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Distribution and Main Characteristic of Fish Species on Flemish Cap Based on the 1988-2002 EU-Surveys in July

by

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Abstract

Information of most of fish species on Flemish Cap is presented, based on the results of the EU surveys in July from 1988 to 2002. It includes: survey catches in weight and number, mean weight, length-weight relationship, length distribution, mean age at length (when available) and bathymetric distribution.

KEYWORDS: Flemish Cap, survey, ichthyology.

Introduction

This paper presents basic data from all species that appeared in the EU survey 1988-2002. Tables and graphics for each species are not final conclusion of any study, but summaries of crude data, which were only reviewed to correct fault and erroneous data. Circumstances of each survey must be taken into account to interpret data for some species, i.e., the mesh size used and shrimp catches. Some species are missing in the former surveys because of our limited skill to identify them, i.e., *Sebastes mentella* and *S. fasciatus*. Equivalent results from the Canadian survey on Flemish Cap, 1978-1985, were published by Wells (1989).

Survey description

Survey was designed to evaluate the main commercial species at the time the series started, which were: cod, American plaice and redfish. Based on these species, main characteristics of the survey were chosen: Lofoten gear, 35 mm cod-end mesh size and depth range: up to 730 m. Additional information is provided in the following table:

Procedure	Specification
Mean trawling speed	3.50 knots
Trawling time	30 minutes effective time
Fishing gear	type Lofoten
footrope / handrope	31.20 / 17.70 m
footgear	27 steel bobbins of 35 cm
floats	20+2x15
vertical opening	3.0 m (according SCANMAR)
warps	100 meters, 45 mm, 200 Kg/100m
trawl doors	polyvalent, 850 Kg
mesh size in cod-end	35 mm
Type of survey	Stratified sampling
Station selection procedure	Random
Daily period for fishing	6.00 to 22.00 hours

It was soon noted that the survey was not quite adequate for other species of upcoming importance. The cod-end mesh size was very wide for shrimp, and the survey does not cover all the distribution depth range of Greenland halibut. In relation with the mesh size problems, trials were made to evaluate the convenience of changing the survey net to a Campelen gear, but the change was not agreed because it would introduce additional complexity to the survey. Further, the increase of the depth range was never possible with the current vessel *Cornide de Saavedra*.

Even there was a permanent effort to carrying out each annual survey with the same characteristics, some changes were introduced or were unavoidable. A summary of these incidents is as follows:

1988 – Hauls were made in a 24 ours schedule. It was concluded that such strategy, resulting in the shortening the survey in two days, also limited the rest of the crew to an undesirable level. This practice was withdrawn in future, and only 16 hours daytime, from 6:00 to 22:00, was used for trawling. Geographic position was obtained with LORAN C system.

1989 – Due to reparations in the RV *Cornide de Saavedra*, the RV *Cryos* was chartered for the survey. Gear, warps and trawl doors were the ones used in 1988. Once the survey was finish, 10 pelagic tows were carried out, looking for pelagic cod; catches were cod, redfish and myctophids. Geographic position was obtained with LORAN C system.

1990 – As the reparation of the RV *Cornide de Saavedra* continued, the RV *Ignat Pavlyuchenkov* was chartered for the survey. Gear, warps and trawl doors were also the ones used in previous years. The gear was modified to reinforce de fore union footrope–bobbins with a steel triangle. The trawling speed criterion had been to maintain it between 3.5 ad 4.0 knots. Trials were made to maintain a trawling speed of 4.0 knots, as specified for the Lofoten gear, but it was observed that the bobbins of the footrope did not touched the bottom when speed was more that 3.7 knots. In conclusion, the target trawling speed was set at 3.5 knots. The Geographical position was inaccurately determined, so a uniform towed distance of 1.8 nautical miles was assumed in this survey for the swept area method calculations. Redfish of small size where species is very difficult to recognize, roughly fish with less than 15 cm length, was considered an independent group for sampling; it is named “juvenile *Sebastes*”. The survey was continued with an independent acoustic survey.

1991 – Redfish: *Sebastes mentella* and *S. fasciatus*, which were considered as *Sebastes spp.* in previous surveys, were now split by species by sampling: fish of a sample from each haul were identified and the proportion between species was raised to the total catch. SCANMAR equipment was used in two tows at very different depths to check the different behaviour of the gear. GPS was introduced.

1992 – Redfish was fully split by species at each haul before sampling because of the skill achieved in species identification. The gear was systematically monitored with SCANMAR equipment. Consequently a formula to count the 30 minutes effective trawling time was decided: 32 minutes plus one minute for each 100 meters depth.

1993 – Three gears were lost due to weakness of the wraps. 101 valid tows were carried out, but two strata were not visited: 14 and 18, and one single tow was made in stratum 17. Hauls 48-106 were made with a train of rubber bobbins instead of the standard steel one, and thanks to the material supplied by the CV *Playa de Sartaxens*. Biomass in strata not sampled was calculated by adjusting data of the whole survey series to a multiplicative model. Feeding studies had been carried out since 1988, but they were systematized since now with the incorporation of two scientists on board for that task. A different person, with an alternative aging criterion, undertook aging of American plaice; previous readings are judged inadequate for ages 8+.

1994 – The 35 mm wraps were replaced by 45 mm ones. Cod-end mesh size was 40 mm for haul 29 onwards. Number of floats in the hand rope was changed from 16+2×12 to 20+2×15. A bacteriological study on fish flesh was carried out.

1995 –

1996 –

1997 –

1998 – Cod-end mesh size was 40 mm for haul 14 onwards, but a liner of 25 mm mesh size covered the two meters back part of the cod-end.

1999 – The length of the wire released at each haul had been never controlled while the Commander of the RV Cornide de Saavedra was unchanged, knowing the he maintained the same criterion all the time. The length of the wire to be released was now established at 2.5 time depth plus 100 meters: a little bit shorter than previous practices but more in agreement with new criteria. A comparative trial of the Lofoten gear and a Campelen 1800 shrimp trawl gear was carried out: 20 survey hauls with the Lofoten gear were repeated with the Campelen gear in the next or in the previous day (Vázquez 2002 a).

2000 – The comparative trial of Lofoten and Campelen gears was continued, and 20 additional comparative hauls were carried out.

2001 – The comparative trial of Lofoten and Campelen gears was concluded with 20 additional comparative hauls.

2002 – An exploratory haul was made in the Beothuk Knoll, at the Southwest Fle mish Cap. The gear was lost during the second haul.

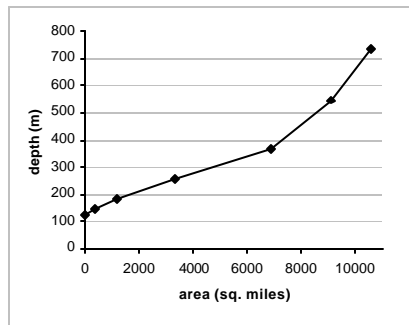
Dates and more outstanding features of the survey are presented in the following table.

Year	Dates	Valid tows	Notes
1988	8/7 – 22/7	115	24 hours
1989	12/7 – 1/8	116	R/V Cryos
1990	18/7 – 6/8	113	R/V Ignat Pavlyuchenkov
1991	24/6 – 11/7	117	
1992	29/6 – 18/7	117	
1993	23/6 – 8/7	101	3 strata were not covered: 14, 17, 18
1994	6/7 – 23/7	116	40 mm mesh size cod-end
1995	2/7 – 19/7	121	
1996	28/6 – 14/7	117	
1997	16/7 – 1/8	117	
1998	17/7 – 2/8	119	25 mm mesh size cod-end
1999	2/7 – 20/7	117	
2000	10/7 – 28/7	120	
2001	3/7 – 20/7	120	
2002	30/6 – 17/8	120	

Main characteristics of the R/V *Cornide de Saavedra* and other research vessels used, all of them stern trawlers, are presented in the following table. The effect of changing survey vessel on abundance estimates was always considered insignificant, taken into account that all other characteristics of the tow remained unchanged.

R/V name	GT	Power (HP)
<i>Cornide de Saavedra</i>	1,200	1,500 + 750
<i>Cryos</i>	800	1,380
<i>Ignat Pavlyuchenkov</i>	2,500	1,250

The area covered by the survey was from the shallowest part of the bank, with 125 meters depth, down to the 732 meters (400 fathoms) contour. The total area is 10,555 square nautical miles, distributed as it is shown in the following figure. Two thirds of the area is located at less than 366 meters depth (200 fathoms).



List of species

A list of all species identified in any survey is presented in Table 1. Some few additional species, where doubts on identification remain, were excluded. Scientific names of fish species follow the Eschmeyer's Catalogue of Fishes (Eschmeyer 1998).

A summary page for each species is included as annex. Data used were those of the standard survey, without including data from additional trials above mentioned, such as pelagic tows and hauls with the Campelen gear or in the Beuthuk Knoll. The page for each species contains the complete scientific name, synonyms and common names, when available, and the following tables and figures:

- Top-left. A table with absolute number of occurrence of the species by year: total catch in grams, number of specimens, number of hauls it occurred and mean observed weight in grams. Only valid survey tows were considered.
- Top-right. Length weight relationship for the fresh fish in grams -centimetre. N is the number of specimens.
- Top-right. A graphic with total biomass and total abundance estimated by the sweep area method, based on the stratified sampling scheme of the survey. Total biomass is represented by a thick line, which includes the 95% confidence limits, or two times standard deviation, of each annual estimate. For those species with less that 1000 individual in the whole series, this graphic is substituted for a similar one, but with absolute values of catch in weight and number from valid survey tows, as already presented in the left side table.
- Middle-left. Length distribution of absolute occurrence in the whole survey series. Males and females are independently considered according to the NAFO sampling current practices. All survey hauls were included, even the non-valid ones; this can produce some apparent inconsistency between top-left table and this figure (i.e. the fist species: sea lamprey). The contribution of non-valid tows is only significant for rare species. An estimated length distribution for the whole stock is available for most common species in the current NAFO assessment papers (Vázquez 2002 b).
- Middle-right. Mean age at length. This is a crude mean age of all otoliths available for each length group. Otoliths were sampled at random in each length-class, but not for the whole catch; so the mean age as a function of length is justified, but the inverse relationship: length as a function of mean age, is questionable.
- Bottom-left. Depth range of occurrence: minimum, maximum, median, and 25 and 75 percentiles. Simpler figures are provided for rare species. Flemish Cap is a relative small bank and depth is the main factor for species distribution. A wider view of the geographic distribution of each species in the North West Atlantic can be found in the East Coast of North America Strategic Assessment Project (ECNASAP), which maintain an open atlas in Internet: <http://www-orca.nos.noaa.gov/projects/ecnasap/ecnasap.html>
- Bottom-right. Density by depth. Total biomass swept area estimates were added by depth ranges and divided by the corresponding area. The mark in the density axis indicates the mean density over the whole bank. This figure is missing for very rare species.

References

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Table 1 – Species recorded on Flemish Cap by the EU bottom-trawl survey in July.

ORDER	ORDER
Family Species	Family Species
PISCES	
PETROMYZONTIFORMES	Microstomatidae
Petromyzontidae	<i>Nansenia groenlandica</i>
<i>Petromyzon marinus</i>	Bathylagidae
	<i>Bathylagus euryops</i>
SQUALIFORMES	Platytroutidae
Squalidae	<i>Maulisia microlepis</i>
<i>Squalus acanthias</i>	<i>Holtbyrnia anomala</i>
Dalatiidae	<i>Normichthys operosus</i>
<i>Etmopterus princeps</i>	
<i>Centroscyllium fabricii</i>	
RAJIFORMES	STOMIIFORMES
Rajidae	Stomiidae
<i>Bathyraja spinicauda</i>	<i>Stomias boa boa</i>
<i>Amblyraja radiata</i>	<i>Chauliodus sloani</i>
<i>Malacoraja senta</i>	<i>Borostomias antarcticus</i>
<i>Dipturus linteus</i>	<i>Malacosteus niger</i>
<i>Amblyraja jenseni</i>	<i>Photostomias guernei</i>
<i>Amblyraja hyperborea</i>	<i>Melanostomias</i> sp.
<i>Rajella fyllae</i>	Gonostomatidae
	<i>Gonostoma bathyphilum</i>
	<i>Cyclothone microdon</i>
ANGUILLIFORMES	Sternoptychidae
Nemichthyidae	<i>Sternoptyx pseudobscura</i>
<i>Nemichthys scolopaceus</i>	<i>Sternoptyx diaphana</i>
Serrivomeridae	
<i>Serrivomer beanii</i>	AULOPIIFORMES
Synaphobranchidae	Alepisauridae
<i>Synaphobranchus kaupii</i>	<i>Alepisaurus brevirostris</i>
<i>Simenchelys parasitica</i>	Anotopteridae
	<i>Anotopterus pharao</i>
NOTACANTHIFORMES	Paralepididae
Notacanthidae	<i>Magnisudis atlantica</i>
<i>Notacanthus chemnitzii</i>	<i>Arctozenus risso</i>
OSMERIFORMES	MYCTOPHIFORMES
Osmeridae	Myctophidae
<i>Mallotus villosus</i>	<i>Benthosema glaciale</i>
Alepocephalidae	<i>Ceratoscopelus maderensis</i>
<i>Alepocephalus bairdii</i>	<i>Lampadena speculigera</i>
<i>Alepocephalus agassizii</i>	<i>Myctophum punctatum</i>
<i>Xenodermichthys copei</i>	<i>Notoscopelus kroyeri</i>
Argentinidae	<i>Protomyctophum arcticum</i>
<i>Argentina silus</i>	

ORDER
Family Species
LOPHIIFORMES
Lophiidae
<i>Lophius americanus</i>
Melanocetidae
<i>Melanocetus johnsonii</i>
Oneirodidae
<i>Oneirodes eschrichtii</i>
GADIFORMES
Gadidae
<i>Gadus morhua</i>
<i>Melanogrammus aeglefinus</i>
<i>Micromesistius poutassou</i>
<i>Pollachius virens</i>
<i>Boreogadus saida</i>
Merlucciidae
<i>Merluccius bilinearis</i>
Phycidae
<i>Urophycis chuss</i>
<i>Urophycis tenuis</i>
<i>Phycis chesteri</i>
Lotidae
<i>Gaidropsarus ensis</i>
<i>Brosme brosme</i>
<i>Enchelyopus cimbrius</i>
Moridae
<i>Antimora rostrata</i>
Macrouridae
<i>Coryphaenoides rupestris</i>
<i>Macrourus berglax</i>
<i>Nezumia bairdii</i>
<i>Caelorinchus caelorhincus caelorhincus</i>
OPHIDIIFORMES
Ophidiidae
<i>Brotulotaenia brevicauda</i>
BELONIFORMES
Scomberesocidae
<i>Scomberesox saurus saurus</i>
BERYCIFORMES
Diretmidae
<i>Diretmus argenteus</i>
Anoplogasteridae
<i>Anoplogaster cornuta</i>
STEPHANOBERYCIFORMES
Melamphaidae
<i>Poromitra megalops</i>
<i>Scopelogadus beanii</i>
PERCIFORMES
Chiasmodontidae
<i>Chiasmodon niger</i>
Anarhichadidae
<i>Anarhichas lupus</i>
<i>Anarhichas minor</i>
<i>Anarhichas denticulatus</i>

ORDER
Family Species
Zoarcidae
<i>Lycodes esmarkii</i>
<i>Lycodes reticulatus</i>
<i>Lycodes vahlII</i>
Stichaeidae
<i>Lumpenus lamprettaeformis</i>
Trichiuridae
<i>Aphanopus carbo</i>
Caristiidae
<i>Caristius groenlandicus</i>
ESCORPAENIFORMES
Sebastidae
<i>Sebastes (juveniles)</i>
<i>Sebastes marinus</i>
<i>Sebastes mentella</i>
<i>Sebastes fasciatus</i>
Cottidae
<i>Triglops murrayi</i>
Psychrolutidae
<i>Cottunculus microps</i>
<i>Cottunculus thomsonii</i>
Agonidae
<i>Aspidophoroides monopterygius</i>
<i>Leptagonus decagonus</i>
Cyclopteridae
<i>Liparis fabricii</i>
<i>Liparis liparis</i>
<i>Careproctus micropus</i>
PLEURONECTIFORMES
Pleuronectidae
<i>Hippoglossoides platessoides</i>
<i>Glyptocephalus cynoglossus</i>
<i>Reinhardtius hippoglossoides</i>
<i>Hippoglossus hippoglossus</i>
CEPHALOPODA
SEPIOIDEA
Sepiolidae
<i>Semirossia</i> sp.
TEUTHOIDEA
Onychoteuthidae
<i>Onychoteuthis banksi</i>
Histioteuthidae
<i>Histioteuthis reversa</i>
<i>Histioteuthis bonnellii</i>
Ommastrephidae
<i>Illex illecebrosus</i>
Cranchiidae
<i>Taonius pavo</i>
Chiroteuthidae
<i>Chiroteuthis picteti</i>
Brachioteuthidae
<i>Brachioteuthis</i> sp.

ORDER
Family Species

OCTOPODA

Octopodidae
Bathypolypus arcticus
Cirroteuthidae
Cirroteuthidae

CRUSTACEA (DECAPODA)

CARIDEA

Oplophoridae
Acanthephyra pelagica
Acanthephyra purpurea
Pandalidae
Pandalus borealis
Hippolytidae
Spirontocaris lilljeborjii
Pasiphaeidae
Parapasiphaea sulcatifrons
Pasiphaea tarda
Crangonidae
Sabinea hystrix
Sabinea sarsii
Pontophilus norvegicus

ORDER
Family Species

PENAEIDEA

Sergestidae
Sergia robusta
Sergestes arcticus
Aristeidae
Plesiopenaeus edwardsianus

PALINURA

Polychelidae
Stereomastis sculpta

ANOMALA

Lithodidae
Lithodes maja
Neolithodes grimaldii

BRACHYURA

Majidae
Chionoecetes opilio

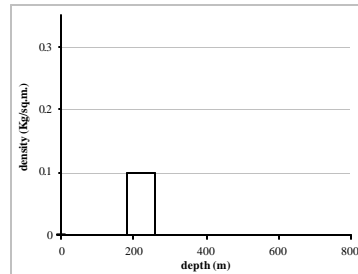
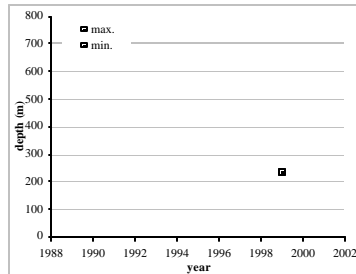
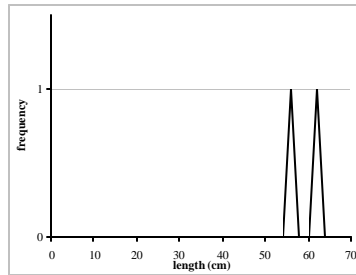
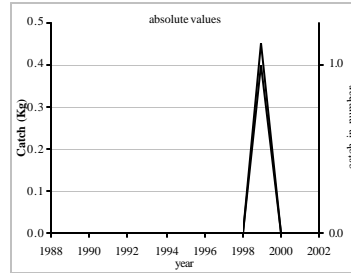
***Petromyzon marinus* Linnaeus, 1758**

Sea lamprey

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	450	1	1	450
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	450	1	1	450

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0000 b = 0.00 N = 0

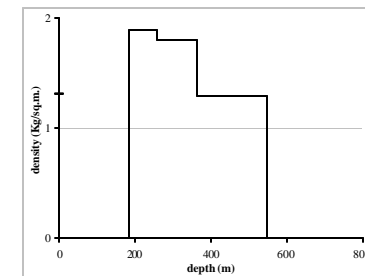
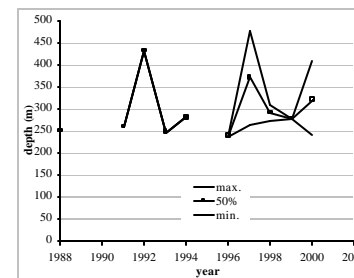
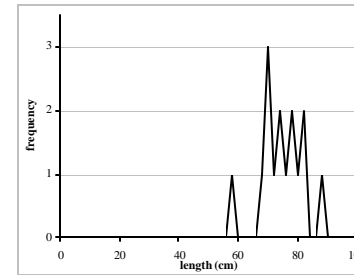
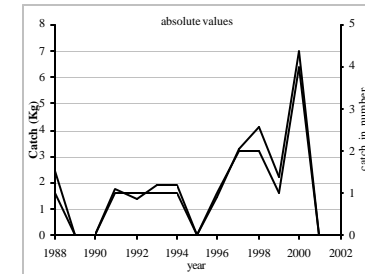
***Squalus acanthias* Linnaeus, 1758**

Piked dogfish, Spiny dogfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	2,450	1	1	2,450
1989	0	0	0	0
1990	0	0	0	0
1991	1,750	1	1	1,750
1992	1,380	1	1	1,380
1993	1,955	1	1	1,955
1994	1,930	1	1	1,930
1995	0	0	0	0
1996	1,500	1	1	1,500
1997	3,325	2	2	1,663
1998	4,110	2	2	2,055
1999	2,200	1	1	2,200
2000	7,015	4	4	1,754
2001	0	0	0	0
2002	0	0	0	0
total	27,615	15	15	1,841

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0027 b = 3.09 N = 7

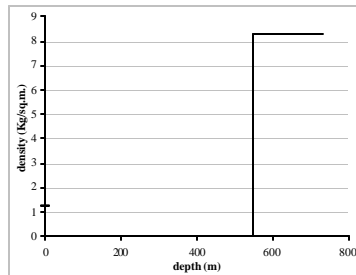
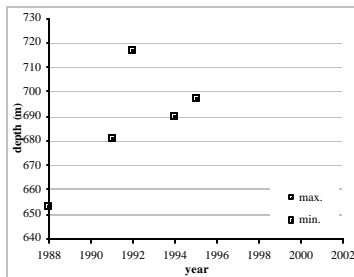
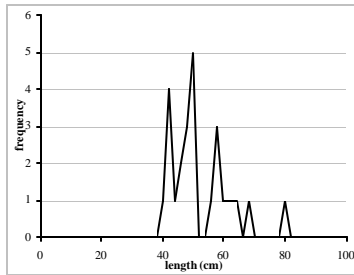
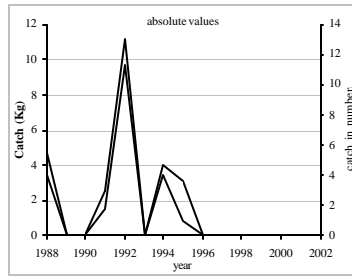


***Etmopterus princeps* Collett, 1904**

Great lanternshark, Rough sagre

year	C-total (g)	N-total	hauls	mean-w (g)
1988	4,700	4	1	1,175
1989	0	0	0	0
1990	0	0	0	0
1991	1,470	3	1	490
1992	9,750	13	1	750
1993	0	0	0	0
1994	4,000	4	1	1,000
1995	3,120	1	1	3,120
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	23,040	25	5	922

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0488$ $b = 2.46$ $N = 4$

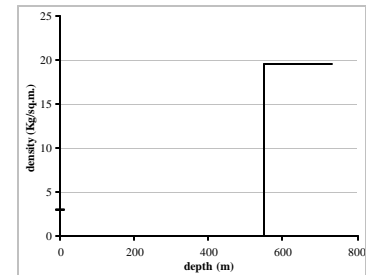
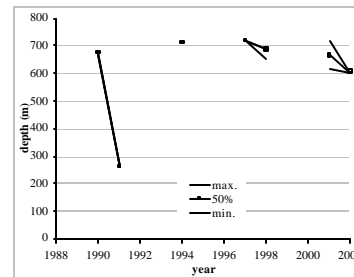
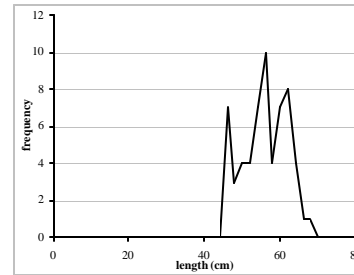
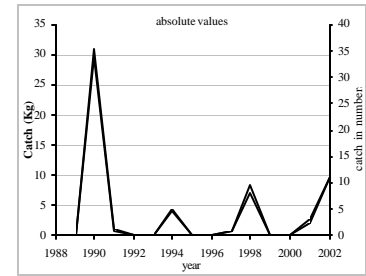


***Centroscyllium fabricii* (Reinhardt, 1825)**

Black dogfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	30,870	34	2	1,000
1991	940	1	1	940
1992	0	0	0	0
1993	0	0	0	0
1994	3,970	5	1	794
1995	0	0	0	0
1996	0	0	0	0
1997	745	1	1	745
1998	8,440	8	2	1,055
1999	0	0	0	0
2000	0	0	0	0
2001	2,140	3	2	713
2002	9,700	11	1	882
total	56,805	63	10	948

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0086$ $b = 2.88$ $N = 28$



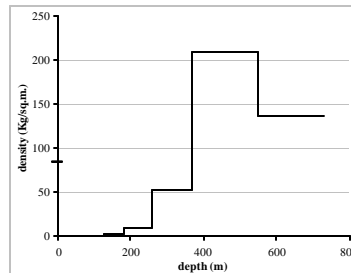
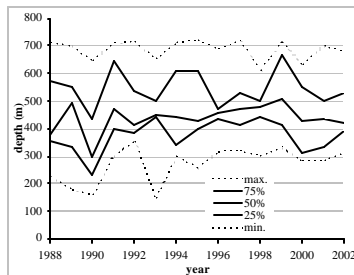
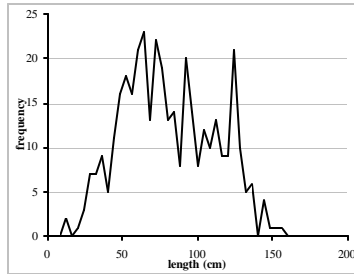
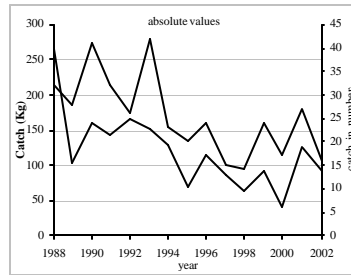
***Bathyraja spinicauda* (Jensen, 1914)**

Syn.: *Raja spinicauda*

Spinetail ray, Spinytail skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	265,320	32	25	8,291
1989	102,700	28	16	3,668
1990	159,690	41	26	3,895
1991	143,740	32	21	4,492
1992	166,558	26	15	6,382
1993	152,020	42	22	3,620
1994	128,011	23	18	5,518
1995	67,660	20	15	3,383
1996	115,830	24	17	4,826
1997	84,970	15	13	5,665
1998	62,825	14	11	4,488
1999	92,320	24	18	3,847
2000	41,710	17	17	2,454
2001	126,290	27	18	4,677
2002	92,710	16	13	5,794
total	1,802,354	381	265	4,727

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0038$ $b = 3.09$ $N = 197$



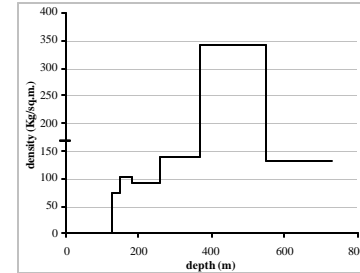
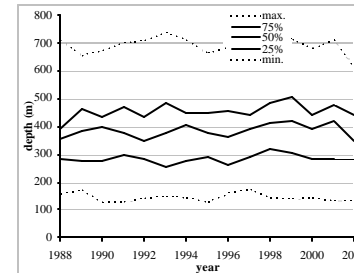
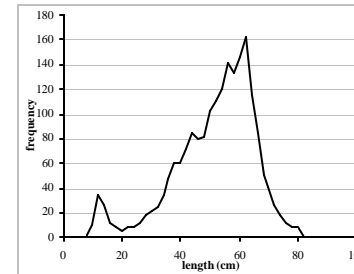
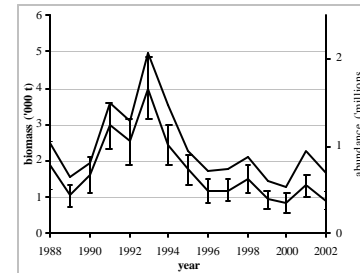
***Amblyraja radiata* (Donovan, 1808)**

Syn.: *Raja radiata*

Thorny skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	263,590	148	62	1,781
1989	165,715	101	46	1,637
1990	223,870	114	52	1,972
1991	419,180	212	80	1,978
1992	351,390	179	74	1,958
1993	453,350	258	69	1,757
1994	331,765	195	68	1,701
1995	269,718	146	72	1,847
1996	175,520	106	48	1,663
1997	172,930	106	54	1,631
1998	222,170	128	62	1,732
1999	128,382	83	52	1,547
2000	125,295	80	52	1,566
2001	201,717	143	74	1,411
2002	140,000	104	56	1,346
total	3,644,592	2,104	921	1,733

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0056$ $b = 3.16$ $N = 970$



Malacoraja senta (Garman, 1885)

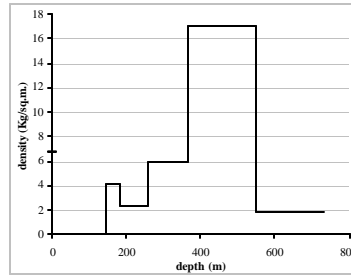
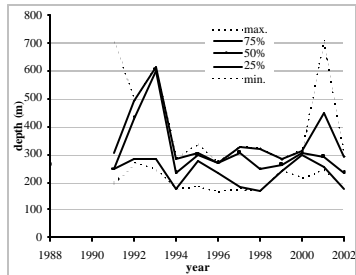
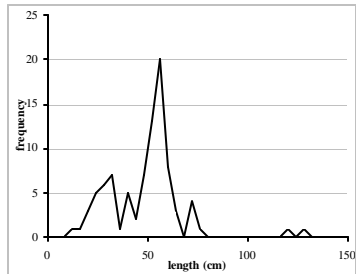
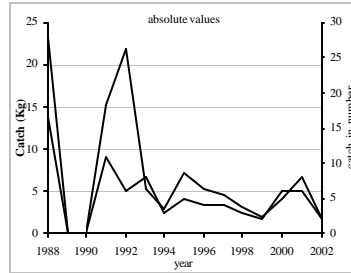
Syn.: *Raja senta*

Smooth skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	13,860	28	17	495
1989	0	0	0	0
1990	0	0	0	0
1991	15,190	11	8	1,381
1992	21,990	6	6	3,665
1993	5,395	8	5	674
1994	3,010	3	3	1,003
1995	7,180	5	5	1,436
1996	5,230	4	3	1,308
1997	4,460	4	4	1,115
1998	3,045	3	3	1,015
1999	1,980	2	2	990
2000	4,115	6	6	686
2001	6,605	6	5	1,178
2002	1,800	2	2	900
total	93,860	88	69	1,071

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0026 b = 3.21 N = 46



Dipturus linteus (Fries, 1838)

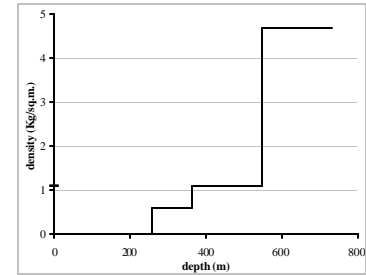
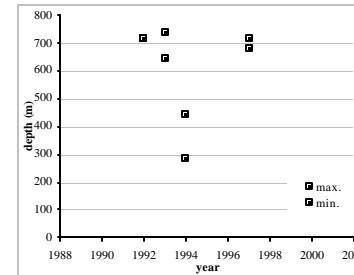
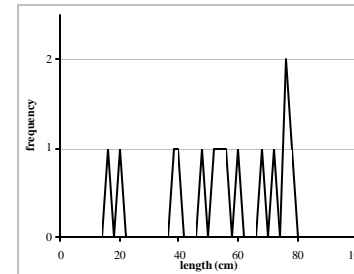
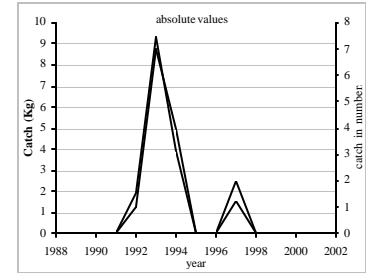
Syn.: *Raja lintea*

Sailray, White skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	1,900	1	1	1,900
1993	9,360	7	3	1,337
1994	3,940	4	4	985
1995	0	0	0	0
1996	0	0	0	0
1997	1,550	2	2	775
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	16,750	14	10	1,196

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0061 b = 2.98 N = 6

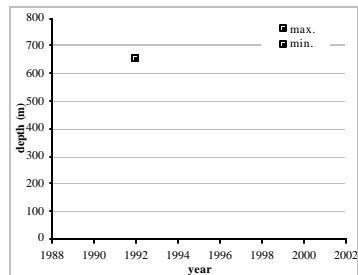
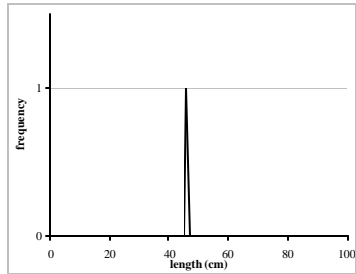
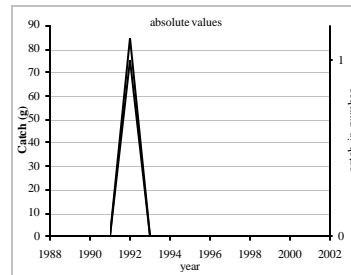


***Amblyraja jenseni* (Bigelow & Schroeder, 1950)**Syn.: *Raja jenseni*

Jensen's skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	85	1	1	85
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	85	1	1	85

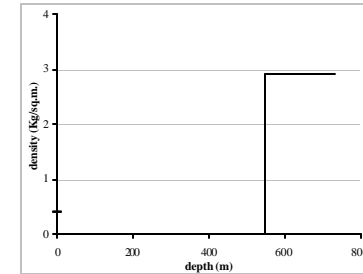
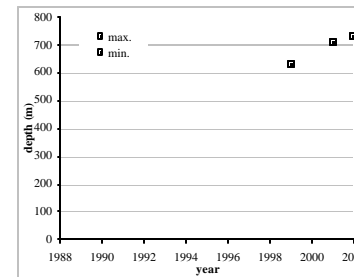
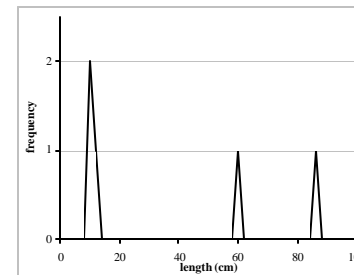
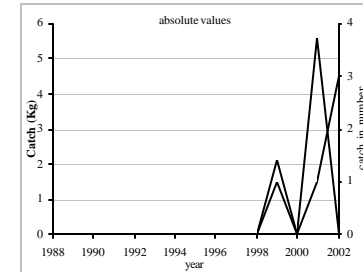
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

***Amblyraja hyperborea* (Collett, 1879)**Syn.: *Raja hyperborea*

Arctic skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	2,100	1	1	2,100
2000	0	0	0	0
2001	5,600	1	1	5,600
2002	20	3	1	7
total	7,720	5	3	1,544

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Rajella fyllae (Lütken, 1887)

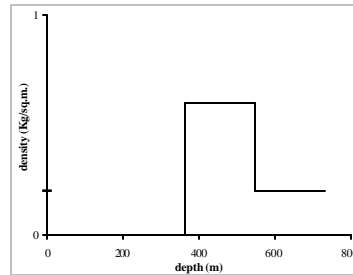
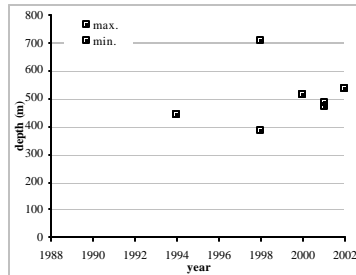
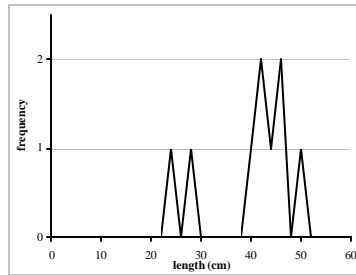
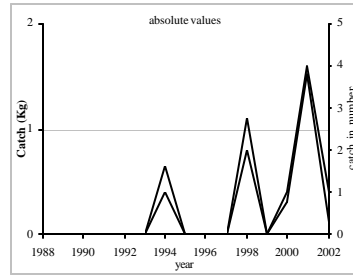
Syn.: *Raja fyllae*

Round ray, Round skate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	650	1	1	650
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	1,110	2	2	555
1999	0	0	0	0
2000	310	1	1	310
2001	1,525	4	3	381
2002	120	1	1	120
total	3,715	9	8	413

length-weight relationship: $W = aL^b$ (cm - g)

a = 0.0039 b = 3.08 N = 11



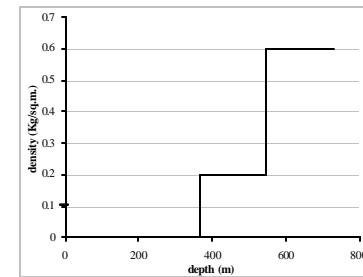
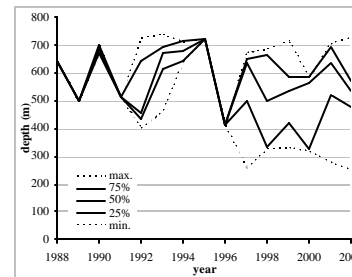
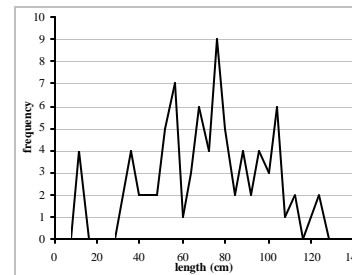
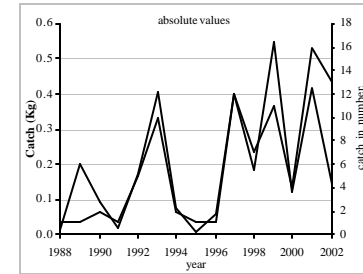
Nemichthys scolopaceus Richardson, 1848

Slender snipe eel

year	C-total (g)	N-total	hauls	mean-w (g)
1988	15	1	1	0
1989	200	1	1	200
1990	90	2	2	45
1991	20	1	1	20
1992	175	5	5	35
1993	405	10	8	41
1994	75	2	2	38
1995	10	1	1	10
1996	60	1	1	60
1997	400	12	11	33
1998	185	7	5	26
1999	547	11	10	50
2000	120	4	4	30
2001	420	16	9	26
2002	145	13	10	11
total	2,867	87	71	33

length-weight relationship: $W = aL^b$ (cm - g)

a = 0.0011 b = 2.33 N = 78

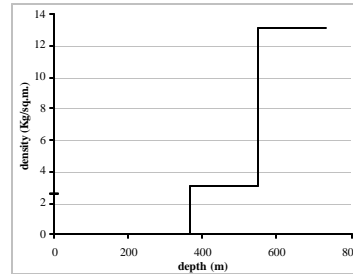
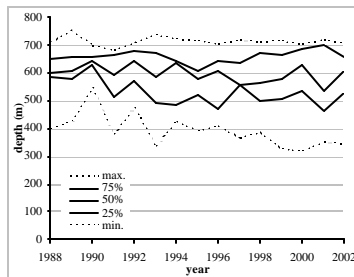
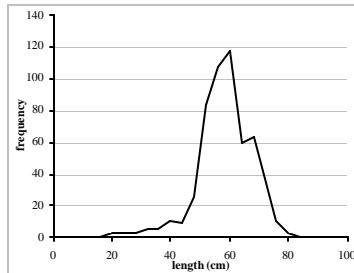
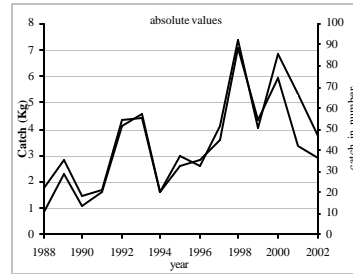


***Serrivomer beanii* Gill & Ryder, 1883**

Bean's sawtoothed eel, Stout sawpalate

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,760	11	8	160
1989	2,835	29	13	97
1990	1,450	14	8	104
1991	1,670	20	13	84
1992	4,365	52	15	84
1993	4,450	57	22	78
1994	1,585	20	12	79
1995	2,945	33	18	89
1996	2,625	35	21	75
1997	4,130	45	16	91
1998	7,375	89	26	83
1999	4,018	54	28	74
2000	6,855	74	20	93
2001	5,370	42	20	128
2002	3,735	36	16	104
total	55,168	611	256	90

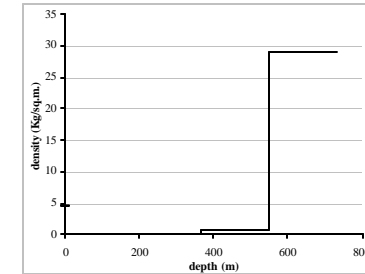
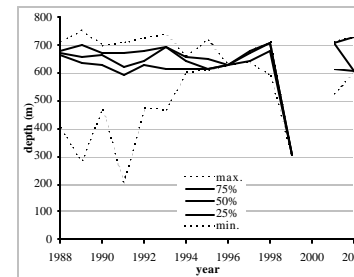
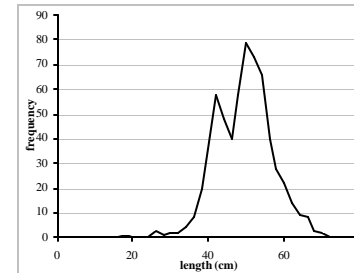
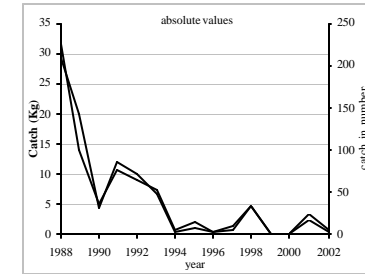
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.000001$ $b = 4.45$ $N = 344$

***Synphobranchus kaupii* Johnson, 1862**

Kaup's arrowtooth eel, Longnose eel

year	C-total (g)	N-total	hauls	mean-w (g)
1988	31,510	210	16	150
1989	13,935	142	13	107
1990	5,160	31	11	166
1991	10,838	87	23	125
1992	8,930	71	13	126
1993	7,530	49	8	154
1994	885	4	4	221
1995	2,026	7	4	289
1996	340	2	1	170
1997	1,350	5	3	270
1998	4,610	35	8	132
1999	170	1	1	170
2000	0	0	0	0
2001	3,455	17	6	203
2002	600	4	2	150
total	91,339	665	113	141

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.00045$ $b = 3.21$ $N = 110$



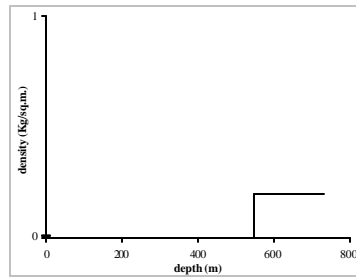
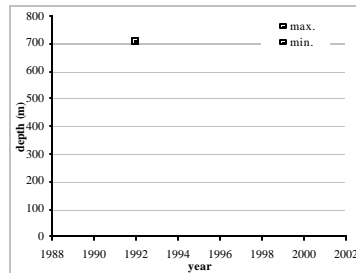
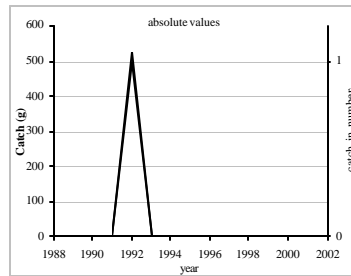
***Simenchelys parasitica* Gill, 1879**

Syn.: *S. parasiticus*

Snubnosed eel, Slime eel

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	525	1	1	525
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	525	1	1	525

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0000 b = 0.00 N = 0

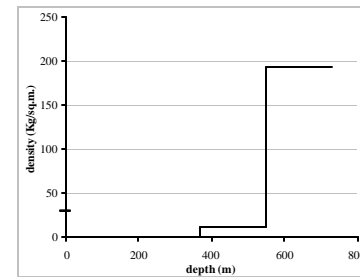
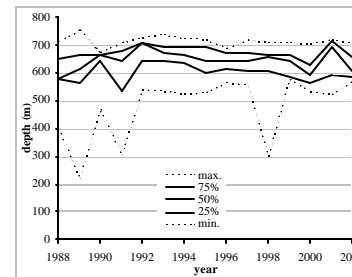
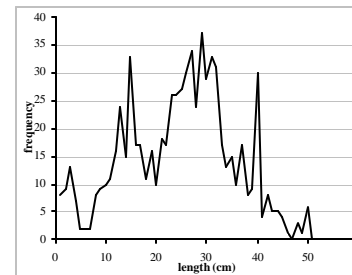
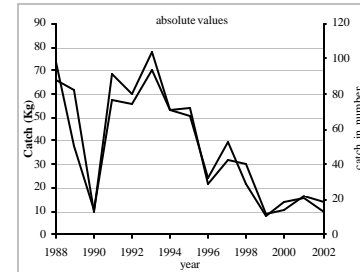


***Notacanthus chemnitzii* Bloch, 1788**

Spiny eel, Large scale tapirfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	66,045	98	17	674
1989	61,950	51	17	1,203
1990	9,280	14	8	663
1991	68,940	77	20	895
1992	60,275	74	12	815
1993	78,255	94	13	833
1994	53,510	71	14	754
1995	50,217	72	17	697
1996	24,330	29	12	839
1997	39,610	42	14	943
1998	21,560	40	13	539
1999	7,602	12	9	634
2000	13,975	14	9	998
2001	15,860	22	14	721
2002	9,700	18	9	539
total	581,109	728	198	794

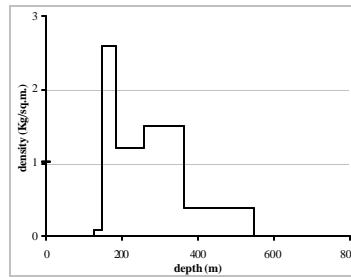
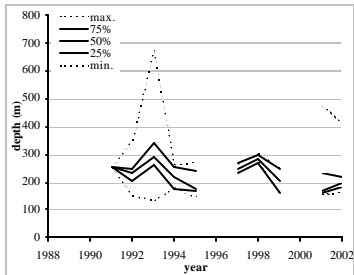
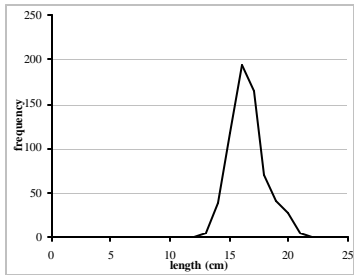
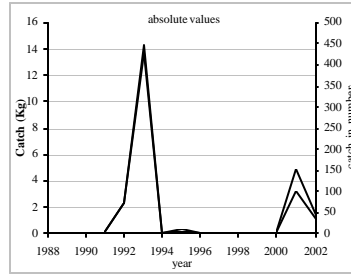
length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0006 b = 3.34 N = 242



***Mallotus villosus* (Müller, 1776)**
Capelin

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	20	1	1	20
1992	2,312	74	31	31
1993	13,635	447	55	31
1994	60	2	2	30
1995	241	9	8	27
1996	0	0	0	0
1997	80	2	2	40
1998	40	2	2	20
1999	93	2	2	47
2000	0	0	0	0
2001	4,955	99	36	50
2002	1,430	35	21	41
total	22,866	673	160	34

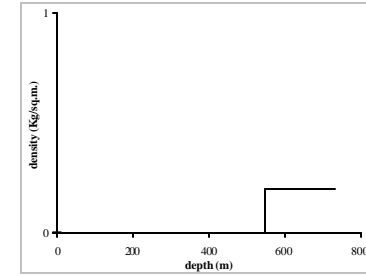
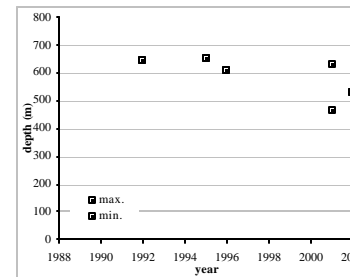
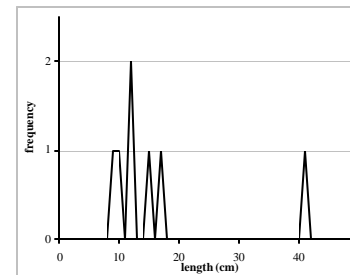
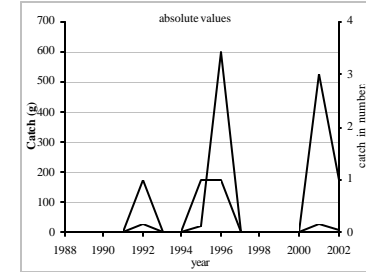
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0028 b = 3.35 N = 276



***Alepocephalus bairdii* Goode & Bean, 1879**
Baird's smooth-head

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	25	1	1	25
1993	0	0	0	0
1994	0	0	0	0
1995	20	1	1	20
1996	600	1	1	600
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	25	3	3	8
2002	10	1	1	10
total	680	7	7	97

length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0132 b = 2.75 N = 3

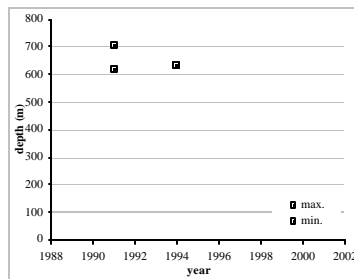
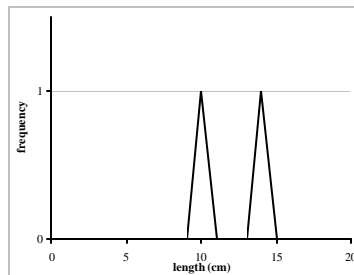
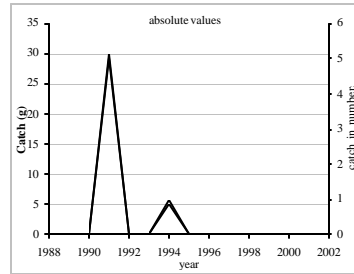


Alepocephalus agassizii Goode & Bean, 1883

Agassiz' slickhead

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	30	5	2	6
1992	0	0	0	0
1993	0	0	0	0
1994	5	1	1	5
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	35	6	3	6

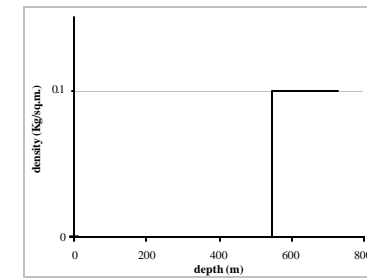
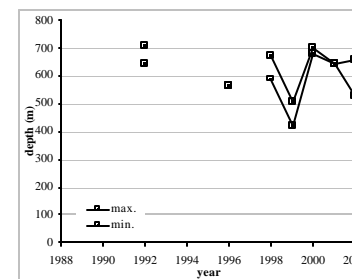
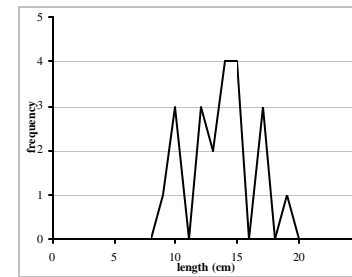
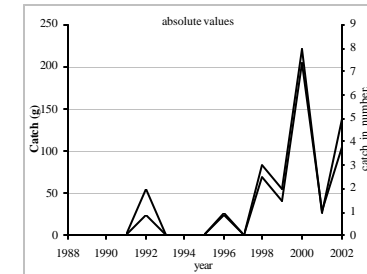
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.00000$ $b = 0.00$ $N = 0$

*Xenodermichthys copei* (Gill, 1884)

Bluntsnout smooth-head

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	25	2	2	13
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	25	1	1	25
1997	0	0	0	0
1998	70	3	3	23
1999	42	2	2	21
2000	205	8	2	26
2001	30	1	1	30
2002	105	5	4	21
total	502	22	15	23

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0154$ $b = 2.79$ $N = 12$

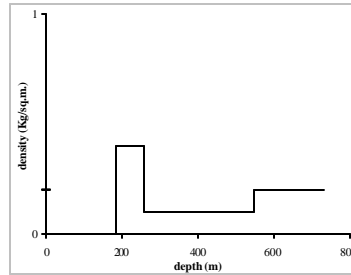
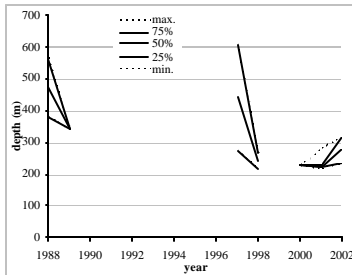
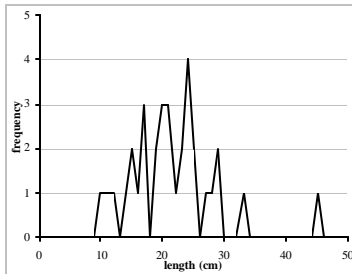
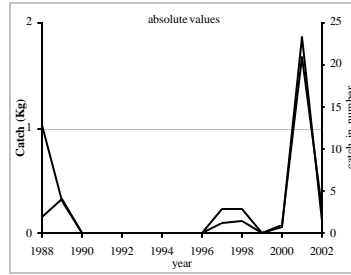


Argentina silus (Ascanius, 1775)

Greater argentine, Atlantic argentine

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,040	2	2	520
1989	300	4	1	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	110	3	3	37
1998	125	3	3	42
1999	0	0	0	0
2000	60	1	1	60
2001	1,870	21	8	89
2002	125	3	3	42
total	3,630	37	21	101

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0024$ $b = 3.35$ $N = 28$

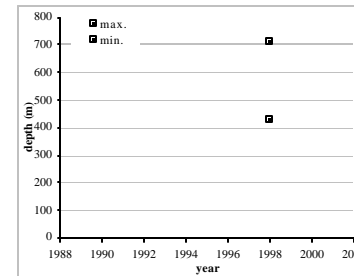
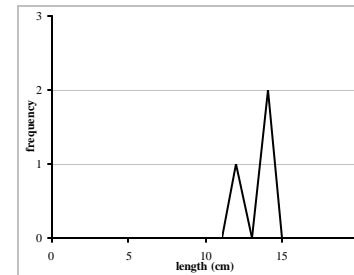
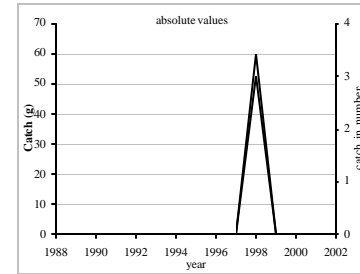


Nansenia groenlandica (Reinhardt, 1840)

Greenland argentine, Large-eyed argentine

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	60	3	3	20
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	60	3	3	20

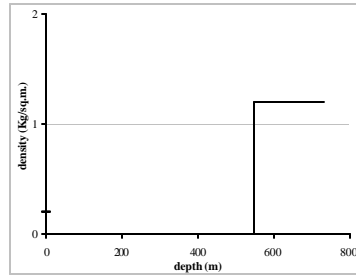
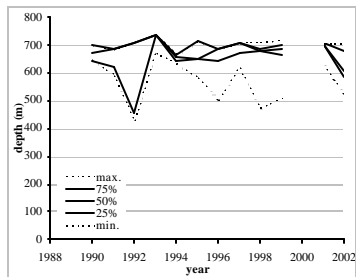
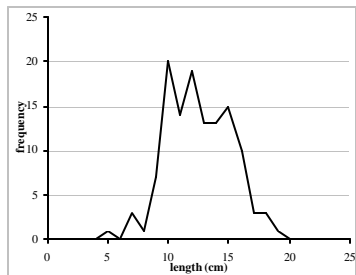
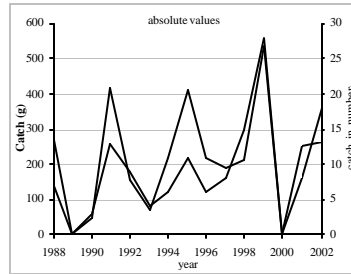
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 3$



***Bathylagus euryops* Goode & Bean, 1896**
Goiter/Goitre blacksmelt

year	C-total (g)	N-total	hauls	mean-w (g)
1988	270	7	2	39
1989	0	0	0	0
1990	50	3	2	17
1991	420	13	4	32
1992	155	9	5	17
1993	70	4	2	18
1994	215	6	5	39
1995	411	11	3	37
1996	220	6	3	37
1997	190	8	3	24
1998	210	15	4	14
1999	539	28	8	19
2000	0	0	0	0
2001	255	8	3	32
2002	265	18	7	15
total	3,270	136	51	24

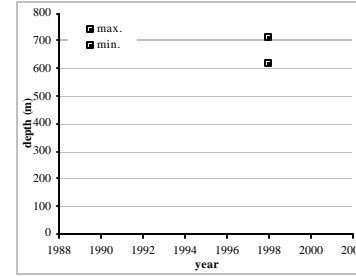
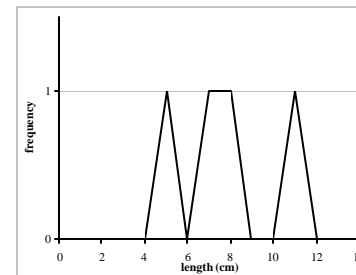
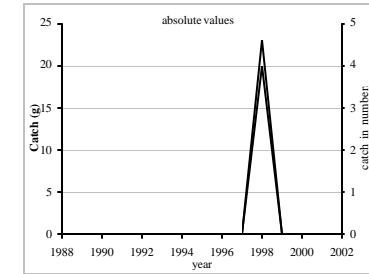
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0076 b = 3.13 N = 56



***Maulisia microlepis* Sazonov & Golovan, 1976**
Smallscale searsid

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	23	4	3	6
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	23	4	3	6

length-weight relationship: $W = a L^b$ (cm - g)
a = 0.1943 b = 1.71 N = 4

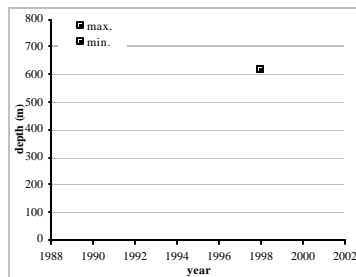
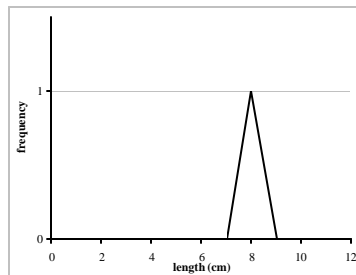
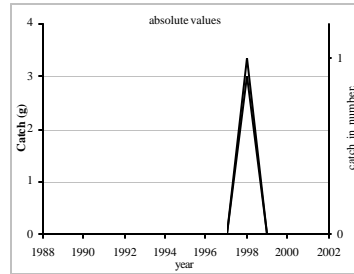


***Holtbyrnia anomala* Krefft, 1980**

Bighead searsid

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	3	1	1	3
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	3	1	1	3

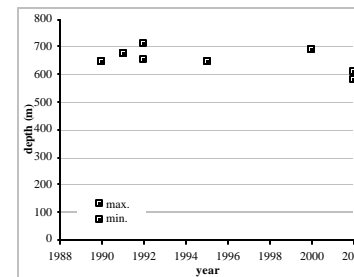
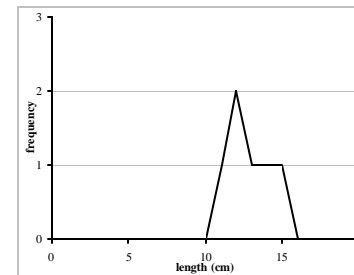
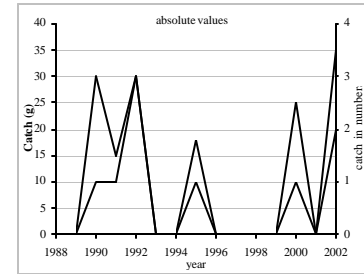
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

***Normichthys operosus* Parr, 1951**

Multipore searsid

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	30	1	1	30
1991	15	1	1	15
1992	30	3	2	10
1993	0	0	0	0
1994	0	0	0	0
1995	18	1	1	18
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	25	1	1	25
2001	0	0	0	0
2002	35	2	2	18
total	153	9	8	17

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 2$

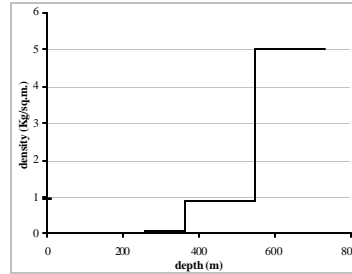
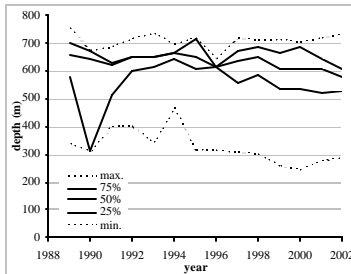
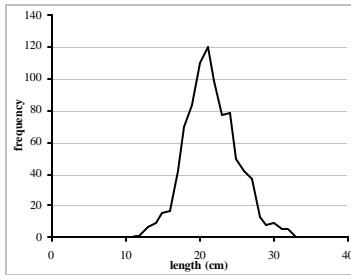
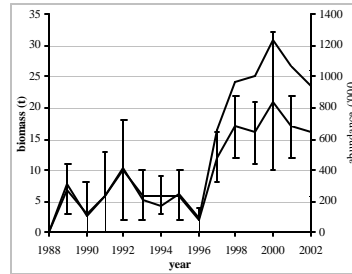


***Stomias boa boa* (Risso, 1810)**Syn.: *S. boa*, *S. atlanticus*

Scaly dragonfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	1,015	48	11	21
1990	420	14	4	30
1991	785	30	10	26
1992	1,385	57	11	24
1993	465	25	7	19
1994	495	17	6	29
1995	795	35	14	23
1996	230	12	4	20
1997	1,570	90	20	17
1998	2,230	129	23	17
1999	2,044	127	24	16
2000	2,995	176	28	17
2001	2,460	159	35	15
2002	2,444	141	27	17
total	19,333	1,060	224	18

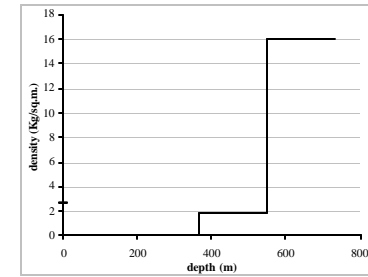
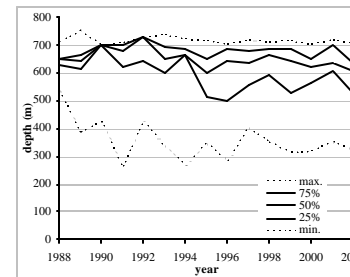
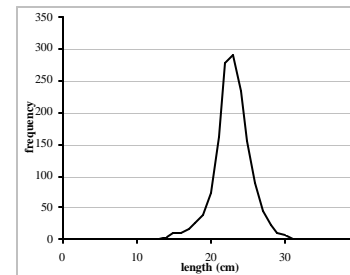
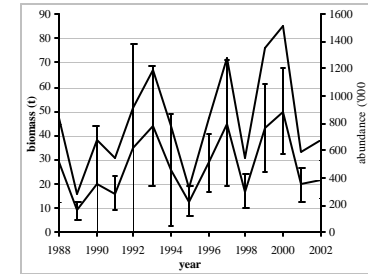
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.00017$ $b = 3.71$ $N = 448$

***Chauliodus sloani* Bloch & Schneider, 1801**

Sloane's viperfish, Viperfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	3,800	111	11	34
1989	1,450	44	11	33
1990	2,595	90	10	29
1991	2,278	78	18	29
1992	4,725	122	14	39
1993	5,220	145	17	36
1994	3,475	106	15	33
1995	1,915	49	16	39
1996	3,995	117	25	34
1997	6,290	180	19	35
1998	2,460	78	24	32
1999	5,487	174	29	32
2000	7,205	220	26	33
2001	2,875	86	24	33
2002	3,360	105	25	32
total	57,130	1,705	284	34

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.00018$ $b = 3.86$ $N = 560$

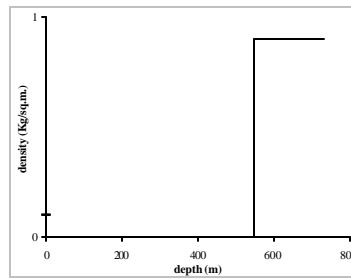
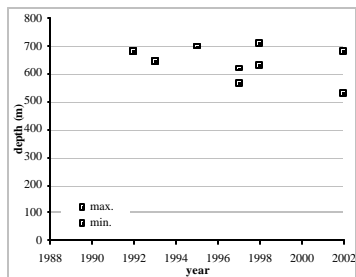
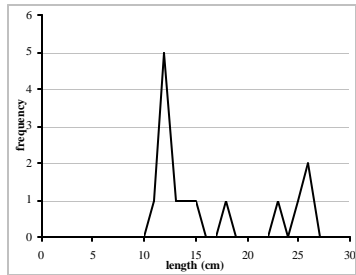
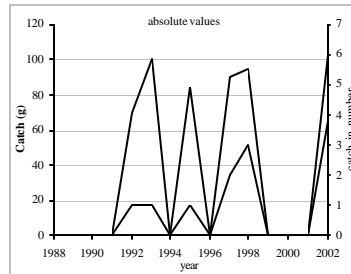


***Borostomias antarcticus* (Lönnerberg, 1905)**Syn.: *Astronesthes antarcticus*

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	70	1	1	70
1993	100	1	1	100
1994	0	0	0	0
1995	85	1	1	85
1996	0	0	0	0
1997	90	2	2	45
1998	95	3	3	32
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	65	6	4	11
total	505	14	12	36

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.00089 b = 3.59 N = 5

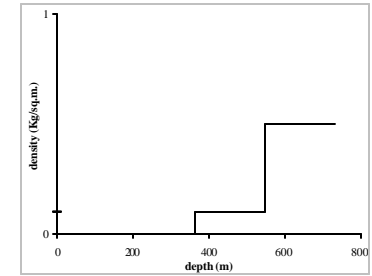
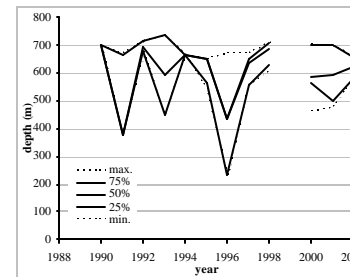
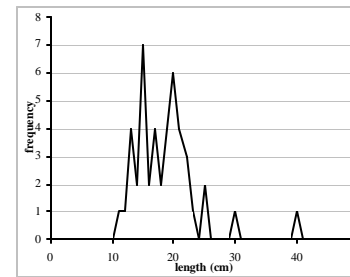
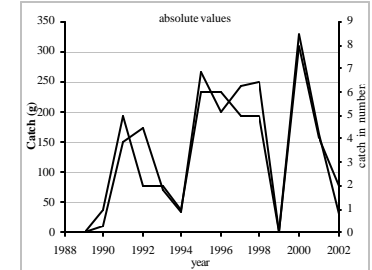
***Malacosteus niger* Ayres, 1848**

Stoptlight loosejaw, Lightless loosejaw

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	10	1	1	10
1991	150	5	3	30
1992	175	2	2	88
1993	70	2	2	35
1994	35	1	1	35
1995	268	6	4	45
1996	200	6	3	33
1997	245	5	4	49
1998	250	5	5	50
1999	0	0	0	0
2000	330	8	5	41
2001	165	4	4	41
2002	30	2	2	15
total	1,928	47	36	41

length-weight relationship: $W = a L^b$ (cm - g)

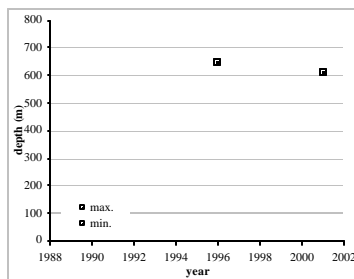
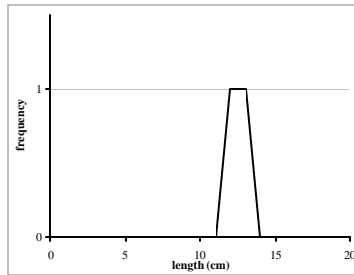
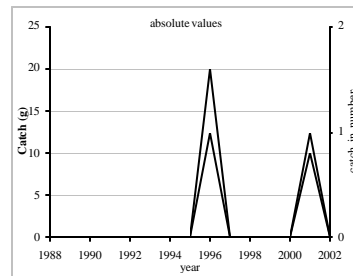
a = 0.0226 b = 2.58 N = 27



Photostomias guernei Collett, 1889

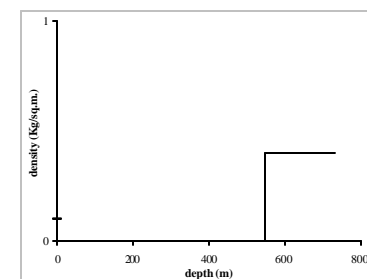
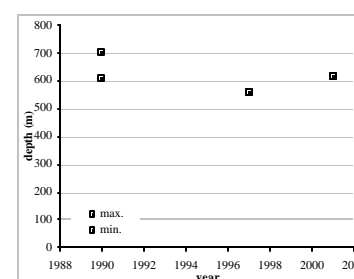
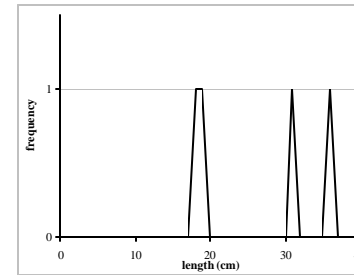
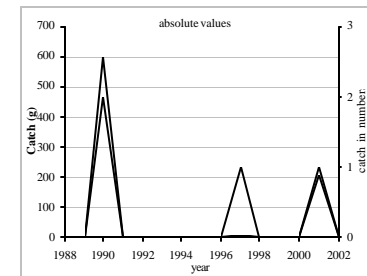
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	20	1	1	20
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	10	1	1	10
2002	0	0	0	0
total	30	2	2	15

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.00000 b = 0.00 N = 0

*Melanostomias* sp.

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	600	2	2	300
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	10	1	1	10
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	210	1	1	210
2002	0	0	0	0
total	820	4	4	205

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.00000 b = 0.00 N = 0

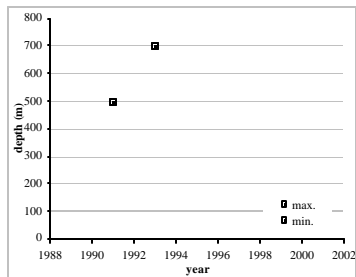
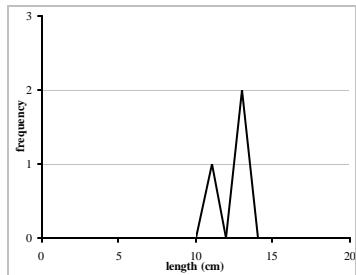
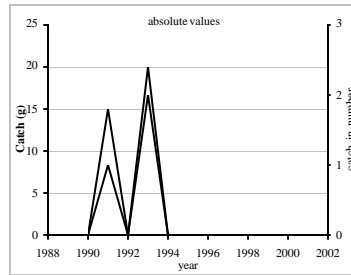


Gonostoma bathyphilum (Vaillant, 1884)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	15	1	1	15
1992	0	0	0	0
1993	20	2	1	10
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	35	3	2	12

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.00000 b = 0.00 N = 0



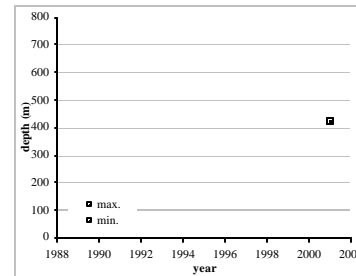
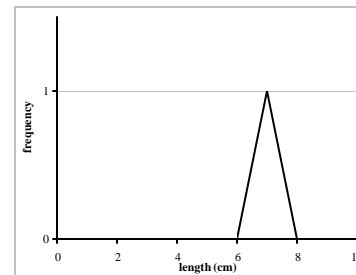
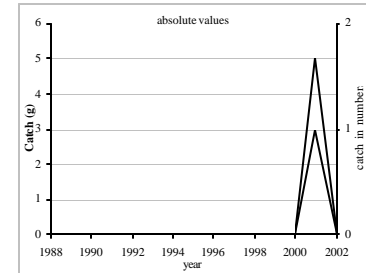
Cyclothone microdon (Günther, 1878)

Veiled anglemouth

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	5	1	1	5
2002	0	0	0	0
total	5	1	1	5

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.00938 b = 3.24 N = 3

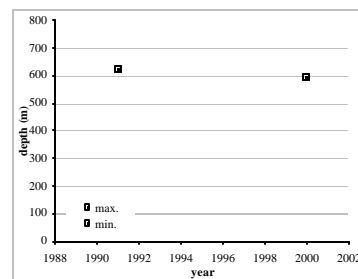
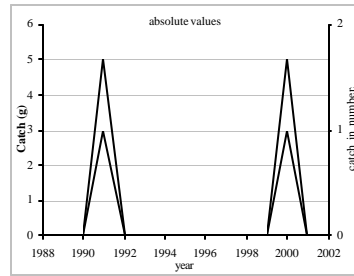


***Sternoptyx pseudobscura* Baird, 1971**

Highlight hatchetfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	5	1	1	5
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	5	1	1	0
2001	0	0	0	0
2002	0	0	0	0
total	10	2	2	5

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.00000 b = 0.00 N = 0

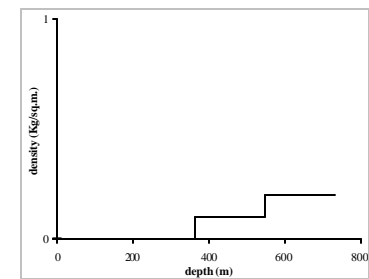
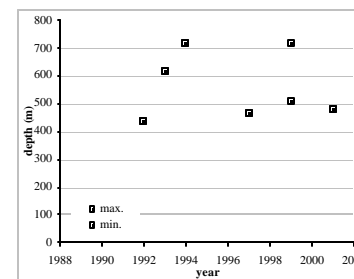
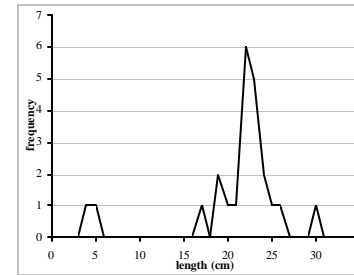
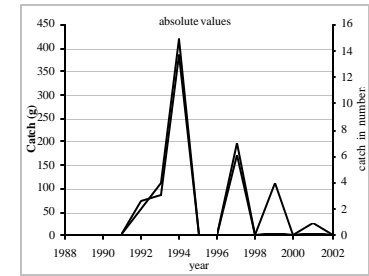


***Sternoptyx diaphana* Hermann, 1781**

Diaphanous hatchet fish, Transparent hatchetfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	75	2	1	38
1993	85	4	1	21
1994	385	15	1	26
1995	0	0	0	0
1996	0	0	0	0
1997	170	7	1	0
1998	0	0	0	0
1999	6	4	3	2
2000	0	0	0	0
2001	5	1	1	5
2002	0	0	0	0
total	726	33	8	24

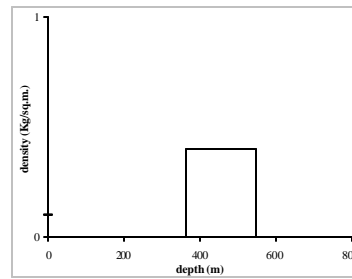
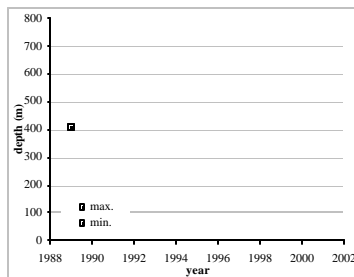
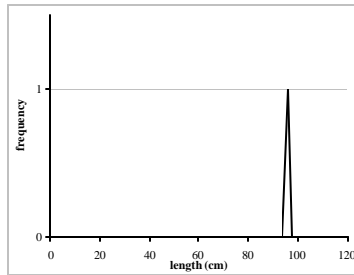
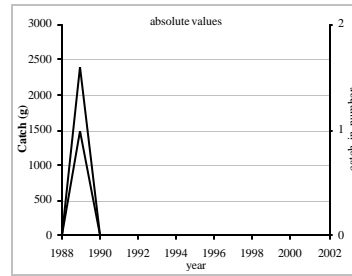
length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.15545 b = 2.07 N = 4



***Alepisaurus brevirostris* Gibbs, 1960**
Shortnose lancetfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	2,400	1	1	2,400
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	2,400	1	1	2,400

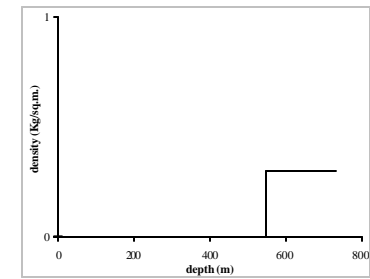
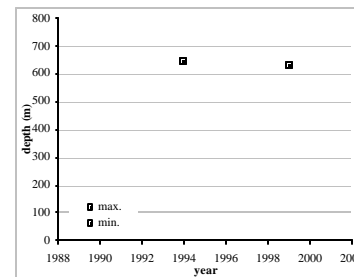
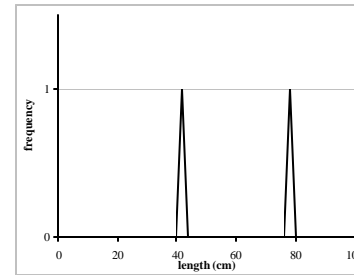
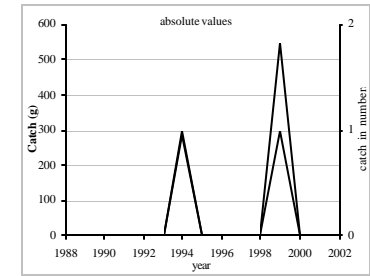
length-weight relationship: $W = aL^b$ (cm - g)
a = 0.00000 b = 0.00 N = 0



***Anotopterus pharao* Zugmayer, 1911**
Daggertooth

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	285	1	1	285
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	550	1	1	550
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	835	2	2	418

length-weight relationship: $W = aL^b$ (cm - g)
a = 0.00000 b = 0.00 N = 0



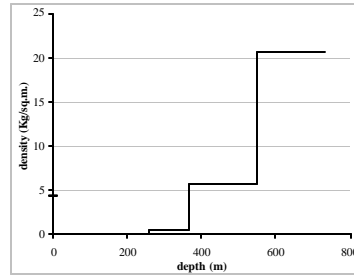
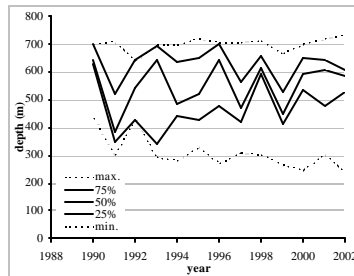
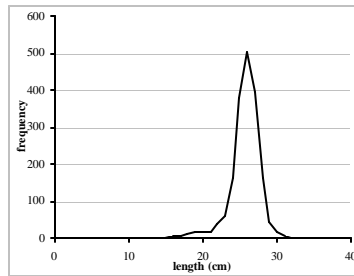
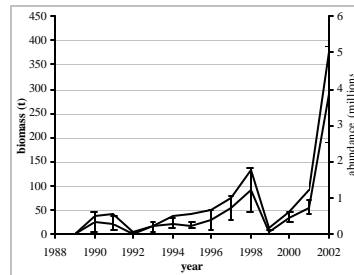
***Magnisudis atlantica* (Krøyer, 1868)**Syn.: *Paralepis atlantica*, *Paralepis brevis*

Duckbill barracudina

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	3,835	76	10	51
1991	3,255	85	17	38
1992	355	7	4	51
1993	1,580	33	14	48
1994	3,075	66	25	47
1995	3,043	83	36	37
1996	4,140	90	25	46
1997	7,785	146	35	53
1998	12,740	242	27	53
1999	718	23	14	31
2000	5,015	88	21	57
2001	8,400	182	34	46
2002	44,015	798	37	57
total	97,956	1,919	299	52

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.000030 b = 4.41 N = 667

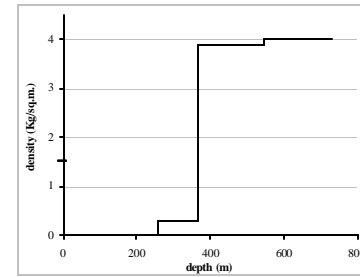
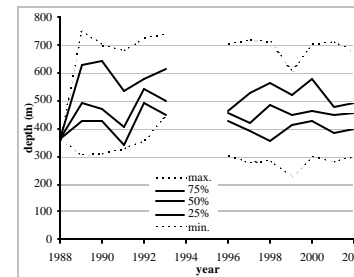
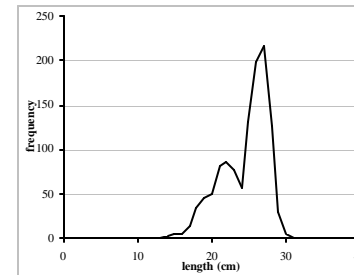
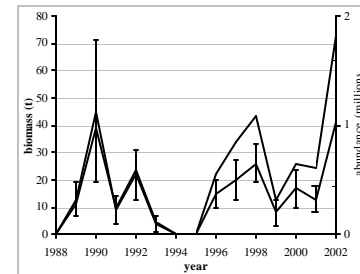
***Arctozenus risso* (Bonaparte, 1840)**Syn.: *Notolepis risso*, *Paralepis kroyeri*

Ribbon barracudina, White barracudina

year	C-total (g)	N-total	hauls	mean-w (g)
1988	30	2	1	15
1989	2,035	46	20	45
1990	6,675	148	21	45
1991	1,225	34	21	36
1992	3,240	83	25	39
1993	430	13	8	33
1994	0	0	0	0
1995	0	0	0	0
1996	2,155	79	23	27
1997	2,905	122	38	24
1998	3,735	155	44	24
1999	1,118	46	24	27
2000	2,518	97	34	26
2001	2,015	94	26	22
2002	6,405	282	38	23
total	34,486	1,201	323	29

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.00025 b = 3.58 N = 536

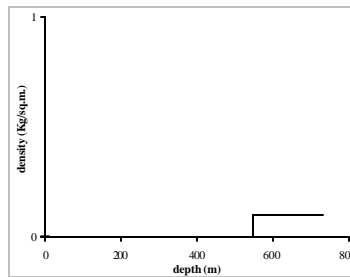
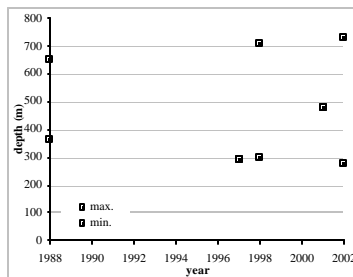
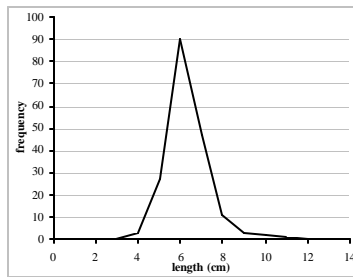
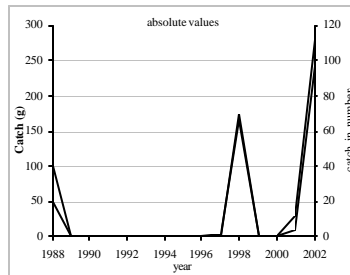


***Benthoosema glaciale* (Reinhardt, 1837)**

Glacier lanternfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	100	20	2	5
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	2	1	1	2
1998	174	66	6	3
1999	0	0	0	0
2000	0	0	0	0
2001	30	4	1	8
2002	279	97	16	3
total	585	188	26	3

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.27074$ $b = 1.39$ $N = 11$

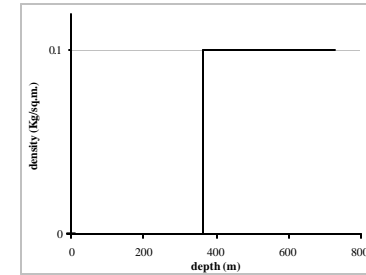
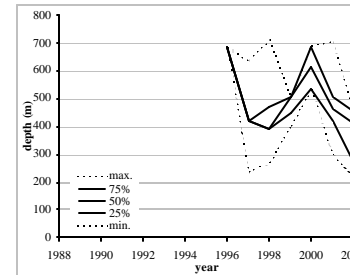
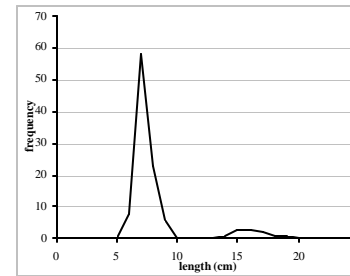
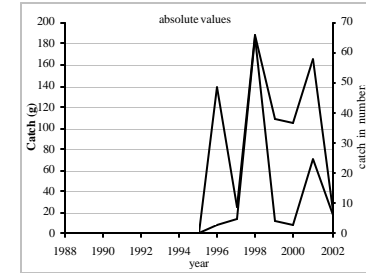


***Ceratoscopelus maderensis* (Lowe, 1839)**

Horned lanternfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	140	3	1	47
1997	25	5	3	5
1998	188	65	15	3
1999	108	4	3	27
2000	105	3	2	35
2001	165	25	17	7
2002	22	6	5	4
total	753	111	46	7

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.03182$ $b = 2.49$ $N = 36$

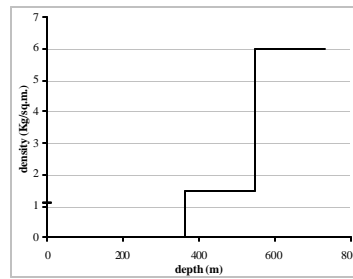
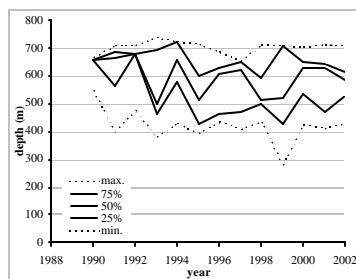
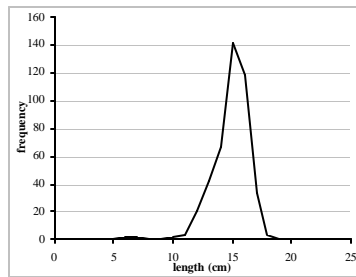
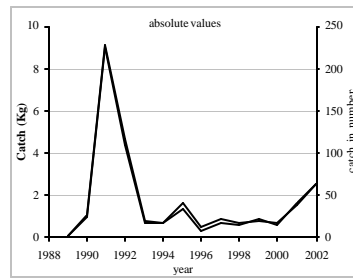


Lampadena speculigera Goode & Bean, 1896

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	1,085	25	4	43
1991	9,140	226	15	40
1992	4,725	110	8	43
1993	830	17	9	49
1994	705	17	8	41
1995	1,635	33	15	50
1996	460	9	8	51
1997	865	18	9	48
1998	715	15	7	48
1999	752	23	10	33
2000	705	16	8	44
2001	1,590	41	13	39
2002	2,630	64	13	41
total	25,837	614	127	42

length-weight relationship: $W = aL^b$ (cm - g)

a = 0.00434 b = 3.39 N = 182

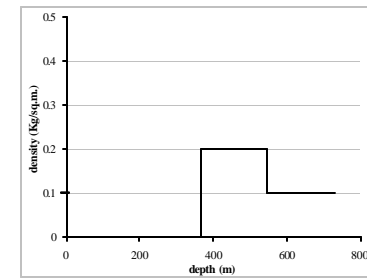
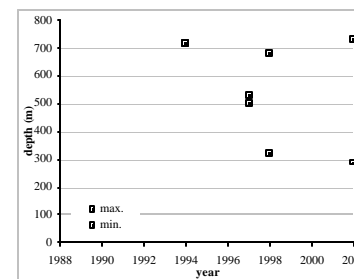
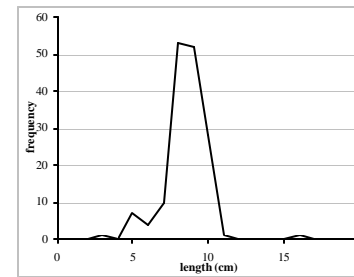
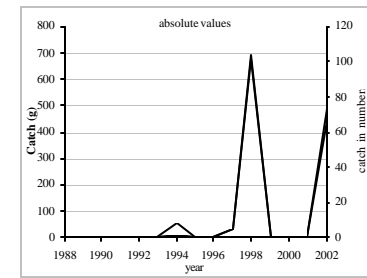


Myctophum punctatum Rafinesque, 1810 Spotted lanternfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	55	2	1	28
1995	0	0	0	0
1996	0	0	0	0
1997	30	5	2	5
1998	677	104	23	7
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	440	73	12	6
total	1,202	184	38	7

length-weight relationship: $W = aL^b$ (cm - g)

a = 0.2249 b = 1.63 N = 17

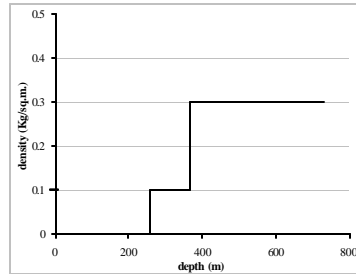
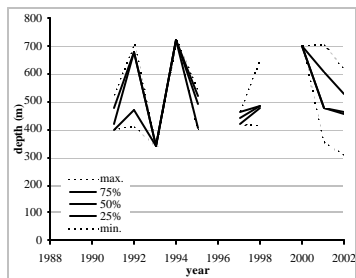
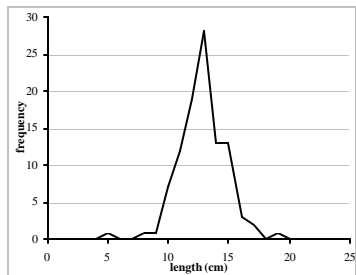
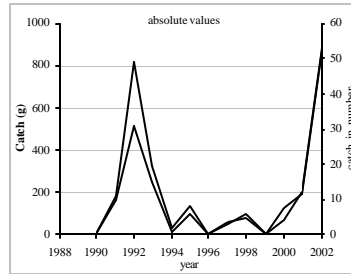


***Notoscopelus kroyeri* (Malm, 1861)**Syn.: *N. kroeyerii*

Lancet fish, Kroyer's lanternfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	180	10	4	18
1992	820	31	9	26
1993	325	15	2	22
1994	30	1	1	30
1995	136	6	6	23
1996	0	0	0	0
1997	60	3	2	20
1998	80	6	5	13
1999	0	0	0	0
2000	130	4	1	33
2001	195	12	8	16
2002	873	53	15	16
total	2,829	141	53	20

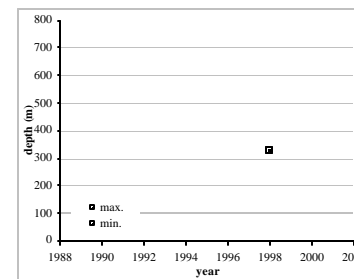
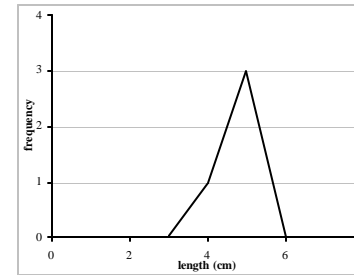
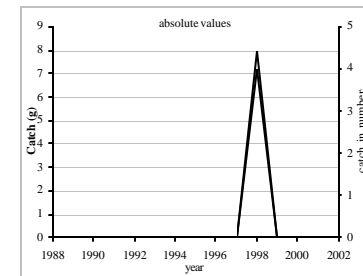
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0055$ $b = 3.14$ $N = 47$

***Protomyctophum arcticum* (Lütken, 1892)**

Arctic telescope

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	8	4	1	2
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	8	4	1	2

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 4$

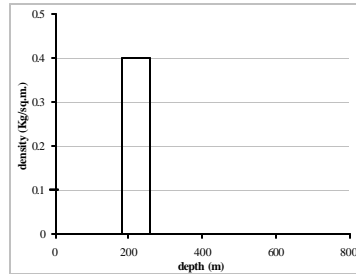
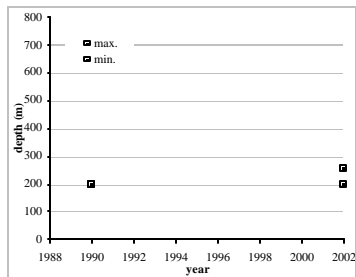
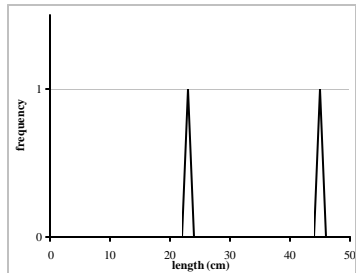
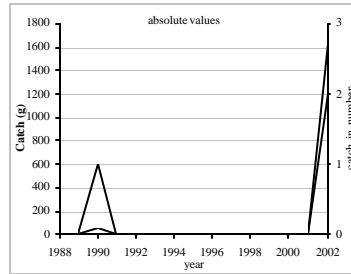


***Lophius americanus* Valenciennes, 1837**

American angler, Goosefish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	50	1	1	50
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	1,630	2	2	815
total	1,680	3	3	560

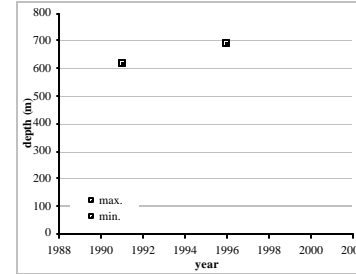
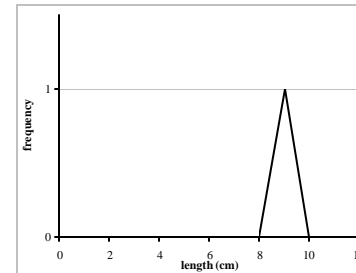
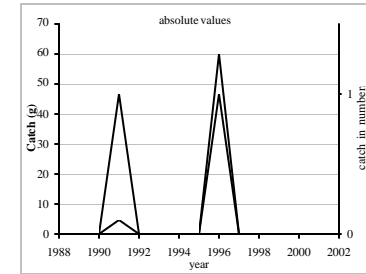
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0239$ $b = 2.89$ $N = 2$

***Melanocetus johnsonii* Günther, 1864**

Humpback anglerfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	5	1	1	5
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	60	1	1	60
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	65	2	2	33

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

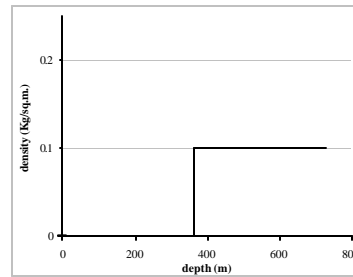
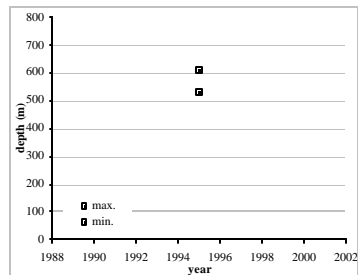
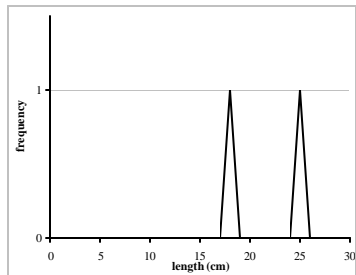
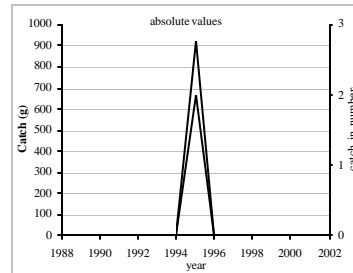


***Oneirodes eschrichtii* Lütken, 1871**

Bulbous dreamer

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	920	2	2	460
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	920	2	2	460

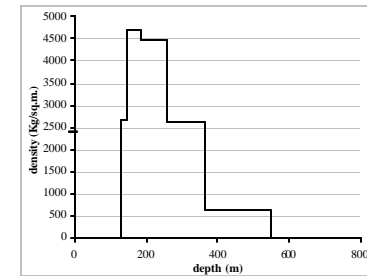
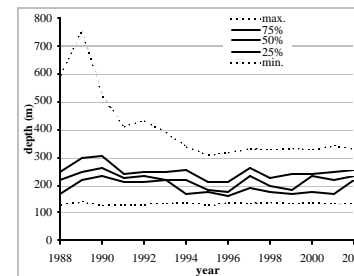
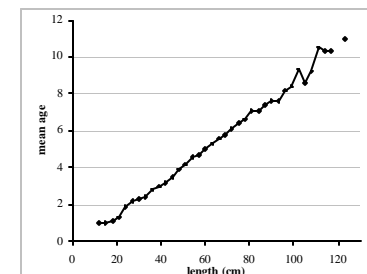
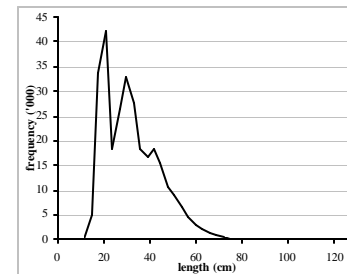
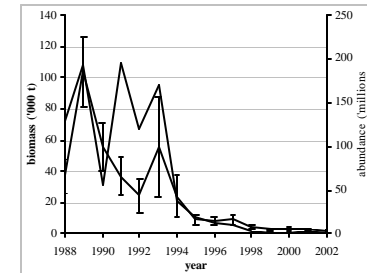
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0428$ $b = 3.00$ $N = 2$

***Gadus morhua* Linnaeus, 1758**

Atlantic cod

year	C-total (g)	N-total	hauls	mean-w (g)
1988	5,647,907	20,549	86	275
1989	16,687,575	30,841	99	541
1990	8,197,118	8,279	96	990
1991	5,662,020	29,941	84	189
1992	3,633,990	17,684	67	205
1993	7,856,595	23,840	72	330
1994	3,590,856	5,507	63	652
1995	1,466,656	3,157	49	465
1996	1,269,000	1,933	53	656
1997	1,354,315	1,352	66	1,002
1998	696,780	460	55	1,515
1999	391,580	210	46	1,865
2000	431,120	204	41	2,113
2001	374,971	389	48	964
2002	350,955	303	39	1,158
total	57,611,438	144,647	964	398

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0070$ $b = 3.08$ $N = 23,179$



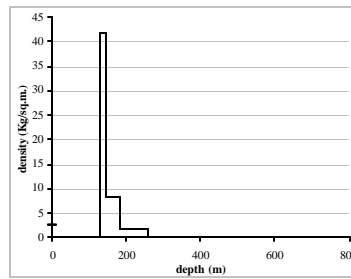
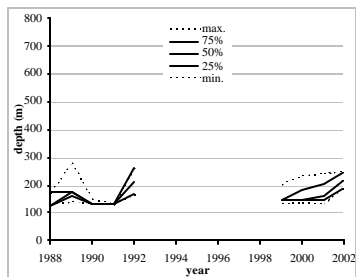
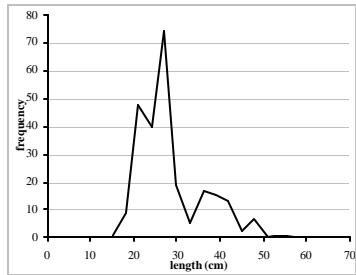
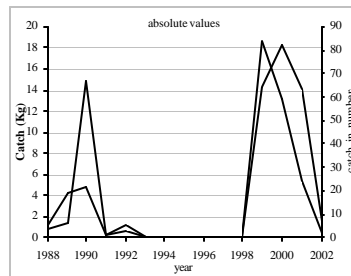
***Melanogrammus aeglefinus* (Linnaeus, 1758)**

Haddock

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,150	4	2	288
1989	4,250	6	5	708
1990	4,875	67	3	73
1991	260	1	1	260
1992	1,220	3	3	407
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	14,220	84	4	169
2000	18,365	59	10	311
2001	14,180	24	14	591
2002	1,645	2	2	823
total	60,165	250	44	241

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0144 b = 2.90 N = 128

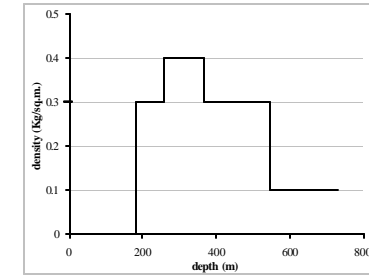
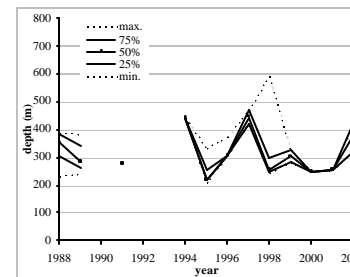
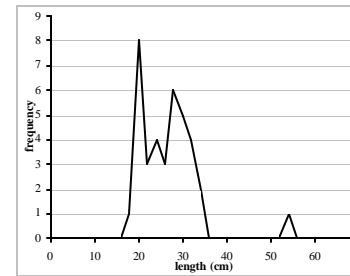
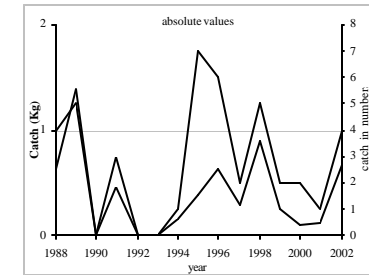
***Micromesistius poutassou* (Risso, 1827)**

Blue whiting

year	C-total (g)	N-total	hauls	mean-w (g)
1988	631	4	4	158
1989	1,390	5	5	285
1990	0	0	0	0
1991	460	3	3	153
1992	0	0	0	0
1993	0	0	0	0
1994	150	1	1	150
1995	394	7	4	56
1996	630	6	2	105
1997	300	2	2	150
1998	900	5	5	180
1999	262	2	2	131
2000	105	2	1	53
2001	115	1	1	115
2002	665	4	3	166
total	6,002	42	33	140

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0102 b = 2.86 N = 14

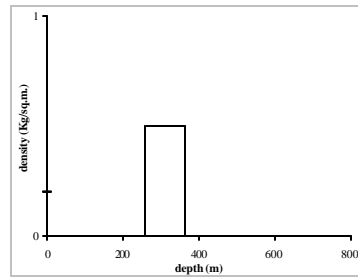
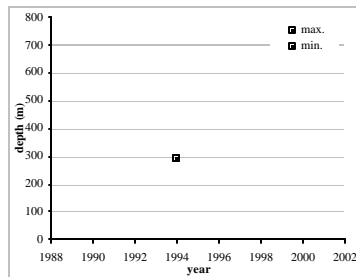
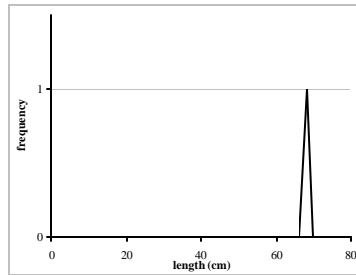
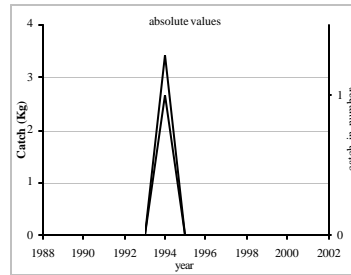


***Pollachius virens* (Linnaeus, 1758)**

Saithe, Pollock

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	3,430	1	1	3,430
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	3,430	1	1	3,430

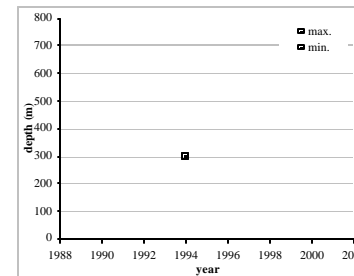
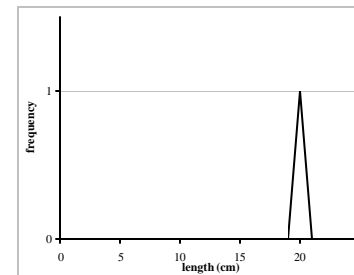
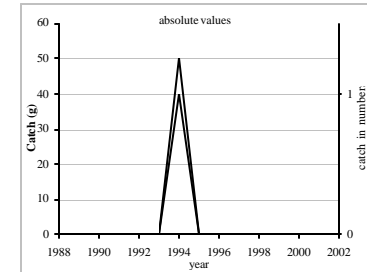
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

***Boreogadus saida* (Lepechin, 1774)**

Polar cod, Arctic cod

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	50	1	1	50
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	50	1	1	50

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

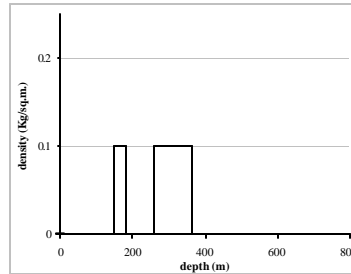
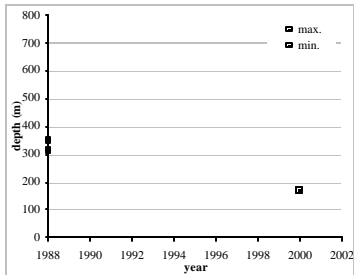
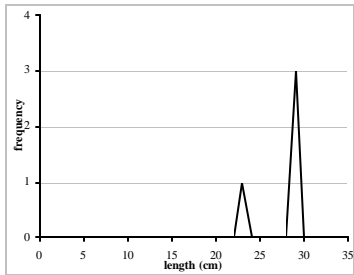
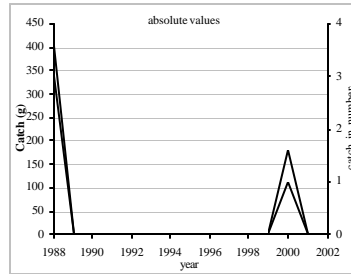


***Merluccius bilinearis* (Mitchill, 1814)**

Silver hake

year	C-total (g)	N-total	hauls	mean-w (g)
1988	404	3	2	135
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	180	1	1	180
2001	0	0	0	0
2002	0	0	0	0
total	584	4	3	146

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0000 b = 0.00 N = 0

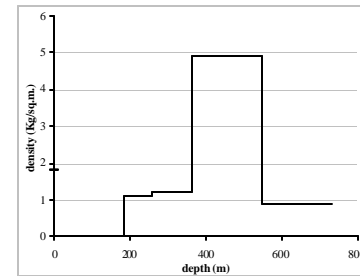
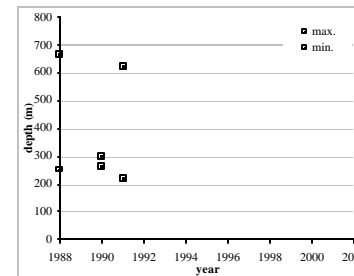
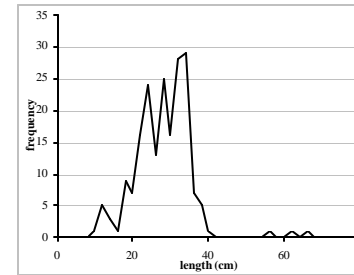
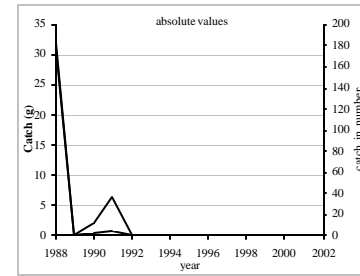


***Urophycis chuss* (Walbaum, 1792)**

Red hake

year	C-total (g)	N-total	hauls	mean-w (g)
1988	32,011	177	29	181
1989	0	0	0	0
1990	1,960	2	2	980
1991	6,300	5	4	1,260
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	40,271	184	35	219

length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0000 b = 0.00 N = 0

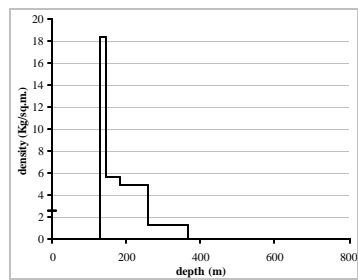
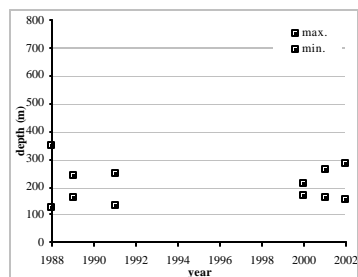
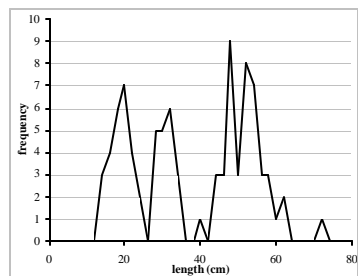
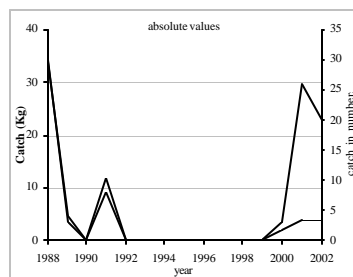


***Urophycis tenuis* (Mitchill, 1814)**

White hake

year	C-total (g)	N-total	hauls	mean-w (g)
1988	34,000	30	12	1,133
1989	4,650	3	3	1,550
1990	0	0	0	0
1991	11,960	8	6	1,495
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	2,030	3	3	677
2001	3,960	26	10	152
2002	3,900	20	12	195
total	60,500	90	46	672

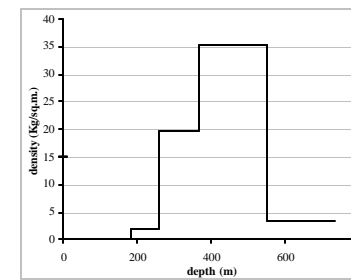
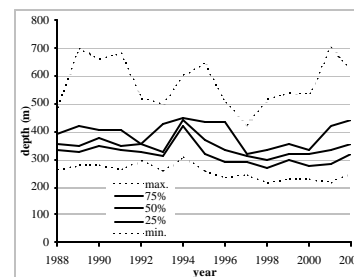
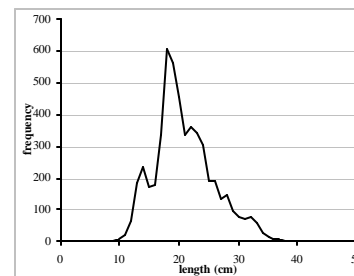
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0051$ $b = 3.14$ $N = 54$

***Phycis chesteri* Goode & Bean, 1879**Syn.: *Urophycis chesteri*

Longfin hake

year	C-total (g)	N-total	hauls	mean-w (g)
1988	25,705	204	19	126
1989	23,120	180	42	128
1990	22,260	185	39	120
1991	21,430	205	47	105
1992	10,013	171	29	59
1993	14,610	281	36	52
1994	27,600	336	36	82
1995	12,726	195	48	65
1996	11,636	235	59	50
1997	4,825	92	30	52
1998	32,515	1,043	70	31
1999	33,733	652	63	52
2000	22,545	402	62	56
2001	56,700	878	73	65
2002	15,700	197	50	80
total	335,118	5,256	703	64

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0035$ $b = 3.17$ $N = 1,888$

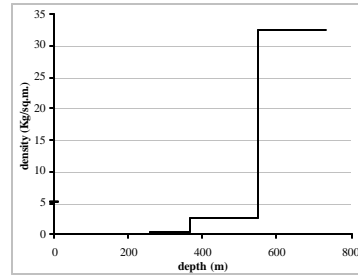
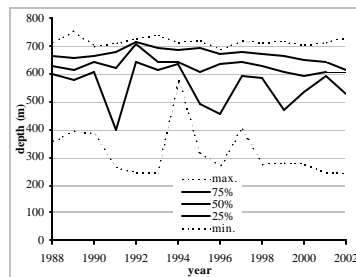
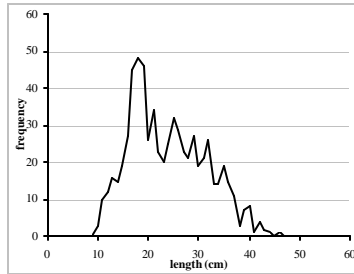
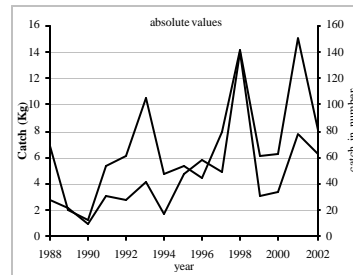


***Gaidropsarus ensis* (Reinhardt, 1837)**Syn.: *Onogadus ensis*

Threadfin/Threebeard rockling

year	C-total (g)	N-total	hauls	mean-w (g)
1988	6,850	27	15	254
1989	1,965	21	10	95
1990	1,240	9	8	154
1991	5,330	31	19	172
1992	6,105	28	10	218
1993	10,545	41	17	257
1994	4,825	17	9	284
1995	5,323	48	24	111
1996	4,420	58	25	76
1997	7,875	49	18	161
1998	14,095	140	27	101
1999	6,154	31	22	199
2000	6,270	34	18	184
2001	15,075	78	27	193
2002	8,160	63	27	130
total	104,232	675	276	155

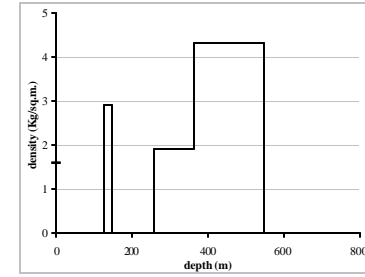
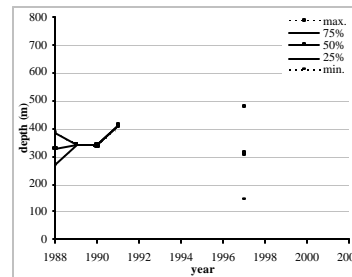
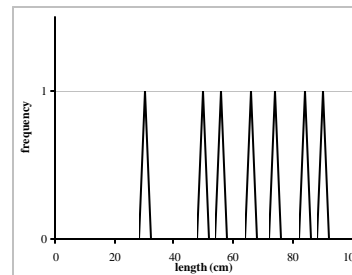
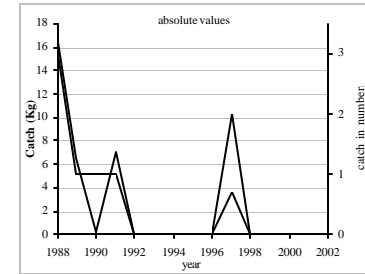
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0033$ $b = 3.28$ $N = 542$

***Brosme brosme* (Ascanius, 1772)**

Tusk, Cusk

year	C-total (g)	N-total	hauls	mean-w (g)
1988	16,440	3	3	5,480
1989	6,500	1	1	6,500
1990	290	1	1	290
1991	7,000	1	1	7,000
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	3,605	2	2	1,803
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	33,835	8	8	4,229

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

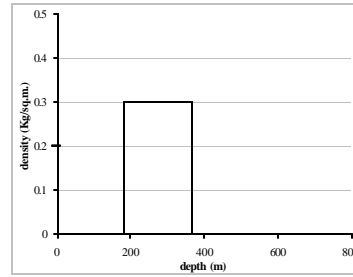
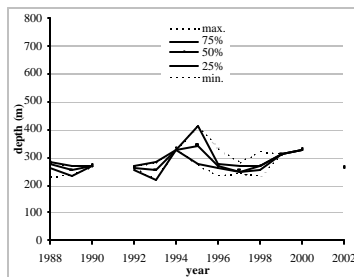
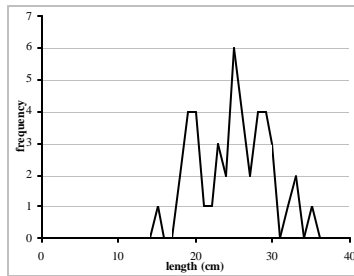
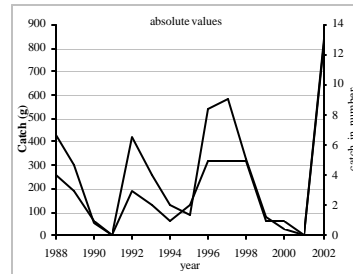


***Enchelyopus cimbrius* (Linnaeus, 1766)**

Fourbeard rockling

year	C-total (g)	N-total	hauls	mean-w (g)
1988	430	4	4	108
1989	300	3	3	100
1990	50	1	1	50
1991	0	0	0	0
1992	425	3	3	142
1993	255	2	2	128
1994	130	1	1	130
1995	90	2	2	45
1996	540	5	5	108
1997	580	5	5	116
1998	330	5	4	66
1999	80	1	1	80
2000	25	1	1	25
2001	0	0	0	0
2002	825	13	10	63
total	4,060	46	42	88

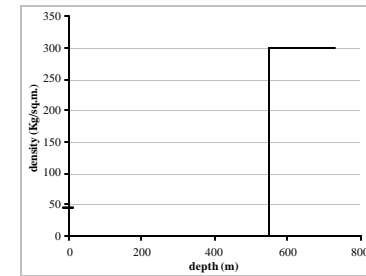
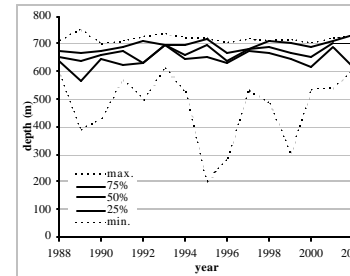
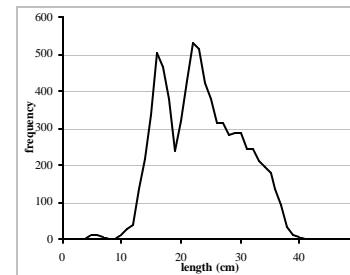
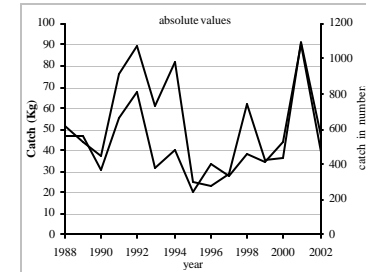
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0016$ $b = 3.37$ $N = 27$

***Antimora rostrata* (Günther, 1878)**

Blue antimora, Blue hake

year	C-total (g)	N-total	hauls	mean-w (g)
1988	51,070	564	13	91
1989	43,975	558	16	79
1990	36,985	367	13	101
1991	76,050	668	14	114
1992	89,955	817	12	110
1993	60,830	375	8	162
1994	81,625	485	10	168
1995	25,160	239	7	105
1996	22,655	402	13	56
1997	28,900	335	10	86
1998	61,700	463	13	133
1999	35,485	411	13	86
2000	36,280	523	14	69
2001	91,605	1,085	16	84
2002	46,495	475	8	98
total	788,770	7,767	180	101

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0025$ $b = 3.29$ $N = 1,581$



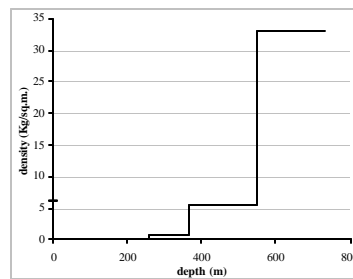
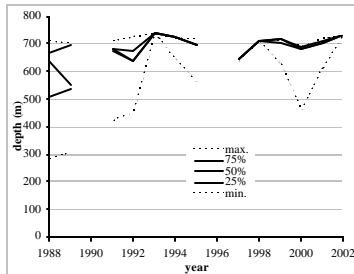
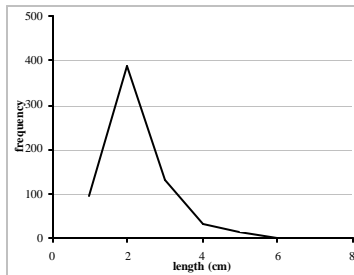
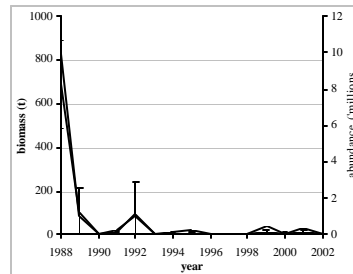
Coryphaenoides rupestris Gunnerus, 1765

Roundnose grenadier

year	C-total (g)	N-total	hauls	mean-w (g)
1988	92,996	1,330	50	70
1989	14,285	160	9	89
1990	0	0	0	0
1991	1,320	38	8	35
1992	14,305	143	5	100
1993	120	6	1	20
1994	670	15	3	45
1995	860	44	3	20
1996	0	0	0	0
1997	225	2	1	113
1998	180	1	1	180
1999	1,959	60	7	33
2000	660	7	3	94
2001	1,760	54	8	33
2002	185	1	1	185
total	129,525	1,861	100	70

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.1946 b = 2.98 N = 87



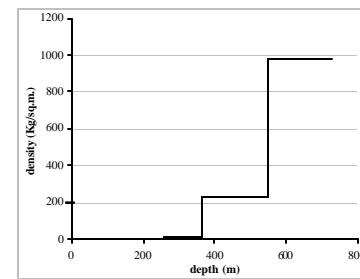
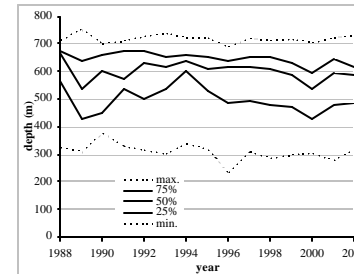
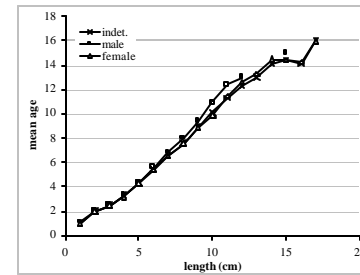
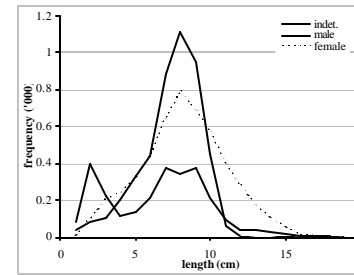
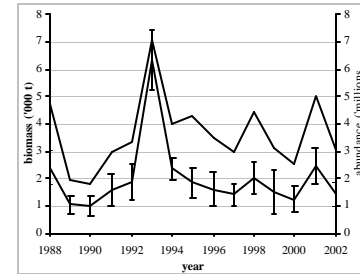
Macrourus berglax Lacepède, 1801

Onion-eye grenadier, Roughhead grenadier

year	C-total (g)	N-total	hauls	mean-w (g)
1988	316,699	635	39	499
1989	161,615	305	38	530
1990	115,225	209	30	551
1991	217,680	409	37	532
1992	254,825	444	37	574
1993	437,280	849	25	515
1994	263,665	464	33	568
1995	259,390	605	36	429
1996	208,055	444	38	469
1997	187,370	393	36	477
1998	277,580	609	41	456
1999	186,750	391	43	478
2000	177,090	363	50	488
2001	351,445	725	52	485
2002	205,685	432	36	476
total	3,620,354	7,277	571	498

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.2131 b = 2.67 N = 5,285



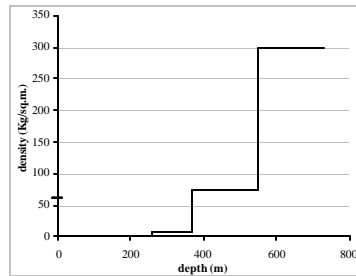
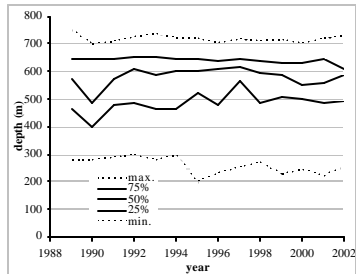
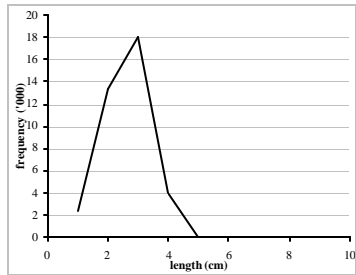
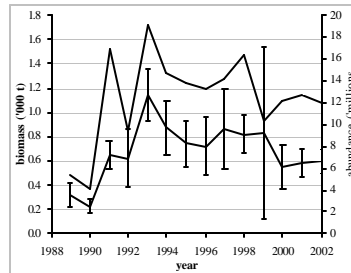
***Nezumia bairdii* (Goode & Bean, 1877)**

Marlin-spike grenadier

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	48,469	840	44	58
1990	28,590	528	49	54
1991	91,340	2,403	60	38
1992	79,676	1,268	59	63
1993	112,225	2,273	45	49
1994	100,317	1,716	51	58
1995	105,269	1,987	66	53
1996	94,325	1,751	70	54
1997	114,758	1,903	61	60
1998	110,115	2,271	75	48
1999	103,057	1,314	70	78
2000	80,215	1,790	66	45
2001	87,982	1,912	82	46
2002	89,342	1,794	77	50
total	1,245,680	23,749	875	52

length-weight relationship: $W = aL^b$ (cm - g)

a = 0.2542 b = 2.89 N = 2,193

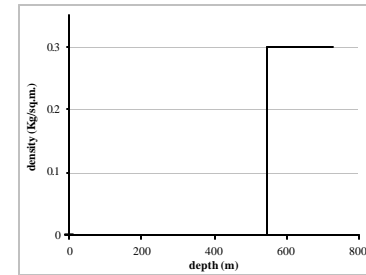
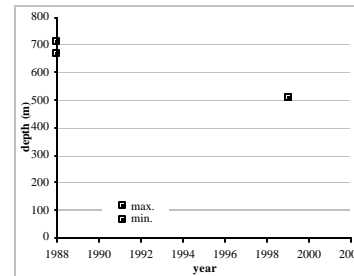
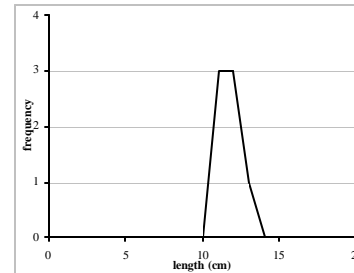
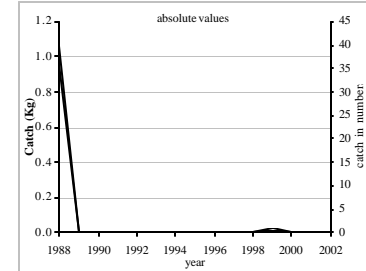
***Caelorinchus caelorhincus caelorhincus* (Risso, 1810)**Syn.: *Coelorhynchus carminatus*, *Caelorinchus caelorhincus*

Hollowsnout grenadier, Saddled grenadier

year	C-total (g)	N-total	hauls	mean-w (g)
1988	961	40	3	27
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	10	1	1	10
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	971	41	4	27

length-weight relationship: $W = aL^b$ (cm - g)

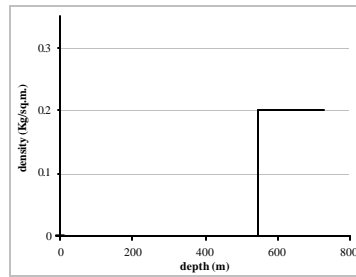
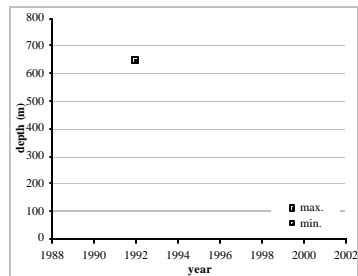
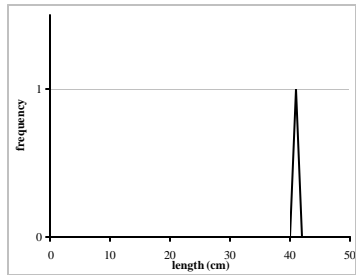
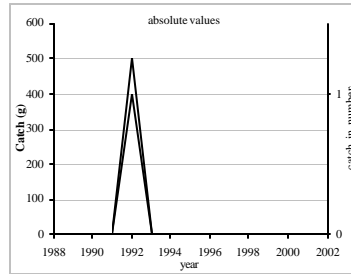
a = 0.0000 b = 0.00 N = 0



Brotulotaenia brevicauda Cohen, 1974

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	500	1	1	500
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	500	1	1	500

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



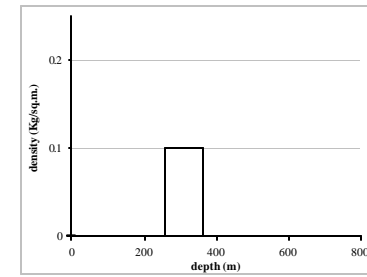
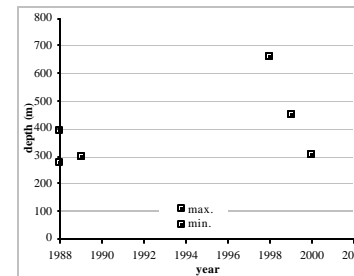
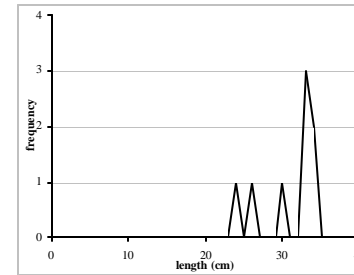
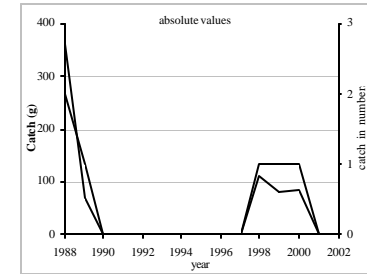
Scomberesox saurus saurus (Walbaum, 1792)

Syn.: *Scomberesox saurus*

Atlantic saury

year	C-total (g)	N-total	hauls	mean-w (g)
1988	360	2	2	180
1989	70	1	1	70
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	110	1	1	110
1999	80	1	1	80
2000	85	1	1	85
2001	0	0	0	0
2002	0	0	0	0
total	705	6	6	118

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

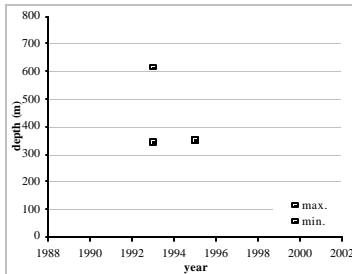
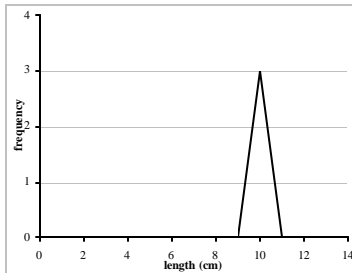
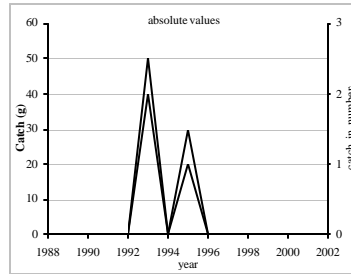


***Diretmus argenteus* Johnson, 1864**

Silver spinyfin, Spinyfin

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	50	2	2	25
1994	0	0	0	0
1995	30	1	1	30
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	80	3	3	27

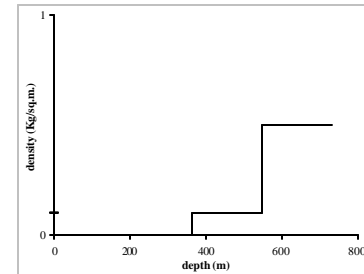
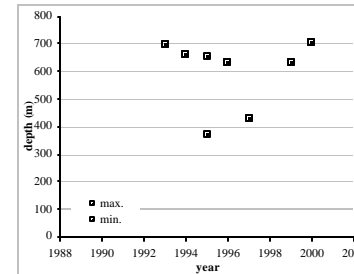
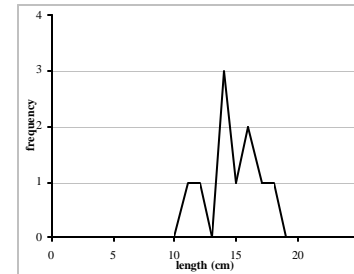
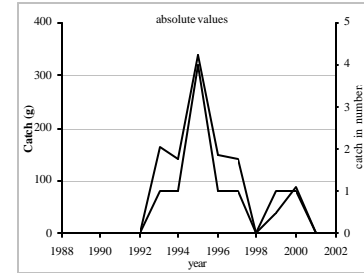
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 2$

***Anoplogaster cornuta* (Valenciennes, 1833)**

Common fangtooth, Ogresfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	165	1	1	165
1994	140	1	1	140
1995	340	4	3	85
1996	150	1	1	150
1997	140	1	1	140
1998	0	0	0	0
1999	40	1	1	40
2000	90	1	1	90
2001	0	0	0	0
2002	0	0	0	0
total	1,065	10	9	107

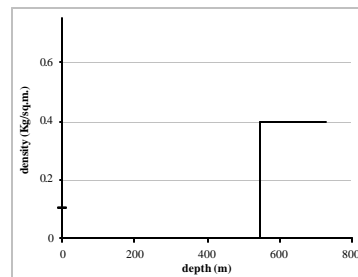
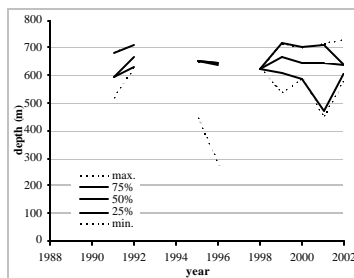
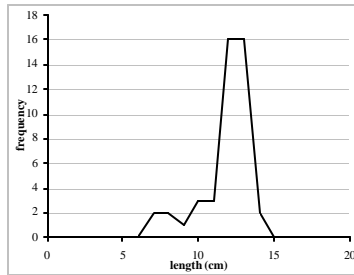
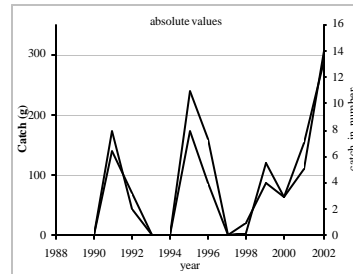
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0417$ $b = 2.91$ $N = 2$



Poromitra megalops (Lütken, 1877)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	140	8	3	18
1992	70	2	2	35
1993	0	0	0	0
1994	0	0	0	0
1995	240	8	2	30
1996	160	4	3	40
1997	0	0	0	0
1998	5	1	1	5
1999	121	4	4	30
2000	65	3	3	22
2001	155	5	5	31
2002	290	14	8	21
total	1,246	49	31	25

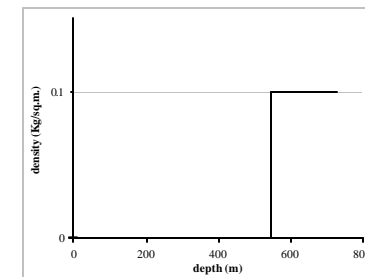
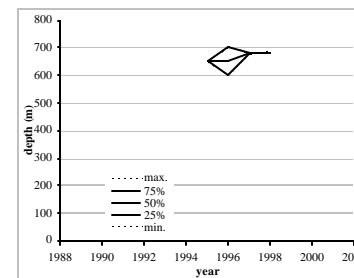
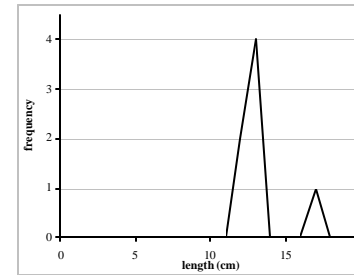
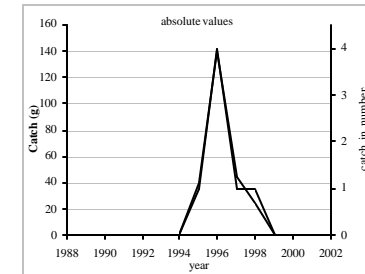
length-weight relationship: $W = aL^b$ (cm - g)
 $a = 0.0101$ $b = 3.16$ $N = 26$

*Scopelogadus beanii* (Günther, 1887)

Beans blueback

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	40	1	1	40
1996	140	4	3	35
1997	45	1	1	45
1998	25	1	1	25
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	250	7	6	36

length-weight relationship: $W = aL^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 2$



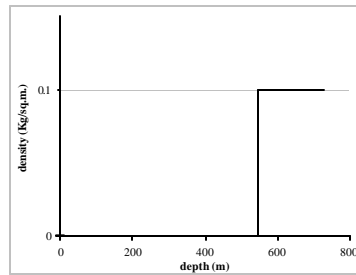
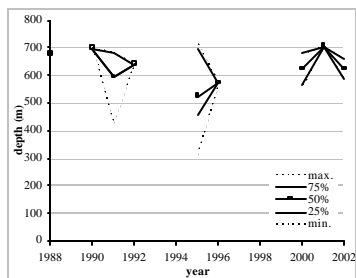
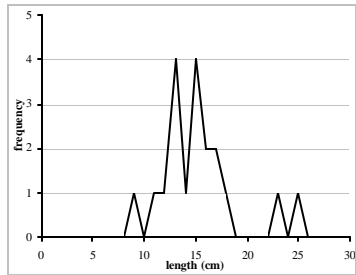
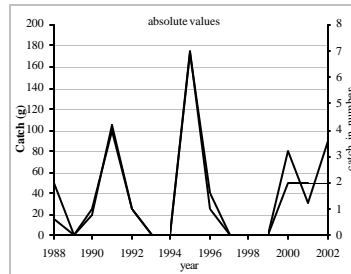
***Chiasmodon niger* Johnson, 1864**

Black swallower

year	C-total (g)	N-total	hauls	mean-w (g)
1988	15	2	1	0
1989	0	0	0	0
1990	20	1	1	20
1991	105	4	3	25
1992	25	1	1	25
1993	0	0	0	0
1994	0	0	0	0
1995	173	7	6	25
1996	40	1	1	40
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	80	2	2	40
2001	30	2	2	15
2002	90	2	2	45
total	578	22	19	28

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0088 b = 2.88 N = 12

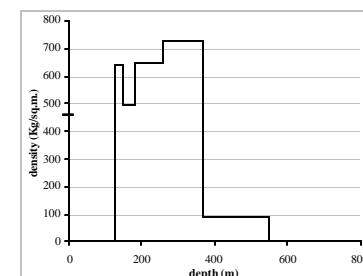
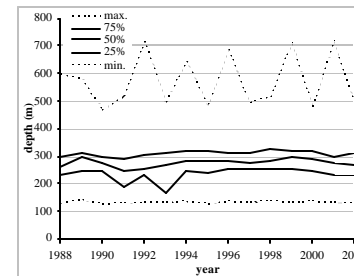
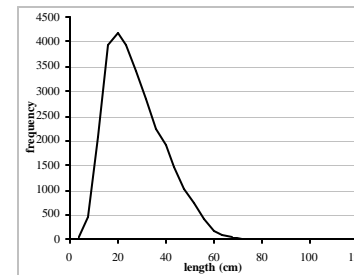
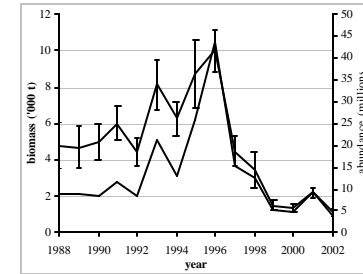
***Anarhichas lupus* Linnaeus, 1758**

Wolf-fish, Atlantic wolfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	688,390	1,301	81	529
1989	742,685	1,393	87	533
1990	729,350	1,214	88	601
1991	905,445	1,762	89	514
1992	652,024	1,231	88	530
1993	1,065,160	2,729	84	390
1994	888,552	1,779	95	499
1995	1,360,592	4,015	95	339
1996	1,478,800	6,399	100	231
1997	656,930	2,232	94	294
1998	497,660	1,808	93	275
1999	214,517	728	87	295
2000	200,460	718	84	279
2001	327,855	1,397	90	235
2002	166,449	563	85	296
total	10,574,869	29,269	1,340	361

length-weight relationship: $W = a L^b$ (cm - g)

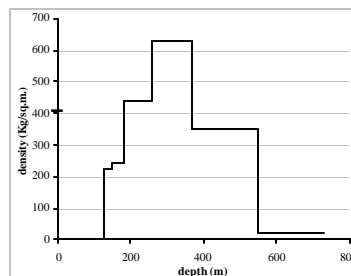
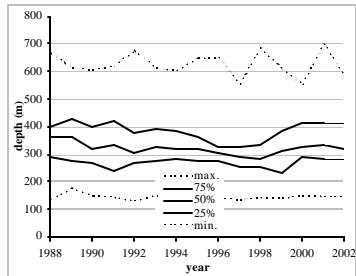
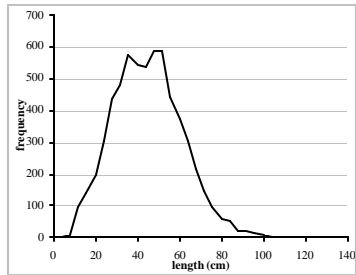
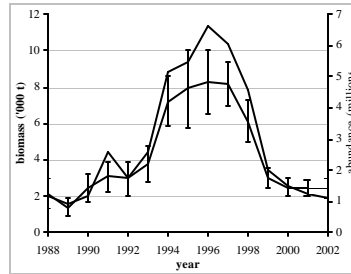
a = 0.0082 b = 3.02 N = 5,220



Anarhichas minor Olafsen, 1772
Spotted wolffish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	310,975	165	52	1,885
1989	221,750	152	61	1,459
1990	357,535	169	70	2,116
1991	438,105	353	79	1,240
1992	432,837	246	72	1,762
1993	474,400	314	63	1,511
1994	1,021,103	709	89	1,441
1995	1,209,695	828	88	1,461
1996	1,208,090	963	98	1,254
1997	1,205,925	890	96	1,355
1998	894,135	667	98	1,341
1999	428,600	285	82	1,504
2000	371,510	226	68	1,644
2001	368,590	183	66	2,017
2002	365,045	165	68	2,212
total	9,308,295	6,315	1,150	1,474

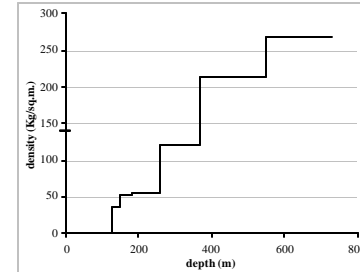
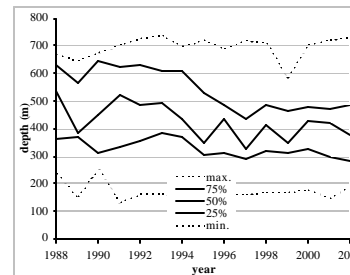
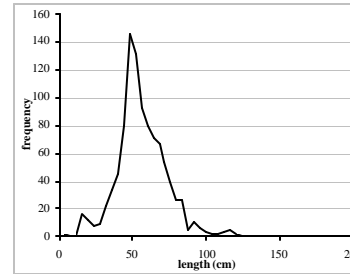
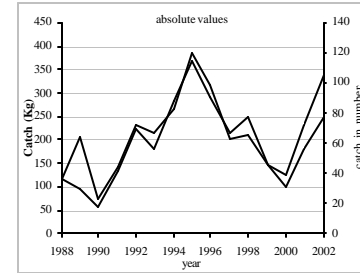
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0067$ $b = 3.10$ $N = 2,059$



Anarhichas denticulatus Krøyer, 1845
Northern wolffish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	116,390	36	21	3,233
1989	205,200	30	20	6,840
1990	72,590	17	11	4,270
1991	141,850	41	27	3,460
1992	230,175	70	36	3,284
1993	214,975	56	31	3,839
1994	267,560	88	42	3,040
1995	385,380	115	65	3,361
1996	317,375	91	51	3,488
1997	201,485	67	48	3,007
1998	209,390	77	48	2,719
1999	146,139	46	35	3,177
2000	97,815	39	31	2,508
2001	181,615	72	44	2,533
2002	246,700	106	66	2,327
total	3,034,639	951	576	3,195

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0170$ $b = 2.92$ $N = 567$

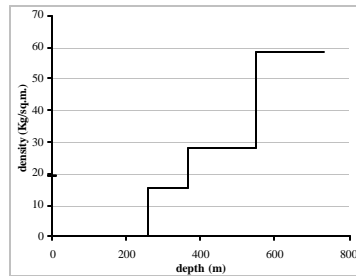
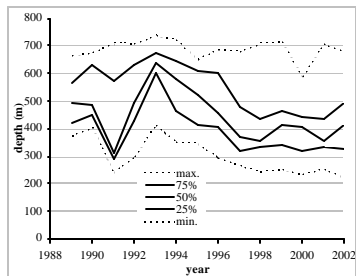
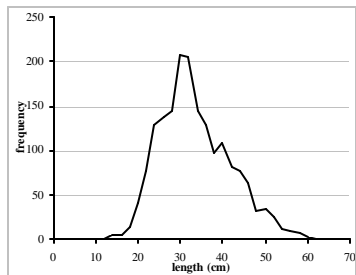
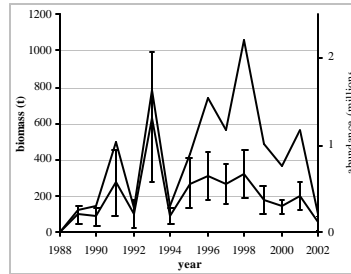


***Lycodes esmarkii* Collett, 1875**

Greater eelpout, Vachon's eelpout

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	14,425	40	19	363
1990	11,740	40	15	294
1991	38,330	150	31	256
1992	13,030	37	20	352
1993	71,160	197	18	361
1994	10,160	38	13	267
1995	38,575	126	30	306
1996	41,615	205	37	203
1997	36,817	163	44	226
1998	45,785	318	57	144
1999	23,593	134	46	176
2000	21,270	113	42	188
2001	29,030	166	41	175
2002	8,120	31	19	262
total	403,650	1,758	432	230

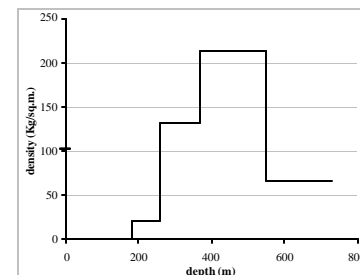
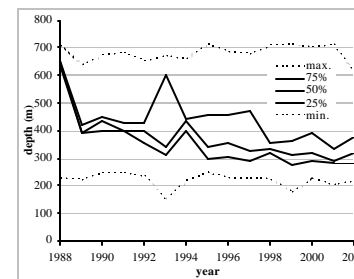
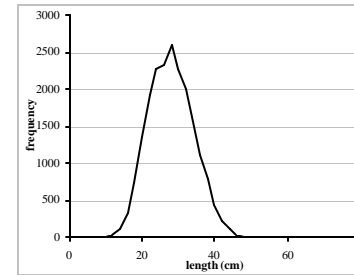
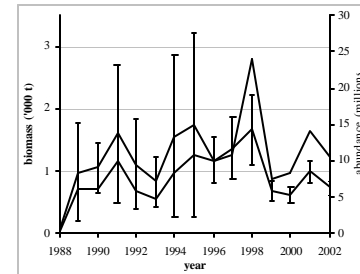
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0013$ $b = 3.35$ $N = 907$

***Lycodes reticulatus* Reinhardt, 1835**

Arctic eelpout

year	C-total (g)	N-total	hauls	mean-w (g)
1988	8,861	41	11	216
1989	145,310	925	53	157
1990	146,270	848	60	173
1991	225,740	1,413	56	160
1992	175,706	884	61	199
1993	97,525	582	56	168
1994	194,518	1,039	61	187
1995	251,660	1,570	76	160
1996	165,820	1,396	82	119
1997	193,103	1,536	84	126
1998	240,325	3,520	83	68
1999	94,078	1,047	89	90
2000	93,020	1,257	77	74
2001	146,920	2,086	83	70
2002	109,600	1,558	81	70
total	2,288,456	19,701	1,013	116

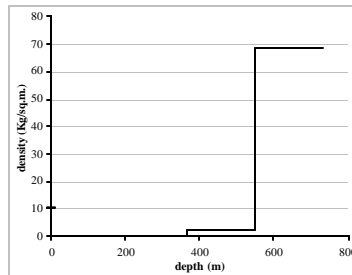
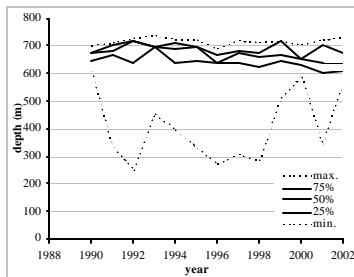
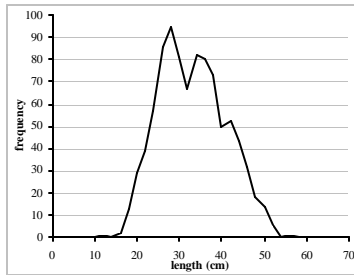
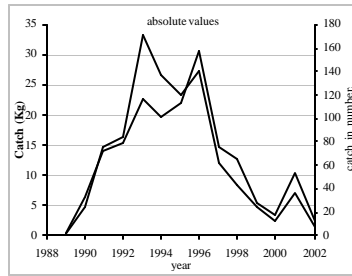
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0043$ $b = 3.00$ $N = 2,812$



***Lycodes vahlii* Reinhardt, 1831**
 Vahl's checker eelpout

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	4,660	33	7	141
1991	14,633	72	13	203
1992	16,330	79	14	207
1993	33,275	117	12	285
1994	26,825	101	13	266
1995	23,405	114	10	205
1996	27,265	157	16	174
1997	12,165	76	16	160
1998	8,470	65	12	130
1999	4,805	27	9	178
2000	2,250	18	5	125
2001	7,165	53	14	135
2002	1,580	12	8	132
total	182,828	924	149	198

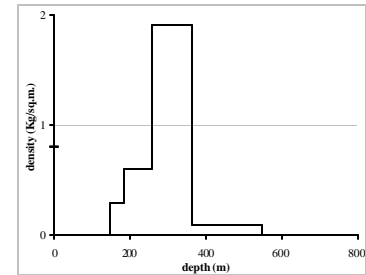
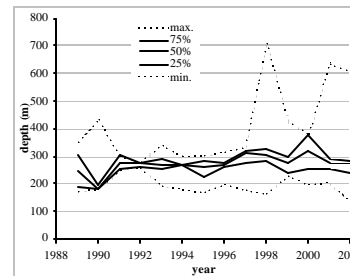
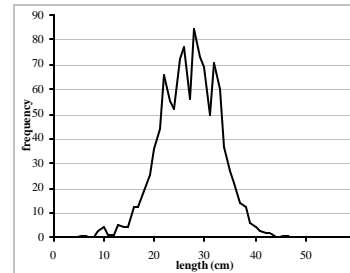
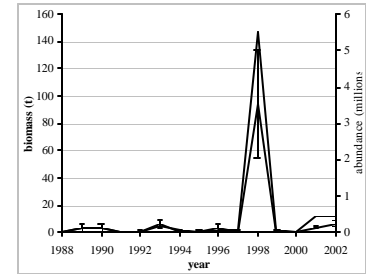
length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0017 b = 3.27 N = 448



***Lumpenus lampretæformis* (Walbaum, 1792)**
 Snake blenny

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	475	16	9	30
1990	430	22	5	20
1991	45	2	2	23
1992	140	6	5	23
1993	930	25	15	37
1994	175	11	7	16
1995	98	6	5	16
1996	470	14	8	34
1997	135	9	8	15
1998	14,105	823	50	17
1999	174	12	9	15
2000	75	4	4	19
2001	598	68	32	9
2002	989	71	38	14
total	18,839	1,089	197	17

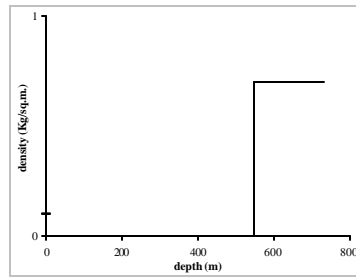
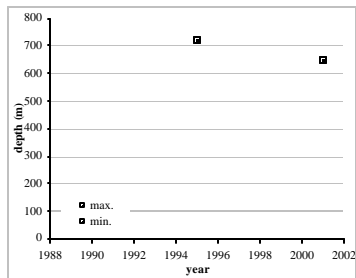
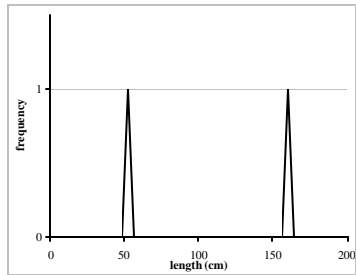
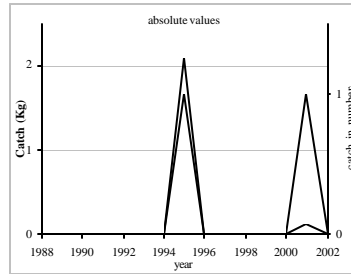
length-weight relationship: $W = a L^b$ (cm - g)
 a = 0.0164 b = 2.09 N = 306



***Aphanopus carbo* Lowe, 1839**
Black scabbardfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	2,100	1	1	2,100
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	135	1	1	135
2002	0	0	0	0
total	2,235	2	2	1,118

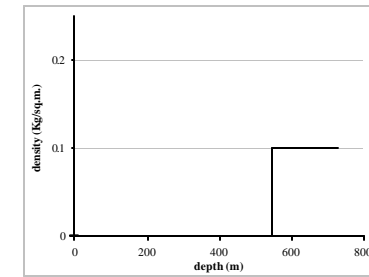
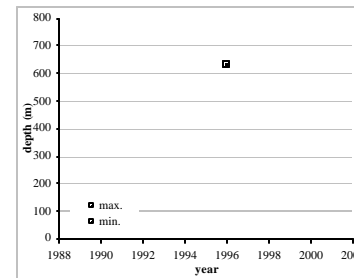
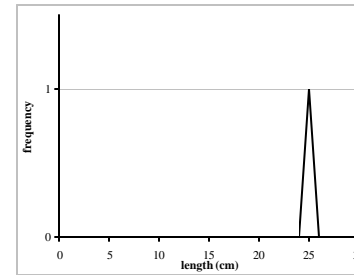
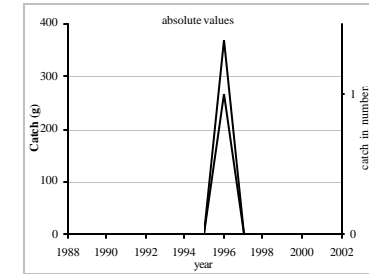
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



***Caristius groenlandicus* Jensen, 1941**
Greenland manefish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	370	1	1	370
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	370	1	1	370

length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



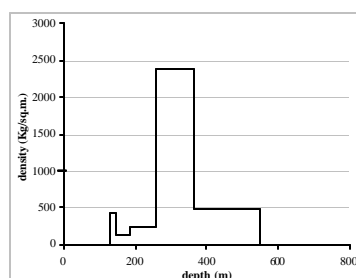
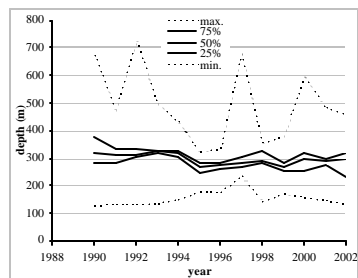
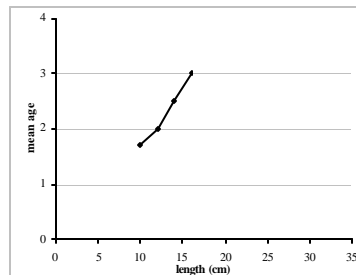
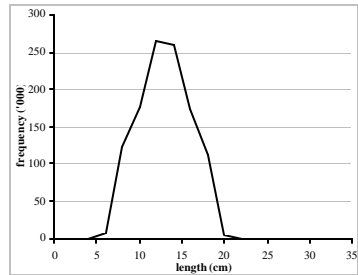
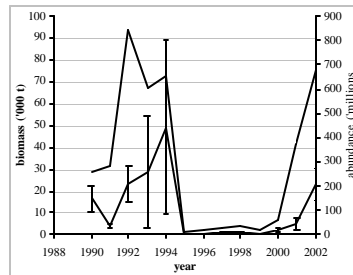
Sebastes (juveniles)

Juvenile redfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988				
1989				
1990	2,484,130	38,633	93	64
1991	613,060	43,587	84	14
1992	3,343,244	121,351	94	28
1993	3,640,755	76,491	76	48
1994	7,264,998	96,338	47	75
1995	37,266	1,469	35	25
1996	47,305	2,635	51	18
1997	123,727	4,082	40	30
1998	155,859	5,047	53	31
1999	37,222	3,078	49	12
2000	308,280	9,639	63	32
2001	774,977	55,679	83	14
2002	3,326,690	98,678	90	34
total	22,157,513	556,708	858	40

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0111 b = 3.09 N = 1,452

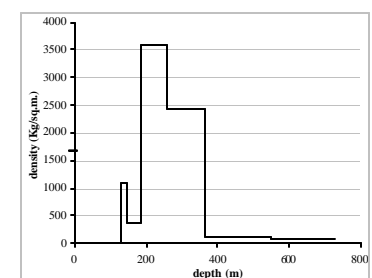
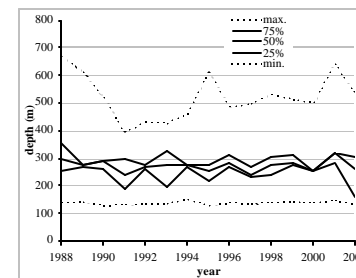
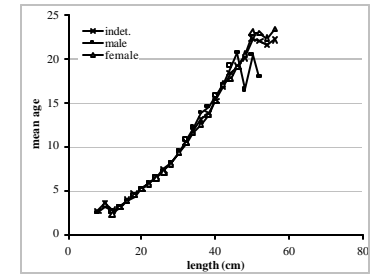
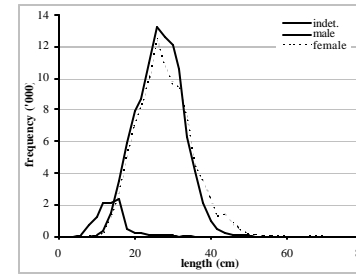
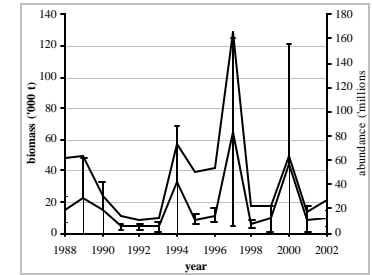
***Sebastes marinus* (Linnaeus, 1758)**

Ocean perch, Golden redfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	2,099,025	8,382	66	251
1989	4,090,970	11,172	53	366
1990	2,232,555	4,666	69	478
1991	642,800	2,239	71	287
1992	603,087	1,548	63	390
1993	479,705	1,495	68	321
1994	5,091,233	10,960	78	465
1995	1,434,110	8,010	89	179
1996	1,635,712	7,707	92	212
1997	10,272,725	25,979	90	395
1998	958,928	3,402	90	282
1999	1,400,743	3,376	87	415
2000	6,589,788	9,384	87	702
2001	1,308,407	2,563	82	510
2002	1,464,487	4,117	91	356
total	40,304,275	105,000	1,176	384

length-weight relationship: $W = a L^b$ (cm - g)

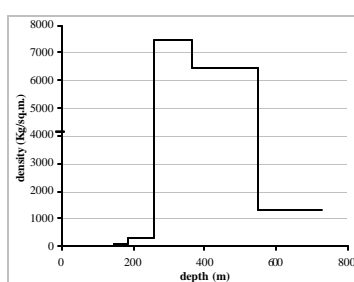
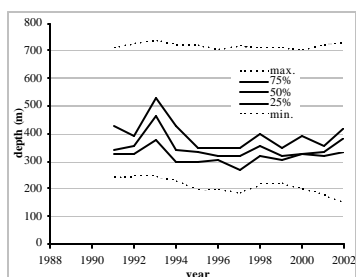
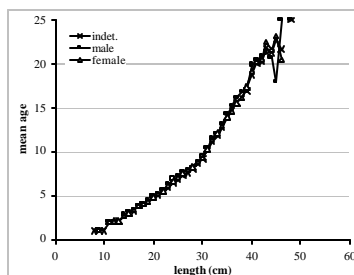
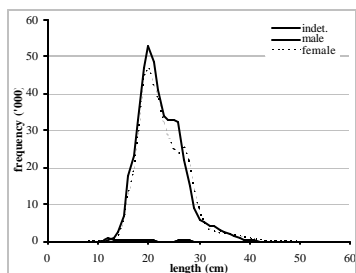
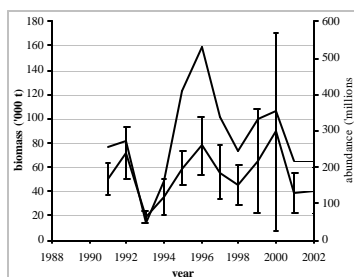
a = 0.0179 b = 2.96 N = 12,694



Sebastes mentella (Travin, 1951) Deepwater redfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988				
1989				
1990				
1991	7,407,945	39,358	76	
1992	9,963,817	38,169	74	261
1993	2,395,840	6,169	52	388
1994	4,751,049	21,416	69	222
1995	9,113,561	62,637	99	145
1996	10,728,303	74,818	97	143
1997	8,066,946	49,248	94	164
1998	6,463,154	34,402	96	188
1999	8,801,540	45,529	90	193
2000	12,398,940	49,459	97	251
2001	5,384,165	31,075	98	173
2002	5,997,517	31,797	99	189
total	91,472,777	484,077	1,041	174

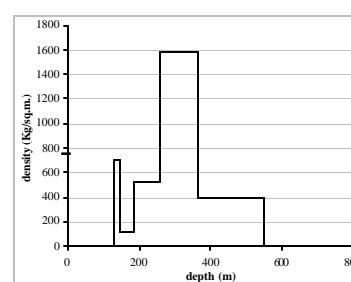
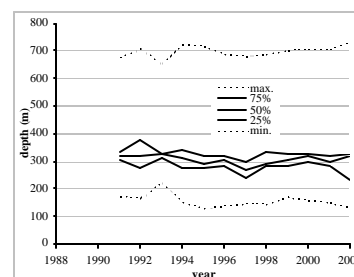
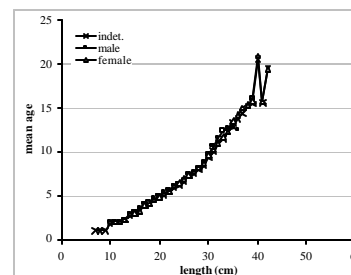
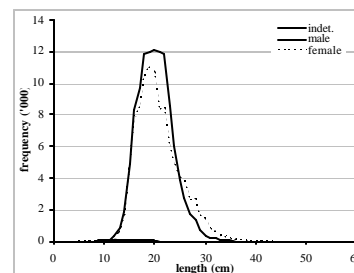
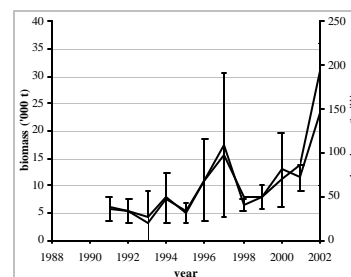
length-weight relationship: $W = aL^b$ (cm - g)
a = 0.0134 b = 3.02 N = 14,492



Sebastes fasciatus Storer, 1856 Acadian redfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988				
1989				
1990				
1991	828,090	5,908	60	140
1992	764,475	4,709	74	162
1993	475,400	2,133	63	223
1994	1,098,821	6,538	93	168
1995	777,818	5,122	103	152
1996	1,522,111	9,198	100	165
1997	2,693,049	14,531	99	185
1998	923,162	7,001	107	132
1999	1,130,557	7,039	97	161
2000	1,862,790	10,143	101	184
2001	1,709,955	12,667	105	135
2002	3,231,554	26,766	115	121
total	17,017,782	111,755	1,117	152

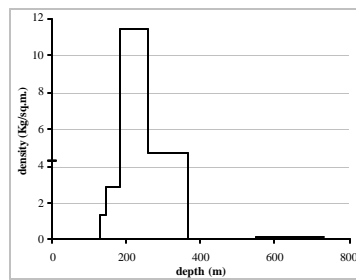
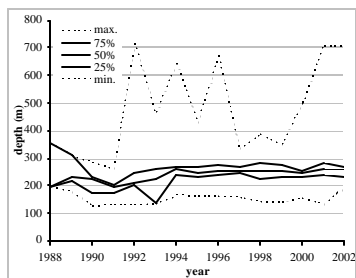
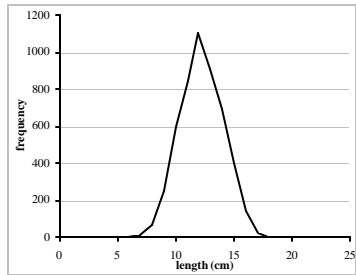
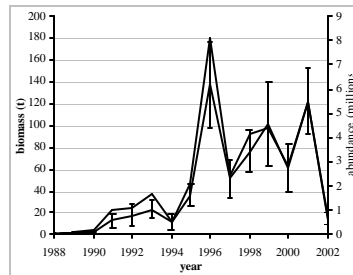
length-weight relationship: $W = aL^b$ (cm - g)
a = 0.0169 b = 2.98 N = 11,077



***Triglops murrayi* Günther, 1888**
Moustache sculpin

year	C-total (g)	N-total	hauls	mean-w (g)
1988	80	7	2	11
1989	260	12	5	22
1990	273	27	10	10
1991	2,085	170	30	12
1992	2,520	158	36	16
1993	3,145	236	44	13
1994	1,720	75	26	23
1995	5,693	324	53	18
1996	20,220	1,195	66	17
1997	7,600	361	54	21
1998	11,095	612	68	18
1999	14,675	633	58	23
2000	9,278	425	52	22
2001	18,065	804	60	22
2002	2,245	92	34	24
total	98,954	5,131	598	19

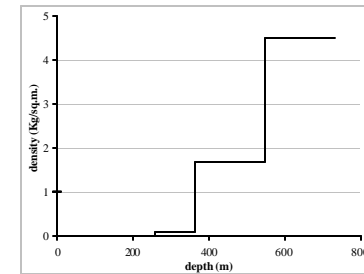
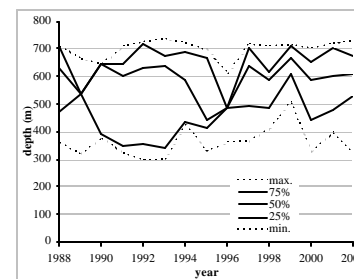
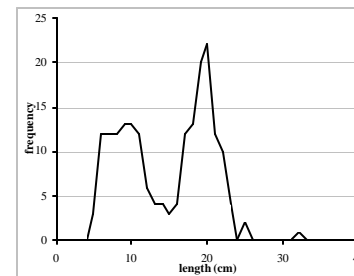
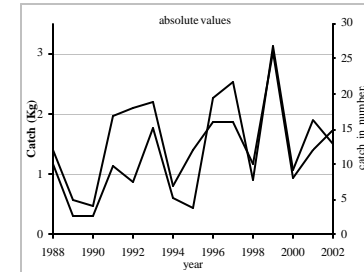
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0032 b = 3.46 N = 1,944



***Cottunculus microps* Collett, 1875**
Polar sculpin

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,160	12	9	97
1989	305	5	3	61
1990	320	4	4	80
1991	1,135	17	12	67
1992	872	18	13	48
1993	1,770	19	10	93
1994	595	7	7	85
1995	427	12	10	36
1996	2,274	16	6	142
1997	2,530	16	12	158
1998	890	10	8	89
1999	3,135	26	11	121
2000	1,075	8	8	134
2001	1,915	12	12	160
2002	1,505	15	10	100
total	19,908	197	135	101

length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0391 b = 2.79 N = 112

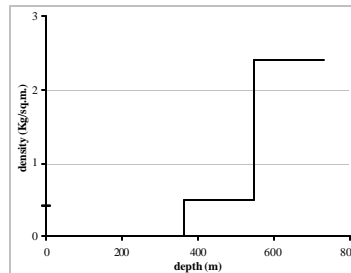
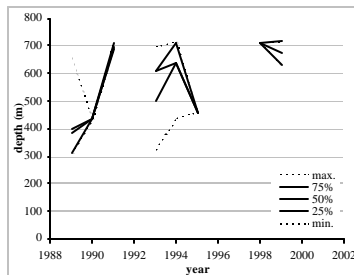
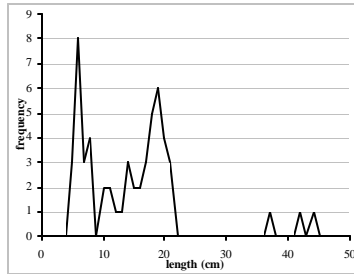
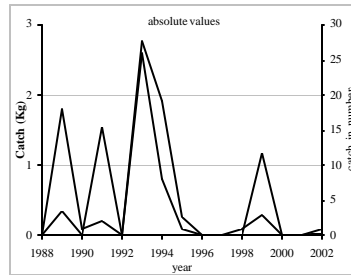


***Cottunculus thomsonii* (Günther, 1882)**

Pallid sculpin

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	355	18	8	21
1990	10	1	1	10
1991	1,560	2	2	780
1992	0	0	0	0
1993	2,765	26	11	106
1994	1,920	8	4	240
1995	270	1	1	270
1996	0	0	0	0
1997	0	0	0	0
1998	10	1	1	10
1999	1,180	3	3	393
2000	0	0	0	0
2001	0	0	0	0
2002	25	1	1	25
total	8,095	61	32	137

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0201$ $b = 3.03$ $N = 31$

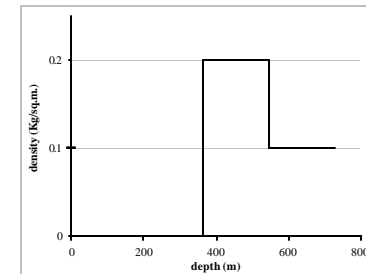
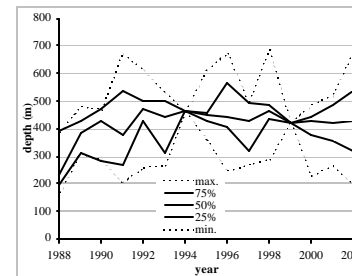
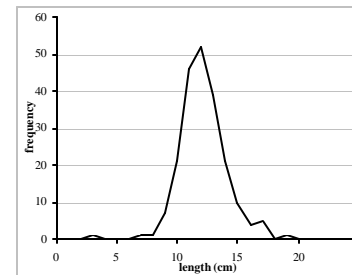
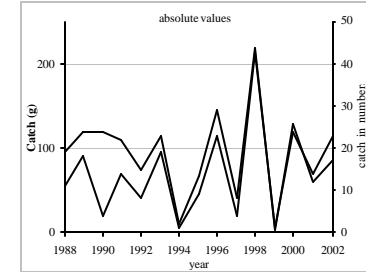


***Aspidophoroides monoptygius* (Bloch, 1786)**

Alligatorfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	96	11	6	10
1989	120	18	5	7
1990	119	4	4	30
1991	111	14	11	8
1992	75	8	7	9
1993	115	19	14	6
1994	10	1	1	10
1995	68	9	7	8
1996	145	23	14	6
1997	40	4	4	10
1998	220	43	21	5
1999	3	1	1	3
2000	130	24	13	7
2001	59	14	9	4
2002	86	23	14	4
total	1,397	216	131	7

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0029$ $b = 3.00$ $N = 83$



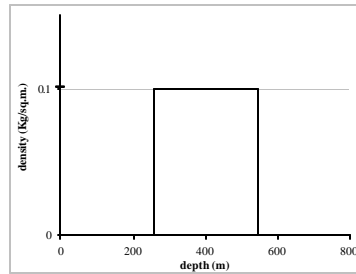
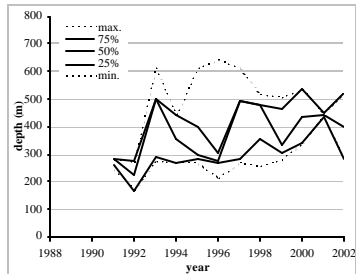
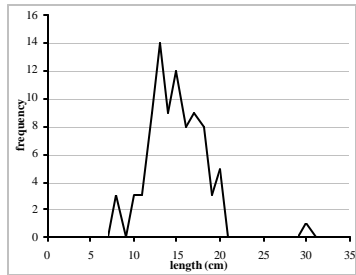
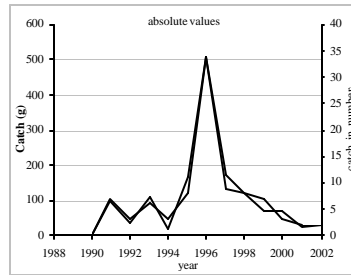
***Leptagonus decagonus* (Bloch & Schneider, 1801)**Syn.: *Agonus decagonus*

Atlantic sea poacher

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	100	7	4	14
1992	35	3	3	12
1993	110	6	6	18
1994	20	3	3	7
1995	168	8	7	21
1996	510	34	21	15
1997	170	9	7	19
1998	124	8	7	16
1999	69	7	6	11
2000	70	3	3	23
2001	25	2	2	13
2002	30	2	2	15
total	1,431	92	71	16

length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0043 b = 2.98 N = 57

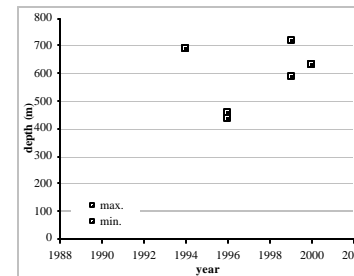
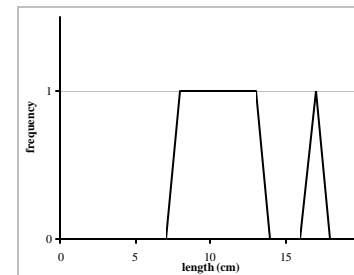
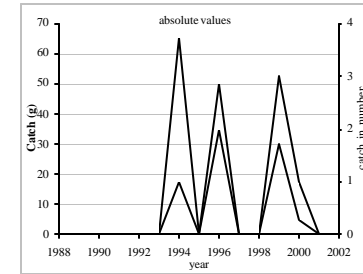
***Liparis fabricii* Krøyer, 1847**

Gelatinous snailfish

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	65	1	1	65
1995	0	0	0	0
1996	50	2	2	25
1997	0	0	0	0
1998	0	0	0	0
1999	30	3	3	10
2000	5	1	1	5
2001	0	0	0	0
2002	0	0	0	0
total	150	7	7	21

length-weight relationship: $W = a L^b$ (cm - g)

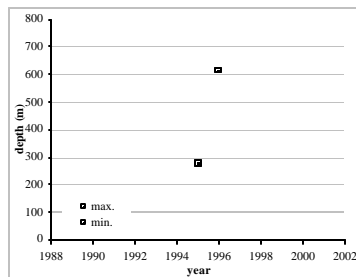
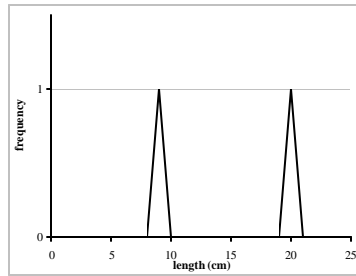
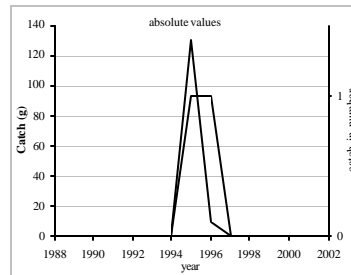
a = 0.0377 b = 2.55 N = 5



***Liparis liparis* (Linnaeus, 1766)**
Striped seasnail

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	130	1	1	130
1996	10	1	1	10
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	140	2	2	70

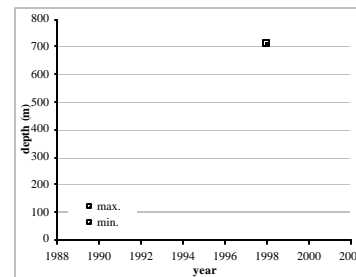
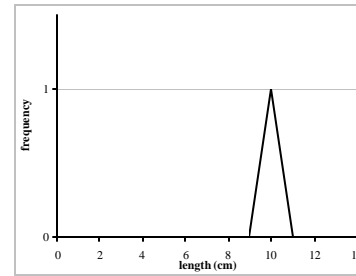
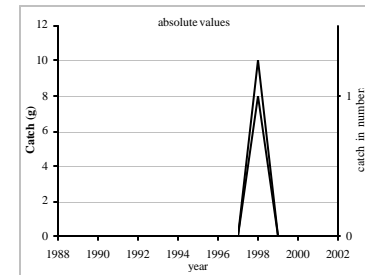
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



***Careproctus micropus* (Günther, 1887)**
Syn.: *Liparis micropus*

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	10	1	1	10
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	10	1	1	10

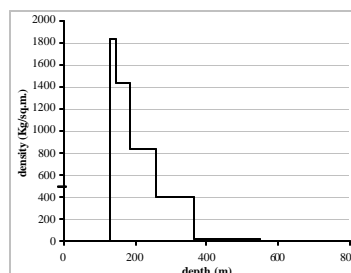
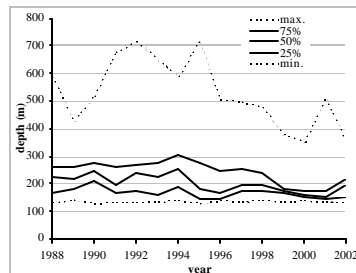
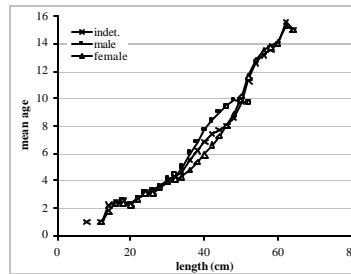
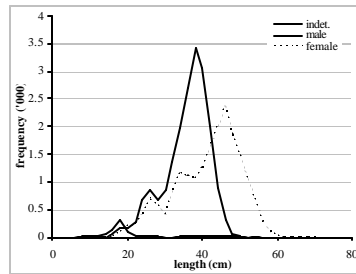
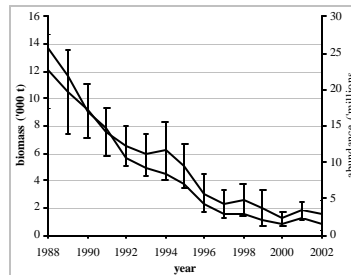
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



***Hippoglossoides platessoides* (Fabricius, 1780)**
American plaice

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,795,830	3,847	81	467
1989	1,691,480	3,536	81	478
1990	1,383,855	2,559	82	541
1991	1,183,447	2,290	91	517
1992	950,450	1,543	84	616
1993	804,700	1,275	86	631
1994	925,172	1,271	87	728
1995	819,021	1,131	89	724
1996	477,195	680	72	702
1997	342,115	437	58	783
1998	393,105	442	57	889
1999	294,967	314	49	939
2000	186,950	251	42	745
2001	277,795	364	49	763
2002	233,380	225	55	1,037
total	11,759,462	20,166	1,063	583

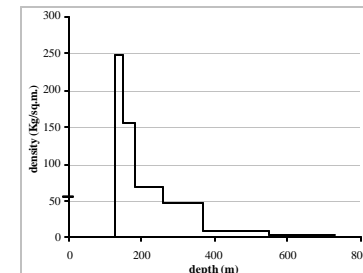
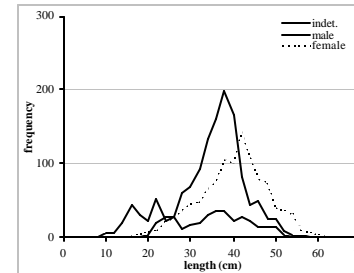
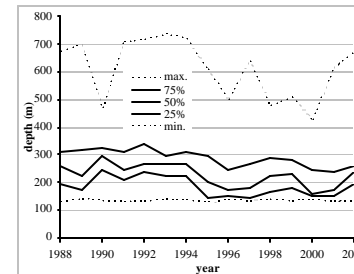
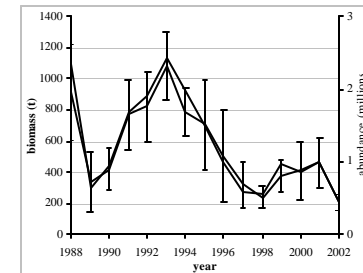
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0044 b = 3.23 N = 12,027



***Glyptocephalus cynoglossus* (Linnaeus, 1758)**
Witch flounder

year	C-total (g)	N-total	hauls	mean-w (g)
1988	134,082	342	64	392
1989	53,570	99	38	541
1990	63,747	145	51	439
1991	117,198	253	67	463
1992	118,631	271	71	438
1993	143,085	325	76	440
1994	112,781	284	78	397
1995	111,354	234	61	476
1996	78,110	153	51	511
1997	47,815	89	41	537
1998	36,460	85	49	429
1999	56,173	143	55	393
2000	62,950	132	36	477
2001	71,020	153	46	464
2002	32,095	70	47	466
total	1,239,071	2,778	831	446

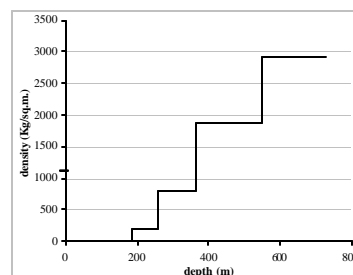
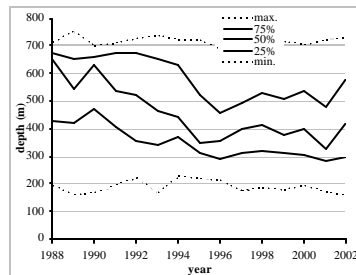
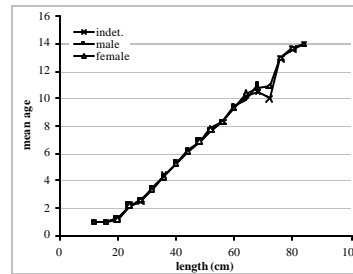
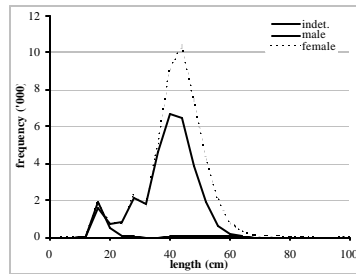
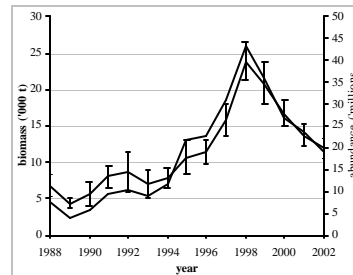
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0017 b = 3.41 N = 1,143



Reinhardtius hippoglossoides (Walbaum, 1792) Greenland halibut

year	C-total (g)	N-total	hauls	mean-w (g)
1988	940,011	1,083	75	868
1989	687,860	595	76	1,156
1990	737,960	733	60	1,006
1991	1,161,450	1,360	89	854
1992	1,235,214	1,517	89	814
1993	767,925	1,116	65	688
1994	1,020,915	1,577	71	647
1995	1,591,992	3,336	97	477
1996	1,605,700	3,236	96	496
1997	2,224,098	4,433	99	502
1998	3,422,185	6,210	107	551
1999	2,836,294	4,910	103	578
2000	2,491,675	4,025	103	619
2001	2,046,605	3,519	108	582
2002	1,792,420	2,871	100	624
total	24,562,304	40,521	1,338	606

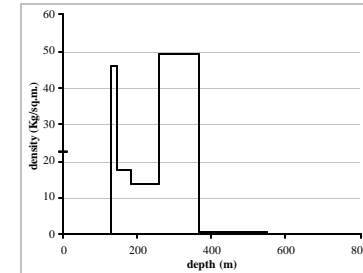
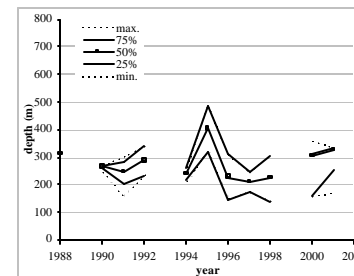
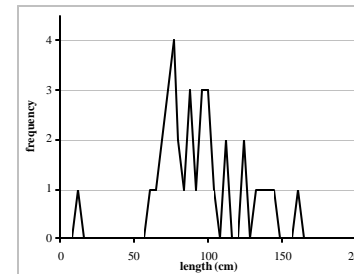
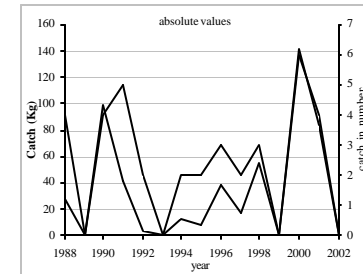
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0060$ $b = 3.08$ $N = 12,699$



Hippoglossus hippoglossus (Linnaeus, 1758) Atlantic halibut

year	C-total (g)	N-total	hauls	mean-w (g)
1988	28,000	4	2	7,000
1989	0	0	0	0
1990	99,280	4	4	29,793
1991	41,970	5	5	8,394
1992	2,995	2	2	1,498
1993	0	0	0	0
1994	12,100	2	2	6,050
1995	8,100	2	2	4,050
1996	39,100	3	3	13,033
1997	16,970	2	2	8,485
1998	55,650	3	3	18,550
1999	0	0	0	0
2000	141,660	6	6	23,610
2001	84,050	4	4	21,013
2002	0	0	0	0
total	529,875	37	35	14,444

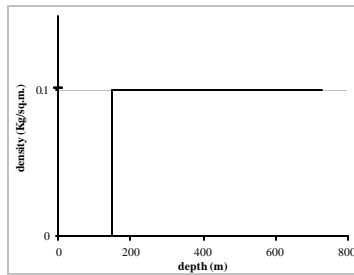
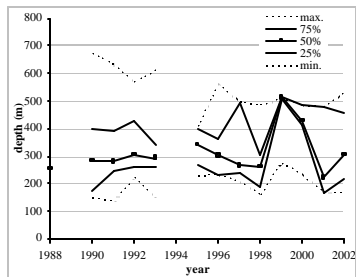
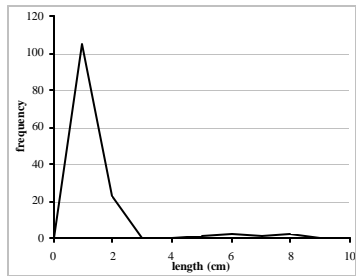
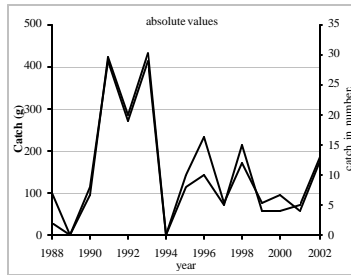
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 4.22$ $N = 22$



***Semirossia* sp.**
 “Shining bobtails”

year	C-total (g)	N-total	hauls	mean-w (g)
1988	100	2	2	50
1989	0	0	0	0
1990	98	8	6	12
1991	425	29	26	15
1992	285	19	16	15
1993	433	29	23	15
1994	0	0	0	0
1995	145	8	7	18
1996	235	10	9	24
1997	75	5	5	15
1998	172	15	14	11
1999	75	4	3	19
2000	95	4	4	24
2001	60	5	3	12
2002	177	13	11	14
total	2,375	151	129	16

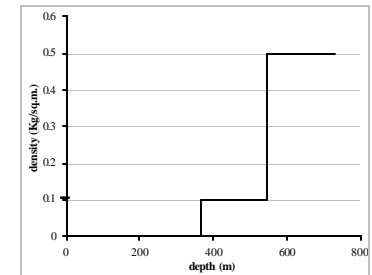
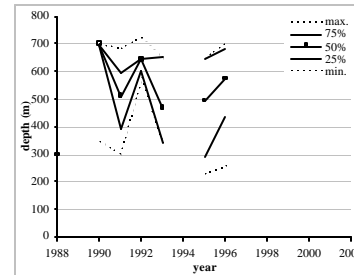
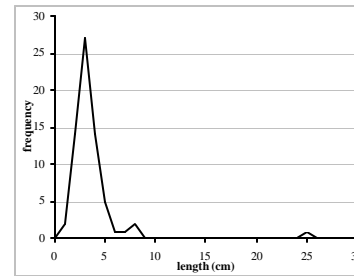
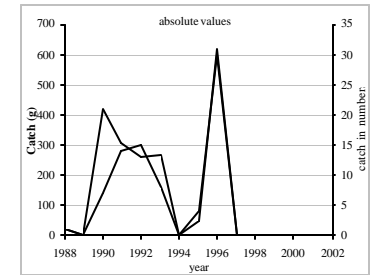
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 1.1249$ $b = 2.14$ $N = 91$



***Onychoteuthis banksi* (Leach, 1817)**
 Common clubhook squid

year	C-total (g)	N-total	hauls	mean-w (g)
1988	20	1	1	20
1989	0	0	0	0
1990	420	7	2	60
1991	305	14	9	22
1992	260	15	6	17
1993	270	8	5	34
1994	0	0	0	0
1995	48	4	4	12
1996	620	30	19	21
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	1,943	79	46	25

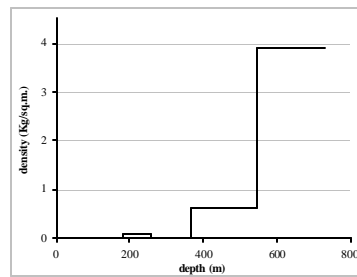
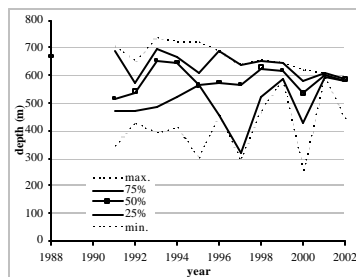
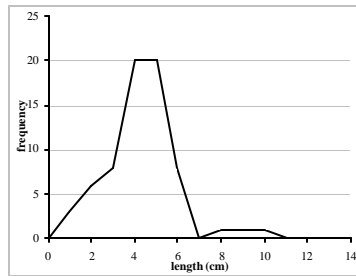
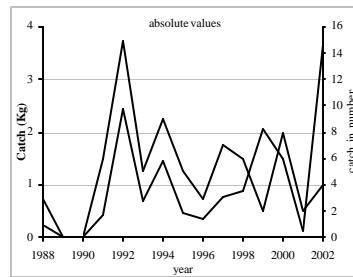
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.1044$ $b = 2.51$ $N = 25$



Histioteuthis reversa (Verril, 1880)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	245	3	2	0
1989	0	0	0	0
1990	0	0	0	0
1991	414	6	6	69
1992	2,450	15	11	163
1993	680	5	5	136
1994	1,450	9	7	161
1995	470	5	4	94
1996	340	3	3	113
1997	755	7	6	108
1998	870	6	6	145
1999	2,050	2	2	1,025
2000	1,500	8	7	188
2001	130	2	2	65
2002	3,660	4	3	915
total	15,014	75	64	205

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0206$ $b = 3.86$ $N = 47$

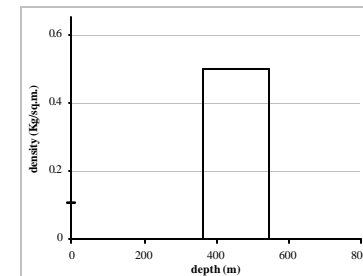
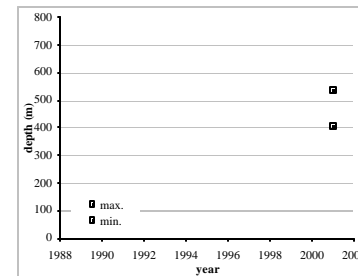
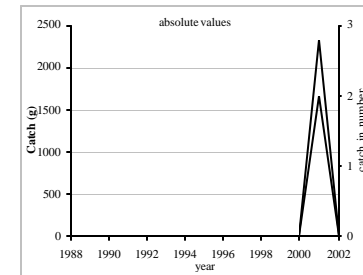


Histioteuthis bonnellii (Férussac, 1835)

Umbrella squid

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	2,325	2	2	1,163
2002	0	0	0	0
total	2,325	2	2	1,163

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

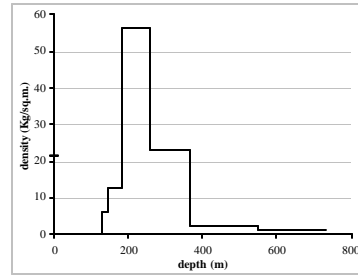
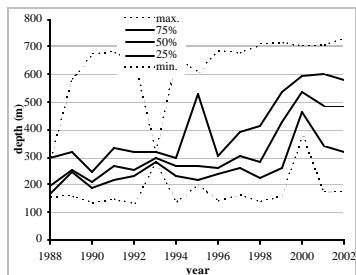
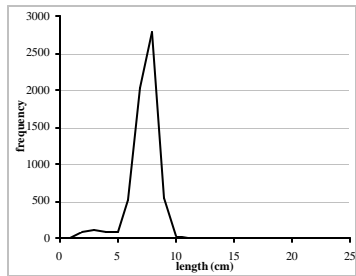
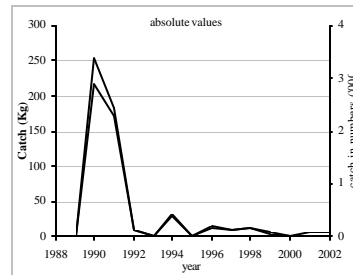


Illex illecebrosus (LeSueur, 1821)

Northern shortfin squid

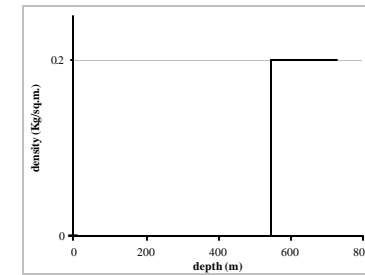
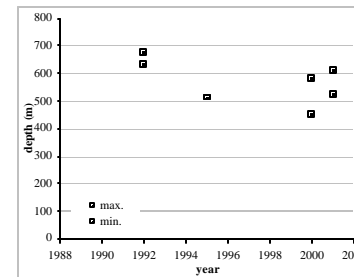
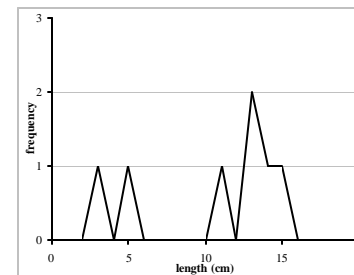
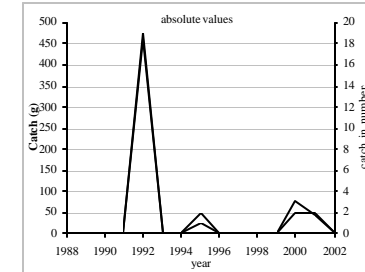
year	C-total (g)	N-total	hauls	mean-w (g)
1988	770	7	5	110
1989	1,280	13	10	98
1990	255,325	2,899	61	88
1991	184,208	2,306	75	80
1992	9,465	130	49	73
1993	115	3	3	38
1994	29,969	427	71	70
1995	166	9	8	18
1996	13,055	194	57	67
1997	9,545	141	57	68
1998	10,725	176	77	61
1999	2,500	98	54	26
2000	366	26	16	14
2001	1,045	71	40	15
2002	1,090	70	41	16
total	519,624	6,570	624	79

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.2071$ $b = 2.14$ $N = 808$

*Taonius pavo* (LeSueur, 1821)

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.2054$ $b = 1.58$ $N = 4$

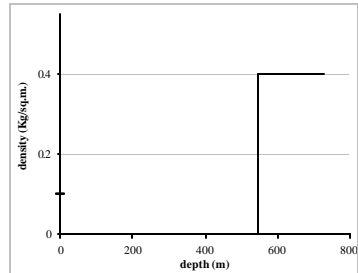
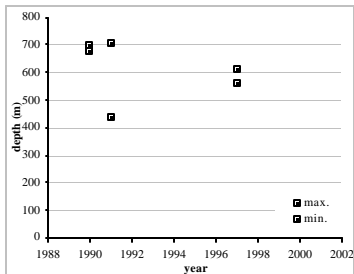
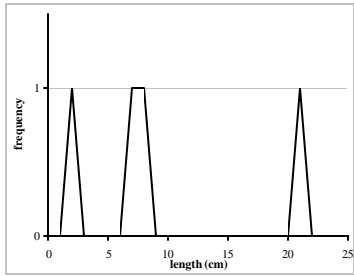
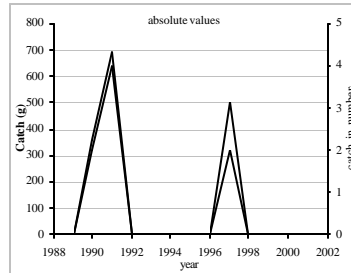
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	460	19	2	24
1993	0	0	0	0
1994	0	0	0	0
1995	50	1	1	50
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	75	2	2	38
2001	45	2	2	23
2002	0	0	0	0
total	630	24	7	26



Chiroteuthis picteti Joubin, 1894

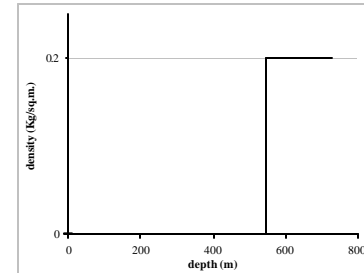
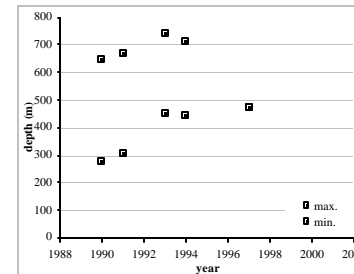
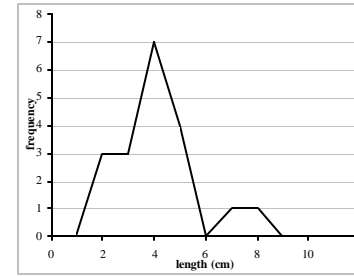
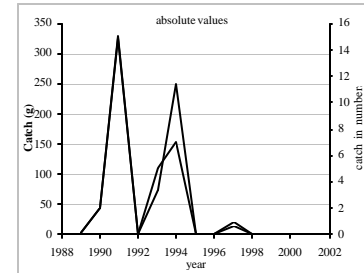
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	360	2	2	180
1991	690	4	4	177
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	505	2	2	253
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	1,555	8	8	199

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

*Brachioteuthis* sp.
“Arm squids”

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	45	2	2	23
1991	330	15	6	22
1992	0	0	0	0
1993	75	5	3	15
1994	250	7	6	36
1995	0	0	0	0
1996	0	0	0	0
1997	15	1	1	15
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	715	30	18	24

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0543$ $b = 2.74$ $N = 8$



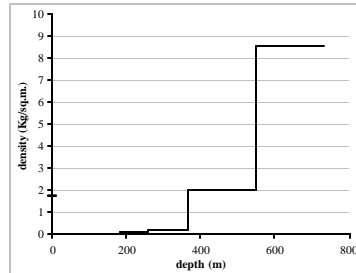
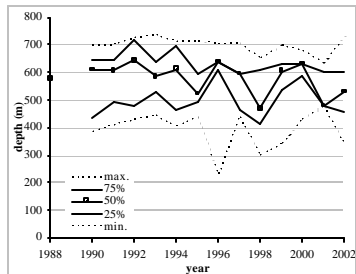
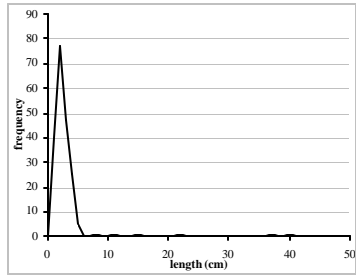
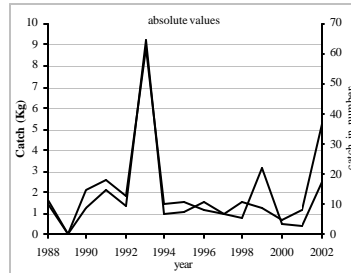
***Bathypolypus arcticus* (Prosch, 1849)**

North Atlantic octopus

year	C-total (g)	N-total	hauls	mean-w (g)
1988	1,620	10	5	190
1989	0	0	0	0
1990	1,278	15	10	87
1991	2,085	18	11	116
1992	1,340	13	10	103
1993	9,275	62	17	150
1994	980	10	8	96
1995	1,046	11	8	95
1996	1,540	8	7	193
1997	985	7	5	141
1998	755	11	8	69
1999	3,160	9	6	351
2000	530	5	4	106
2001	360	8	4	45
2002	2,481	37	20	67
total	27,435	224	123	124

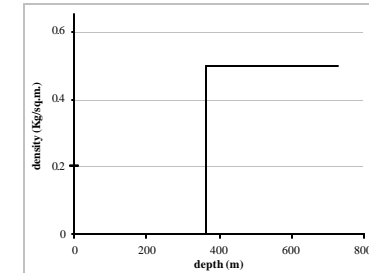
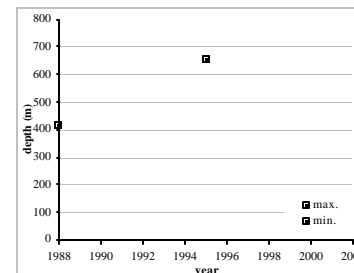
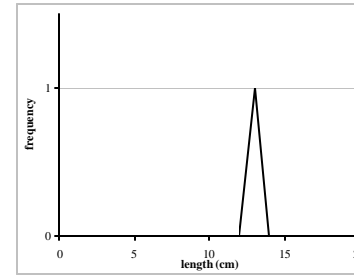
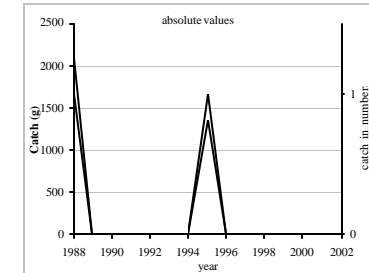
length-weight relationship: $W = a L^b$ (cm - g)

a = 2.1106 b = 2.24 N = 118

**Cirroteuthidae**length-weight relationship: $W = a L^b$ (cm - g)

a = 0.0000 b = 0.00 N = 0

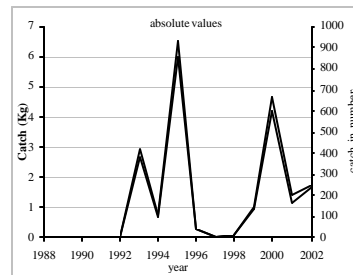
year	C-total (g)	N-total	hauls	mean-w (g)
1988	2,100	1	1	2,100
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	1,360	1	1	1,360
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
total	3,460	2	2	1,730



Acantheephyra pelagica (Risso, 1816)

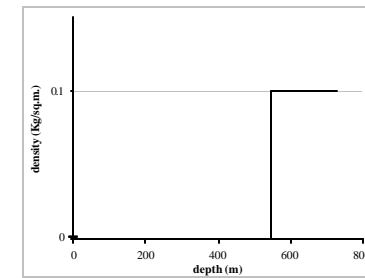
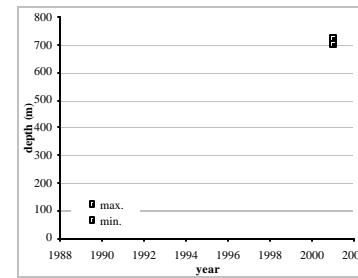
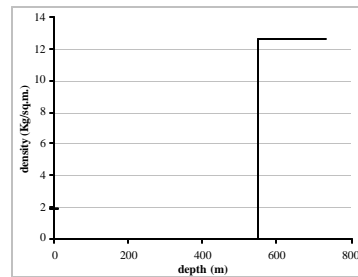
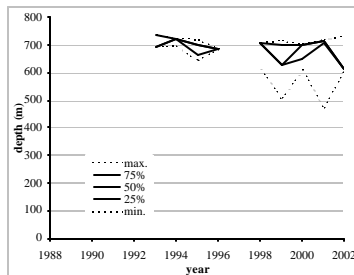
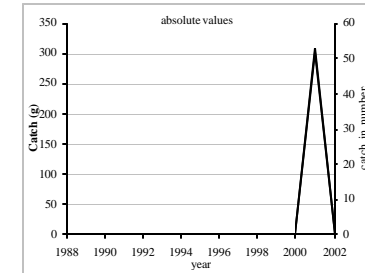
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	2,690	420	3	0
1994	685	107	2	0
1995	5,990	936	6	0
1996	270	42	1	0
1997	0	0	0	0
1998	90	12	3	7
1999	939	147	5	6
2000	4,201	669	7	0
2001	1,165	198	10	6
2002	1,700	251	5	7
total	17,730	2,782	42	6

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

*Acantheephyra purpurea* A. Milne-Edwards, 1881

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	310	52	4	6
2002	0	0	0	0
total	310	52	4	6

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

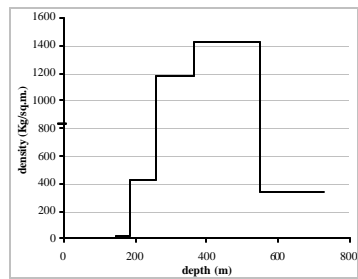
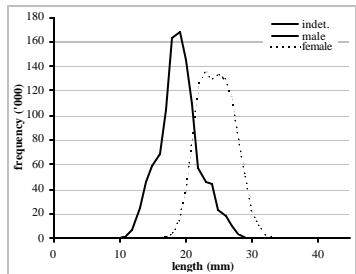
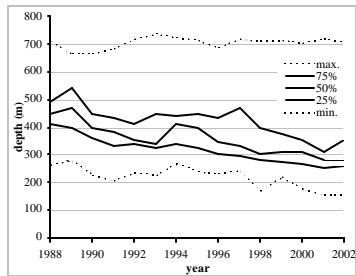
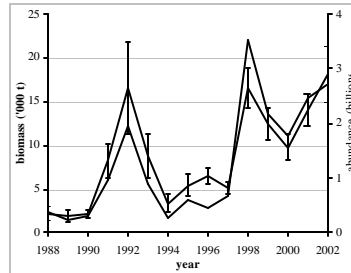


Pandalus borealis Krøyer 1838

Deep water shrimp, pink shrimp, Northern shrimp

year	C-total (g)	N-total	hauls	mean-w (g)
1988	298,373	50,313	54	5
1989	314,670	36,998	38	10
1990	316,350	46,321	58	7
1991	1,209,330	143,602	75	8
1992	2,393,221	281,217	64	9
1993	982,920	112,044	55	9
1994	449,069	36,793	50	12
1995	831,740	93,018	73	9
1996	931,688	64,500	80	14
1997	731,810	94,805	77	8
1998	2,427,780	513,648	104	5
1999	1,732,788	304,488	94	6
2000	1,449,899	262,098	101	6
2001	2,095,868	363,699	111	6
2002	2,692,761	404,119	111	4
total	18,858,267	2,807,663	1,145	7

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.00080$ $b = 2.88$ $N = 43,345$

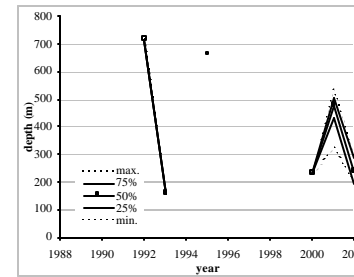
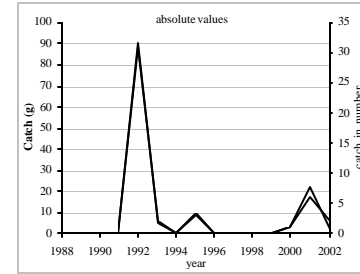


Spirontocaris lilljeborgii (Danielssen, 1859)

length-weight relationship: $W = a L^b$ (cm - g)

$a = 0.00000$ $b = 0.00$ $N = 0$

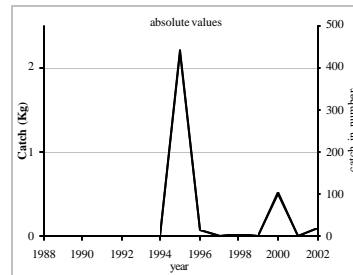
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	90	31	1	0
1993	5	2	1	3
1994	0	0	0	0
1995	10	3	1	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	3	1	1	0
2001	22	6	5	4
2002	2	2	2	1
total	132	45	11	3



Parapasiphaea sulcatifrons Smith, 1884

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	2,205	439	6	8
1996	70	14	1	0
1997	0	0	0	0
1998	35	8	1	4
1999	0	0	0	0
2000	515	105	4	3
2001	0	0	0	0
2002	110	21	3	5
total	2,935	587	15	5

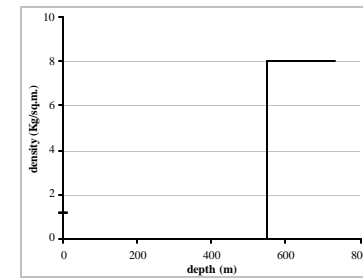
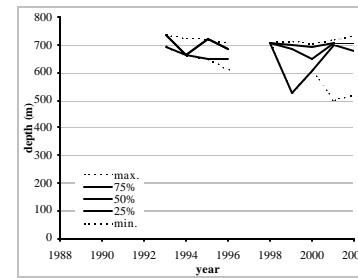
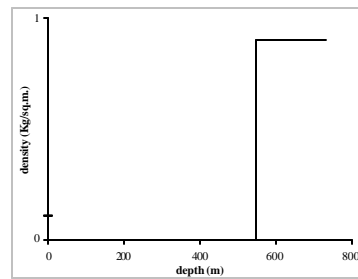
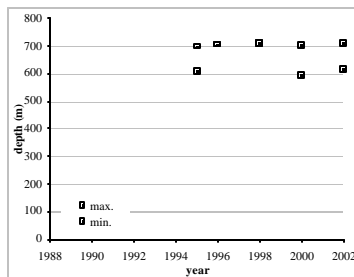
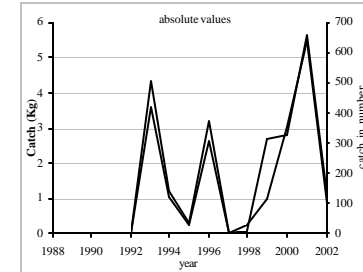
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Pasiphaea tarda (Krøyer, 1845)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	3,630	508	2	0
1994	1,040	144	5	15
1995	230	32	3	0
1996	2,650	371	4	0
1997	0	0	0	0
1998	225	10	1	23
1999	987	312	8	3
2000	3,020	327	5	11
2001	5,470	659	15	8
2002	845	131	9	6
total	18,097	2,494	52	7

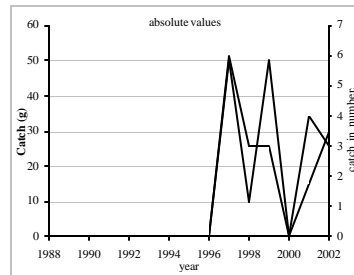
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Sabinea hystrix (A. Milne-Edwards, 1881)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	50	6	1	0
1998	10	3	1	3
1999	50	3	1	17
2000	0	0	0	0
2001	15	4	3	4
2002	30	3	2	10
total	155	19	8	8

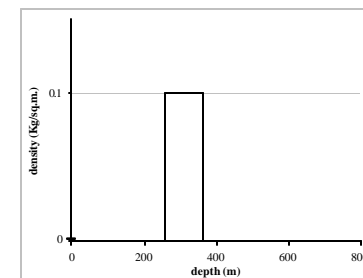
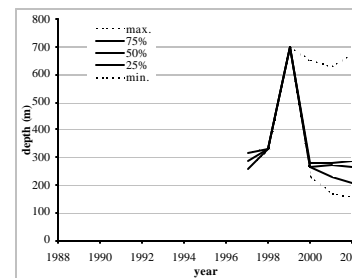
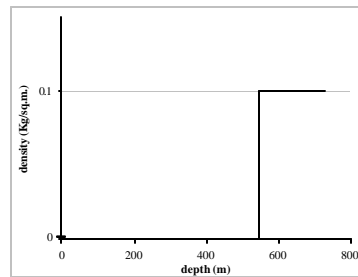
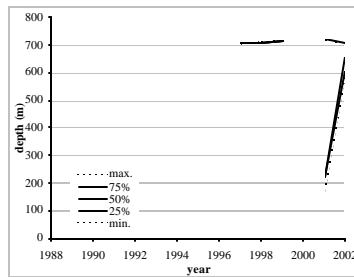
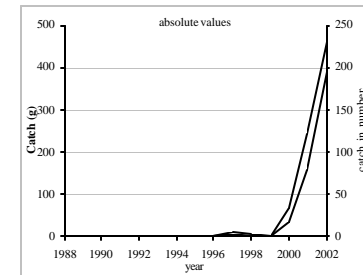
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Sabinea sarsii Smith, 1879

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	10	3	2	5
1998	5	1	1	5
1999	3	1	1	3
2000	66	17	7	5
2001	244	78	29	3
2002	462	196	58	2
total	790	296	98	3

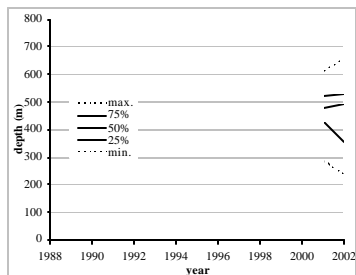
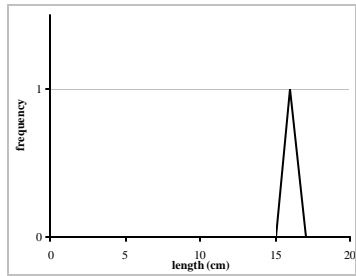
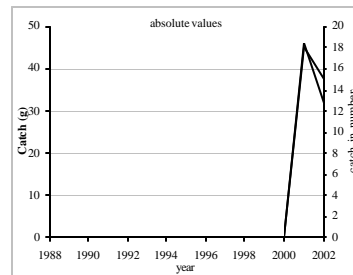
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Pontophilus norvegicus (Sars, 1861)

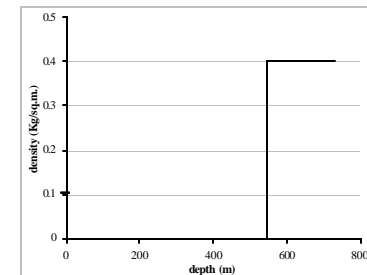
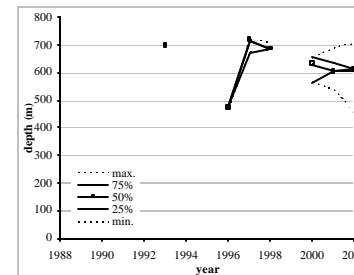
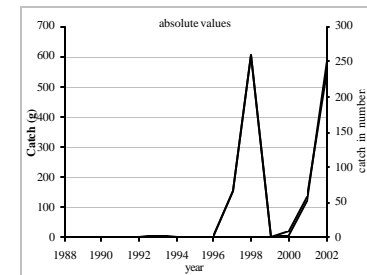
year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	46	18	9	3
2002	32	15	10	2
total	78	33	19	2

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

*Sergia robusta* (Smith, 1882)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	10	2	1	5
1994	0	0	0	0
1995	0	0	0	0
1996	1	1	1	1
1997	155	66	2	0
1998	605	259	2	0
1999	0	0	0	0
2000	25	5	3	5
2001	137	51	6	3
2002	553	251	13	2
total	1,486	635	28	2

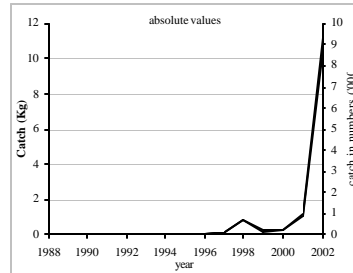
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Sergestes arcticus Krøyer, 1855

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	10	17	1	1
1997	180	145	4	0
1998	835	649	3	0
1999	240	157	3	2
2000	245	186	3	1
2001	1,181	882	13	1
2002	11,246	8,803	17	1
total	13,937	10,839	44	1

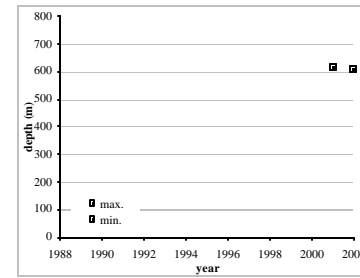
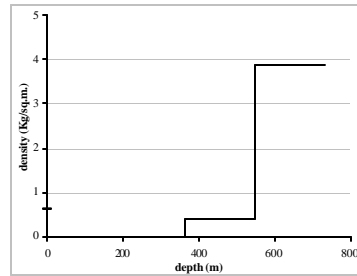
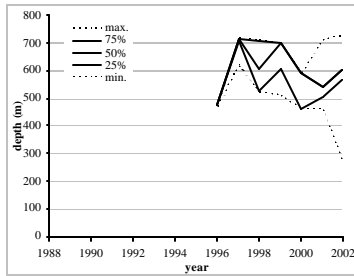
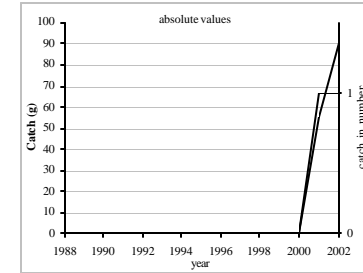
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Plesiopeneaus edwardsianus (Johnson, 1867) Scarlet shrimp

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	55	1	1	55
2002	90	1	1	90
total	145	2	2	73

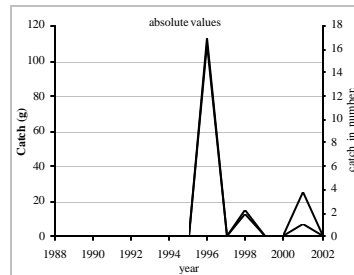
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



Stereomastis sculpta (Smith, 1880)

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	110	17	4	2
1997	0	0	0	0
1998	15	2	1	0
1999	0	0	0	0
2000	0	0	0	0
2001	25	1	1	25
2002	0	0	0	0
total	150	20	6	8

length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$

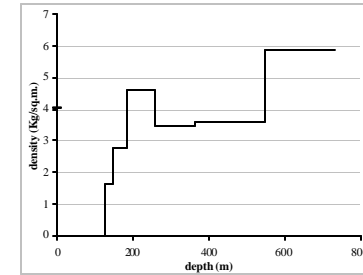
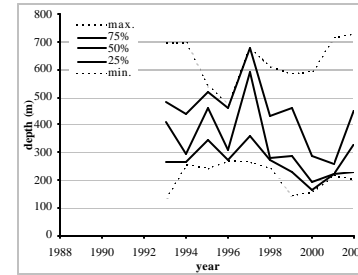
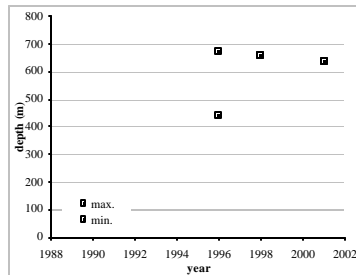
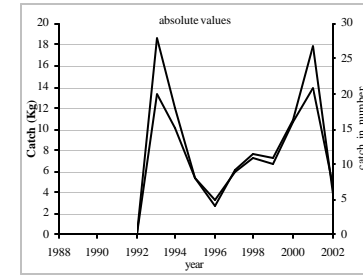


Lithodes maja (Linnaeus, 1758)

Deepsea king crab, Northern stone crab

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	13,432	28	19	531
1994	10,060	18	12	800
1995	5,331	8	6	1,050
1996	2,810	5	4	800
1997	6,175	9	5	845
1998	7,625	11	9	693
1999	7,328	10	8	833
2000	10,810	16	11	851
2001	17,870	21	10	847
2002	3,785	7	6	689
total	85,226	133	90	711

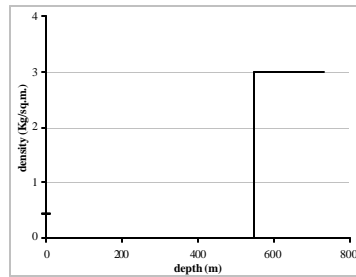
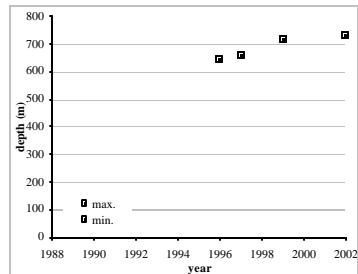
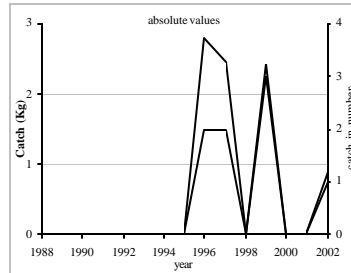
length-weight relationship: $W = a L^b$ (cm - g)
 $a = 0.0000$ $b = 0.00$ $N = 0$



***Neolithodes grimaldii* (A. Milne-Edwards & Bouvier, 1894)**
Spider crab

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	2,800	2	1	1,400
1997	2,450	2	1	1,225
1998	0	0	0	0
1999	2,430	3	1	810
2000	0	0	0	0
2001	0	0	0	0
2002	890	1	1	890
total	8,570	8	4	1,071

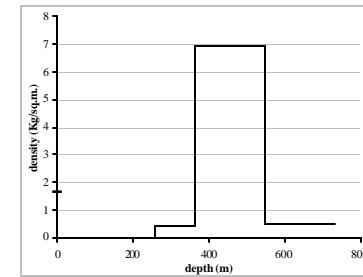
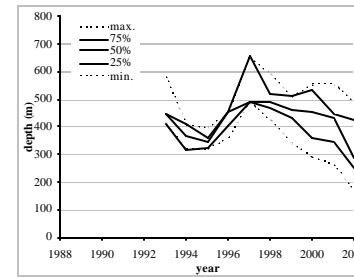
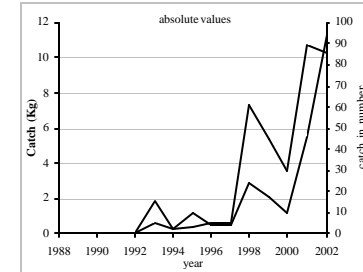
length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



***Chionoectes opilio* (Fabricius, 1788)**
Snow crab

year	C-total (g)	N-total	hauls	mean-w (g)
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	555	15	4	38
1994	215	2	2	125
1995	339	10	5	15
1996	610	4	4	0
1997	650	4	2	163
1998	7,270	24	9	303
1999	5,426	17	8	319
2000	3,534	10	9	379
2001	10,785	46	17	241
2002	10,259	94	44	109
total	39,643	226	104	179

length-weight relationship: $W = a L^b$ (cm - g)
a = 0.0000 b = 0.00 N = 0



Index of species

<i>Acanthephyra pelagica</i> ,	63	<i>Hippoglossus hippoglossus</i> ,	57
<i>Acanthephyra purpurea</i> ,	63	<i>Histioteuthis bonnellii</i> ,	59
<i>Agonus decagonus</i> ,	54	<i>Histioteuthis reversa</i> ,	59
<i>Alepisaurus brevirostris</i> ,	27	<i>Holtbyrnia anomala</i> ,	21
<i>Alepocephalus agassizii</i> ,	18	<i>Illex illecebrosus</i> ,	60
<i>Alepocephalus bairdii</i> ,	17	<i>Lampadena speculigera</i> ,	30
<i>Amblyraja hyperborea</i> ,	13	<i>Leptagonus decagonus</i> ,	54
<i>Amblyraja jenseni</i> ,	13	<i>Liparis fabricii</i> ,	54
<i>Amblyraja radiata</i> ,	11	<i>Liparis liparis</i> ,	55
<i>Anarhichas denticulatus</i> ,	46	<i>Liparis micropus</i> ,	55
<i>Anarhichas lupus</i> ,	45	<i>Lithodes majaanus</i> ,	69
<i>Anarhichas minor</i> ,	46	<i>Lophius americanus</i>	32
<i>Anoplogaster cornuta</i> ,	43	<i>Lumpenus lampretaeformis</i> ,	48
<i>Anotopterus pharao</i> ,	27	<i>Lycodes esmarkii</i> ,	47
<i>Antimora rostrata</i> ,	39	<i>Lycodes reticulatus</i> ,	47
<i>Aphanopus carbo</i> ,	49	<i>Lycodes vahlii</i> ,	48
<i>Arctozenus risso</i> ,	28	<i>Macrourus berglax</i> ,	40
<i>Argentina silus</i> ,	19	<i>Magnisudis atlantica</i> ,	28
<i>Aspidophoroides monopterygius</i> ,	53	<i>Malacoraja senta</i> ,	12
<i>Astronesthes antarcticus</i> ,	23	<i>Malacosteus niger</i> ,	23
<i>Bathylagus euryops</i> ,	20	<i>Mallotus villosus</i> ,	17
<i>Bathypolypus arcticus</i> ,	62	<i>Maulisia microlepis</i> ,	20
<i>Bathyraja spinicauda</i> ,	11	<i>Melanocetus johnsonii</i> ,	32
<i>Benthoosema glaciale</i> ,	29	<i>Melanogrammus aeglefinus</i> ,	34
<i>Boreogadus saida</i> ,	35	<i>Melanostomias sp.</i> ,	24
<i>Borostomias antarcticus</i> ,	23	<i>Merluccius bilinearis</i> ,	36
<i>Brachioteuthis sp.</i> ,	61	<i>Micromesistius poutassou</i> ,	34
<i>Brosme brosmes</i> ,	38	<i>Myctophum punctatum</i> ,	30
<i>Brotulotaenia brevicauda</i> ,	42	<i>Nansenia groenlandica</i> ,	19
<i>Caelorinchus caelorhincus</i> ,	41	<i>Nemichthys scolopaceus</i> ,	14
<i>Caelorinchus caelorhincus caelorhincus</i> , ..	41	<i>Neolithodes grimaldii</i> ,	70
<i>Careproctus micropus</i> ,	55	<i>Nezumia bairdii</i> ,	41
<i>Caristius groenlandicus</i> ,	49	<i>Normichthys operosus</i> ,	21
<i>Centroscyllium fabricii</i> ,	10	<i>Notacanthus chemnitzii</i> ,	16
<i>Ceratoscopelus maderensis</i> ,	29	<i>Notolepis risso</i> ,	28
<i>Chauliodus sloani</i> ,	22	<i>Notoscopelus kroeyerii</i> ,	31
<i>Chiasmodon niger</i> ,	45	<i>Notoscopelus kroyeri</i> ,	31
<i>Chionoecetes opilio</i> ,	70	<i>Oneirodes eschrichtii</i> ,	33
<i>Chiroteuthis picteti</i> ,	61	<i>Onogadus ensis</i> ,	38
Cirroteuthidae,	62	<i>Onychoteuthis banksi</i> ,	58
<i>Coelorhynchus carminatus</i> ,	41	<i>Pandalus borealis</i> ,	64
<i>Coryphaenoides rupestris</i> ,	40	<i>Paralepis atlantica</i> ,	28
<i>Cottunculus microps</i> ,	52	<i>Paralepis brevis</i> ,	28
<i>Cottunculus thomsonii</i> ,	53	<i>Paralepis kroyeri</i> ,	28
<i>Cyclothone microdon</i> ,	25	<i>Parapasiphaea sulcatifrons</i> ,	65
<i>Dipturus linteus</i> ,	12	<i>Pasiphaea tarda</i> ,	65
<i>Dirtemus argenteus</i> ,	43	<i>Petromyzon marinus</i> ,	9
<i>Enchelyopus cimbrius</i> ,	39	<i>Photostomias guernei</i> ,	24
<i>Etmopterus princeps</i> ,	10	<i>Phycis chesteri</i> ,	37
<i>Gadus morhua</i> ,	33	<i>Plesiopenaeus edwardsianus</i> ,	68
<i>Gaidropsarus ensis</i> ,	38	<i>Pollachius virens</i> ,	35
<i>Glyptocephalus cynoglossus</i> ,	56	<i>Pontophilus norvegicus</i> ,	67
<i>Gonostoma bathyphilum</i> ,	25	<i>Poromitra megalops</i> ,	44
<i>Hippoglossoides platessoides</i> ,	56	<i>Protomyctophum arcticum</i> ,	31
		<i>Raja fyllae</i> ,	14

<i>Raja hyperborea</i> ,	13	Beans blueback,	44
<i>Raja jenseni</i> ,	13	Bean's sawtoothed eel,	15
<i>Raja lintea</i> ,	12	Bighead sears id,	21
<i>Raja radiata</i> ,	11	Black dogfish,	10
<i>Raja senta</i> ,	12	Black scabbardfish,	49
<i>Raja spinicauda</i> ,	11	Black swallower,	45
<i>Rajella fyllae</i> ,	14	Blue antimora,	39
<i>Reinhardtius hippoglossoides</i> ,	57	Blue hake,	39
<i>Sabinea hystrix</i> ,	66	Blue whiting,	34
<i>Sabinea sarsii</i> ,	66	Bluntsnout smooth-head,	18
<i>Scomberesox saurus</i> ,	42	Bulbous dreamer,	33
<i>Scomberesox saurus saurus</i> ,	42	Capelin,	17
<i>Scopelogadus beanii</i> ,	44	Checker eelpout,	48
<i>Sebastes</i> (juveniles),	50	Cod (Atlantic cod),	33
<i>Sebastes fasciatus</i> ,	51	Common fangtooth,	43
<i>Sebastes marinus</i> ,	50	Cusk,	38
<i>Sebastes mentella</i> ,	51	Daggertooth,	27
<i>Semirossia</i> sp.,	58	Deep water shrimp,	64
<i>Sergestes arcticus</i> ,	68	Deepsea king crab,	69
<i>Sergia robusta</i> ,	67	Deepwater redfish,	51
<i>Serrivomer beanii</i> ,	15	Diaphanous hatchetfish,	26
<i>Simenchelys parasitica</i> ,	16	Duckbill barracudina,	28
<i>Simenchelys parasiticus</i> ,	16	Fourbeard rockling,	39
<i>Spirontocaris lilljeborgii</i> ,	64	Gelatinous snailfish,	54
<i>Squalus acanthias</i> ,	9	Glacier lanternfish,	29
<i>Stereomastis sculpta</i> ,	69	Goiter blacksmelt,	20
<i>Sternoptyx diaphana</i> ,	26	Goitre blacksmelt,	20
<i>Sternoptyx pseudobscura</i> ,	26	Golden redfish,	50
<i>Stomias atlanticus</i> ,	22	Goosefish,	32
<i>Stomias boa</i> ,	22	Great lanternshark,	10
<i>Stomias boa boa</i> ,	22	Greater argentine,	19
<i>Synaphobranchus kaupii</i> ,	15	Greater eelpout,	47
<i>Taonius pavo</i> ,	60	Greenland argentine,	19
<i>Triglops murrayi</i> ,	52	Greenland halibut,	57
<i>Urophycis chesteri</i> ,	37	Greenland manefish,	49
<i>Urophycis chuss</i> ,	37	Haddock,	34
<i>Urophycis tenuis</i> ,	37	Hake (Silver hake),	36
<i>Xenodermichthys copei</i> ,	18	Halibut (Atlantic halibut),	57
Index of common names			
Acadian redfish,	51	Highlight hatchetfish,	26
Agassiz' slickhead,	18	Hollownout grenadier,	41
Alligatorfish,	53	Horned lanternfish,	29
American angler,	32	Humpback anglerfish,	32
American plaice,	56	Jensen's skate,	13
Arctic cod,	35	Kaup's arrowtooth eel,	15
Arctic eelpout,	47	Kroyer's lanternfish,	31
Arctic skate,	13	Lancet fish,	31
Arctic telescope,	31	Large scale tapirfish,	16
Atlantic argentine,	19	Large-eyed argentine,	19
Atlantic cod,	33	Lightless loosejaw,	23
Atlantic halibut,	57	Longfin hake,	37
Atlantic saury,	42	Longnose eel,	15
Atlantic sea poacher,	54	Marlin-spike grenadier,	41
Atlantic wolffish,	45	Moustache sculpin,	52
Baird's smooth-head,	17	Multipore searsid,	21
		Northern shrimp,	64
		Northern stone crab,	69
		Northern wolffish,	46

Ocean perch,	50	Smallscale searsid,	20
Ogrefish,	43	Smooth skate,	12
Onion-eye grenadier,	40	Snake blenny,	48
Pallid sculpin,	53	Snow crab,	70
Piked dogfish,	9	Snubnosed eel,	16
Pink shrimp,	64	Spider crab,	70
Plaice (American plaice),	56	Spinetail ray,	11
Polar cod,	35	Spiny dogfish,	9
Polar sculpin,	52	Spiny eel,	16
Pollock,	35	Spinyfin,	43
Red hake,	36	Spinytail skate,	11
Redfish (Deepwater redfish),	51	Spotted lanternfish,	30
Ribbon barracudina,	28	Spotted wolffish,	46
Rough sage,	10	Stoplight loosejaw,	23
Roughhead grenadier,	40	Stout sawpalate,	15
Round ray,	14	Striped seasnail,	55
Round skate,	14	Thorny skate,	11
Roundnose grenadier,	40	Threadfin rockling,	38
Saddled grenadier,	41	Threebeard rockling,	38
Sailray,	12	Transparent hatchetfish,	26
Saithe,	35	Tusk,	38
Scaly dragonfish,	22	Vachon's eelpout,	47
Scarlet shrimp,	68	Vahl's eelpout,	48
Sea lamprey,	9	Veiled anglemouth,	25
Shortnose lancetfish,	27	Viperfish,	22
Shrimp (Deep water shrimp),	64	White barracudina,	28
Silver hake,	36	White hake,	37
Silver spinyfin,	43	White skate,	13
Slender snipe eel,	14	Witch flounder,	56
Slime eel,	16	Wolf-fish,	45
Sloane's viperfish,	22	Wolffish (Atlantic wolffish),	45