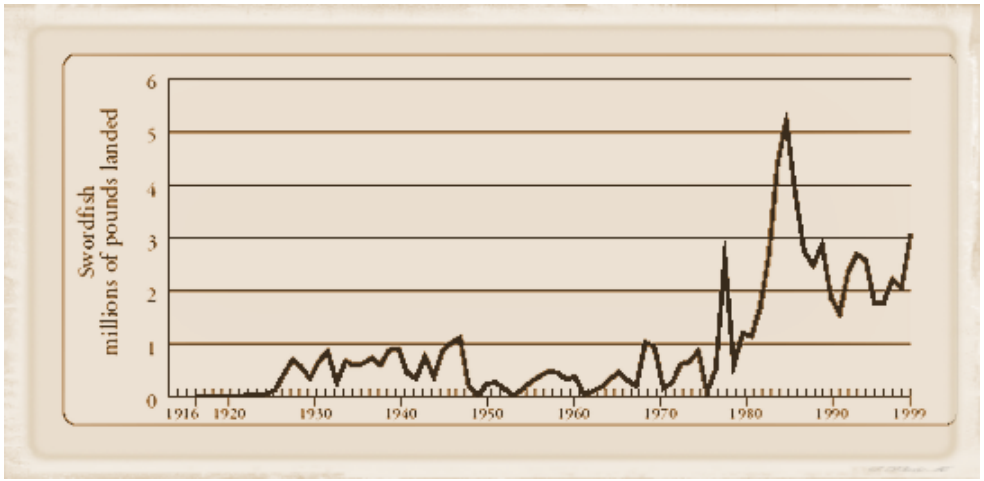
Swordfish in California

A Brief History of the Fishery
California Department of Fish & Game
U.S. West Coast Swordfish Workshop
May 10 -11, 2011, San Diego, CA

Historical Perspective

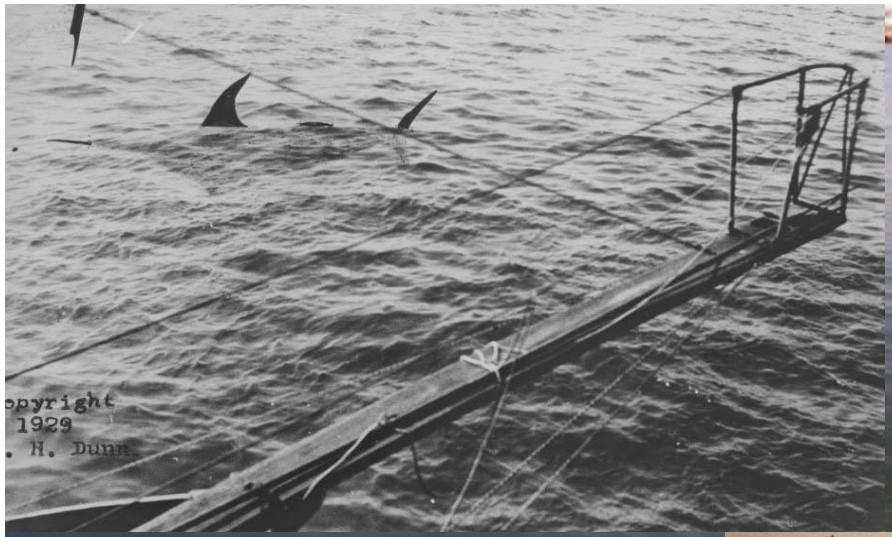
Swordfish collected in 1888 in Monterey Bay
(in Harvard University's Comparative Zoology Museum)

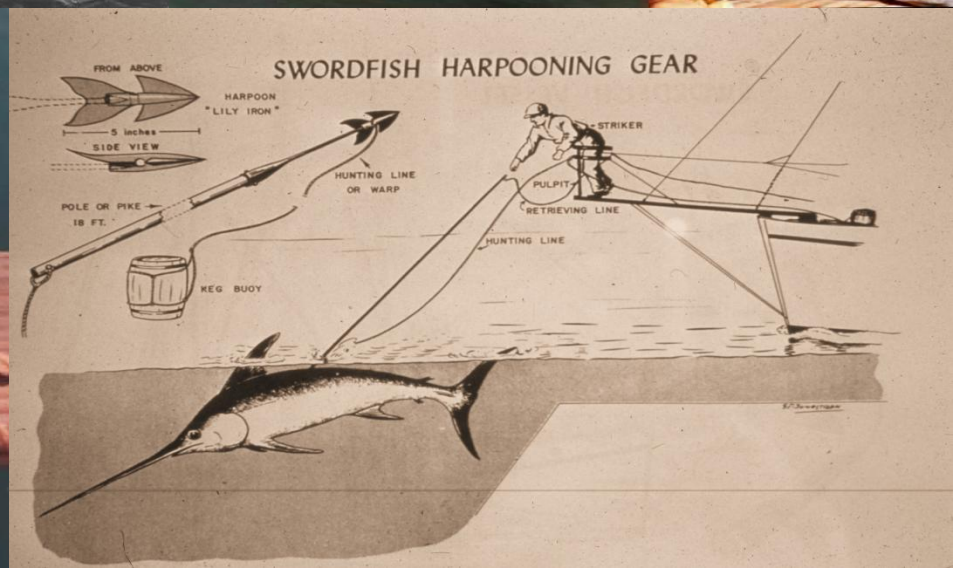


Commercial Landings of Swordfish 1916-1999
(California's Living Marine Resources: A Status Report, 2001)

Tuna Club of Avalon lists the first sport caught record of a swordfish in 1909

Harpoon

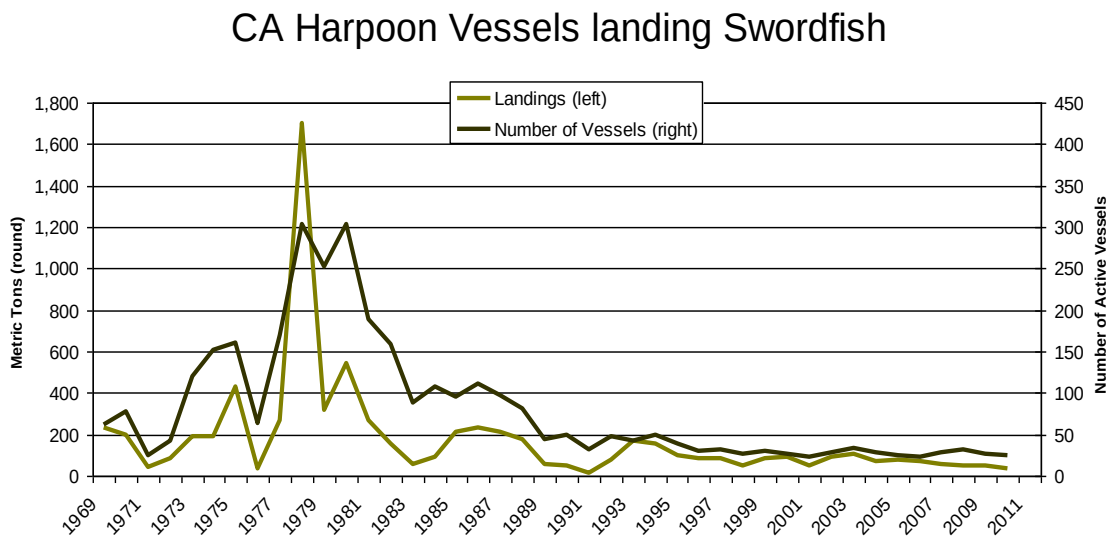

opyright
1929
. H. Dunn

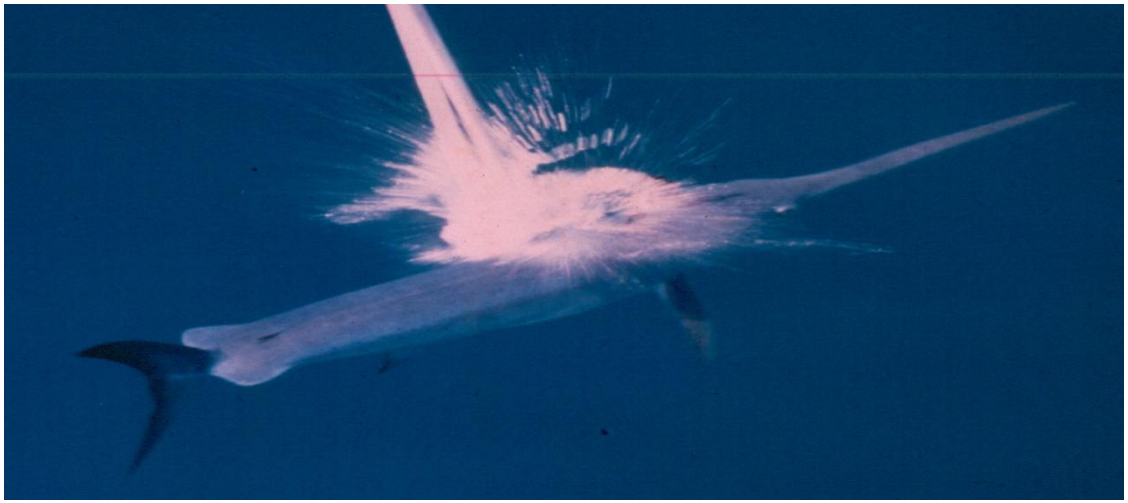

SWORDFISH HARPOONING GEAR
FROM ABOVE
HARPOON
"LILY IRON"
5 inches
SIDE VIEW
POLE OR PIKE
18 FT.
HUNTING LINE
OR WARP
KEG BUOY
STRIKER
PULPIT
RETRIEVING LINE
HUNTING LINE

Harpoon Regulations

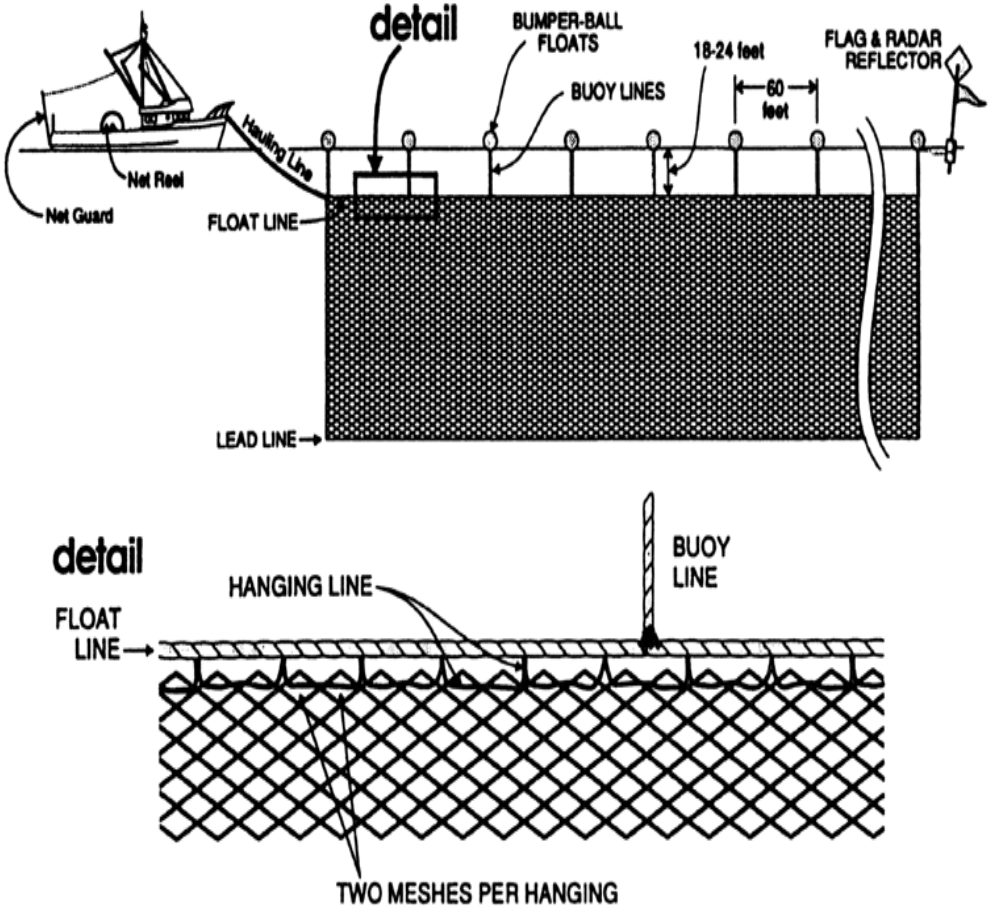
- 1931 – Licenses required, harpoon only
- Only allowed gear until 1970
- Spotter planes:
  - 1970 – allowed
  - 1976 –banned, then allowed limited use
  - 1984 - allowed full time again
- Permits:
  - Max – 310 in 1979
  - Min – 25 in 2001

Harpoon


CA Harpoon Vessels landing Swordfish
Landings (left)
Number of Vessels (right)
Metric Tons (round)
Number of Active Vessels
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
450
400
350
300
250
200
150
100
50
0
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011



Drift Gillnet



Design of typical net in California drift gill net fishery.

Drift Gillnet Regulations

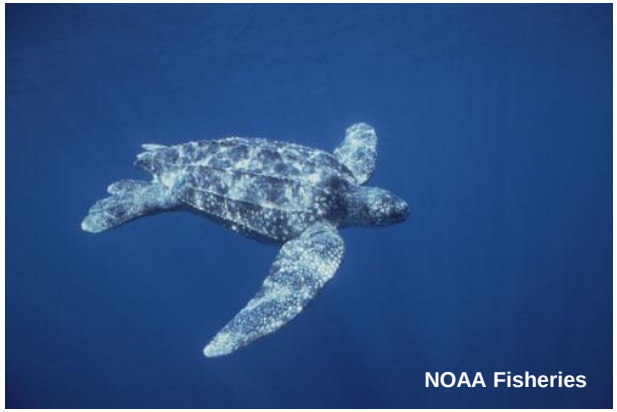
- **1980 - Drift gillnet gear allowed with restrictions:**
  - Monthly quotas for swordfish and marlin
  - Limited entry permit system
  - Logbooks
  - Observer program
- **1982 – Amendment**
  - Quotas repealed
  - Seasonal closure February 1-April 30 around Channel Islands to protect pinnipeds and avoid gear conflicts

Drift Gillnet Regulations

- 1985 – Closures
  - Thresher sharks: no fishing within 75 miles of the coast from June 1 – August 14,
  - Grey whales: no fishing within 25 miles of the coast from December 15 – January 31
- 1989 – Thresher shark closure shifted to May 1 – July 14,
- 1992 – Thresher shark closure extended from May 1 – August 14

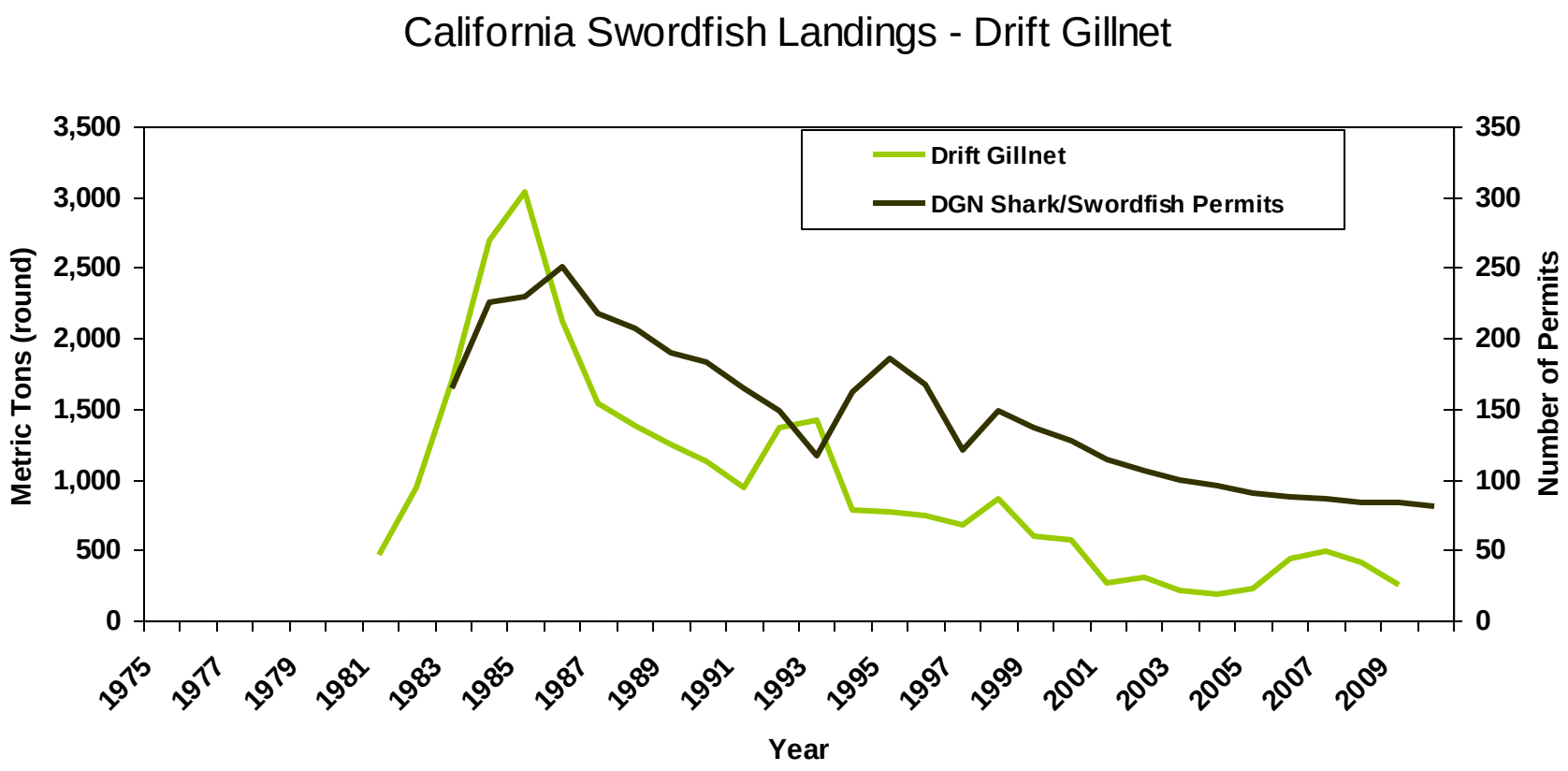
Drift Gillnet Regulations

- 2001 – federal regulations established the Leatherback Conservation Area

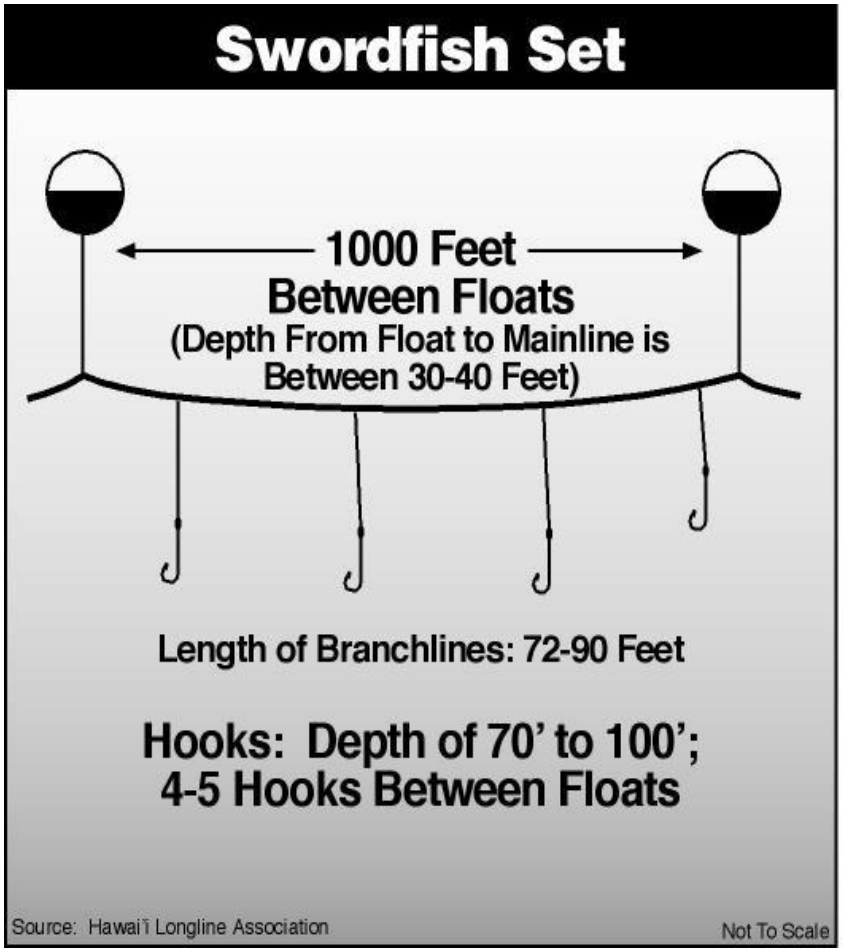


- 2003 – federal regulations established the Loggerhead seasonal closure in El Niño years

Drift Gillnet

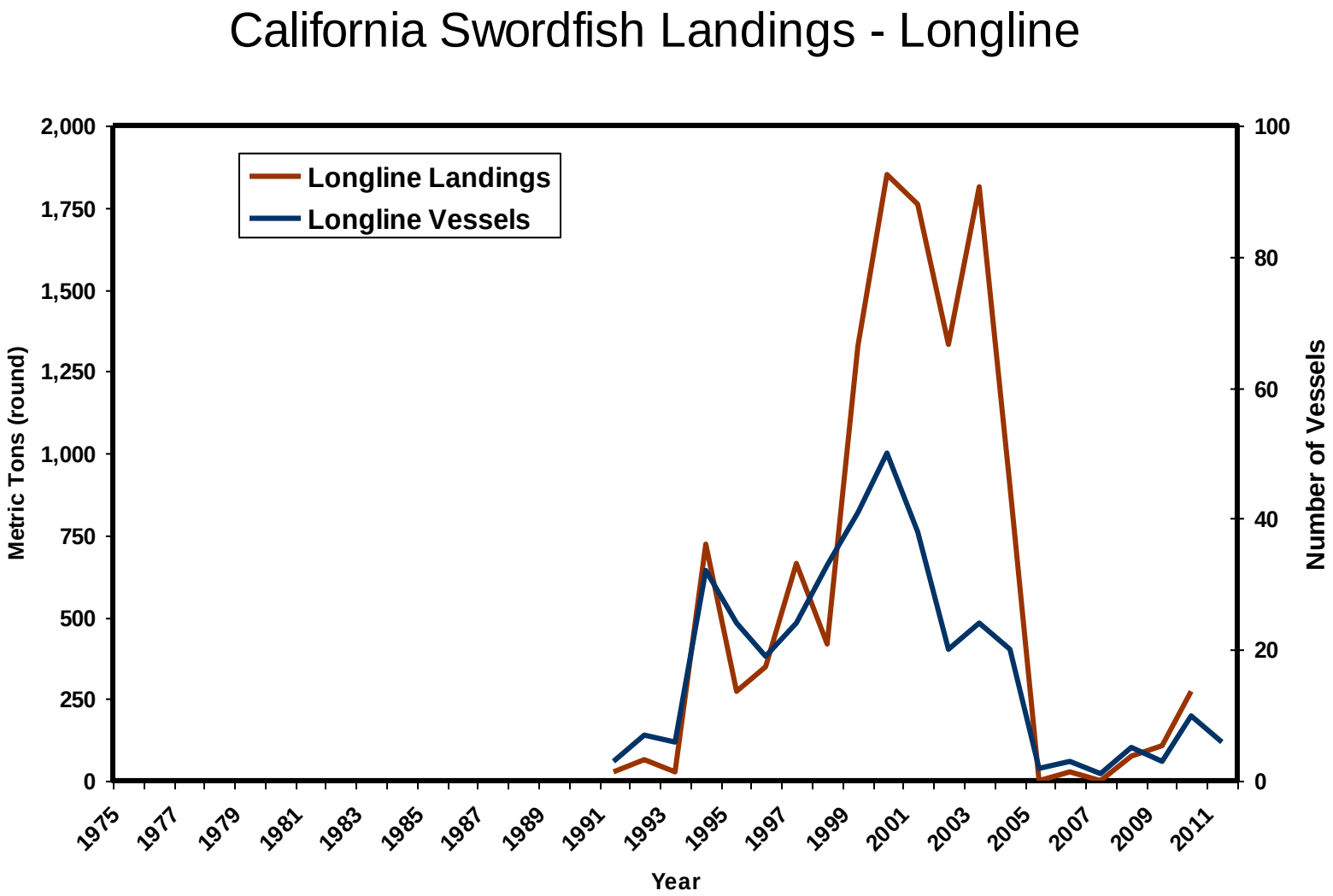


Longline


Swordfish Set
1000 Feet
Between Floats
(Depth From Float to Mainline is
Between 30-40 Feet)
Length of Branchlines: 72-90 Feet
Hooks: Depth of 70' to 100';
4-5 Hooks Between Floats
Source: Hawai'i Longline Association
Not To Scale

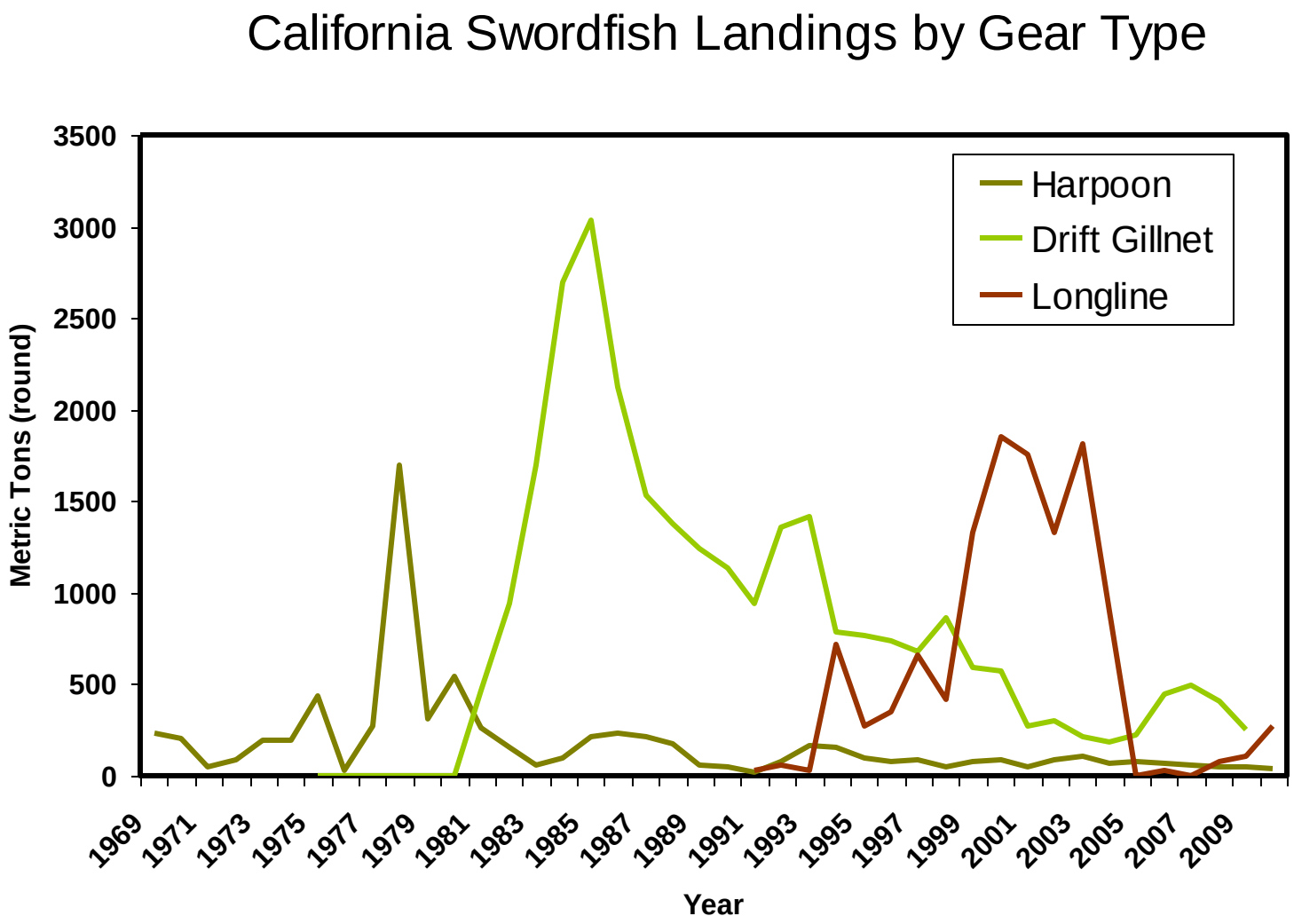
593762
PAN AM II

Longline

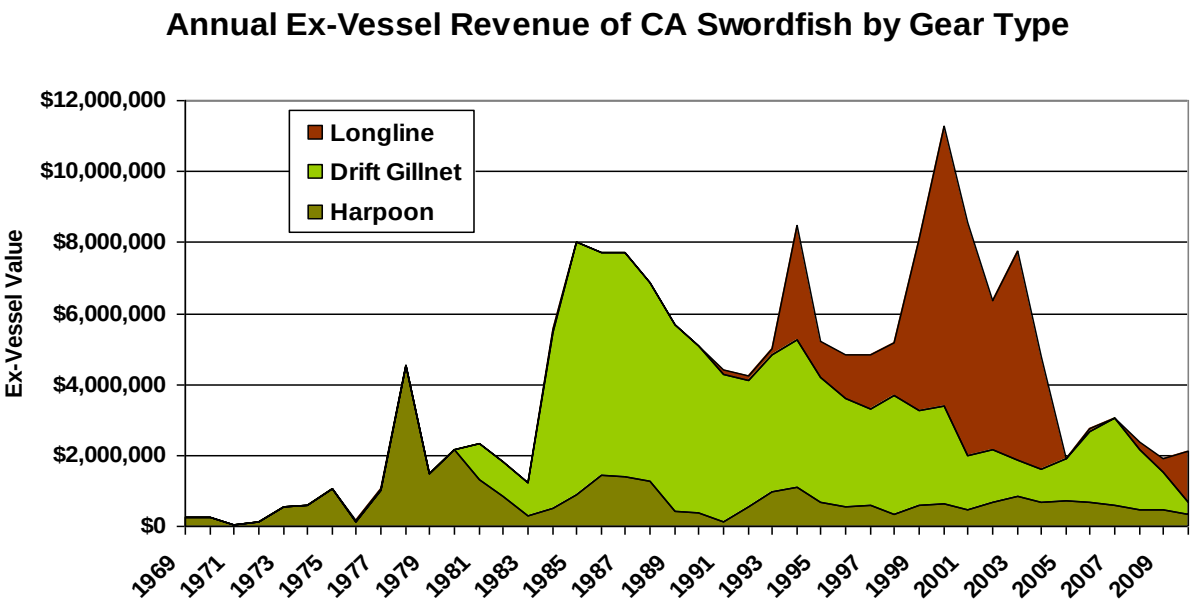

California Swordfish Landings - Longline
Longline Landings
Longline Vessels
Metric Tons (round)
Number of Vessels
Year
2,000
1,750
1,500
1,250
1,000
750
500
250
0
100
80
60
40
20
0
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011

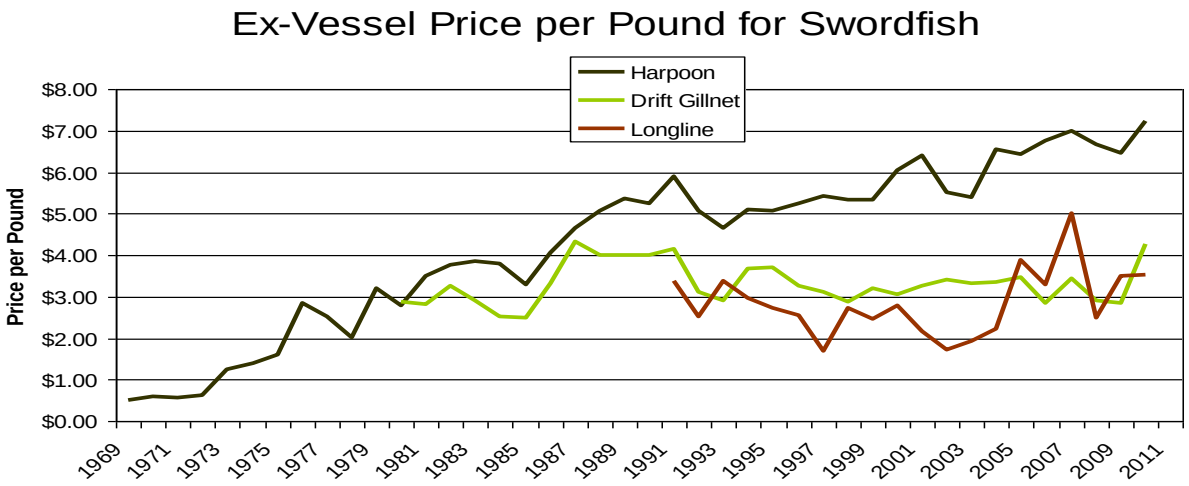
Overview of Entire Commercial Fishery

Landings


California Swordfish Landings by Gear Type
Harpoon
Drift Gillnet
Longline
Metric Tons (round)
3500
3000
2500
2000
1500
1000
500
0
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
Year

Values


Annual Ex-Vessel Revenue of CA Swordfish by Gear Type
Ex-Vessel Value
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
Longline
Drift Gillnet
Harpoon
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009


Ex-Vessel Price per Pound for Swordfish
Price per Pound
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
Harpoon
Drift Gillnet
Longline
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011

Moving from State to Federal Management

PFMC Highly Migratory Species Management Team