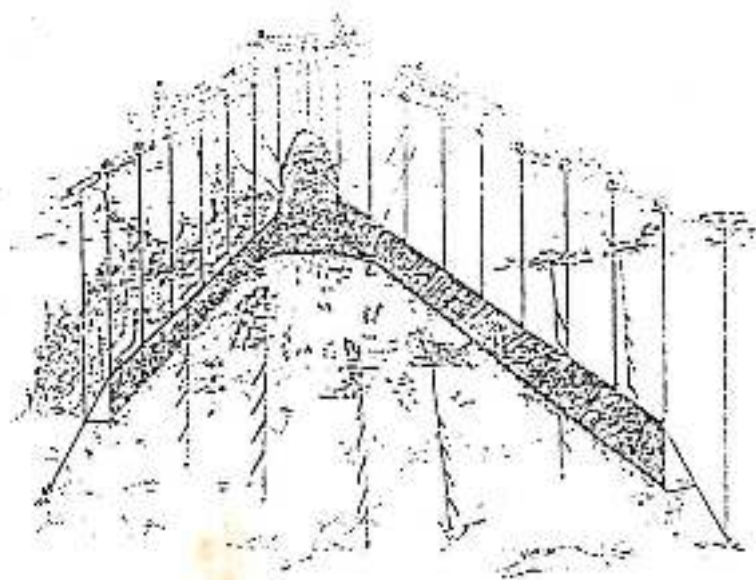
Coral Traps



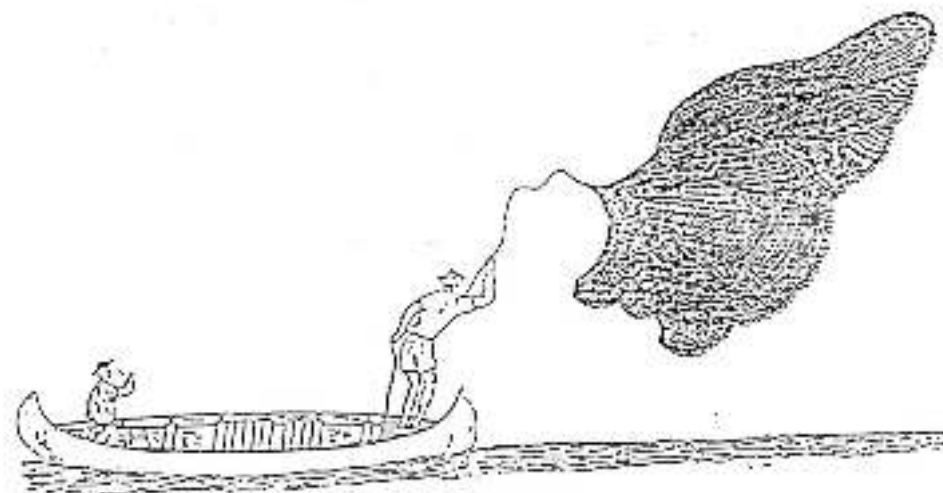
Shellfish Collection



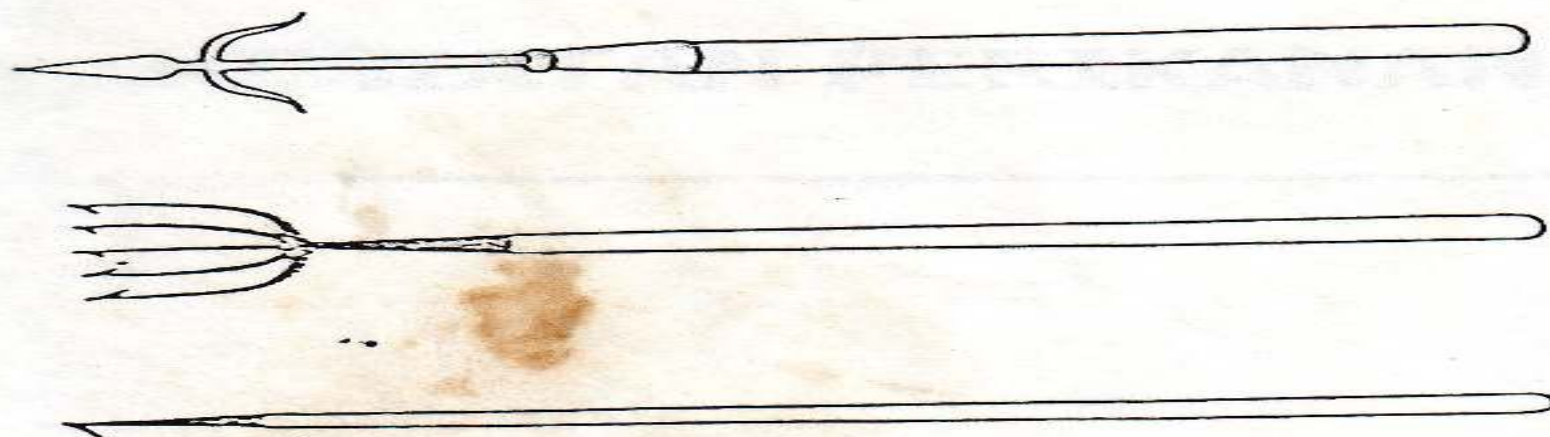
Seaweed Collection



Muro Ami



Cast Net



Harpoon, Spear etc.

Rumpon :
sebagai alat bantu
penangkapan ikan

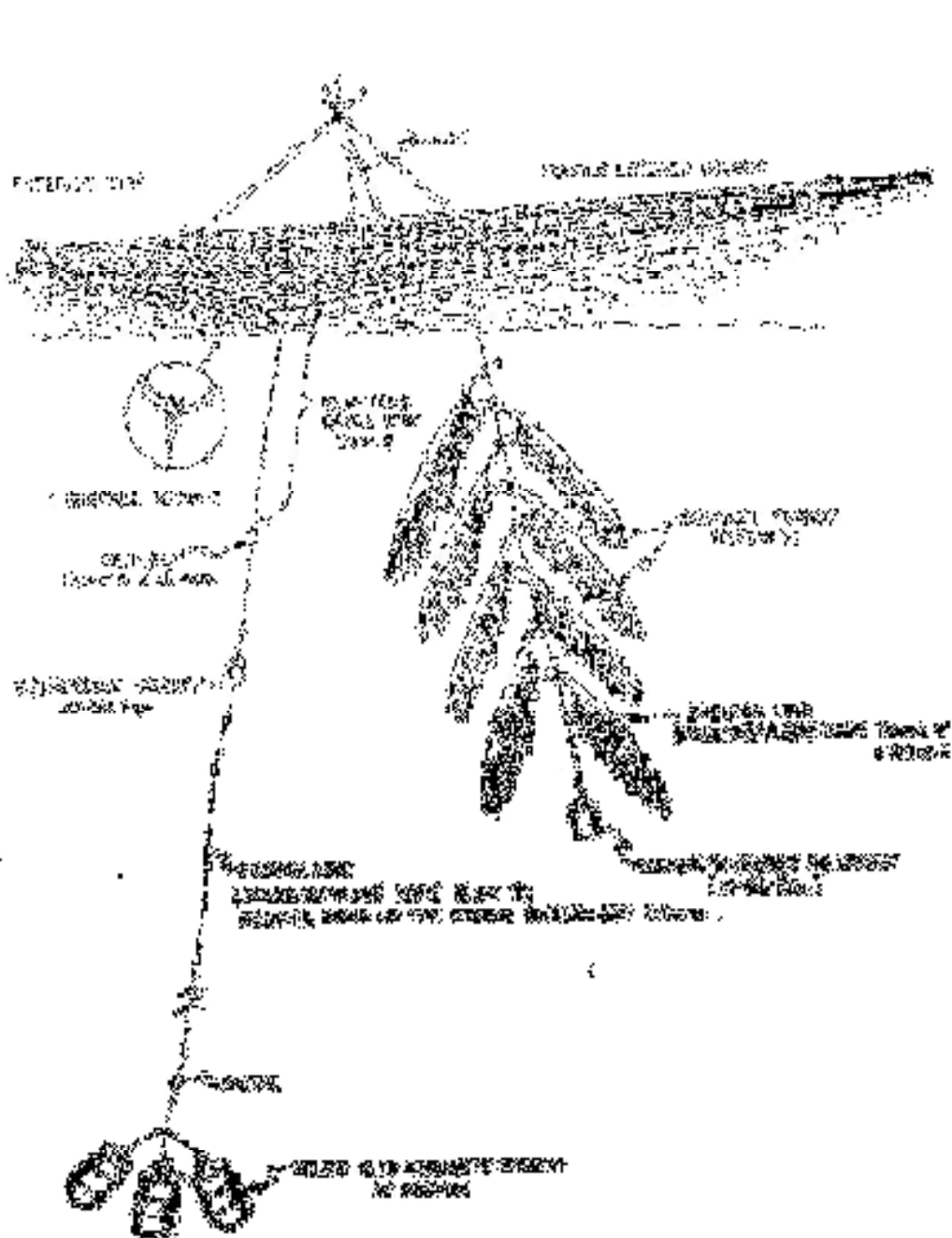


Figure 1. Mountain Lakes

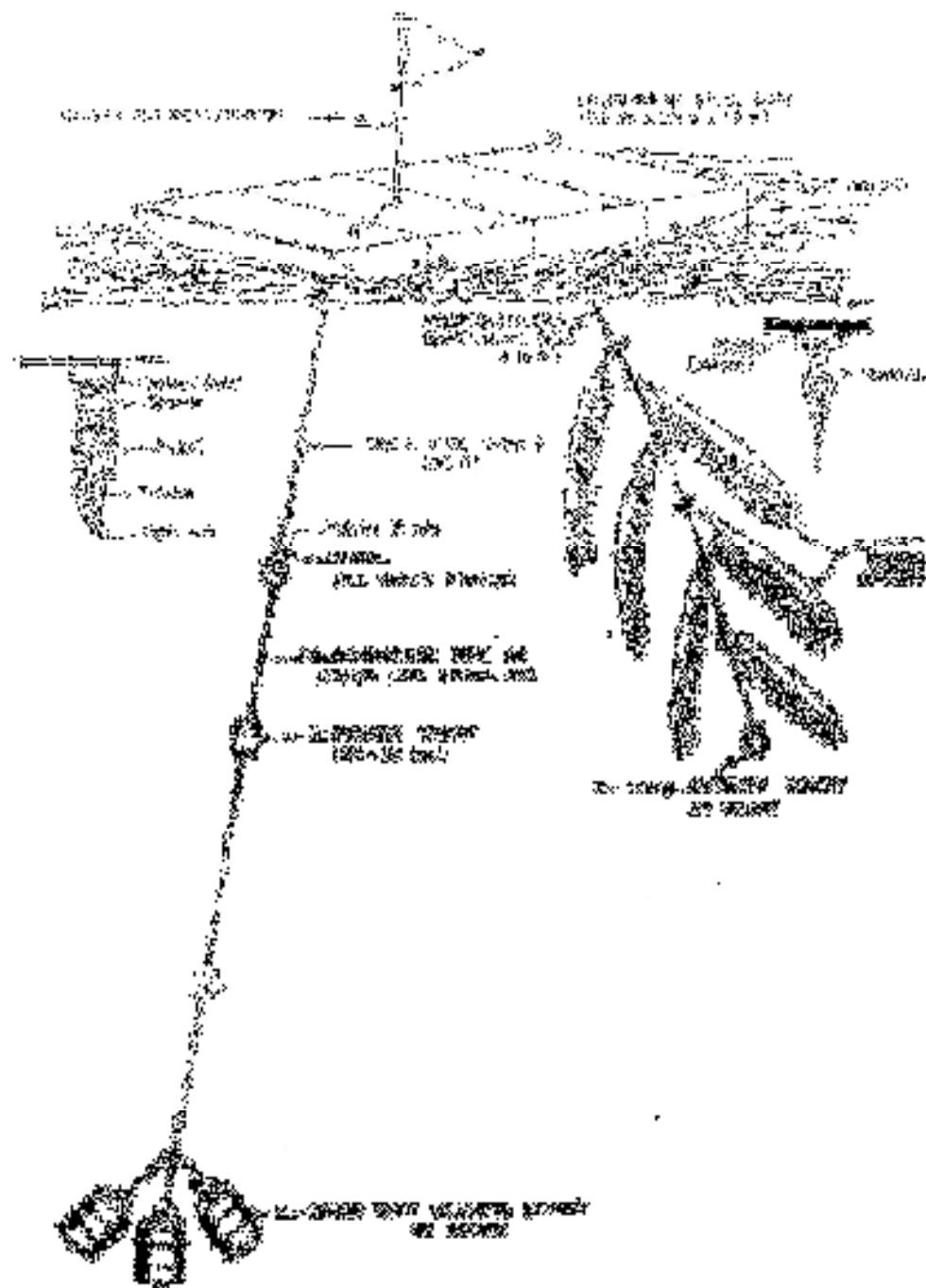


Figure 2. Mountain Lakes

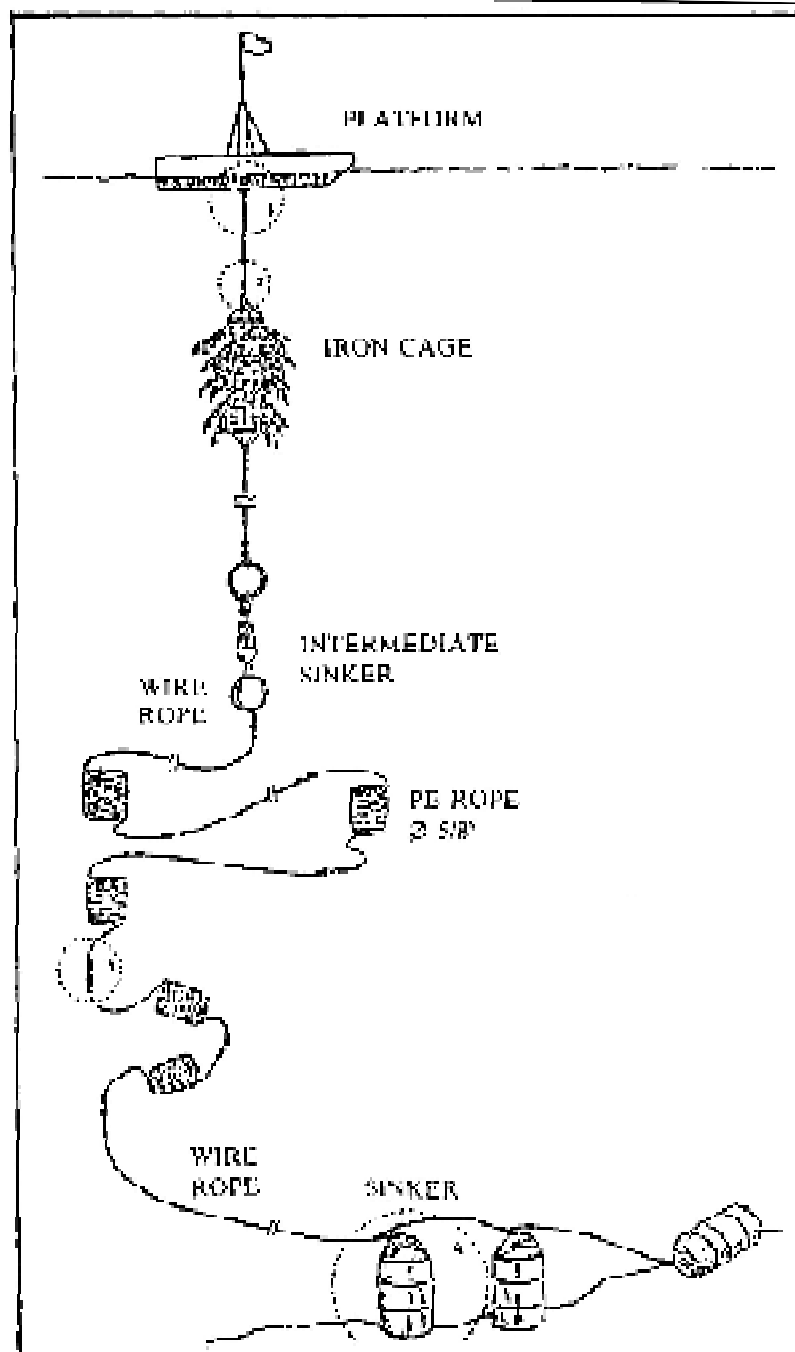
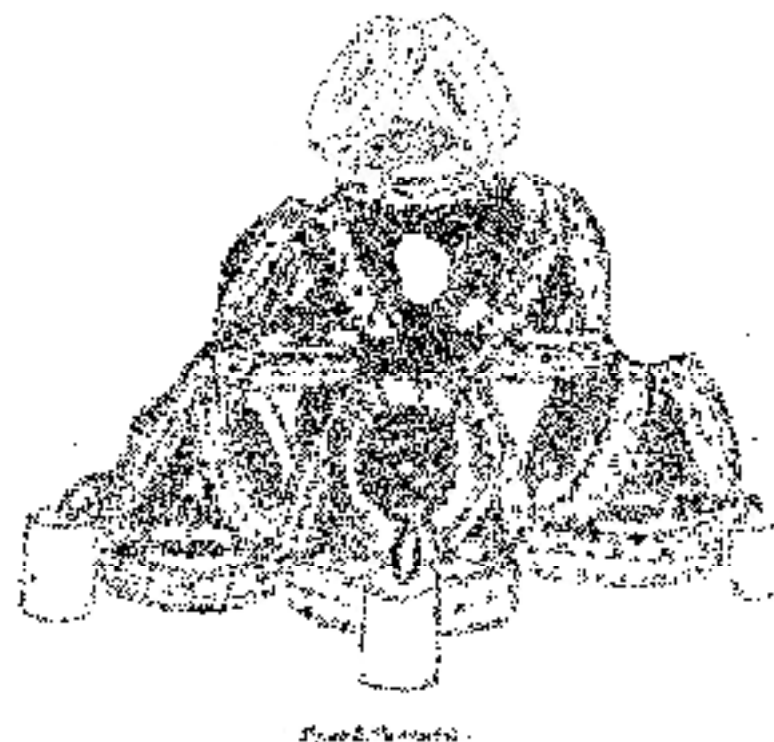
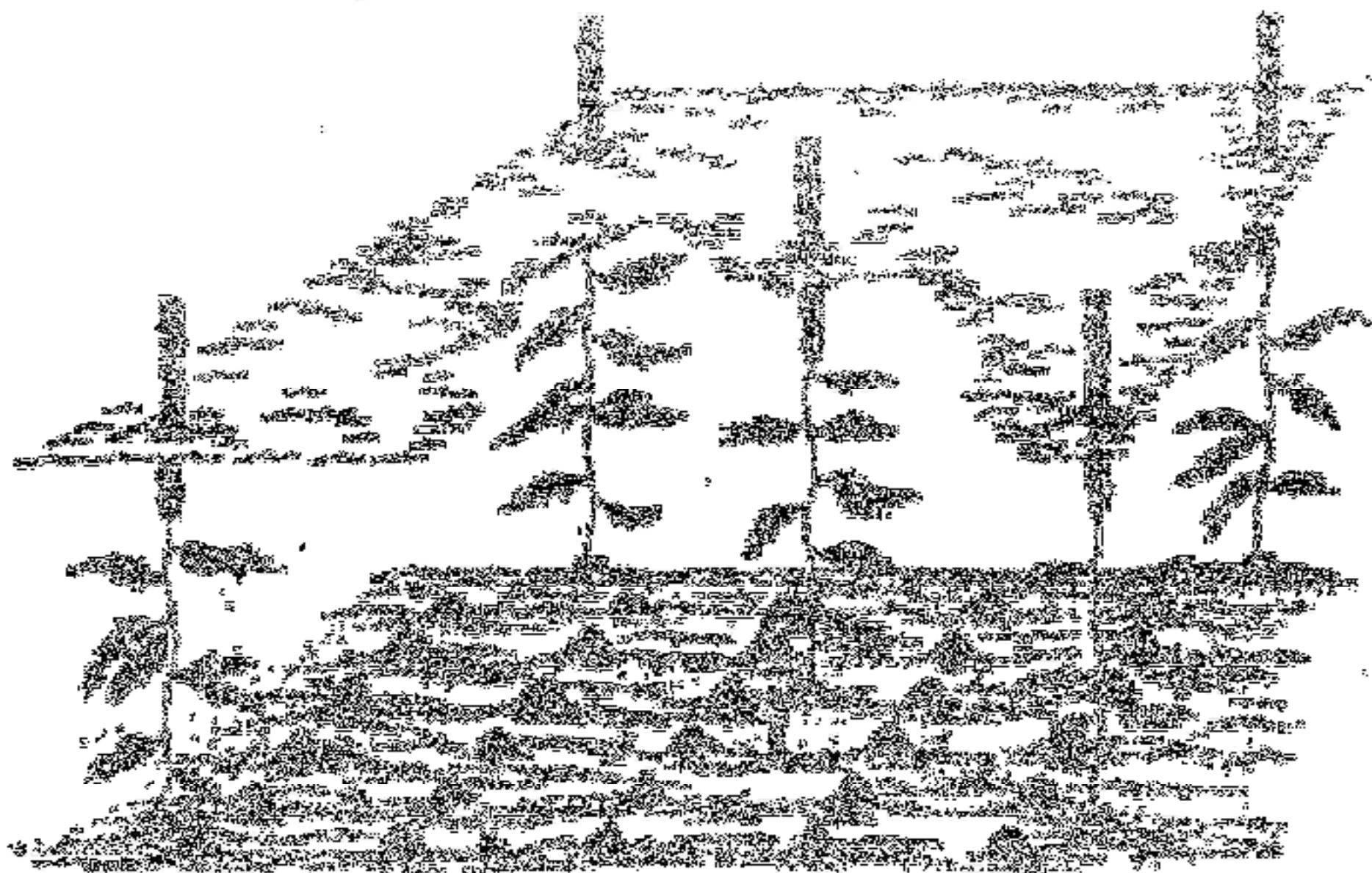
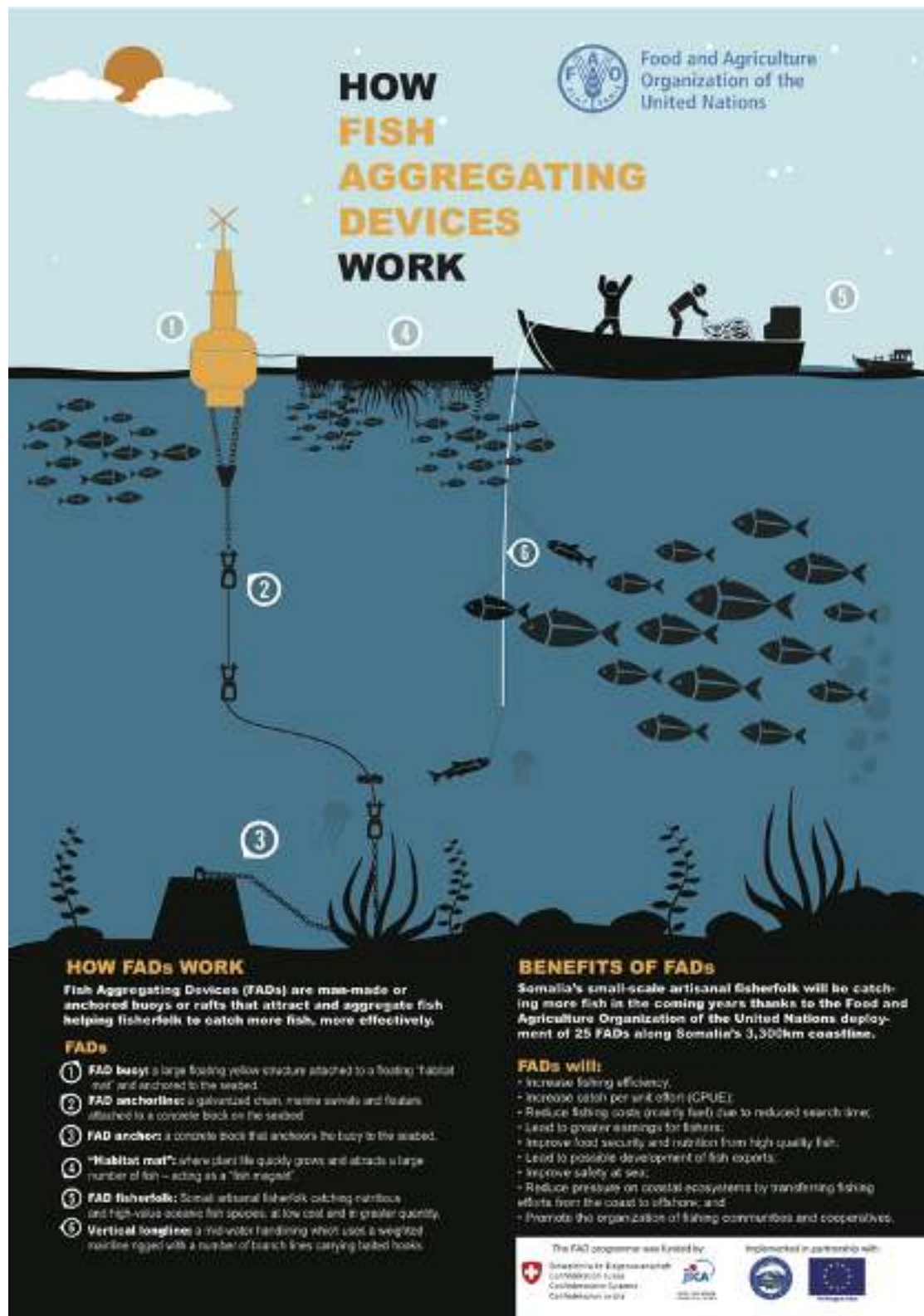


Figure 6. Pajaus used by PT. Usaha Mina, Sorong, Irian Jaya.





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Food and Agriculture
Organization of the
United Nations

HOW FISH AGGREGATING DEVICES WORK

HOW FADs WORK

Fish Aggregating Devices (FADs) are man-made or anchored buoys or rafts that attract and aggregate fish helping fisherfolk to catch more fish, more effectively.

FADs

- ① **FAD buoy:** a large floating yellow structure attached to a floating "habitat raft" and anchored to the seabed.
- ② **FAD anchorline:** a galvanized chain, marine wire and floats attached to a concrete block on the seabed.
- ③ **FAD anchor:** a concrete block that anchors the buoy to the seabed.
- ④ **"Habitat raft":** where plant life quickly grows and attracts a large number of fish – acting as a "fish magnet".
- ⑤ **FAD fisherfolk:** Somali artisanal fisherfolk catching nutritious and high-value oceanic fish species, at low cost and in greater quantity.
- ⑥ **Vertical longlines:** a mid-water handlining vessel uses a weighted mainline rigged with a number of branch lines carrying baited hooks.

BENEFITS OF FADs

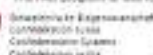
Somalia's small-scale artisanal fisherfolk will be catching more fish in the coming years thanks to the Food and Agriculture Organization of the United Nations deployment of 25 FADs along Somalia's 3,300km coastline.

FADs will:

- Increase fishing efficiency.
- Increase catch per unit effort (CPUE).
- Reduce fishing costs (mainly fuel) due to reduced search time.
- Lead to greater earnings for fishers.
- Improve food security and nutrition from high quality fish.
- Lead to possible development of fish exports.
- Improve safety at sea.
- Reduce pressure on coastal ecosystems by transferring fishing efforts from the coast to offshore, and
- Promote the organization of fishing communities and cooperatives.

The FAD programme was funded by:
Swisscontact
Luxembourg State
Cordoba Foundation
Cordoba Foundation

Implemented in partnership with:



Fish Aggregating Devices— From Logs to Satellites



Pre-1980s

Tuna purse seine vessels set nets around floating objects, such as logs, that they chanced upon, setting their nets up around the log to capture the fish underneath.



1980s

Tuna fishermen began attaching radio beacons to floating objects so they could relocate them, with signals ranging from 500 to 1,000 nautical miles and operating for up to six months.



1990s to Today

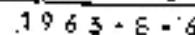
Tuna fishermen developed artificial floating objects attached to satellite beacons that could be tracked from anywhere, operated for years, and were able to monitor marine life around the FAD.



PETA DAERAH PENANGKAPAN IKAN

(第20号)

7月31日 ~ 8月2日



石塘市門湖浜村 距之區水陸街北所石塘市

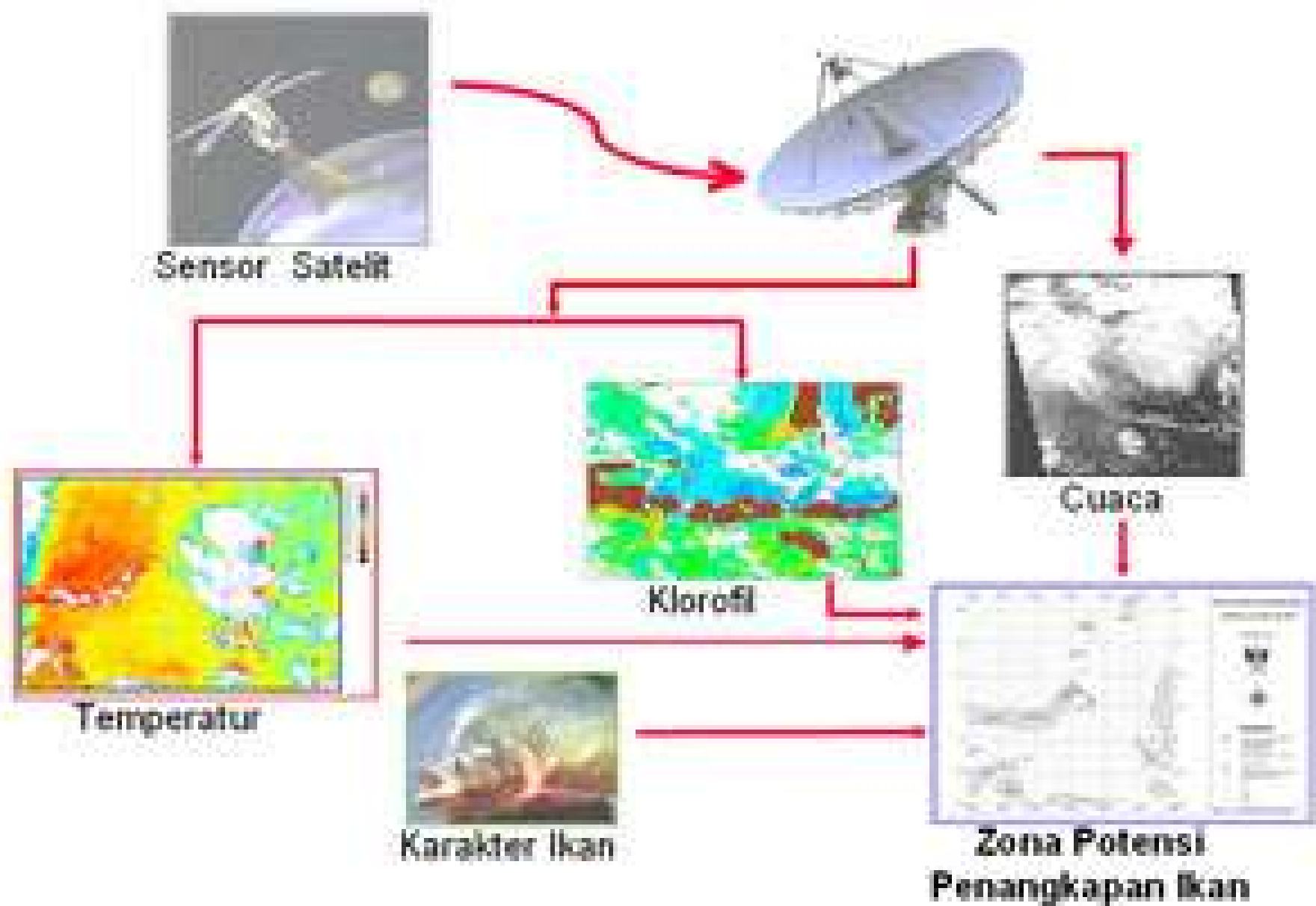
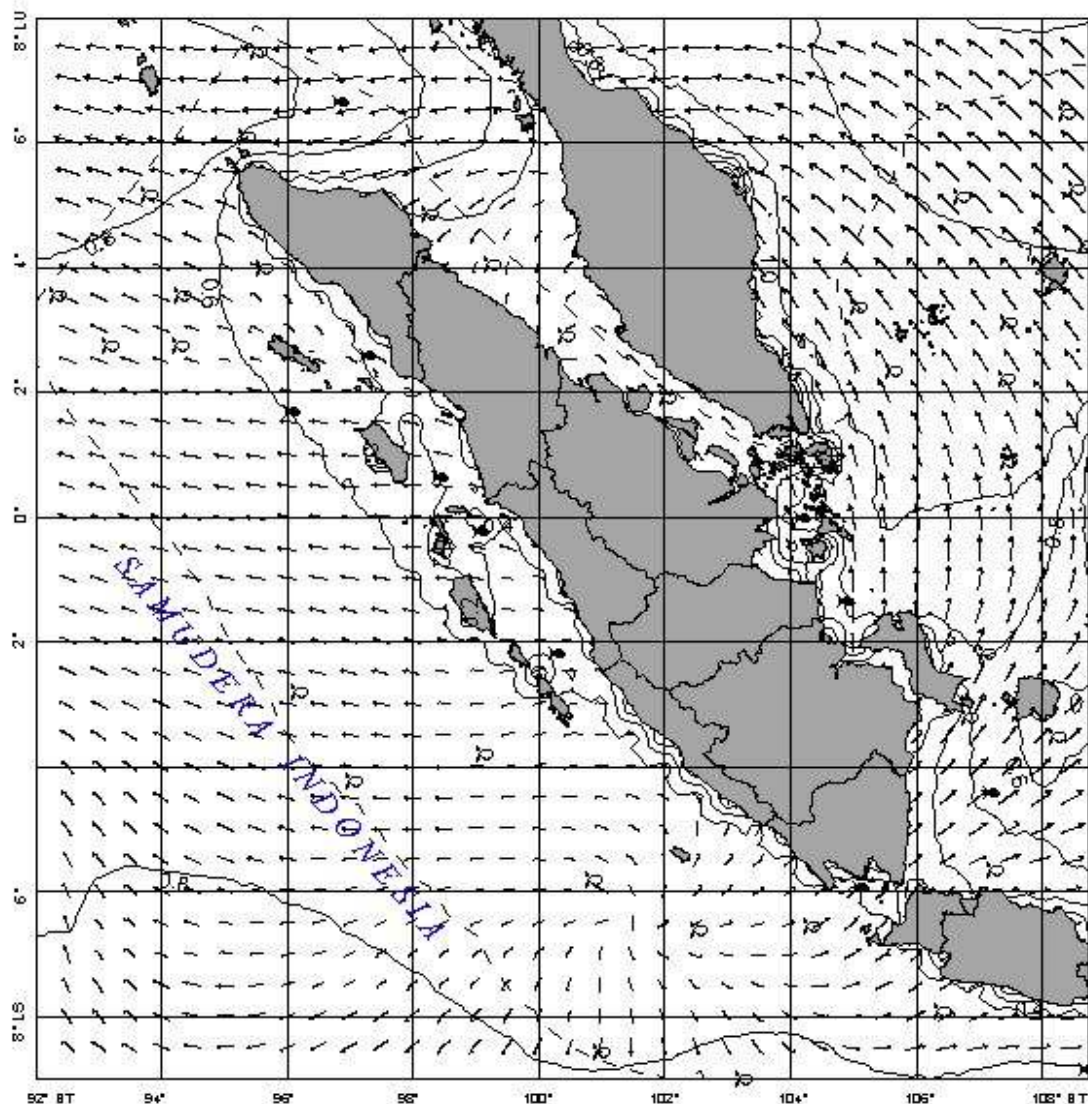


Diagram Alir Pengembangan Informasi Zona Potensi Penangkapan Ikan

PETA PRAKIRAAN DAERAH PENANGKAPAN IKAN DI WILAYAH PERAIRAN SUMATERA DAN SEKITARNYA TANGGAL 19 - 25 JANUARI 2005



KETERANGAN :

- Daerah penangkapan ikan
- Daerah potensi ikan
- / / / Batas ZEE
- 0.3 Garis kontur tinggi gelombang maksimum dengan interval 0.2 meter

Kecepatan Angin (knot)

- 1 0.1 - 3.1
- 1 3.1 - 5.9
- 1 5.9 - 10.1
- 1 10.1 - 14.1
- 1 14.1 - 19.5

Lokasi Penangkapan Ikan

Bujur	Lintang
96.0789	1.7016
96.8461	6.6680
97.2903	2.5899
98.4208	0.6517
99.0669	-0.2366
100.2782	-2.1747
104.1949	0.0057
104.8813	-1.3268
105.1236	-5.9298
107.1828	-4.3955
108.7172	-8.8370

Lokasi Potensi Ikan

Bujur	Lintang	Bujur	Lintang	Bujur	Lintang
92.3642	3.5590	101.0050	-8.5544	108.2327	-3.5072
93.1717	2.7514	102.0549	1.9035	108.3942	6.4662
93.8178	5.1741	102.5394	-6.6163	108.5557	5.2548
94.3023	2.7514	103.2682	-8.9986	108.7172	4.3665
94.3427	3.5590	104.3564	-6.5355		
95.3521	6.1028	105.0832	3.3571		
95.5540	7.4756	105.6485	2.3476		
95.6348	4.0031	106.4157	-7.9084		
96.2001	-2.7804	106.7387	5.1337		
97.0480	-4.2340	106.8598	-3.1841		
98.2593	4.8510	107.1425	-2.1747		
99.1476	-3.7898	107.2636	-5.6472		
99.2688	4.0435	107.4251	2.2265		
100.4397	2.9129	107.4655	3.1148		
100.8839	-5.8087	107.4655	0.8940		

Catatan : tanda minus (-) menunjukkan posisi di Lintang Selatan

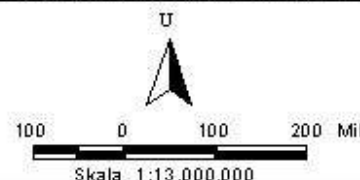
- Untuk meningkatkan akurasi informasi di daerah tangkapan ikan, diharapkan agar para nelayan mengirimkan kembali hasil tangkapan berkordinat lokasi tangkapan kepada kami.

- Saran dan kritik dikirimkan ke fax : 021-79180188 atau email : seacom_seacorm@yahoo.com



PUSAT RISET TEKNOLOGI KELAUTAN
BADAN RISET KELAUTAN DAN PERIKANAN
DEPARTEMEN KELAUTAN DAN PERIKANAN

Jl. MT Haryono Km 52-53, Tel : 021-79180303 exl 4033, Fax : 021-79180188
Fax On Demand : 021-79180162



Sumber :
Hasil analisis Citra Satelit
NOAA-AVHRR dan Topex

Tim Penyusun :
Tim PRTK - BRKP
Tim BMG - JAKARTA

ALAT BANTU ELEKTRONIK:

- Fish Finder (dg sistem hidroakustik)
- GPS (global positioning system)
- VMS (Vessel Monitoring System)
- Alat Komunikasi

PERALATAN HIDROAKUSTIK

Cara kerja:

Didasarkan pada sistem gema, yaitu pemantulan kembali bunyi yg dipancarkan oleh sesuatu yg menghalangi

Getaran ultrasonik yg dipancarkan akan diterima kembali oleh alat penerima getaran (vibrator) setelah dipantulkan oleh suatu kelompok ikan, tubuh ikan besar, alat penangkap ataupun dasar perairan.

Tanda2 yg dipantulkan tsb diterima oleh alat penerima getaran suara (vibrator receiver) dan jarak yg telah ditempuhnya diterima oleh suatu alat pencatat ataupun dapat dilihat dari layar khusus.

Kegunaan alat ini:

- Mengetahui kelompok ikan
- Mengetahui pola tingkah laku ikan (migrasi, saat makan, dll)

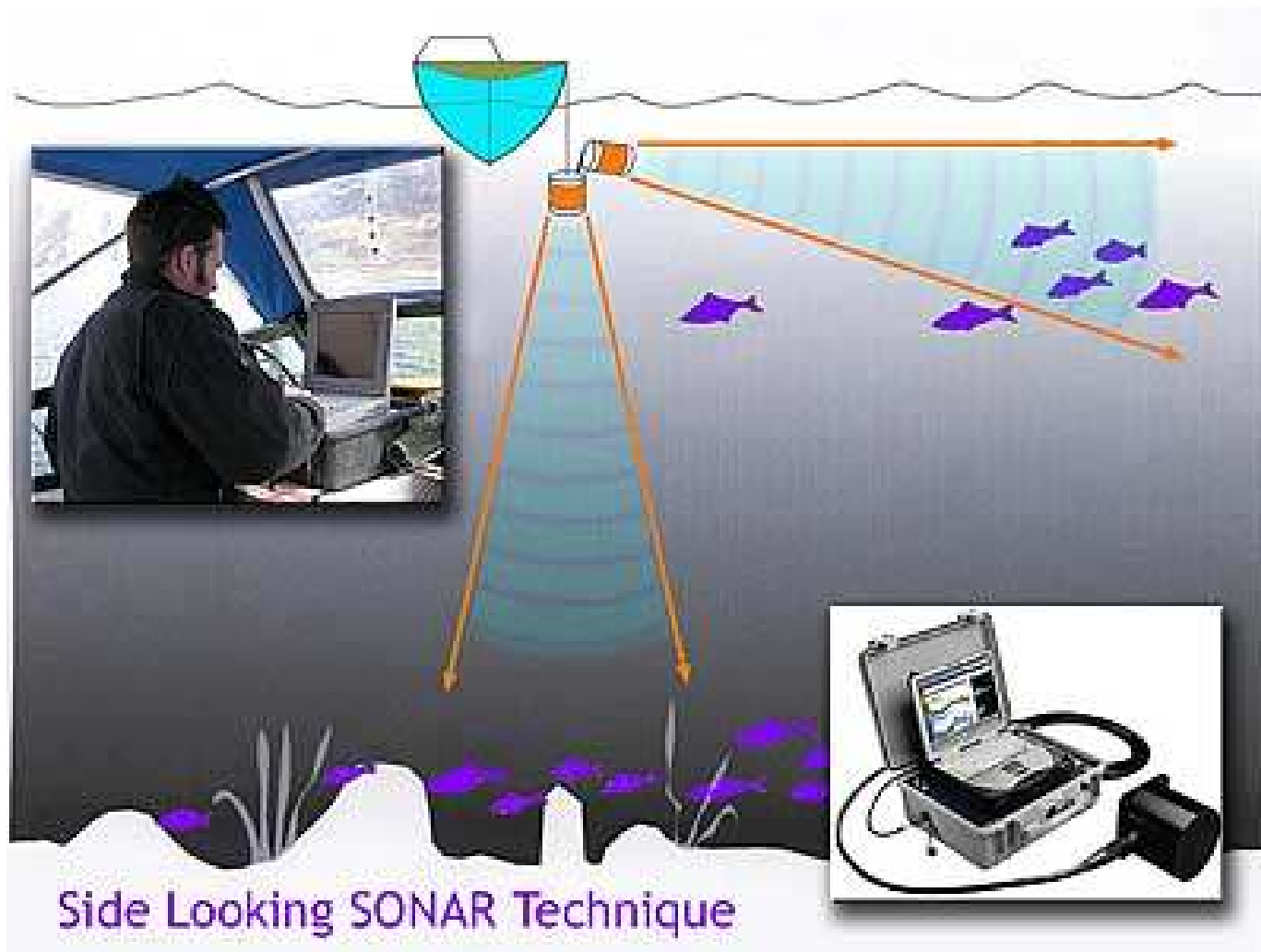
Ada 3 jenis alat hidroakustik yg umum dipakai dlm usaha dan penelitian perikanan:

- Sonar (horizontal sounders)
- Echo sounders (vertical sounders)
- Net sonde (net sounders)

- Sonar:
 - Kekuatan transducer: 1-5 kW
 - Frekuensi : 15-30 kc/s
 - Sudut suara: 10°-20°
 - Jarak jangkauan : 2.000-4.000 m
- Echo sounder:
 - Frekuensi: 30-50 kc/s
 - Sudut suara 30°-60°
 - Jarak jangkauan : 200-1.000 m
- Net sonde:
 - Merupakan peralatan elektronik pd trawl utk mengetahui bukaan mulut jaring

Kelemahan peralatan hidroakustik:

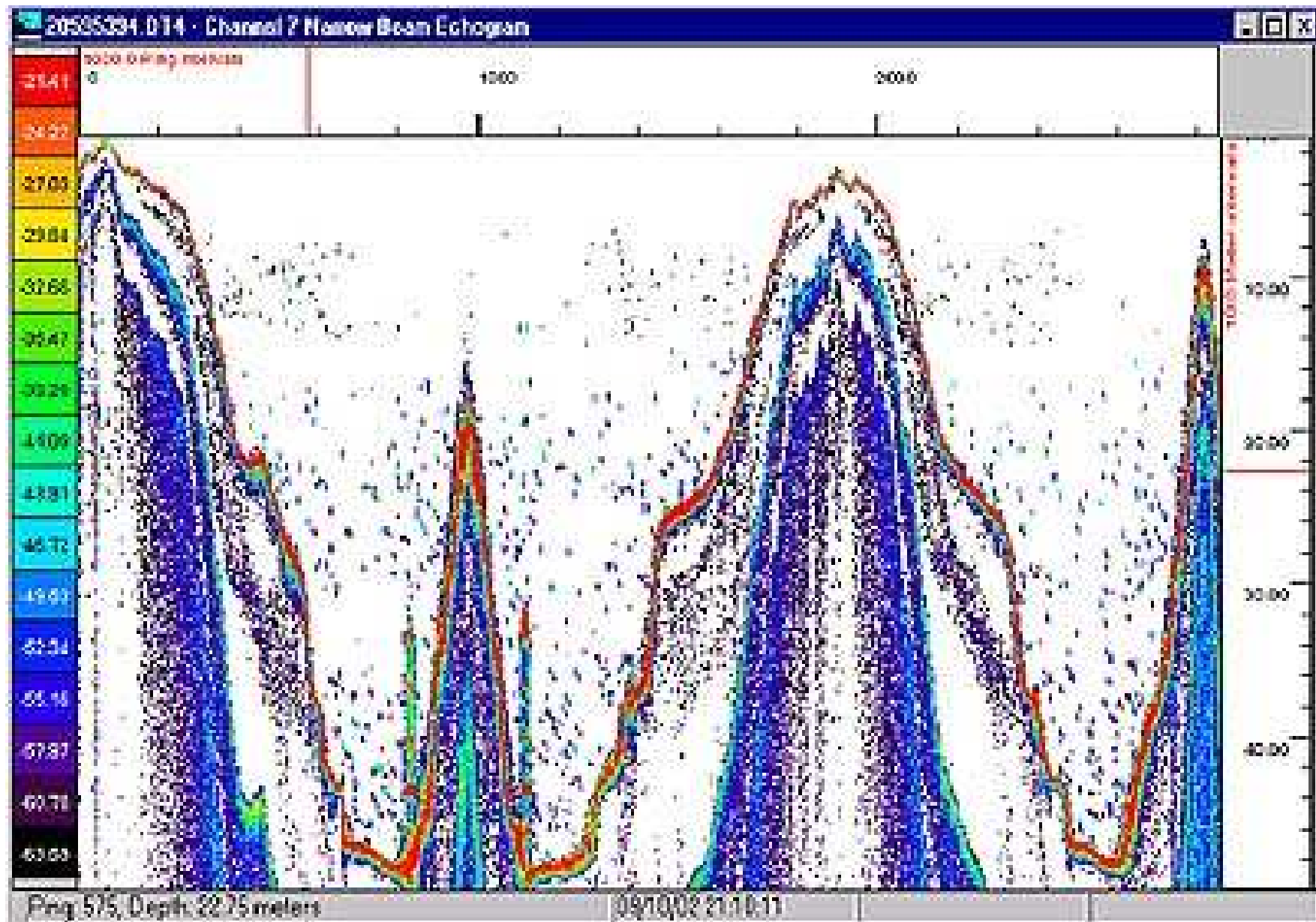
- Gambaran yg dihasilkan tdk menunjukkan keadaan suatu kelompok ikan secara jelas dan benar, shg harus diinterpretasikan dahulu.



Hydroacoustic technology is a cost effective way to quickly perform fish population surveys and determine bottom topography in large bodies of water. Diagram showing how the dual beam hydroacoustic instrument works.

Inset Upper Left :Biologist Juddson Sechrist monitors the output from the hydroacoustics sensor while the boat follows a transect path using GPS.

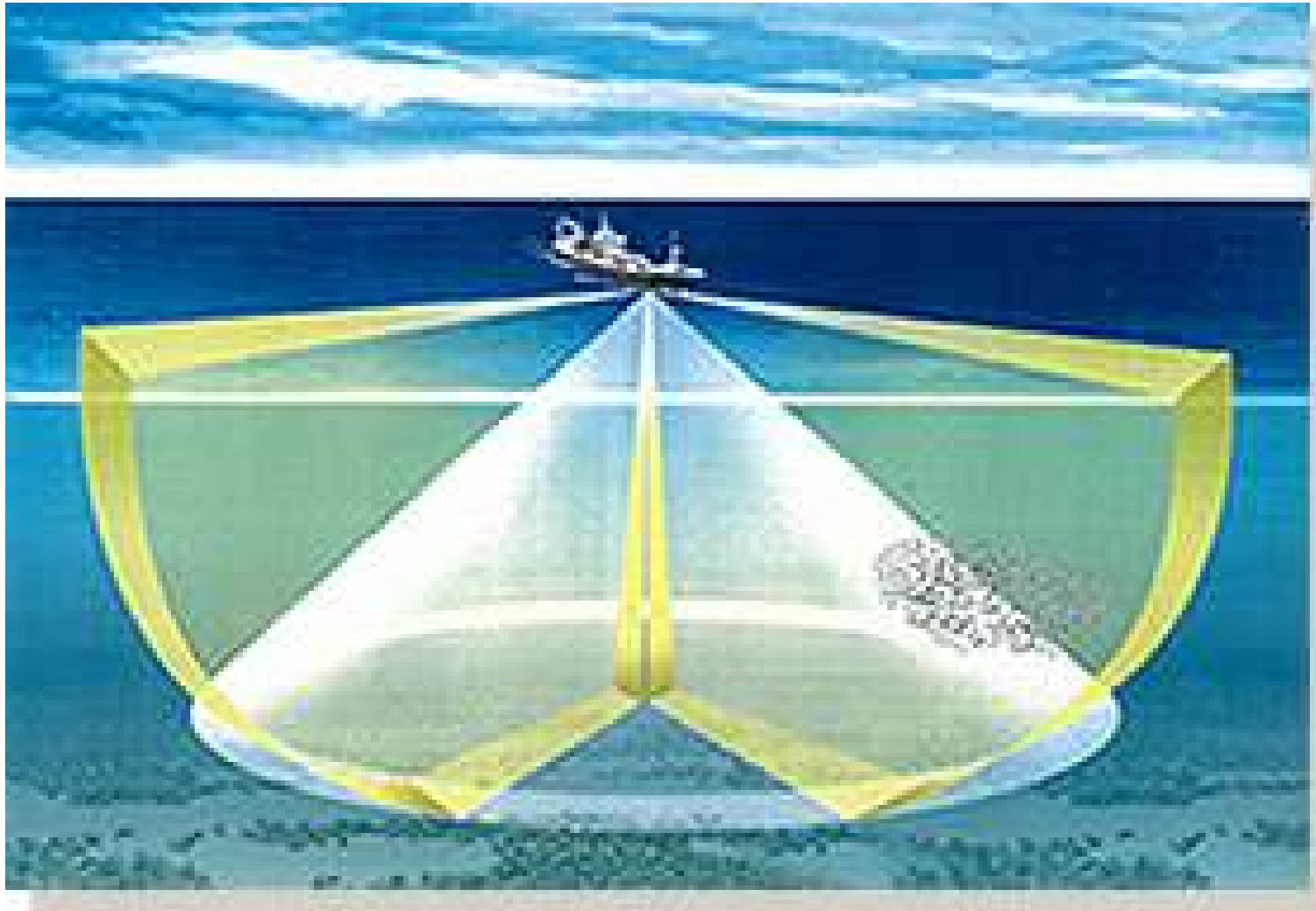
Inset Bottom Right : The active BioSonics hydroacoustic sensor and receiver unit, usually mounted at the stern of the survey boat.



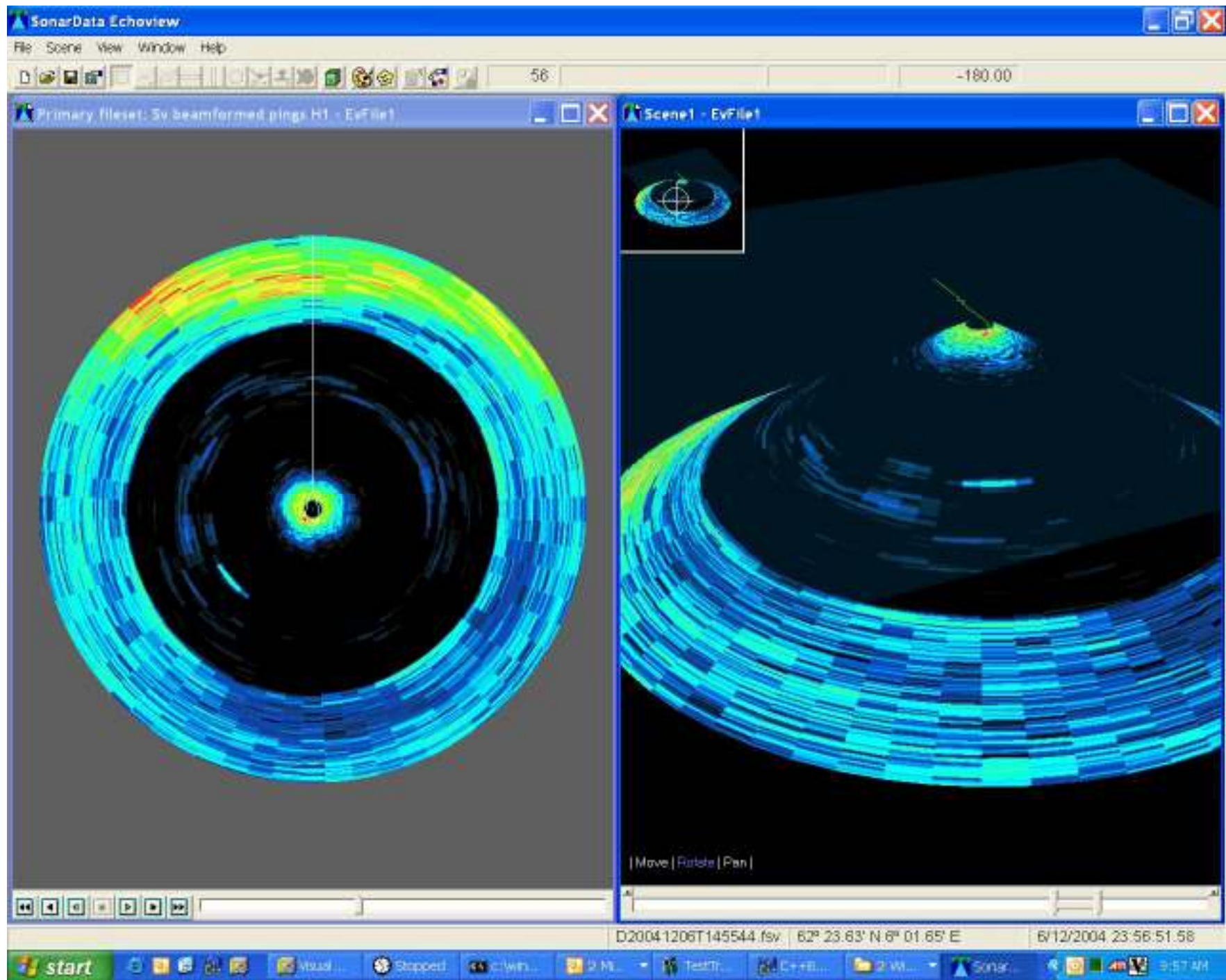
The [BioSonics](#) *Visual Analyzer* software screen output showing typical hydroacoustic data - the echogram used to estimate reservoir bottom topography and fish populations.

Contoh sonar modern

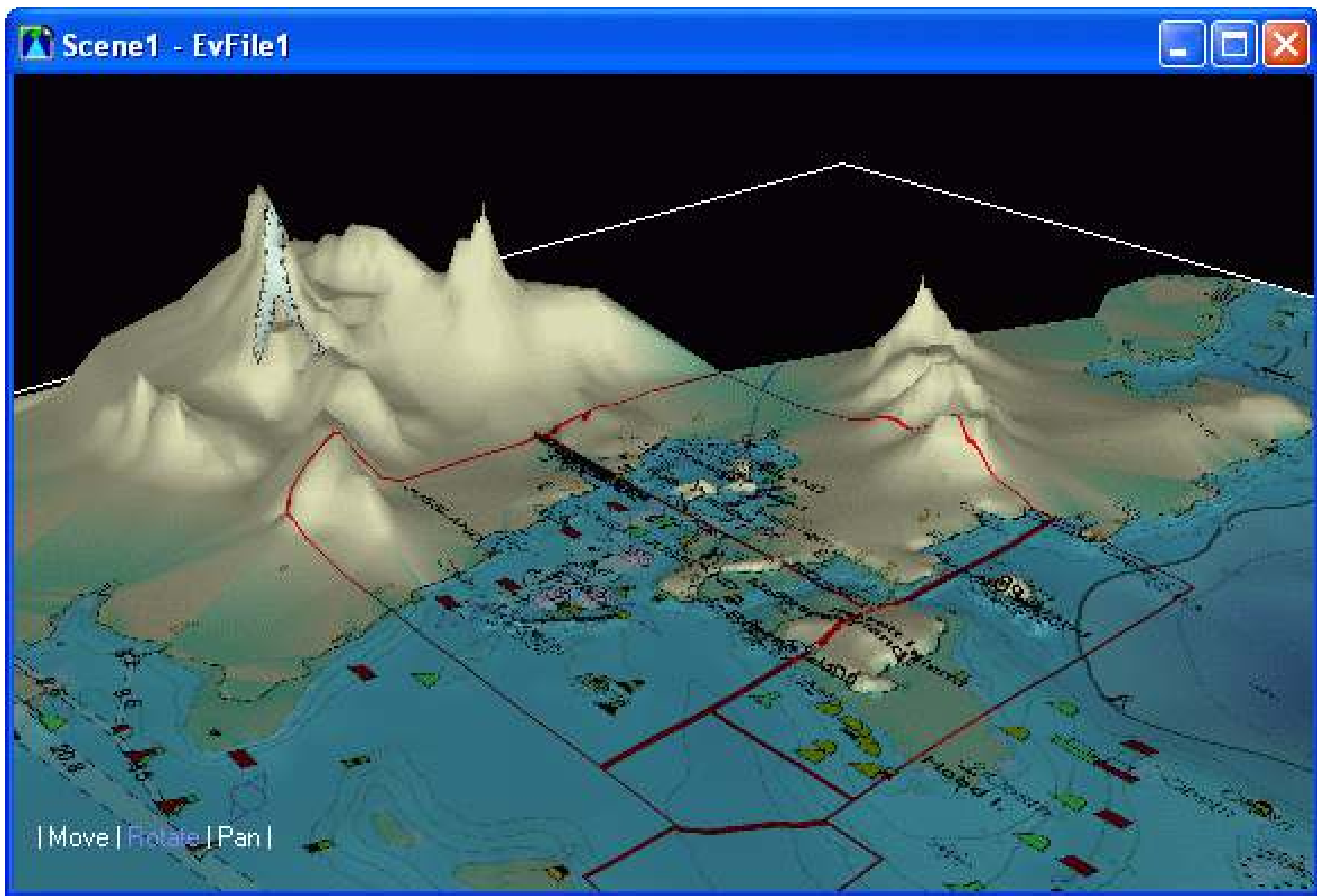
The Furuno FSV-30 (Research Version) is a scientific scanning sonar instrument based on the [FSV-30](#) colour scanning sonar.



Combination of full-circle and vertical scans



H-mode ping in Echoview, and then the same ping as multibeam curtain in a scene



C-MAP is a global electronic chart service. Echoview can use C-MAP data to add 3D surfaces and charts to scenes.

Contoh fish finder keluaran terbaru (2022)



