REPORT ON THE STATE OF THE RESOURCES AND THEIR EXPECTED DEVELOPMENT

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1. INTRODUCTION AND DESCRIPTION OF THE DATA.

The development of a fish stock is dependent of four basic biological factors: recruitment, growth, natural mortality and fishing mortality. A fish stock, counted as a number of fish, will increase by the number of incoming recruits and the stock biomass by the combined effect of these numbers and the individual growth of all fish in the stock. Stocks will decrease by the amount that die of natural causes (such as by being eaten or through disease) and by fishing, the latter generally being the main reason for the decrease of most stocks. The net balance between factors that promote the increase of a stock, such as recruitment and growth on the one hand, and factors that causes the stock to decrease, such as natural and fishing mortality, on the other hand, will determine the development of the stock over time. If the removal is consistently higher than the recruitment and growth the stock will decline and vice versa.

ICES provides yearly assessments of these four factors and its assessment of the landings for a large number of stocks. The attached graphs provide time series for a number of key stocks ,based on the ICES data. There are clear relations between spawning stock and recruitment, as large number of spawners provide a better chance of good recruitment and good recruitment will boast the spawning stock in subsequent years. Recruitment and spawning stocks are therefore presented in the same graph. Likewise there are clear relations between landings and fishing mortality and these are given in one graph. In order to facilitate understanding of the information contained in the graphs the following description provides more detailed information about these four factors:

- **recruitment (R)** is the number of new fish produced each year by the mature part of the stock. R is normally assessed as the number of a specific age, normally 1 to 2 years old, being added to the stock at a specific time each year;

- the mature part of the stock is labelled **spawning biomass** (**SSB)**. This is a measure of the cumulative biomass of all fish that will spawn in a given year.

- **fishing mortality** (**F)** is an expression of the proportion of the fish stock that is removed by fishing activities within one year. F is an exponential value and can therefore not directly be converted to percentage. However at low values of F, it is almost equal to the percentage value (F~ 0.1 is very close to 10%) but F~ 1.0 is not equal to 100 % (it means that approximately 65 % of the fish is removed within one year). Hence F can be above 1, as in the case of some cod stocks.

- **landings** correspond to ICES's estimate of the most likely removal from the stock. These figures can deviate from the official statistics as the scientists try to correct for misreporting by area and species and in some cases an estimate of the amount of fish discarded (legally or illegally) is included.

By comparing trends over time in recruitment, SSB, landings and fishing mortality a fairly reliable picture of stock development can be derived. However, the assessment of these factors is subject to considerable uncertainty as it is dependent on accurate catch statistics, good sampling of catches and results from survey activities. ***The largest uncertainties are***

associated with the most recent estimates of SSB and fishing mortality and the mid-to long-term trends of these factors are more reliable.

With the introduction of the precautionary approach ICES has proposed "reference points" for fishing mortality and spawning stock biomass. The most important reference points are those which are associated with recruitment failure or stock collapse. These reference points are labelled biomass limit (Blim) and fishing mortality limit (Flim). The Blim defines a SSB level where recruitment may be impaired and threaten the sustainability of the stock. Fishing at or above Flim will lead to SSB falling towards Blim and possibly to stock collapse.

As mentioned above, the estimates of F and SSB are uncertain and even if, as an example, the SSB is estimated as being 30 % higher than the Blim it might in fact be at the latter level. In order to allow for this imprecision, ICES has proposed that managers apply a safety margin or a buffer zone. The corresponding reference points are labelled for Bpa biomass and for Fpa fishing rate. The difference between these reference points (pa= precautionary approach) is a measure of the uncertainties estimated in the assessment. The difference between the Blim and Bpa and between Flim and Fpa is generally in excess of 30 % for many stocks. It should be noted that although these differences appear to be large they may be underestimated, as all sources of uncertainty are not included. However by comparing the stock development against the pa-reference points the best available information and knowledge are utilised.

The Bpa and Fpa can therefore be utilised to judge if the stock is in a sustainable state and if the exploitation is such then there is a good probability these conditions will be maintained. It should be stressed that if the SSB falls below Bpa but the fishing mortality is still at or below Fpa the stock would be judged to be in a sustainable condition. If, however, fishing mortality were consistently above this level, the stock would be at risk of falling outside sustainable conditions. These reference points should not be regarded as targets for biological or economic optimisation of yield, they are signposts for sustainability.

Deciding on reference points such as Bpa and Fpa is a task for managers and not for scientists. Within the EU, such reference points have been decided for about 10 stocks. ***For the purpose of judging the state of these agreed reference points ICES proposals have been used***. This shall not prejudice future decision by managers. The proposed reference points are indicated in the graphs for a number of stocks from the Atlantic area. Such information is not available for the Mediterranean stocks.

Stock assessment analyses are not conducted on a regular basis and research outputs are fragmented and dispersed on a temporal and spatial scale. Assessments of stocks and fisheries have not been conducted either on a yearly basis or with the appropriate geographical scale, therefore several assessments are only of local value. However, in the last 15 years national administrations, financially supported by EC, have tried to overcome this situation and research and monitoring activities mainly based on scientific surveys have been carried out. Unfortunately less effort has been devoted to monitoring commercial catches/landings. A consequence of this is the low number of spawning stock biomass estimates and of exploitation patterns for all the most important stocks.

No precautionary reference points have been yet defined for the Mediterranean stocks.

Fish stocks in third country waters or beyond EU waters have not been included in the evaluation.

2. STOCK DEVELOPMENT BY AREAS.

For each area examples of roundfish stocks, flatfish stocks, pelagic stocks or groundfish stocks are selected to demonstrate characteristic developments for each area. These stocks are the major stocks exploited in the area. Some of the stocks are widely distributed, such as mackerel and hake, and these are given under separate heading. The Mediterranean stocks are also dealt with as a separate area. Deep-sea species are not analytically assessed and the concern about the development of these stocks is expressed in the concluding remarks.

As mentioned above for each stock the two graphs show the longest possible time series of landings and fishing mortality, spawning biomass and recruitment. For some stocks agreed or proposed reference points are included that will serve as benchmarks to judge sustainability. Relative changes in SSB and landings between the period prior to the introduction of CFP and the most recent five years period expressed as percentage change are given in Table 1. In the North Sea the main stocks that are targeted by fleets fishing for industrial purposes are included.

Due to the data sources in the Mediterranean a different approach has been adopted for this area.

2.1. The Baltic Sea (ICES area IIIbcd)

There are two separate cod stocks in the Baltic. The large stock **(Cod SD 25-32, Figure 1)** shows a considerable decline with low recruitment and is in a critical state. The other stock in the western part (Cod SD 22-24, not included) continues to produce good recruitment. Both stocks have been subjected to high fishing mortality in the last 10 years.

The pelagic stocks reveal very different development, with the herring stock in the Main Basin **(Herring SD 25-29S, 32, Figure 2)** declining over several years and at the same time the sprat stock **(Sprat 22-32, Figure 3)** reaching historic high levels of biomass and landings. Most of the stocks appear to be outside sustainable limits**.**

2.2. The North Sea, Skagerrak/Kattegat, Eastern Channel (ICES area IIIa, IV, VII d and IIa EU waters)

The **cod (Figure 4)** and **whiting (Figure 5)**stocks are in a severely depleted state whereas as **haddock (Figure 6)** and **saithe (Figure 7)** have performed better. All stocks are heavily fished. The flatfish **stocks plaice ((Figure 8)** and **sole (Figure 9)** are outside or close to sustainable levels and exploitation has increased.

Herring (Figure 10) was close to a second collapse in the mid 1990s but strong management action in 1996 has meant that the stock is recovering.

2.3. West of Scotland (ICES area VI)

Cod (Figure 11) and **whiting (Figure 12)** stocks have declined under high fishing pressure and are in a critical state. **Haddock (Figure 13)** although fished at very high level is in a better shape.

2.4. The Irish Sea (ICES areaVIIa)

The **cod stock** in the Irish Sea stock **(Figure 14)** is an emergency situation and strong management action was imposed in 2000. The **whiting stock (Figure 15)** are also in a critical state. The flatfish stocks have stabilised but at a lower level than in the past and Fs have been reduced. (**Plaice VIIa, Figure 16).**

2.5. Celtic Sea, West Channel and the northern part of Bay of Biscay (ICES area VII f-k and VIIIabde)

Cod in **area VIIe-k (Figure 17)** will approach a critical state if fishing mortality is not reduced. **Whiting** in **area VIIe-k (Figure 18)** appears to have an opposite development of the SSB with decreasing F but F seems to have increased in recent years. Almost all flatfish stocks such as **plaice VII f, g (Figure 19)** and **sole VII f, g (Figure 20)** are heavily exploited but some stocks such as **anglerfish** and **megrim** (**Figures 21 and 22**) are stable or fluctuating. Most of the herring stocks in this area are increasing or stable such as **herring in Celtic Sea (Figure 23**).

2.6. Iberian Peninsula (ICES area VIIIc, IX)

The southern **hake stock (Figure 24)** show a clear trend of declining landings and SSB (about 50%) and F is at the same level as for the Northern Hake stock. The **megrim stock (Figure 25)** shows a similar trend in landings and SSB. Both stocks seem to have stabilised at a lower level in recent years. The development of the sardine stock is given in **(Figure 26)**. The SSB has fluctuated and the rapid increase in F in the late 1990's seems to have halted.

2.7. Widely distributed stocks (ICES areas II to IX)

Stocks such as mackerel, blue whiting and northern hake straddle several of the above-mentioned areas. Among these stocks the development for **northern hake (Figure 27)** and recently **blue whiting (Figure 28**) is of most concern. Mackerel, as most other pelagic stocks, shows a stable and possibly a sustainable trend. **(Figure 29)**

2.8. The Mediterranean area

Evaluations of small pelagic and demersal species are derived from summaries compiled and adopted by STECF and the Sub Committee on Stock Assessment of GFCM-SAC. Results coming from MEDITS survey (Mediterranean Trawl Survey) are included although the time series is not yet long enough to show sound and reliable time trend modifications of recruitment indexes and of relative abundance of the available demographic fractions. Assessments of large pelagic species are derived from ICCAT.

Management areas have not yet been adopted by the GFCM in the Mediterranean, therefore this description is presented on a species basis.

Anchovy (*Engraulis encrasicholus*) The state of the anchovy in the Mediterranean basin varies according to management area. In the northern part of the Alboran region, the evolution of the catches and of the CPUEs indicates a decline in the resource. In Catalonia and Valencia region, the results of acoustic surveys have indicated that recruitment in the last four years has been poor. Furthermore, in the Alicante region the situation cannot be considered good,

although the recruitment has increased in the last year. In the Gulf of Lions, the acoustic biomass estimates, during the last two years summers, have increased. In the Adriatic Sea the CPUE trend indicates a decrease from 1978 to 1987 and then a stable or slight upward trend up to 1996. The estimated biomass from analytical assessments, shows a marked increase over the last ten years. Recruitment is also highly variable and correlates with catch rates, indicating the importance of recruitment for catch rates in this fishery.

Sardine *(Sardina pilchardus)* occurs everywhere in the Mediterranean and is exploited by fleets from all countries bordering it. Sardine is a coastal pelagic species, which is exploited both at juvenile and adult stages by purse-seiners and mid water pair trawlers. There is a traditional and localized fishery of fry of Sardine (termed whitebait) by beach seines and mainly boat seines, during wintertime. However it is a species with a low overall level of exploitation.

The existing assessments in waters off the Spanish continental coast, excluding the Alboran Sea, indicate that sardine seems to be under-exploited or moderately exploited. In the Gulf of Lion the stock is considered moderately exploited.

In the Adriatic Sea the catch trend in the last 15 years indicates ***a decrease in sardine availability,*** It seems that fishing effort has not had a significant effect on stock biomass over the period for which data is available. Results from a projection model, indicate that biomass would continue to increase even assuming a 30% increase of the fishing effort.

Red mullet *(Mullus barbatus)* is a highly exploited resource in Mediterranean waters. Fleets from Spain, France, Italy and Greece fish these species. The species is widely dispersed over the entire Mediterranean Basin. Assessments carried out regionally indicate that the stocks appear to be over-exploited and subject to growth over-fishing. MEDITS catch rates, although highly variable among areas, are consistent and quite stable in time within areas.

Norway lobster (*Nephrops norvegicus*), is a very valuable resource. Specialised otter bottom trawlers from Spain, France, Italy and Greece exploit this species. The fishery is characterised by a seasonal pattern, with catches declining during the winter and increasing during spring and summer. The fisheries are subject to technical measures such as minimum landing size and, in some areas, by no take zones, but these measures are not adequately enforced. In several areas the state of the stock(s) is unknown. In general, however, different analyses indicate situations from moderate exploitation to weakly over-exploited.

Red Shrimps (*Aristeus antennatus and Aristeomorpha foliacea*) are exploited in deep bottom trawl fisheries targeting both these species and Norway lobster*A. antennatus* is more abundant in the Western Mediterranean while *A. foliacea* is caught more frequently in the Central Mediterranean (Italian waters). Historical but local records in some areas indicate that these resources show large fluctuations in stock abundance.

The state of the stocks of red shrimps in the Mediterranean is not known. Assessments have been carried out regionally for *A. antennatus*, but there is no information on the overall state of the stocks. In Northern Spanish waters and the Gulf of Lions *A. antennatus* is fully or under-exploited. In the Ligurian and Tyrrhenian Seas, Corsica and Sardinia it is over-exploited. For the Strait of Sicily and Tunisia, the stock of *A. antennatus* appears fully exploited.

Hake (*Merluccius merluccius*) is caught all over the Mediterranean and is the most important commercially exploited demersal resource in the area. A significant proportion of the landings of

hake from the Mediterranean is composed by juveniles smaller than the minimum legal landing size (20-cm TL).

Assessments have been carried out locally, but there is no information on the overall state of the stocks. In northern Spanish waters and the Gulf of Lions the stock appears over-exploited. In the Ligurian and Tyrrhenian Seas, Corsica and Sardinia the stock is fully- or over-exploited. For the Strait of Sicily and Tunisia the stock appears over-exploited. In the Adriatic Sea all indicators point to over-exploitation of hake. For the Ionian Sea the information available indicates over-exploitation of hake in the NW Ionian Sea and full exploitation in the SW part. For the Aegean Sea the available information is somewhat contradictory but the majority of studies conclude that it is over- or fully exploited. MEDITS catch rates, although highly variable among areas, are consistent and quite stable in time within areas.

Bluefin (*Thunnus thynnus*), Eastern Atlantic and Mediterranean

Eastern bluefin are taken by a variety of vessels and types of fishing gears, with landing sites located in many countries. Catches reached an average of 30,000 MT in the 1950-65 period, and then decreased to an average of 14,000 MT during the period 1965-1980. Since then, there has been a huge and continuous increase of bluefin catches, especially due to purse seine activity in the Mediterranean Sea, but also due to long-liners and other gears. The annual landings were probably over 50,000 t during the last three years.

Many of the inputs to the assessment of this stock are highly uncertain (including large uncertainties in the total recent catches and in the abundance trends).

Fishing mortality rates have greatly increased during the 1970-1997 period, particularly in the most recent years for the older age groups. This corresponds with a severe decline of the spawning stock since 1970. Projections made by the SCRS during the 1998 meeting indicated that current catch level is not sustainable, and a reduction to 75% of the 1994 level is not sufficient to halt a continuing decline in spawning stock biomass. A catch of 25,000 t could halt the decline of the spawning stock in the medium term, but spawning stock biomass is not expected to return to its estimated historic levels. The only positive point in the present stock status is that the recruitment levels remain quite high, despite the low level of the spawning stock (i.e. still no clear evidence of recruitment over-fishing).

Bluefin tuna is a long living species (about 20-year classes exploited) with quite a large biomass, but a quite low biological productivity. These biological characteristics and the lack of reliable stock assessment should lead to more precautionary management.

Albacore (*Thunnus alalunga*), Mediterranean Sea. Italy and Greece are the main countries involved in the albacore fishery in the Mediterranean. French purse seiners, Spanish coastal fleets and sport fishery, also occasionally catch albacore. Since 1985, the Spanish baitboat fleet based in the Atlantic has also been catching albacore in the western Mediterranean and in the Alboran Sea in autumn. Reported albacore catches in the Mediterranean are still small, fluctuating between 2,000 t and 4,000 t since 1984. The recent catch data are very incomplete due to the lack of reporting by many countries (including EU Member States), hampering any stock assessment by ICCAT. Until now no attempt has been made to analyse the status of this stock due to insufficient data.

Swordfish (*Xiphias gladius;* Mediterranean Sea) Fishing has been carried out in the Mediterranean using harpoons and driftnets since ancient times. Landings showed an upward trend from 1965-72, stabilised between 1973-1977, and then resumed an upward trend reaching a peak of 20,000 t in 1988. Since then, the reported landings have declined and since 1990 they fluctuated from about 12,000 t to 16,000 t. The biggest producers of swordfish in the Mediterranean Sea in 1997 were Italy (43%), Morocco (33%), and Spain (7%). Other countries have also reported incidental catches of swordfish. At present, longline and driftnet are the main gears used. No stock assessment has been conducted since 1995 partly because of a lack of sufficient improvements to input data. The unknown status of the stock, the probable high exploitation rate (taking into account the very large catch of nearly 15,000 t taken in a small area), the probably ***large catch of very small fish,*** and warning signs from the fishery are causes for serious concern.

3. THE MOST THREATENED STOCKS

The species-by-area review clearly indicates a drastically declining trend in SSB and landings over several years for almost all cod stocks as shown in Figure 30 and 31. The development for hake is also a matter for grave concern (Figure 32).

Similar trends can also be seen for the cumulated SSB and landings of major roundfish species in the North Sea (Figure 33), west of Scotland (Figure 34) and in the Irish Sea (Figure 35).

4. GLOBAL ASSESSMENT

The stock development since the early 1970s up to the most recent period could be summarised as follows:

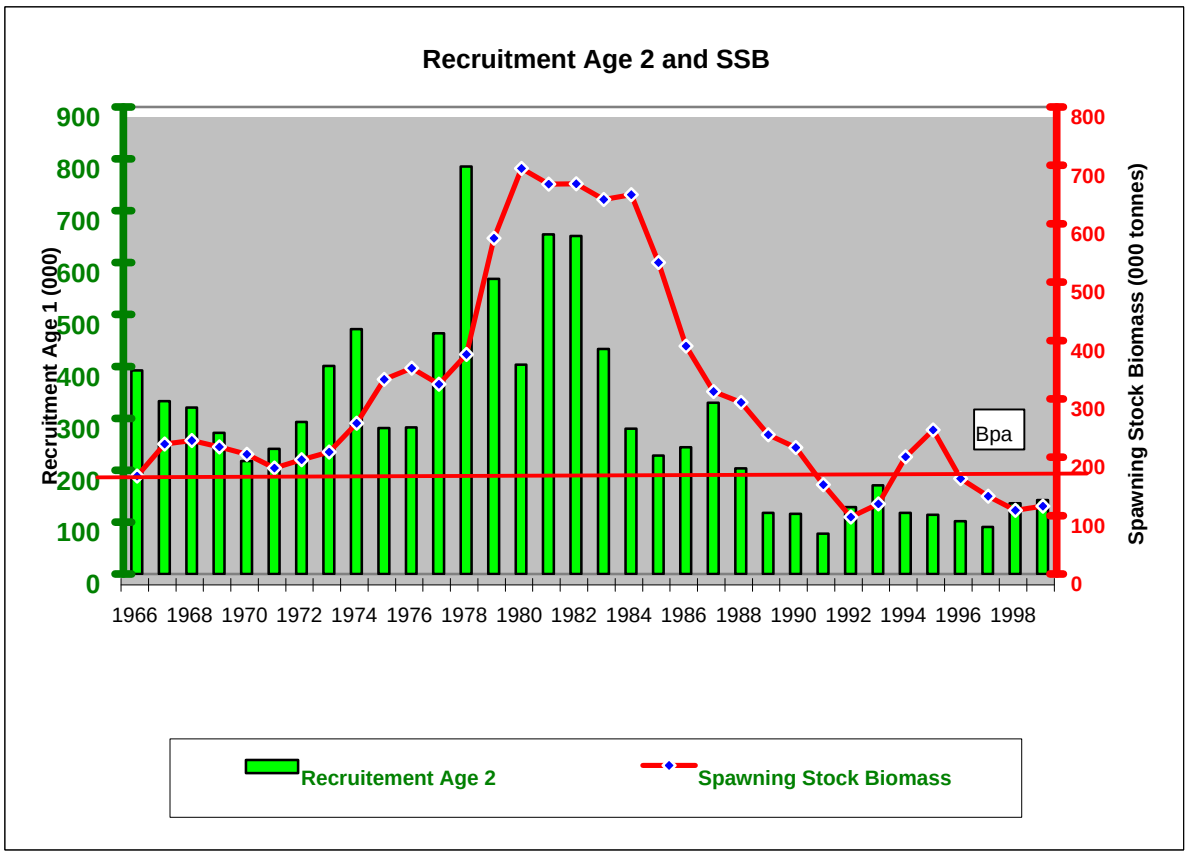
- almost all roundfish stocks have declined and the current harvest is in most cases not sustainable;
- several flatfish stocks are harvested at excessively high levels but some are close to sustainable levels;
- pelagic species and species subject to fishing for industrial purposes are in better condition but harvest rates need to be maintained at current levels or reduced to secure sustainability;
- several deep sea species show signs of over-exploitation and some might have reached critical levels;
- generally speaking, economical and biological benefits would accrue from lower exploitation of most stocks.

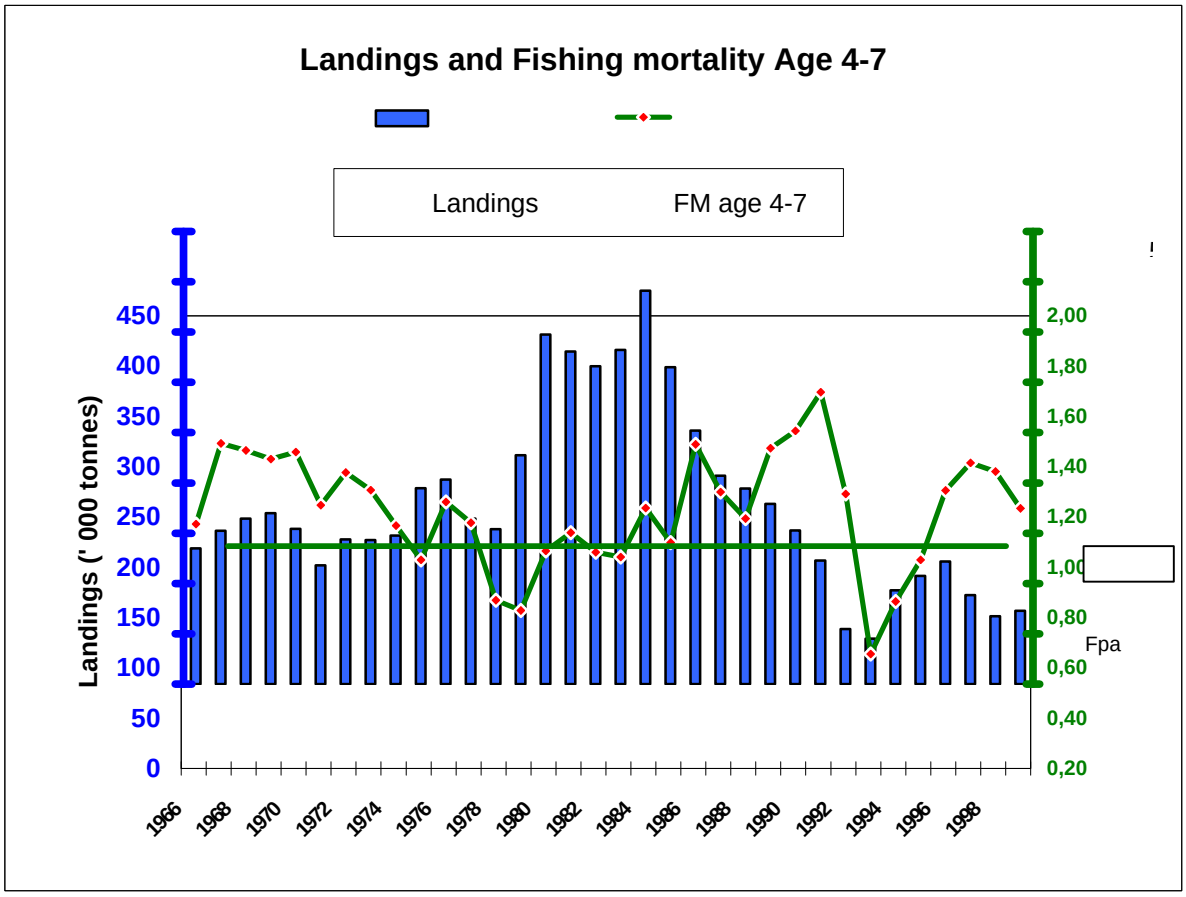
Figures and tables attached:

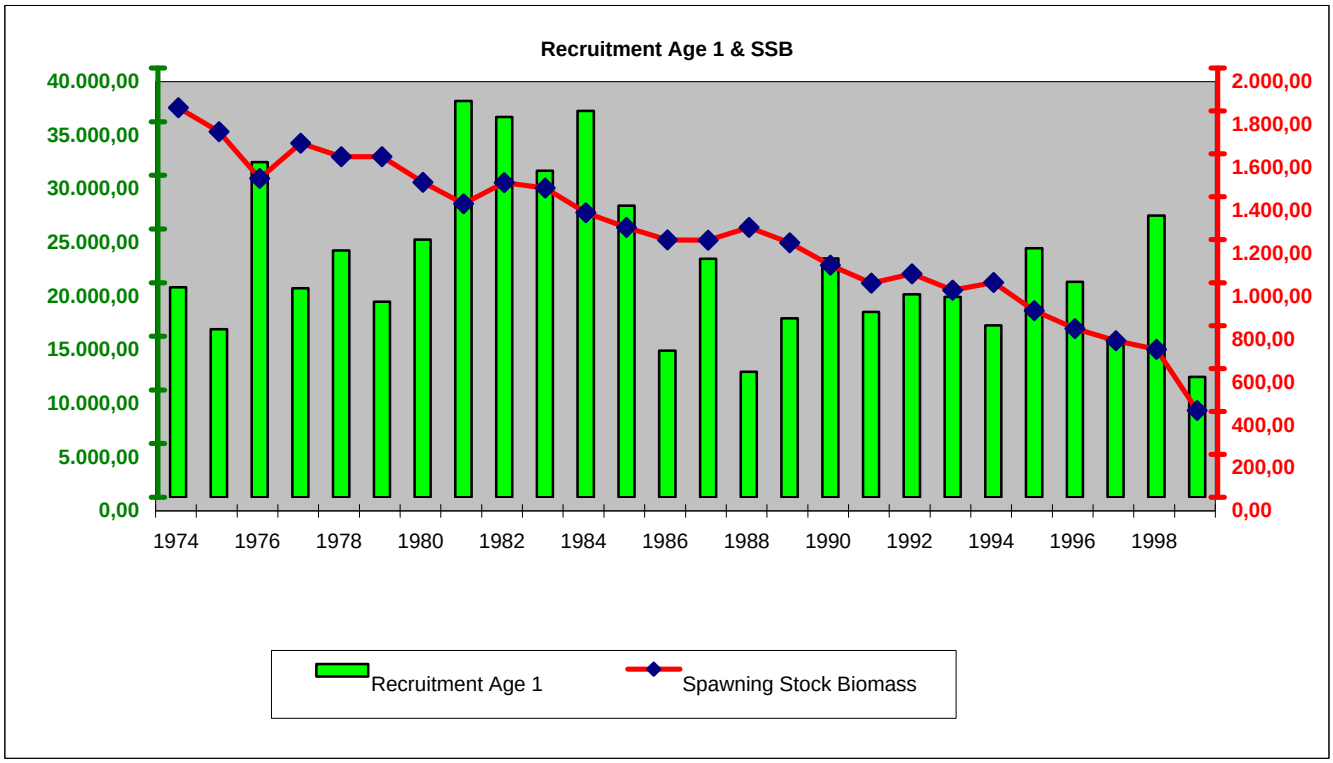
Figure 1-29 SSB, landings and fishing mortality by selected stocks and areas

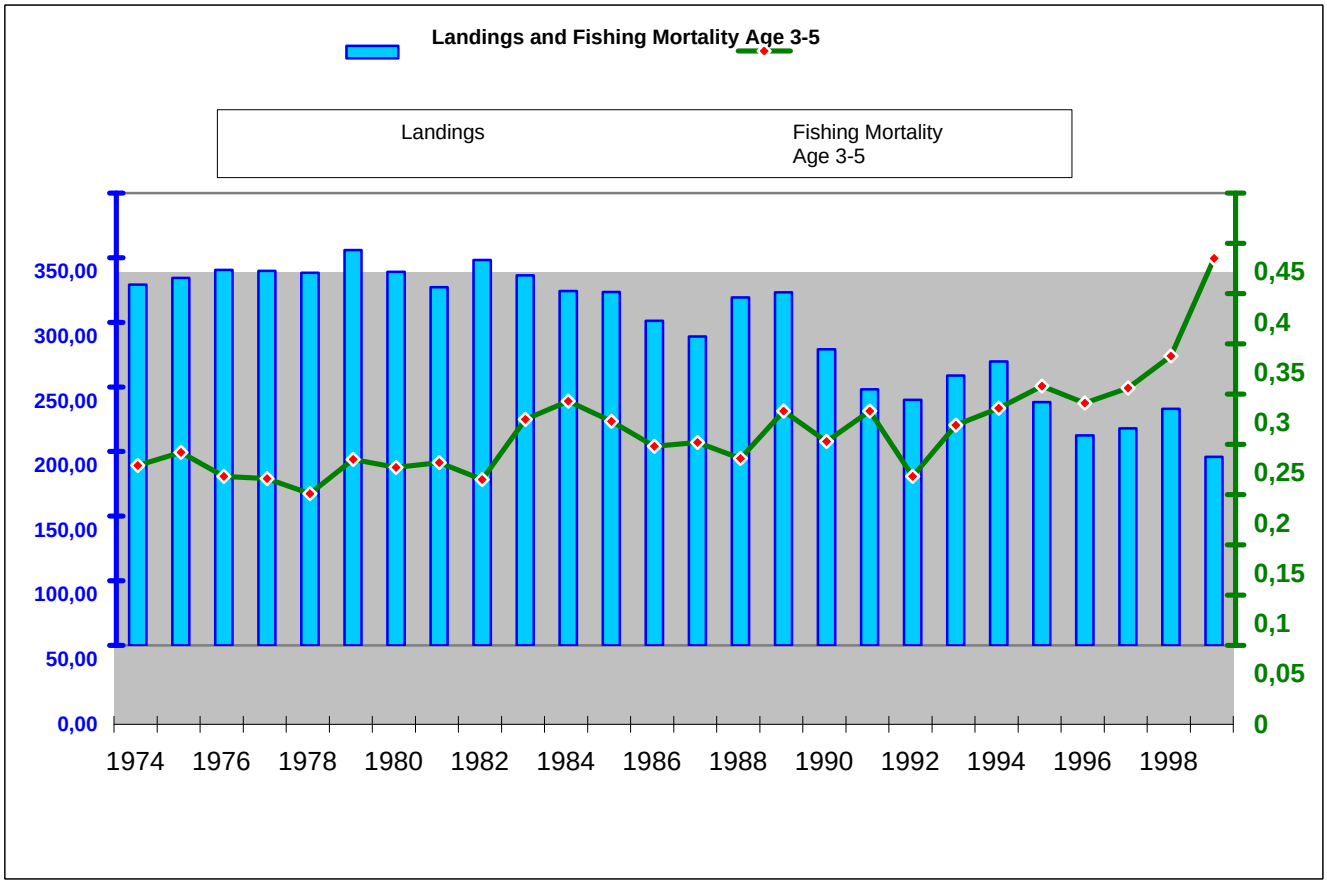
Figure 30-35. Development of SSB and landings by fish groups and areas

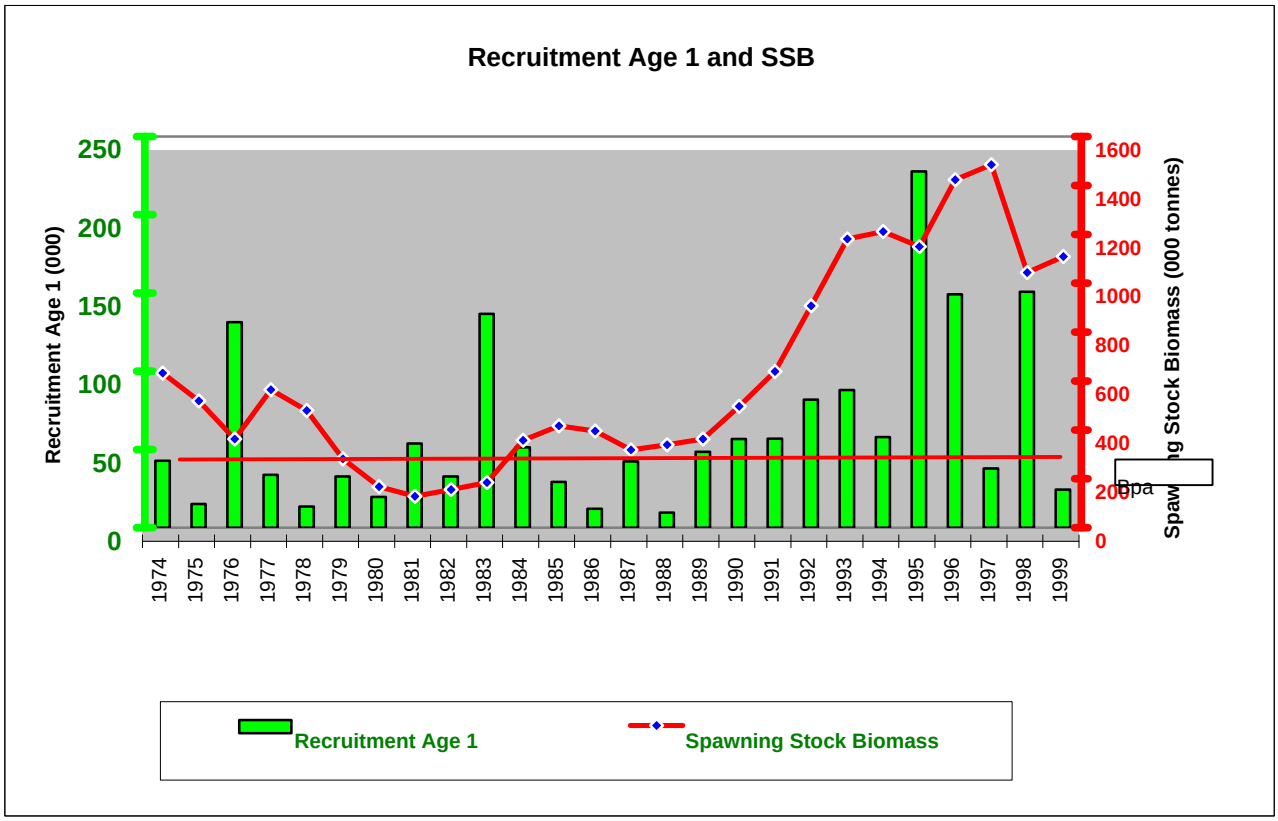
Table 1 Relative changes in SSB, landings and fishing mortality for some key species by area.

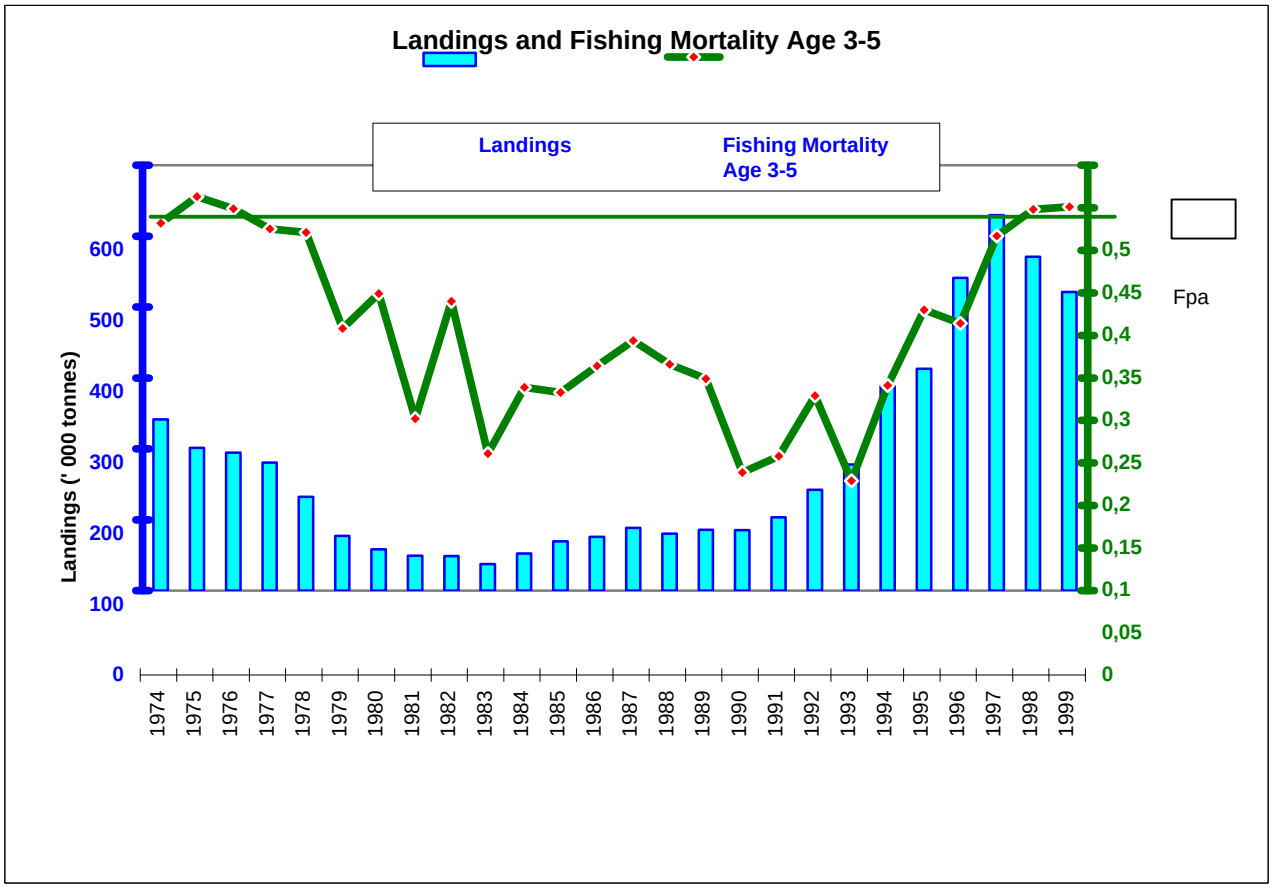

Recruitment Age 2 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
900
800
700
600
500
400
300
200
100
0
800
700
600
500
400
300
200
100
0
1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998
Bpa
Recruitement Age 2
Spawning Stock Biomass

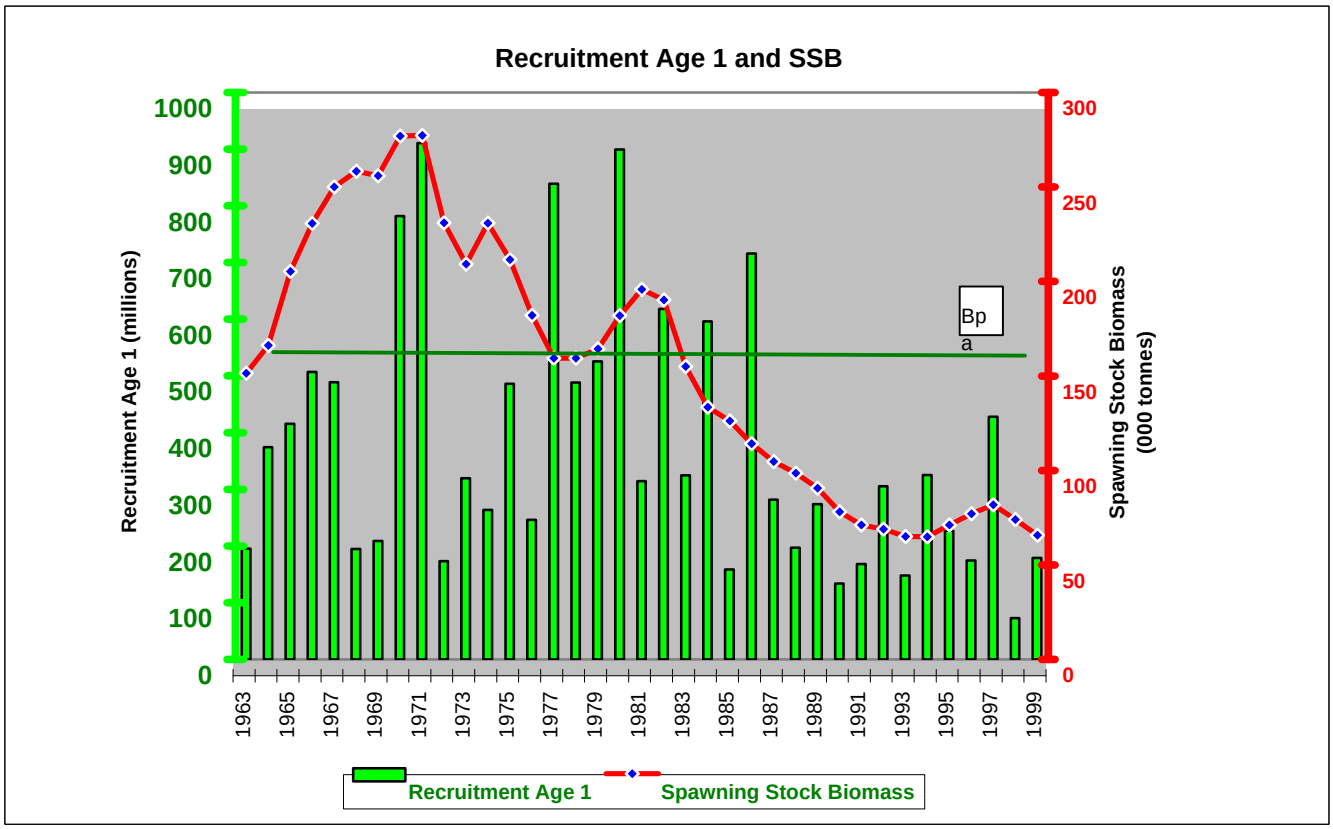

Landings and Fishing mortality Age 4-7
Landings
FM age 4-7
Landings (' 000 tonnes)
450
400
350
300
250
200
150
100
50
0
2,00
1,80
1,60
1,40
1,20
1,00
0,80
0,60
0,40
0,20
Fpa
1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998

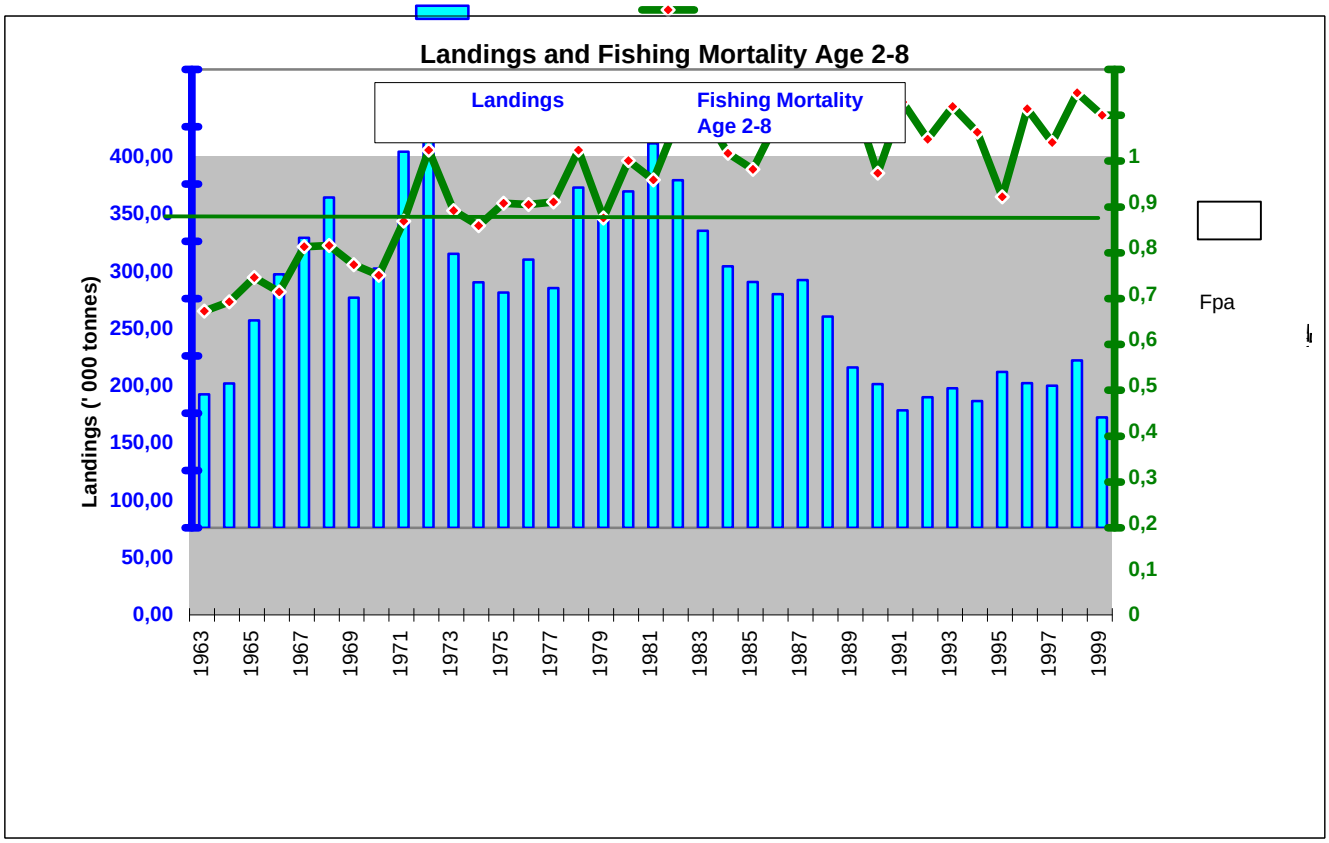

Recruitment Age 1 & SSB
40.000,00
35.000,00
30.000,00
25.000,00
20.000,00
15.000,00
10.000,00
5.000,00
0,00
2.000,00
1.800,00
1.600,00
1.400,00
1.200,00
1.000,00
800,00
600,00
400,00
200,00
0,00
1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998
Recruitment Age 1
Spawning Stock Biomass

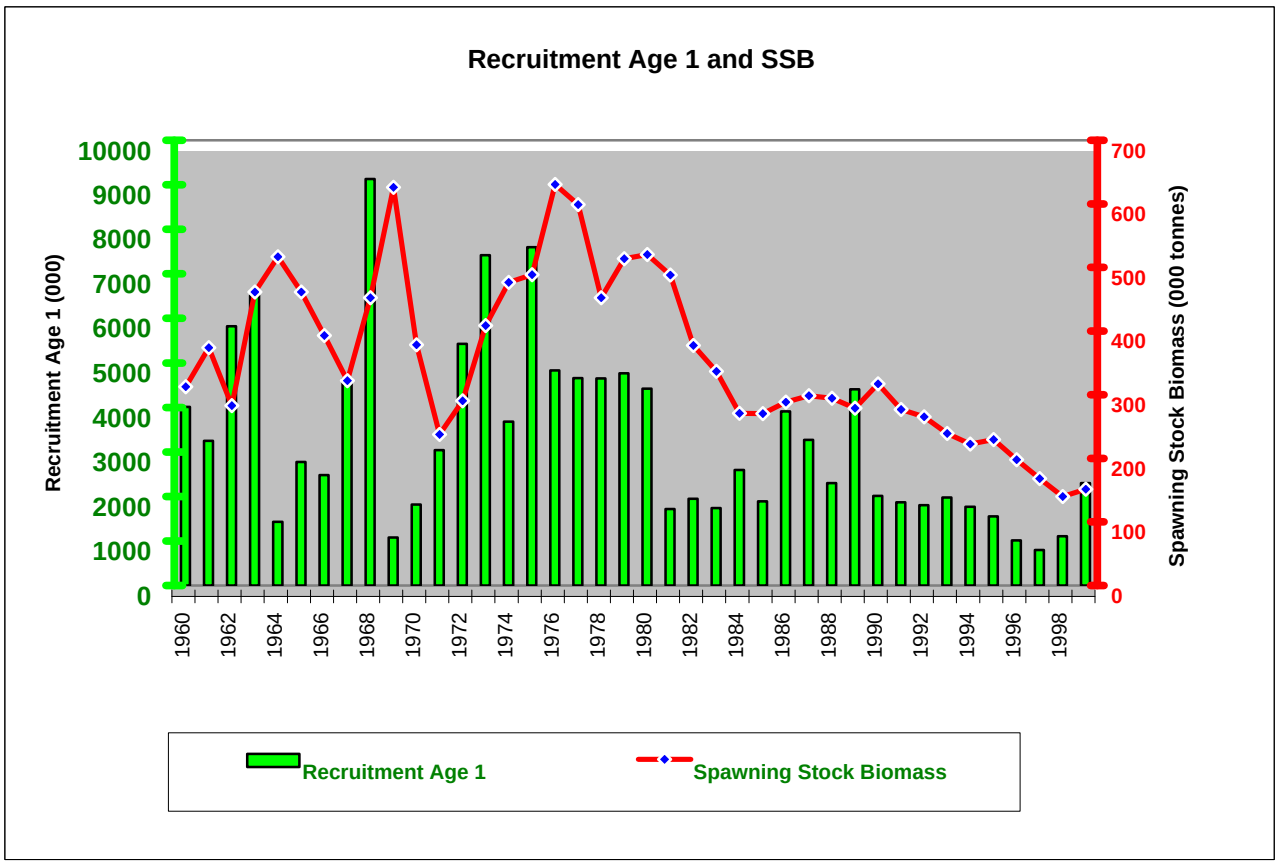

Landings and Fishing Mortality Age 3-5
Landings
Fishing Mortality Age 3-5
350,00
300,00
250,00
200,00
150,00
100,00
50,00
0,00
0,45
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998

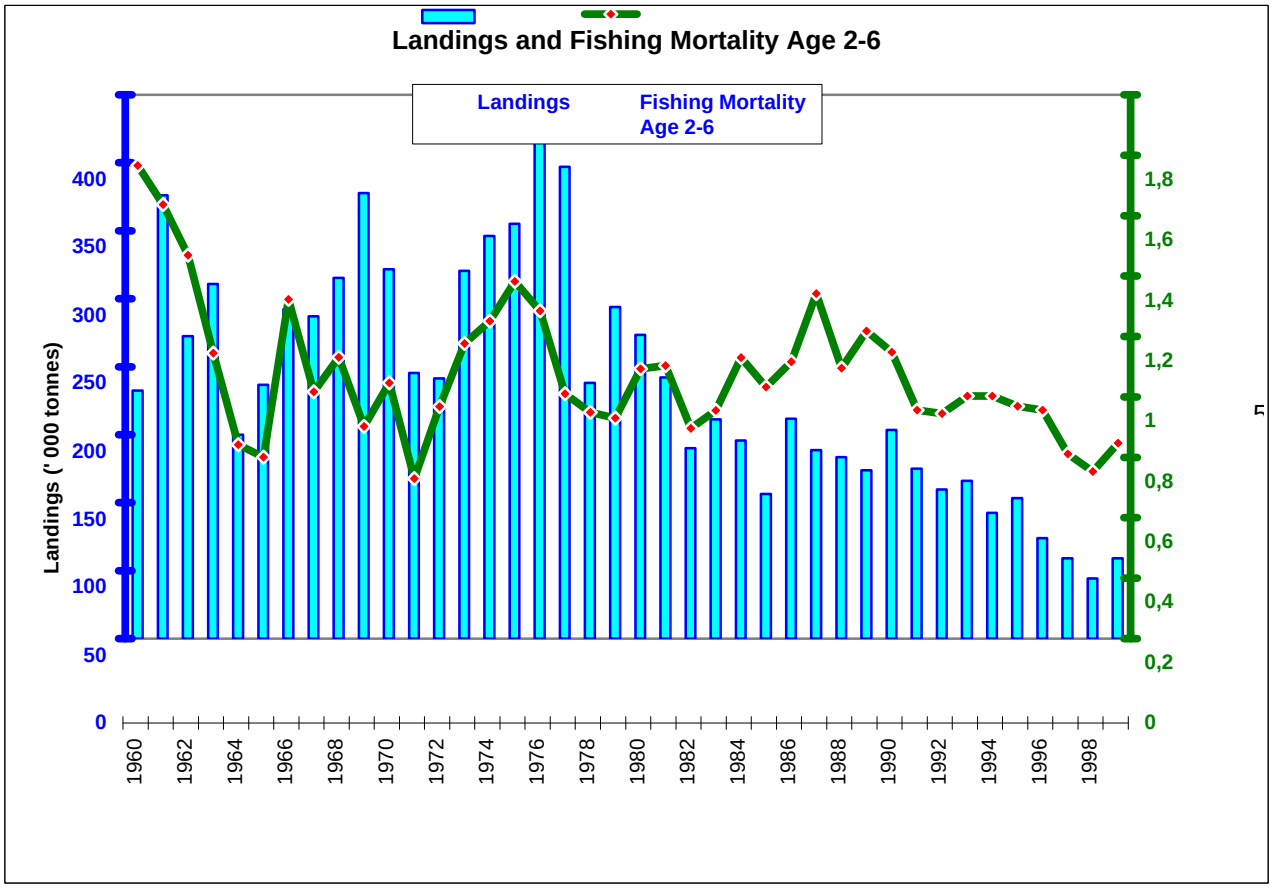

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 1
Spawning Stock Biomass

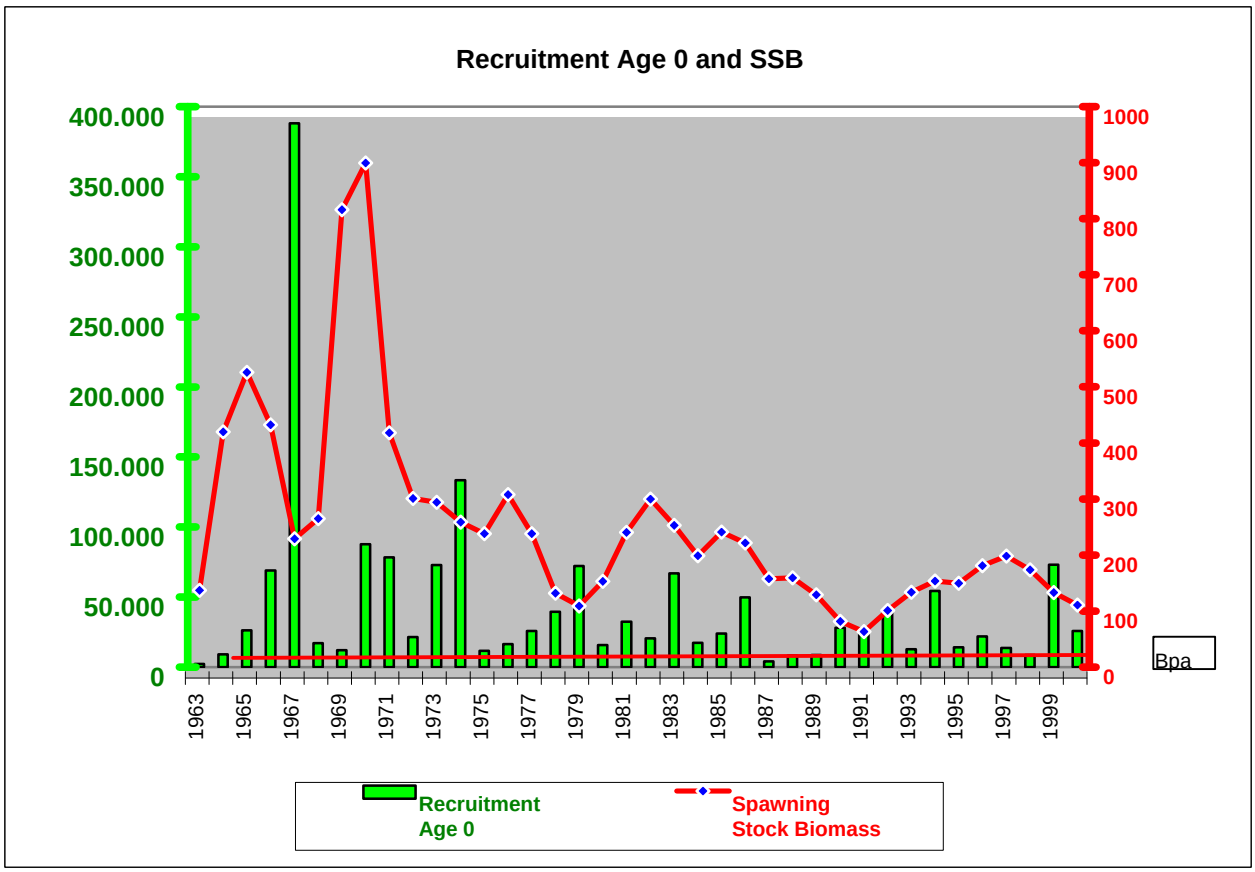

Landings and Fishing Mortality Age 3-5
Landings
Fishing Mortality Age 3-5
Landings (' 000 tonnes)
Fpa

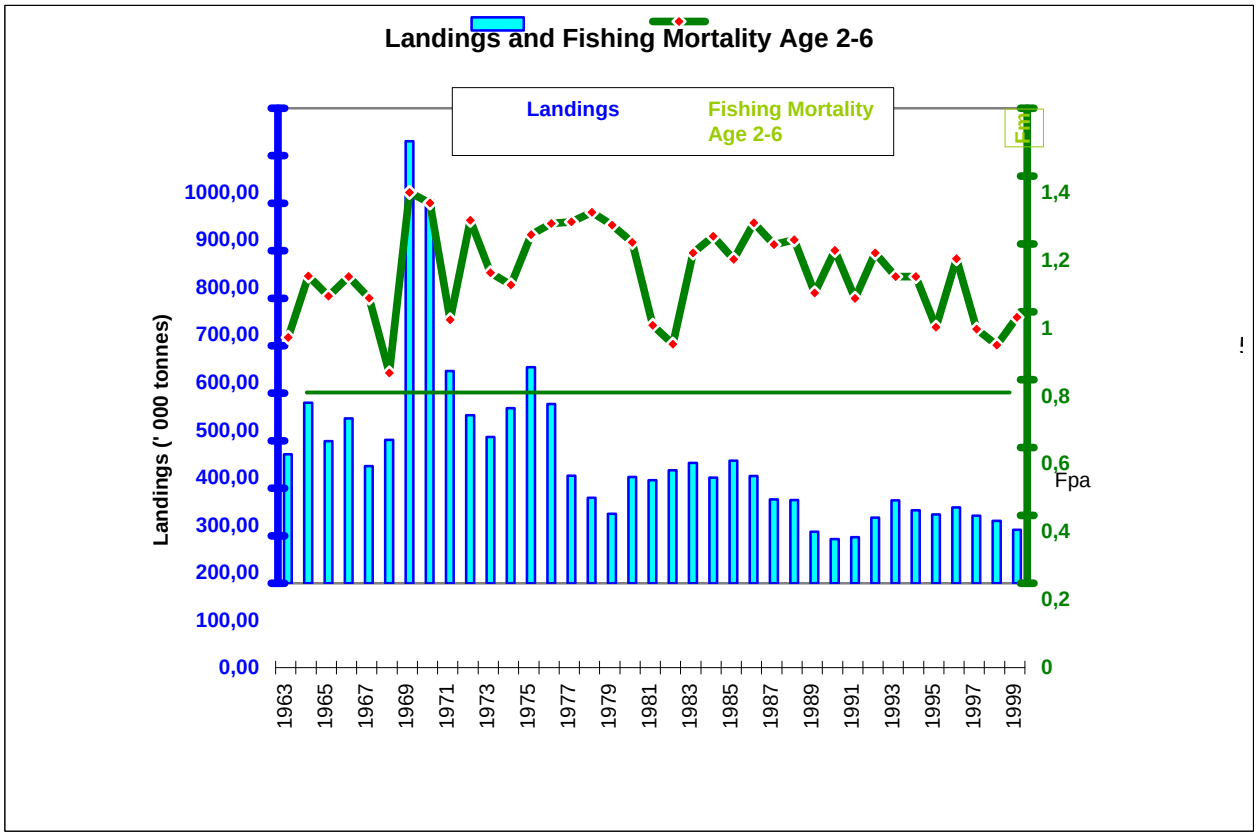

Recruitment Age 1 and SSB
Recruitment Age 1 (millions)
Spawning Stock Biomass (000 tonnes)
Bp a
Recruitment Age 1
Spawning Stock Biomass


Landings and Fishing Mortality Age 2-8
Landings
Fishing Mortality Age 2-8
Landings (' 000 tonnes)
Fpa


Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
700
600
500
400
300
200
100
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
Recruitment Age 1
Spawning Stock Biomass


Landings and Fishing Mortality Age 2-6
Landings
Fishing Mortality Age 2-6
Landings (' 000 tonnes)
400
350
300
250
200
150
100
50
0
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998


Recruitment Age 0 and SSB
400.000
350.000
300.000
250.000
200.000
150.000
100.000
50.000
0
1000
900
800
700
600
500
400
300
200
100
0
Bpa
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
Recruitment
Age 0
Spawning
Stock Biomass


Landings and Fishing Mortality Age 2-6
Landings
Fishing Mortality
Age 2-6
Landings (' 000 tonnes)
1000,00
900,00
800,00
700,00
600,00
500,00
400,00
300,00
200,00
100,00
0,00
1,4
1,2
1
0,8
0,6
0,4
0,2
0
Fpa
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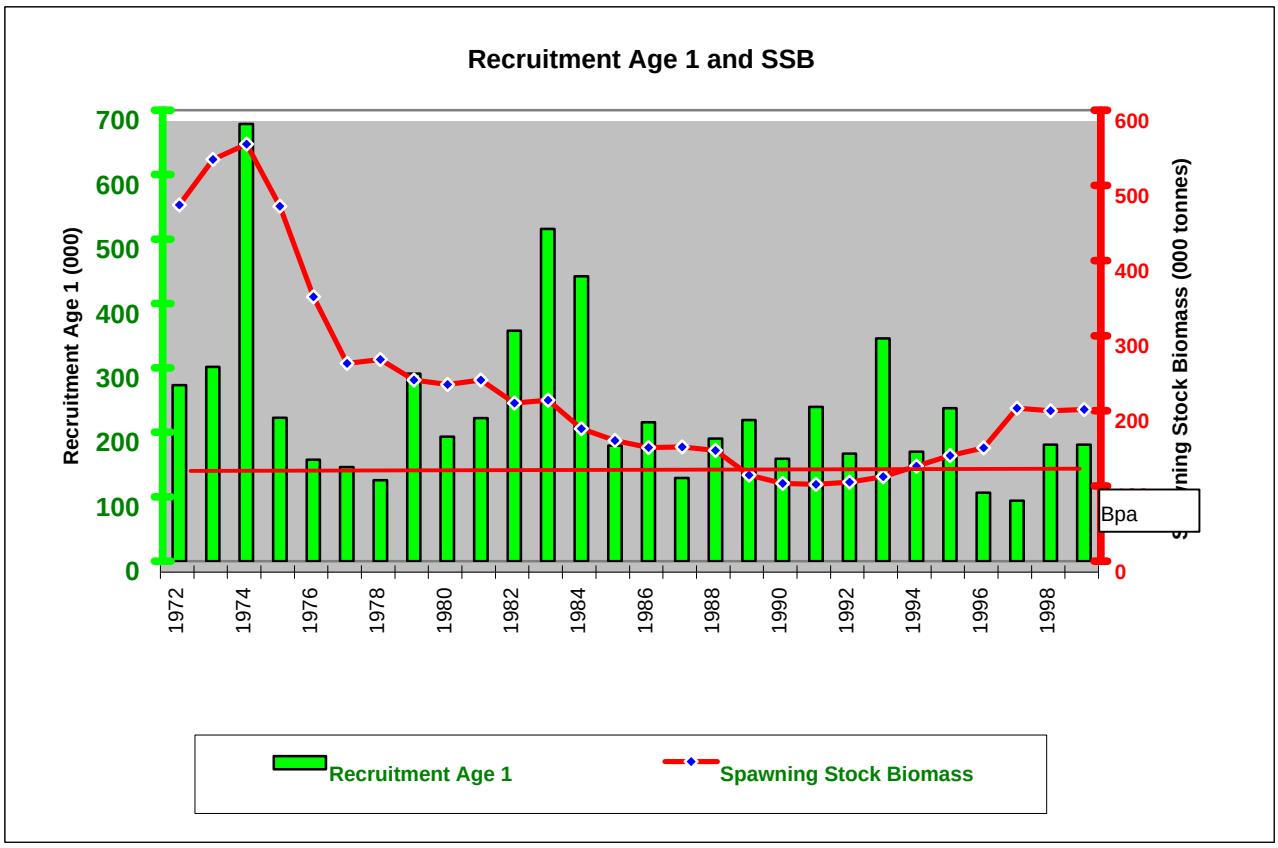
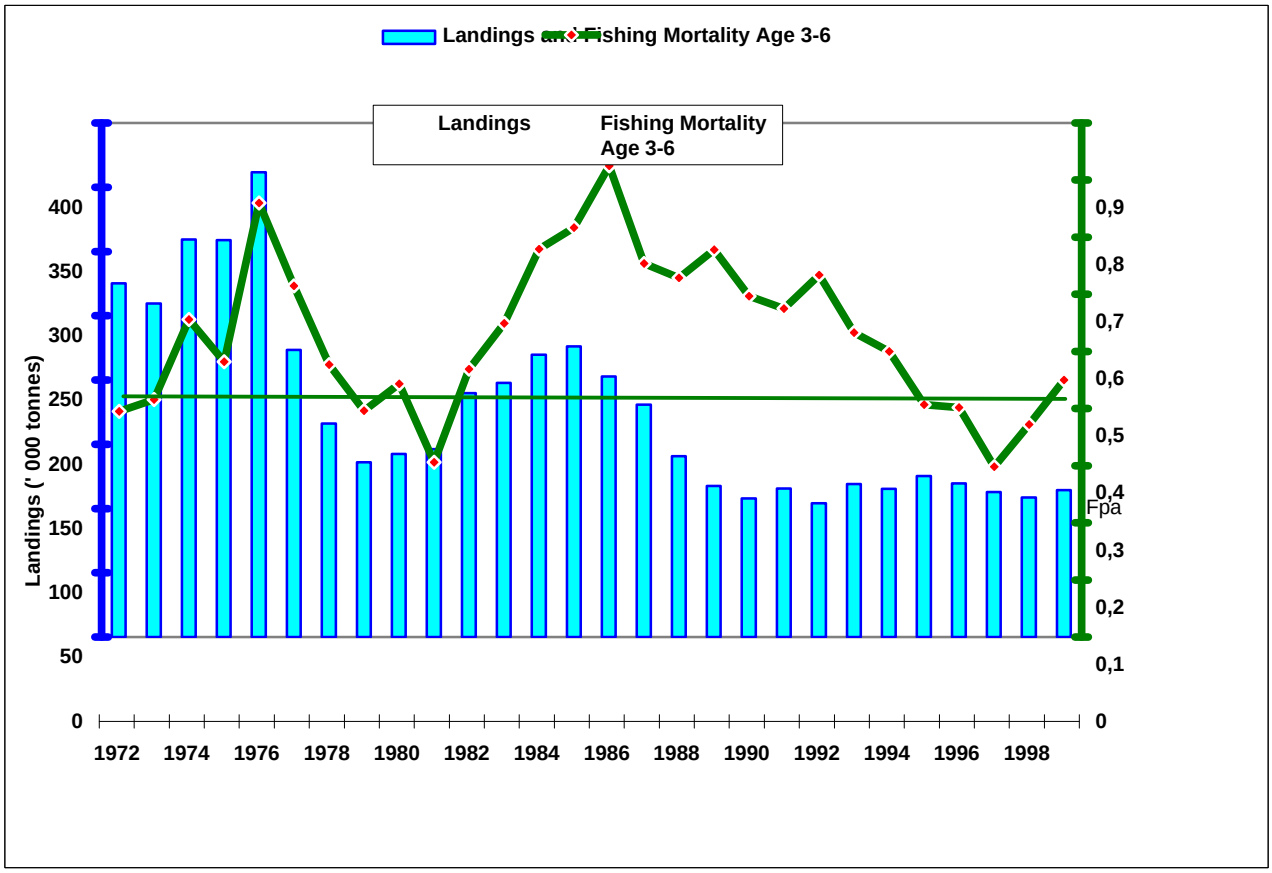
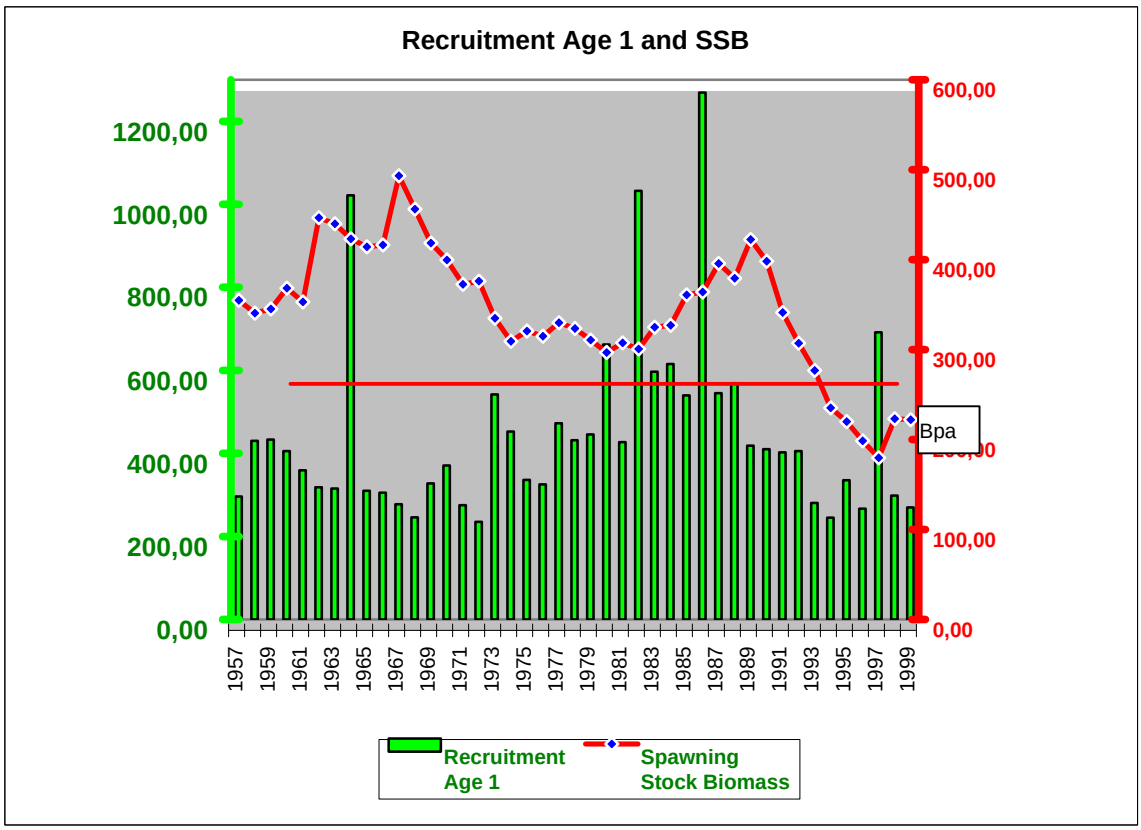
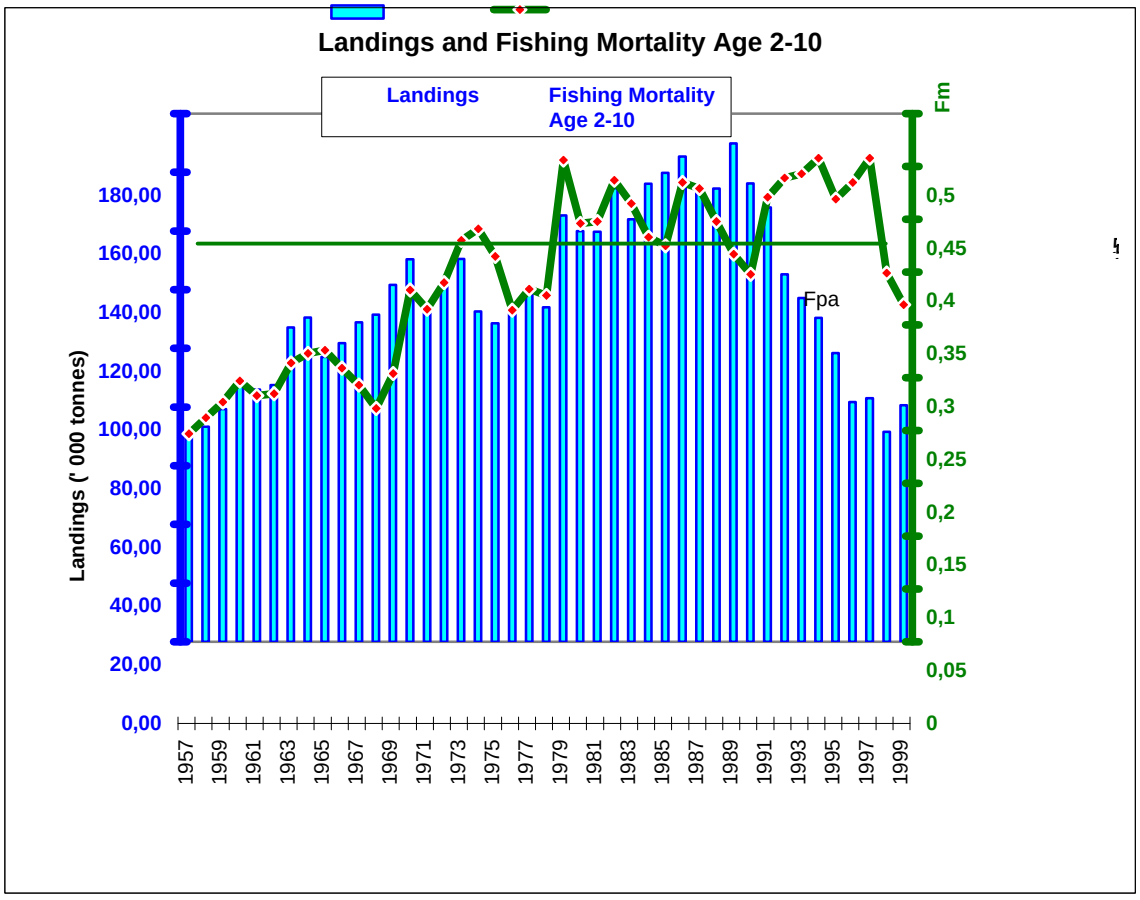
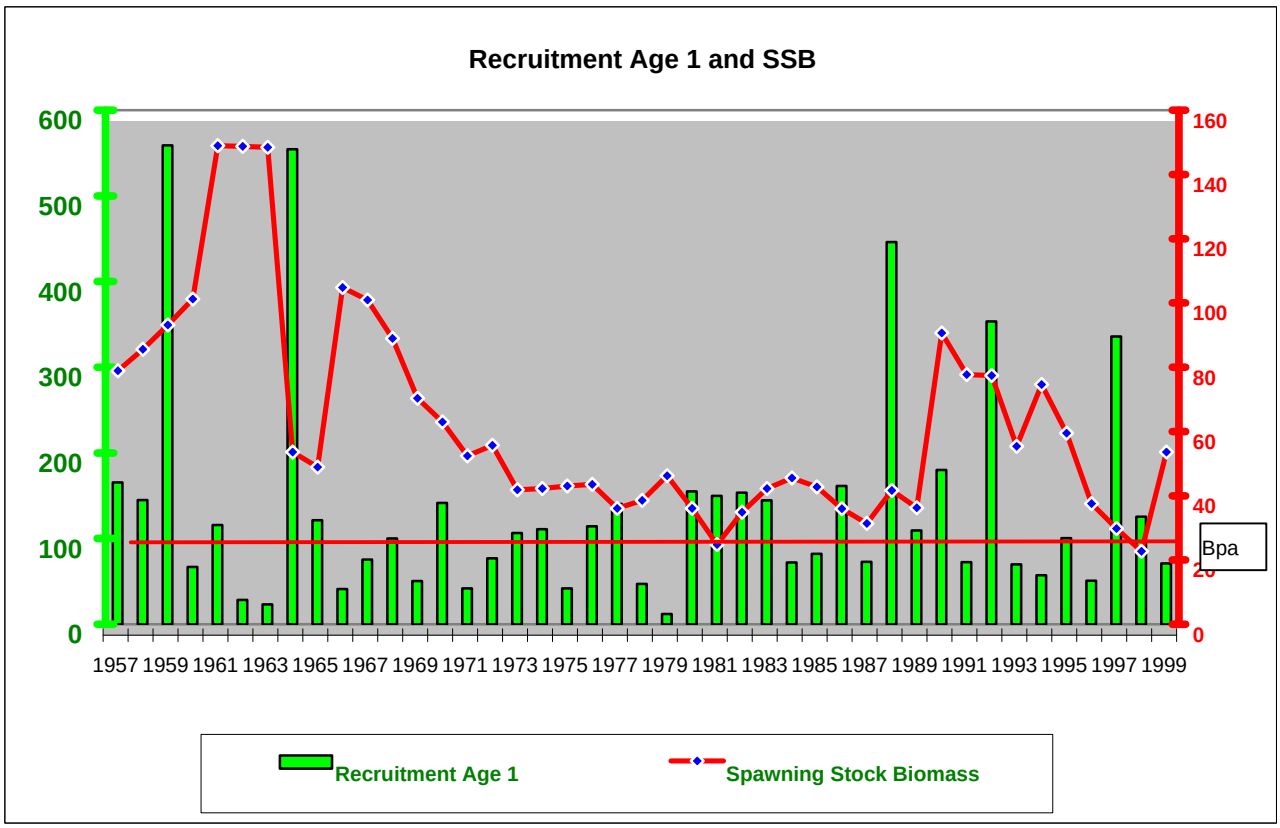
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999

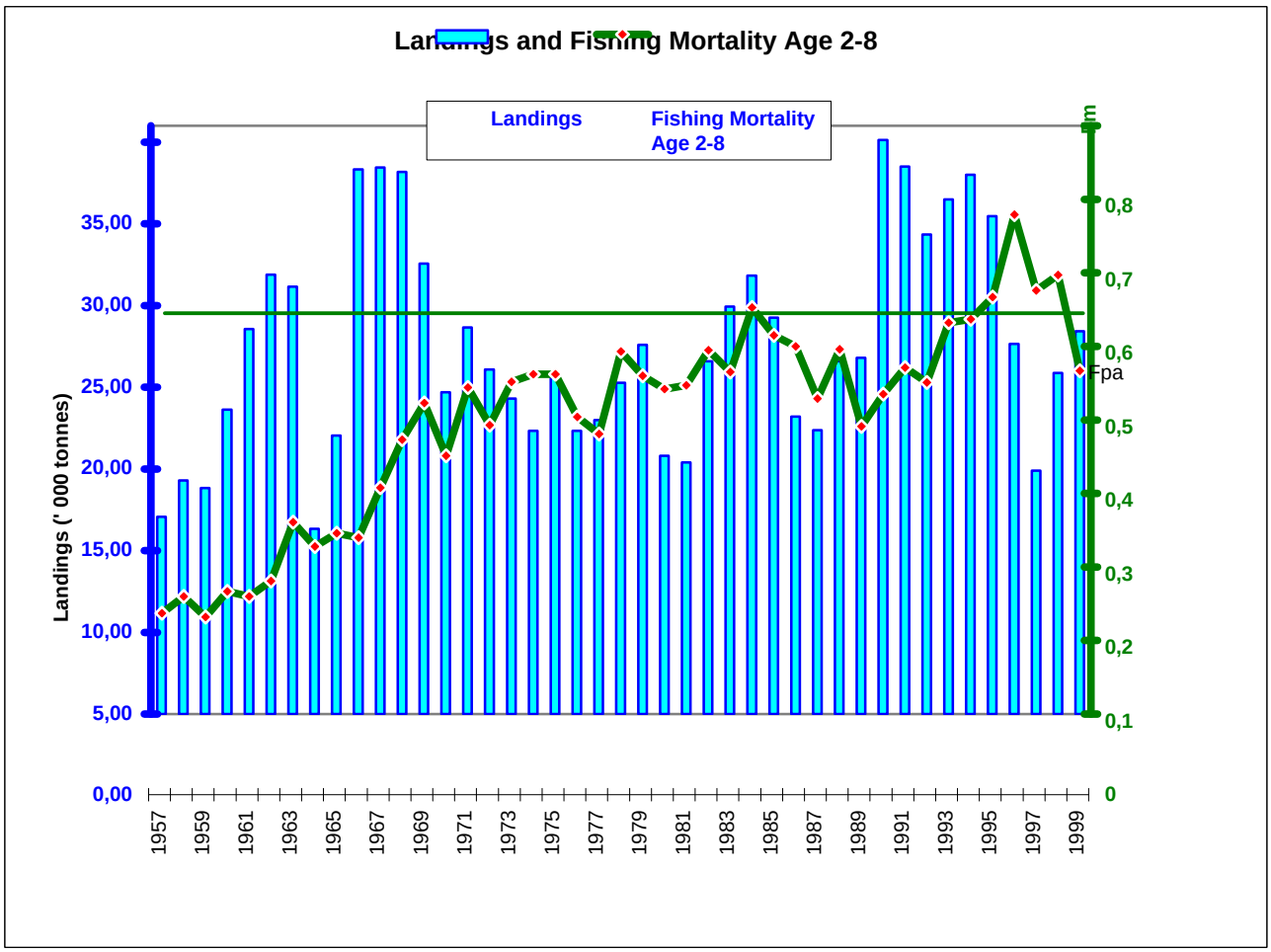

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 1
Spawning Stock Biomass

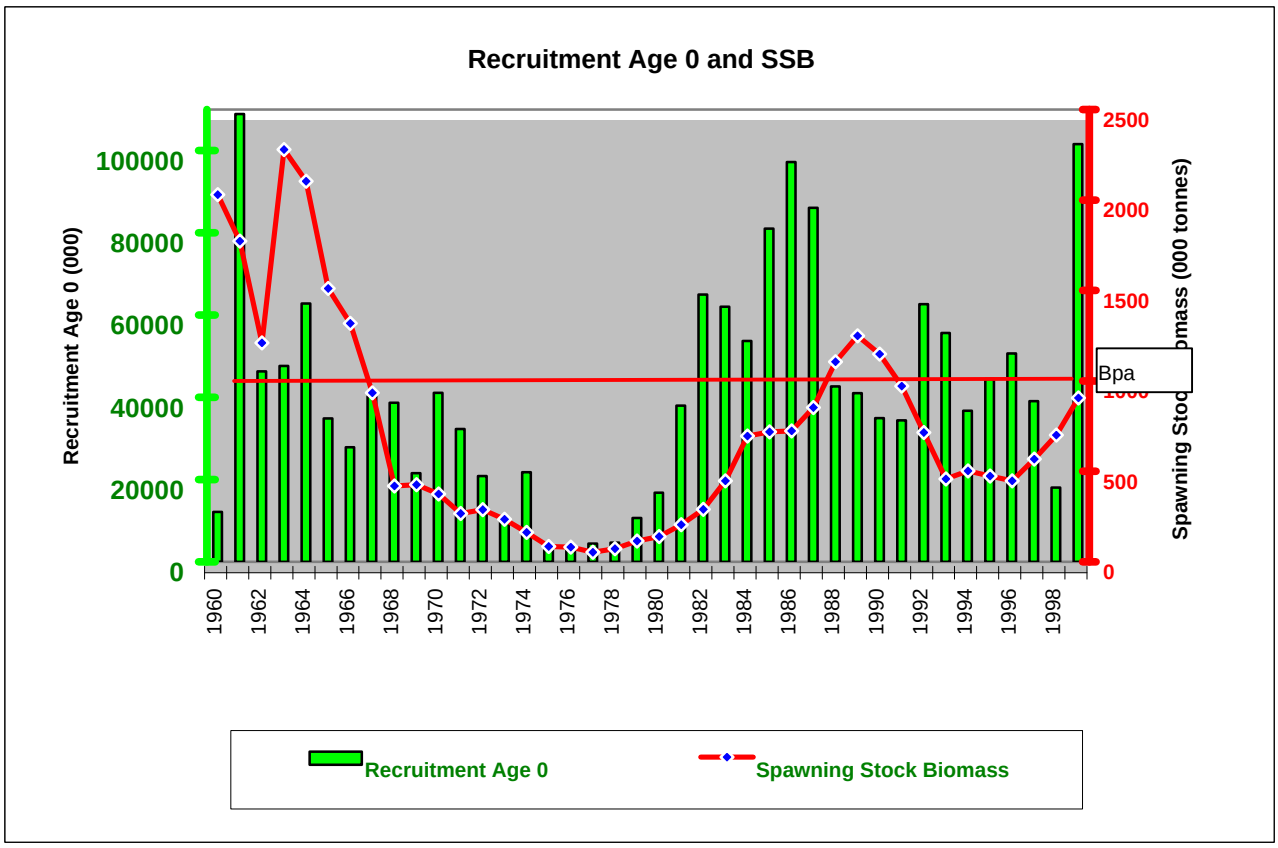

Landings and Fishing Mortality Age 3-6
Landings
Fishing Mortality Age 3-6
Landings (' 000 tonnes)
Fpa

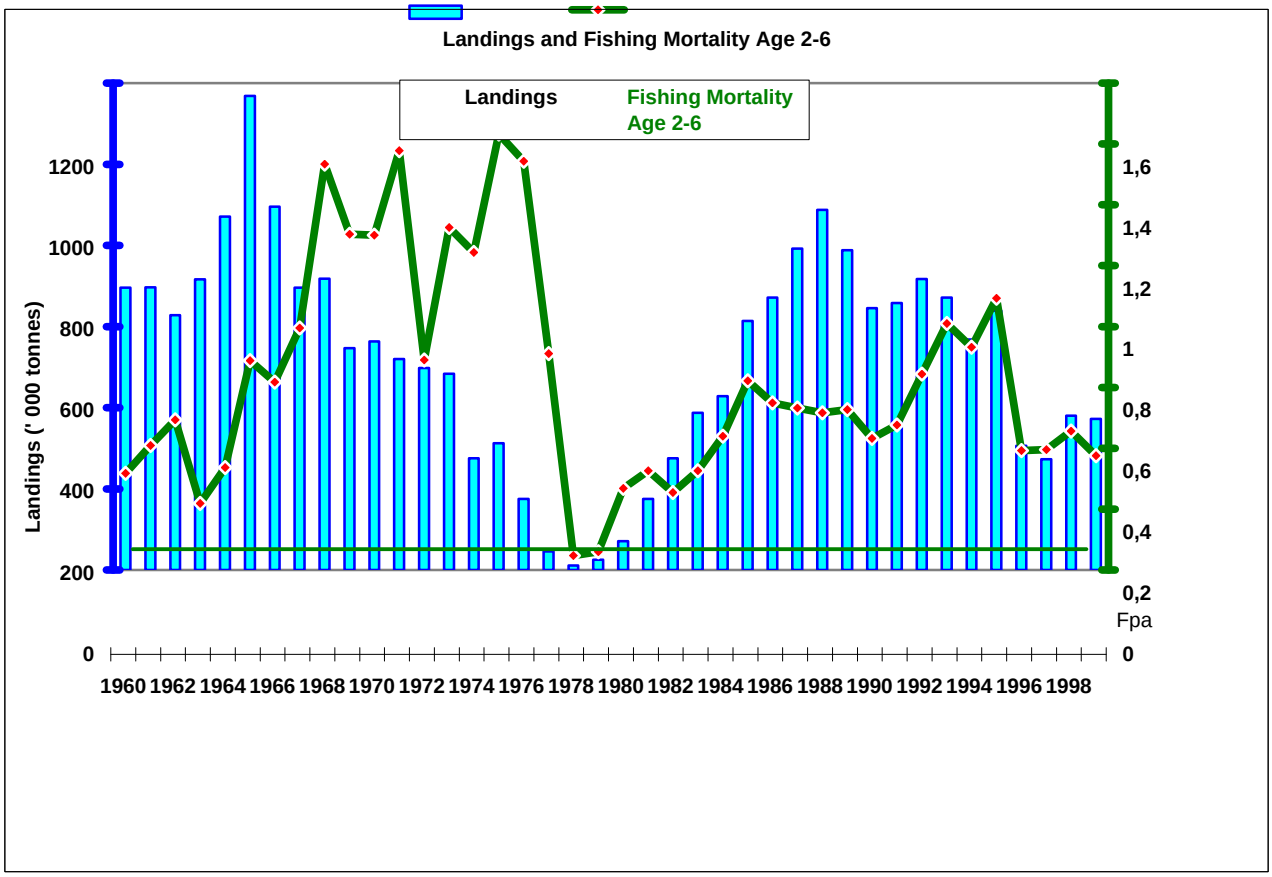

Recruitment Age 1 and SSB
1200,00
1000,00
800,00
600,00
400,00
200,00
0,00
600,00
500,00
400,00
300,00
100,00
0,00
Bpa
1957 1959 1961 1963 1965 1967 1969 1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999
Recruitment Age 1
Spawning Stock Biomass

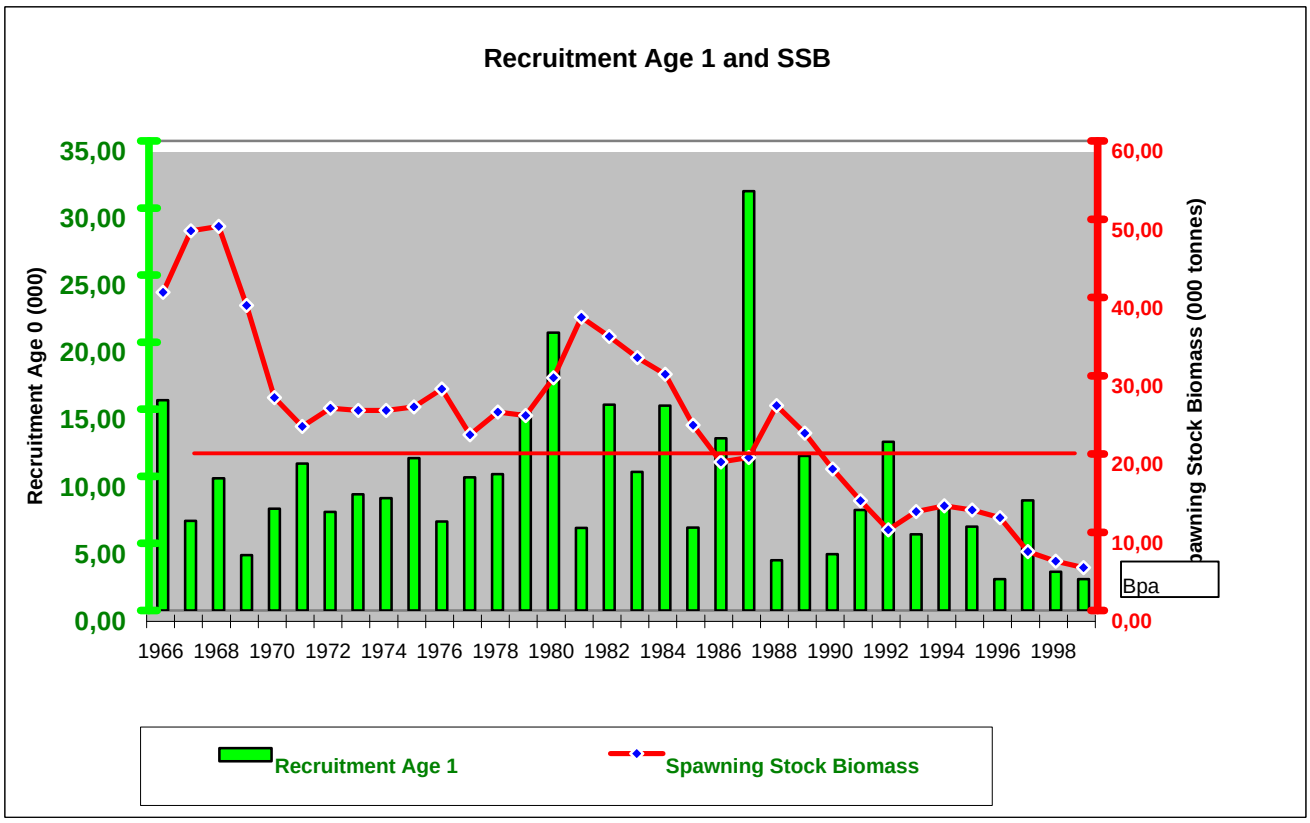

Landings and Fishing Mortality Age 2-10
Landings
Fishing Mortality Age 2-10
Fm
Landings (' 000 tonnes)
180,00
160,00
140,00
120,00
100,00
80,00
60,00
40,00
20,00
0,00
0,5
0,45
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
Fpa
1957 1959 1961 1963 1965 1967 1969 1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999

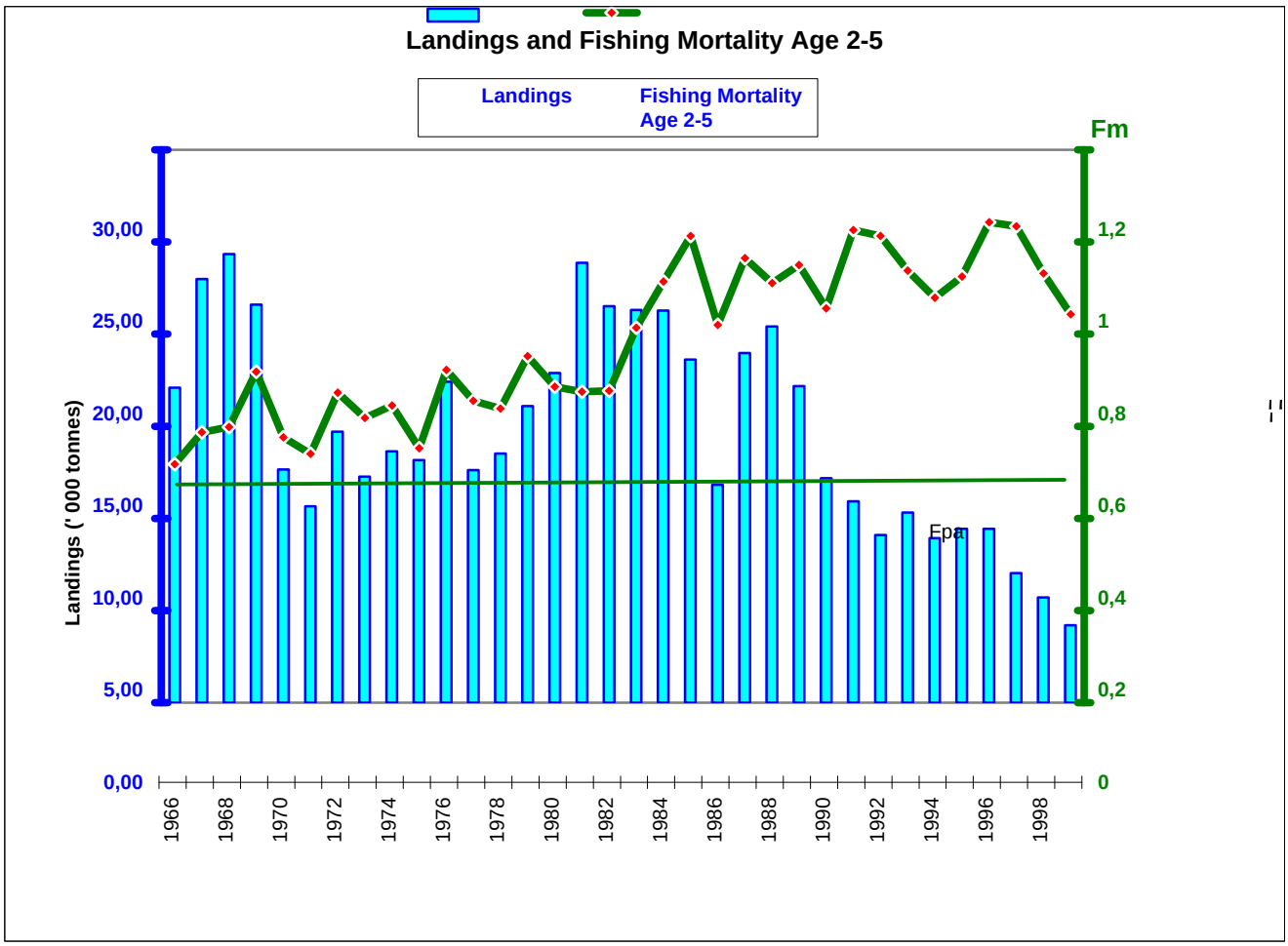

Recruitment Age 1 and SSB
600
500
400
300
200
100
0
160
140
120
100
80
60
40
0
Bpa
1957 1959 1961 1963 1965 1967 1969 1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999
Recruitment Age 1
Spawning Stock Biomass

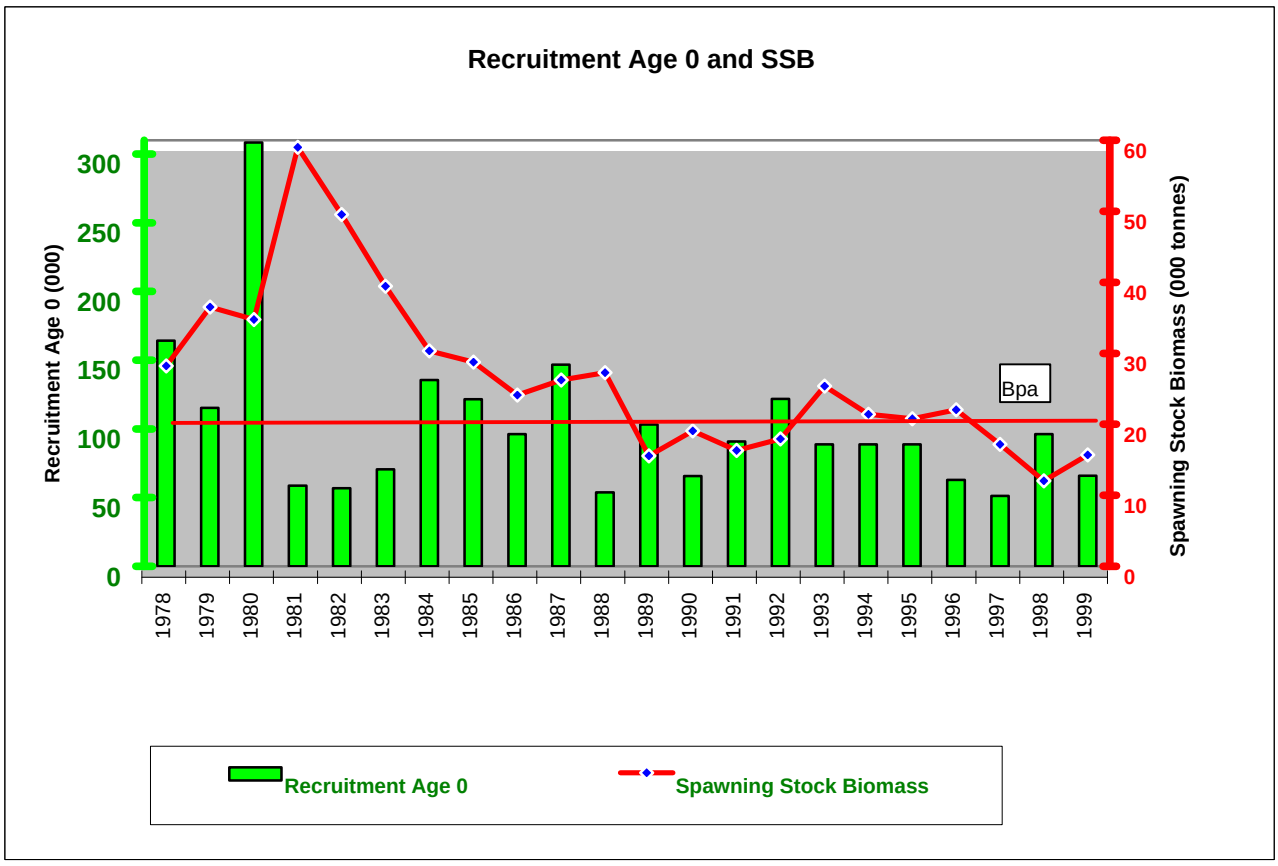

Landings and Fishing Mortality Age 2-8
Landings
Fishing Mortality Age 2-8
Landings (' 000 tonnes)
35,00
30,00
25,00
20,00
15,00
10,00
5,00
0,00
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Fpa
1957 1959 1961 1963 1965 1967 1969 1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999

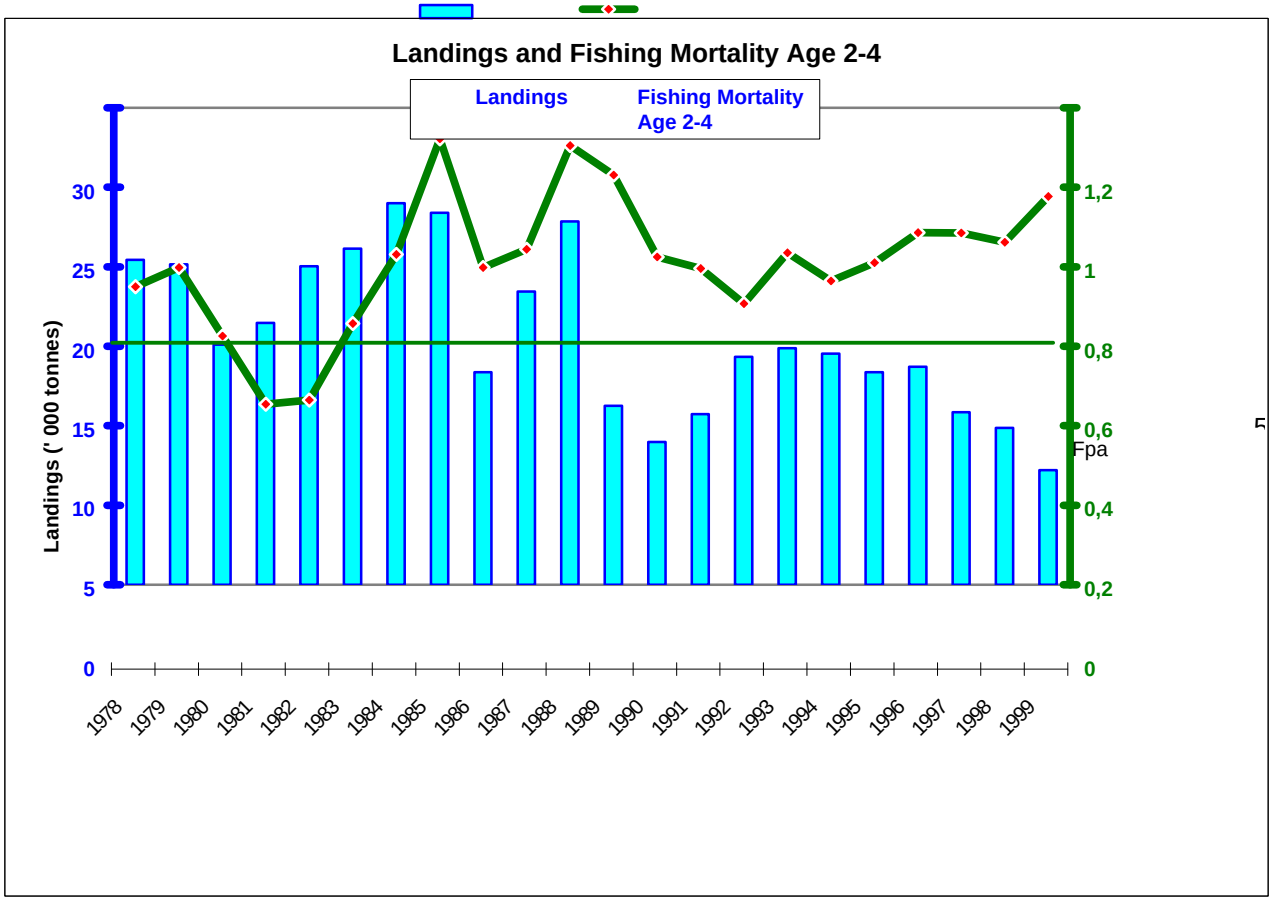

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
100000
80000
60000
40000
20000
0
2500
2000
1500
500
0
Bpa
1960 1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998
Recruitment Age 0
Spawning Stock Biomass


Landings and Fishing Mortality Age 2-6
Landings
Fishing Mortality Age 2-6
Landings (' 000 tonnes)
1200
1000
800
600
400
200
0
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
Fpa
0
1960 1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998


Recruitment Age 1 and SSB
Recruitment Age 0 (000)
35,00
30,00
25,00
20,00
15,00
10,00
5,00
0,00
60,00
50,00
40,00
30,00
20,00
10,00
0,00
Bpa
1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998
Recruitment Age 1
Spawning Stock Biomass

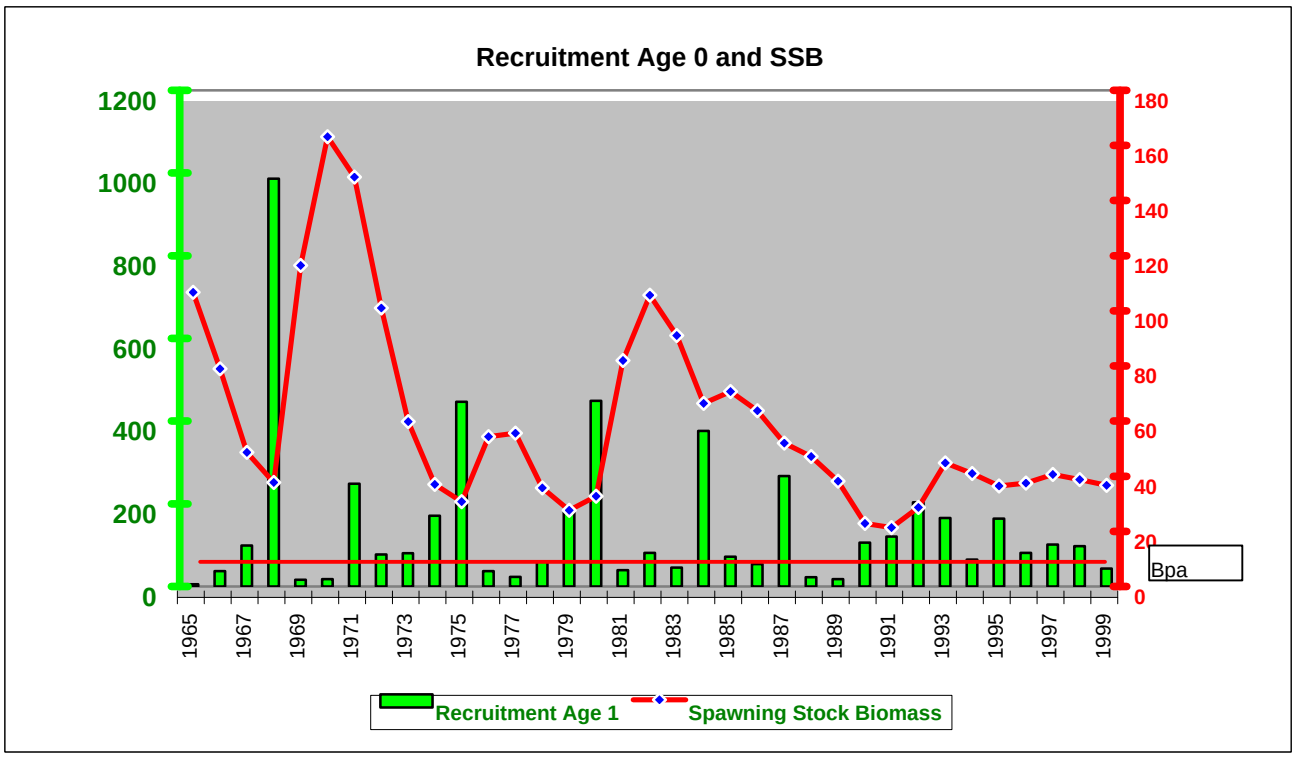

Landings and Fishing Mortality Age 2-5
Landings
Fishing Mortality Age 2-5
Landings (' 000 tonnes)
Fm
30,00
25,00
20,00
15,00
10,00
5,00
0,00
1,2
1
0,8
0,6
0,4
0,2
0
Fpa
1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998

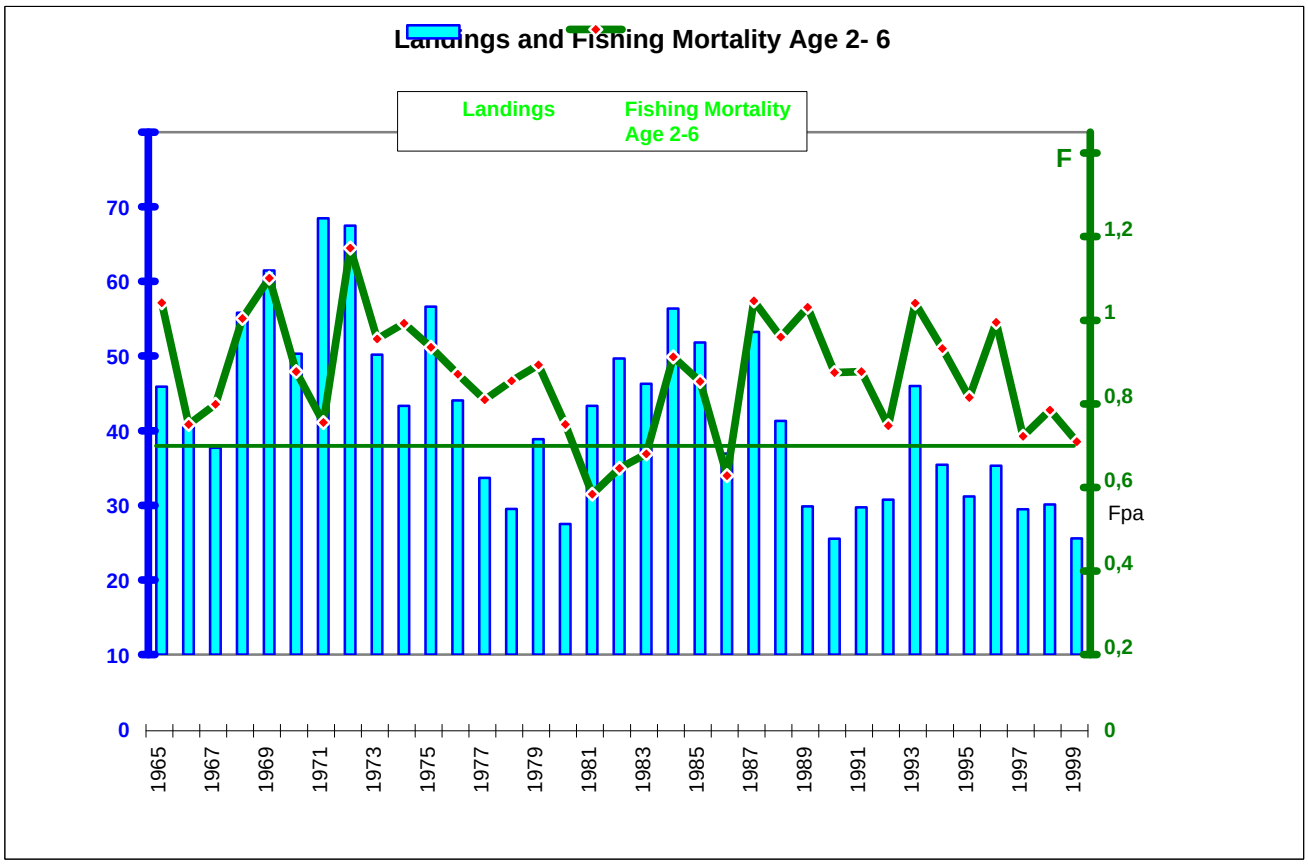

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 0
Spawning Stock Biomass

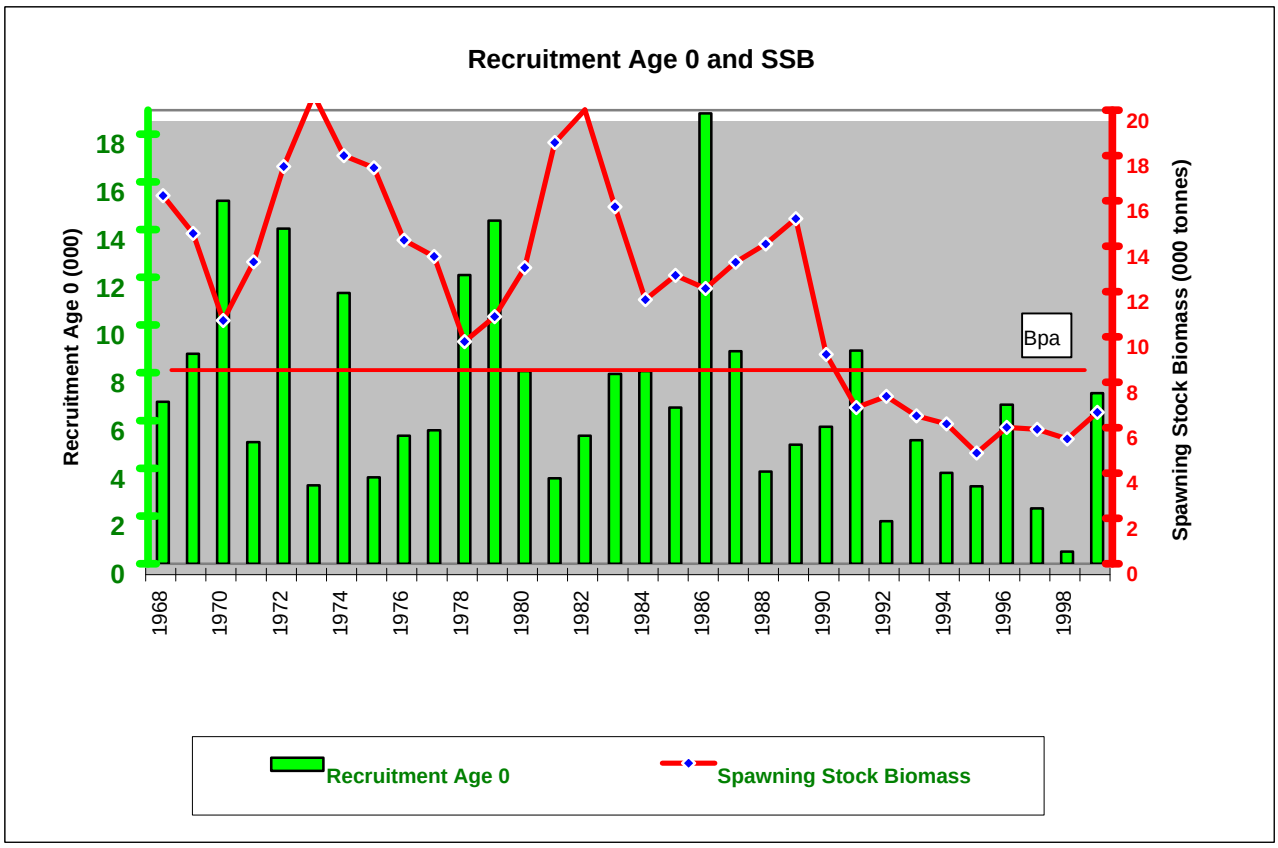

Landings and Fishing Mortality Age 2-4
Landings
Fishing Mortality Age 2-4
Landings (' 000 tonnes)
Fpa

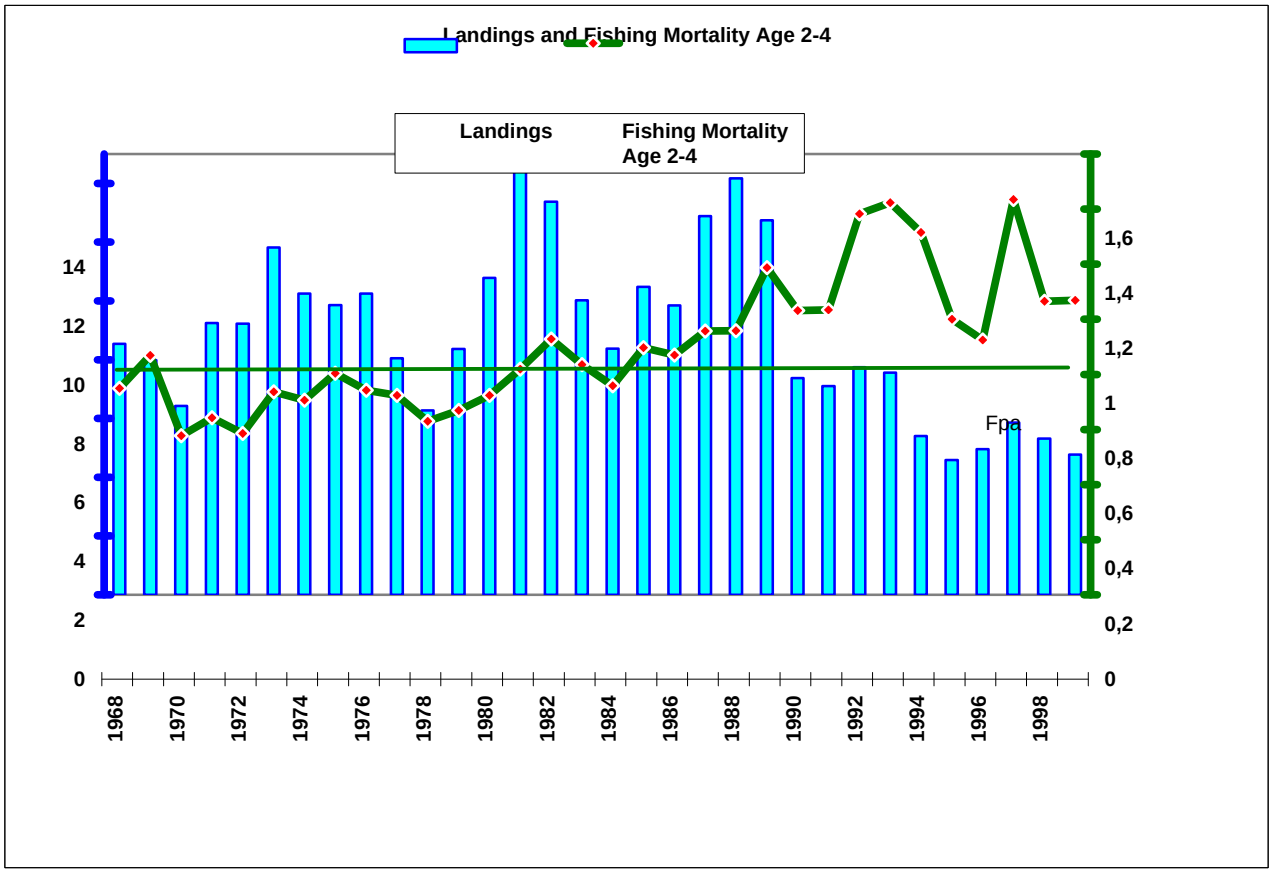
Haddock area Via

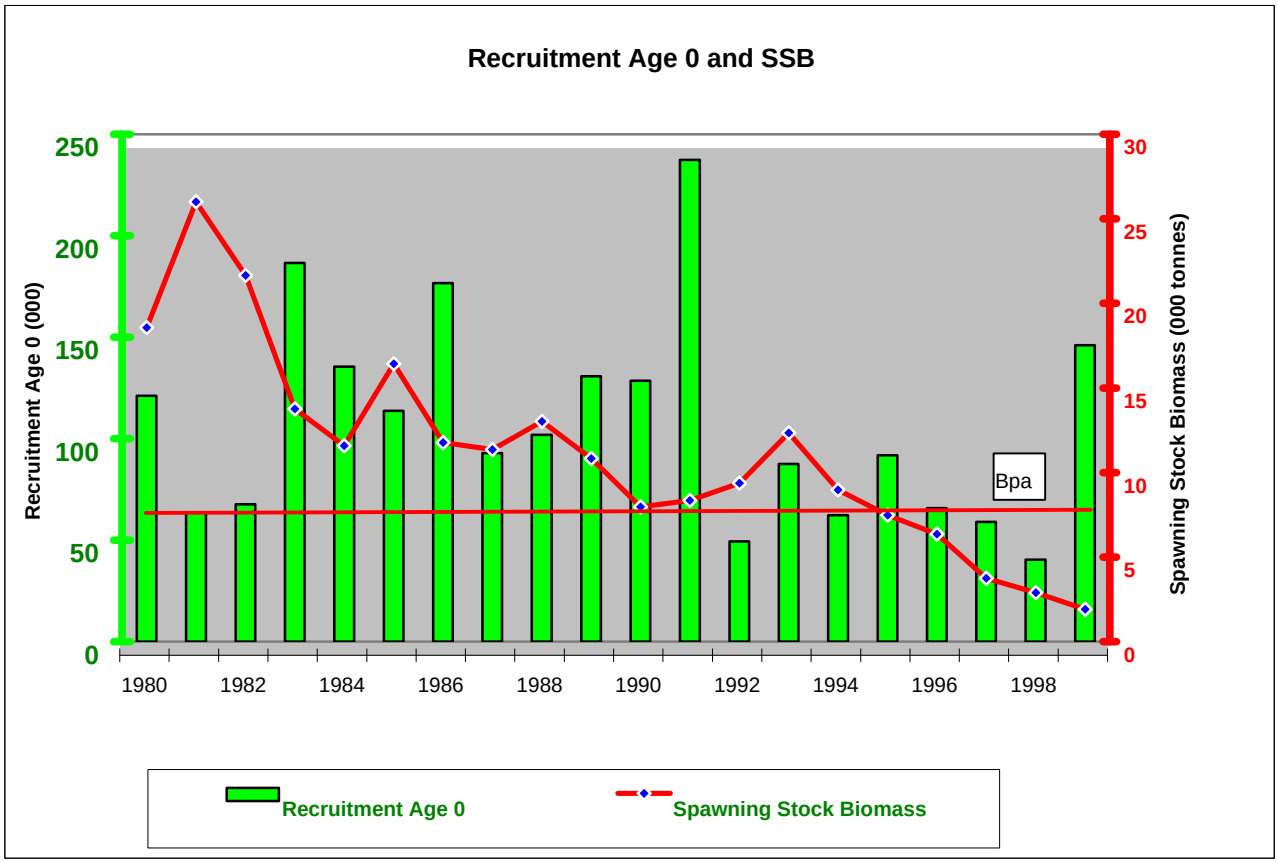
Figure 13

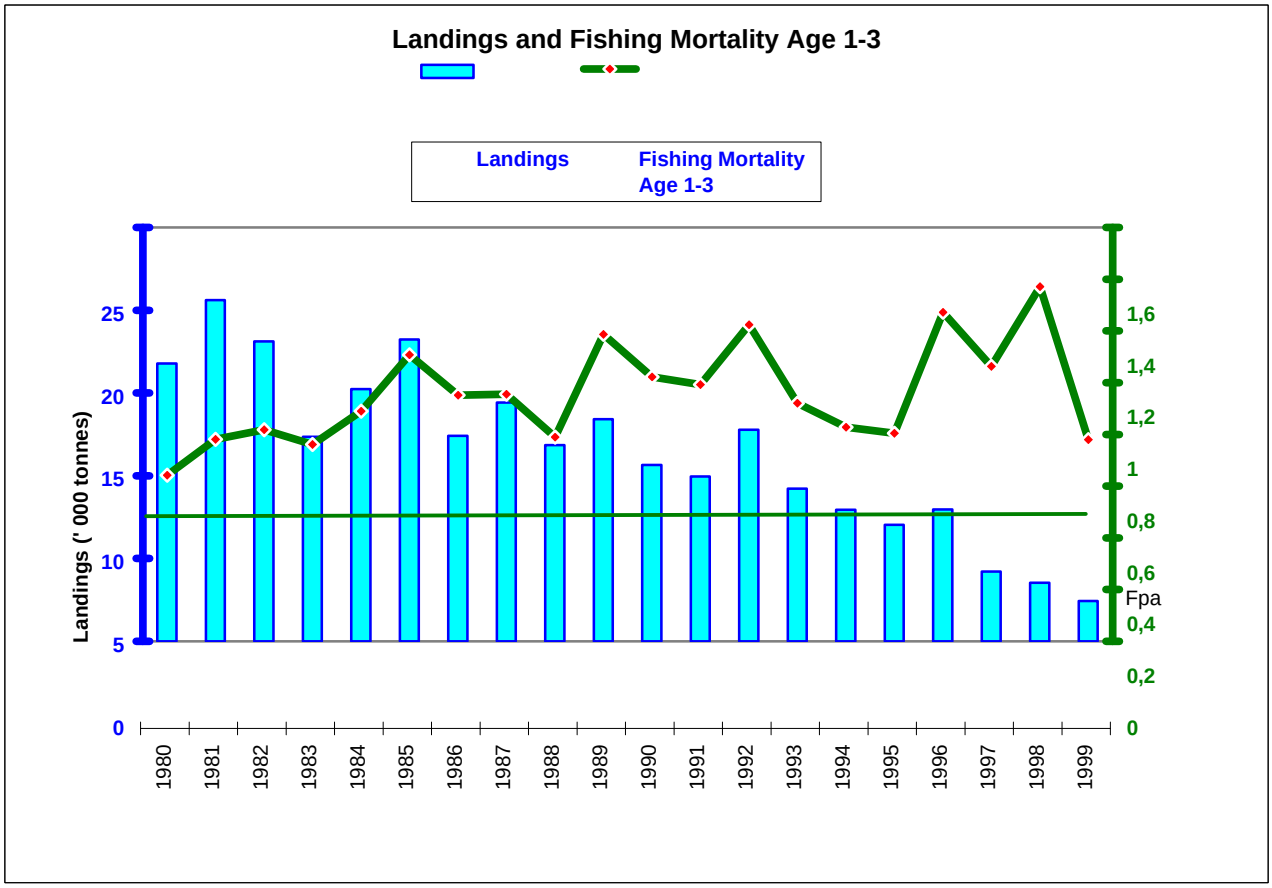


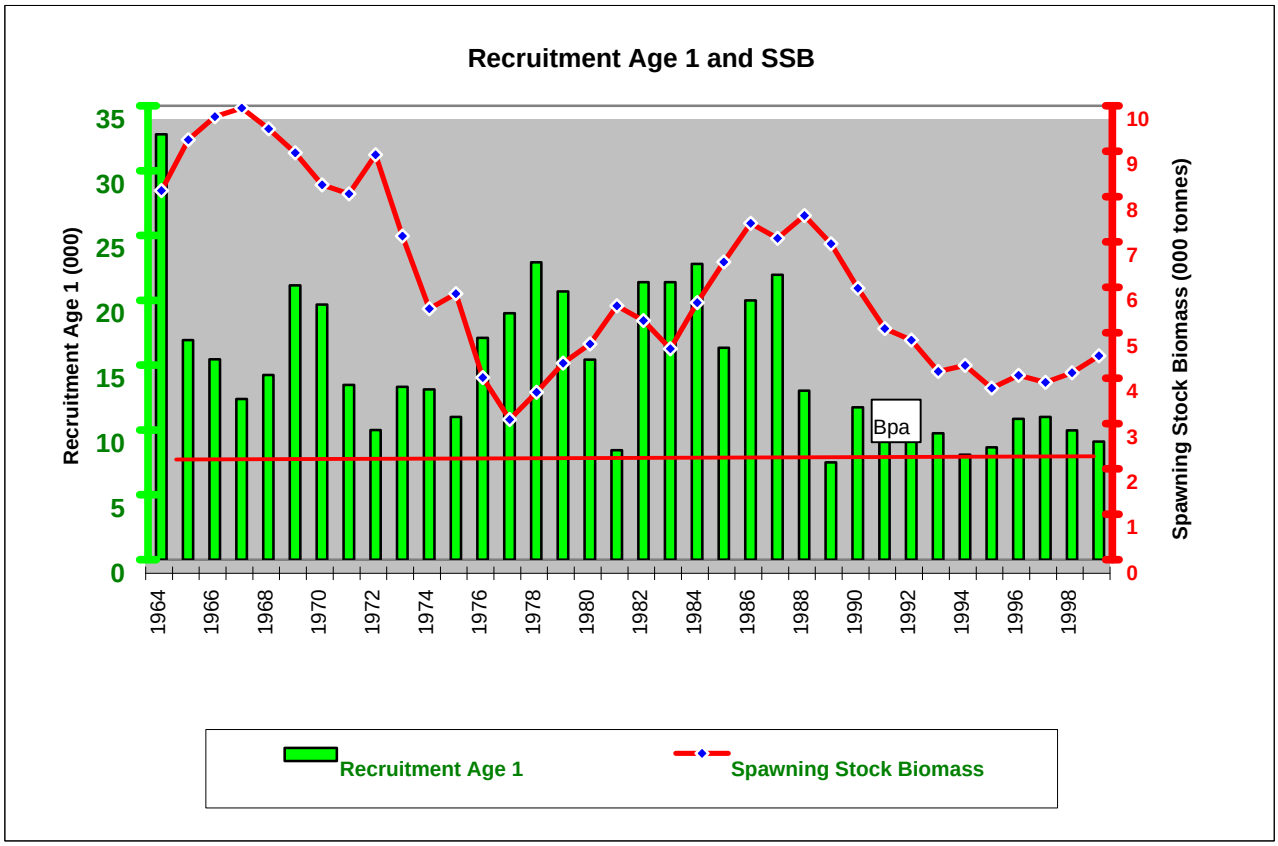


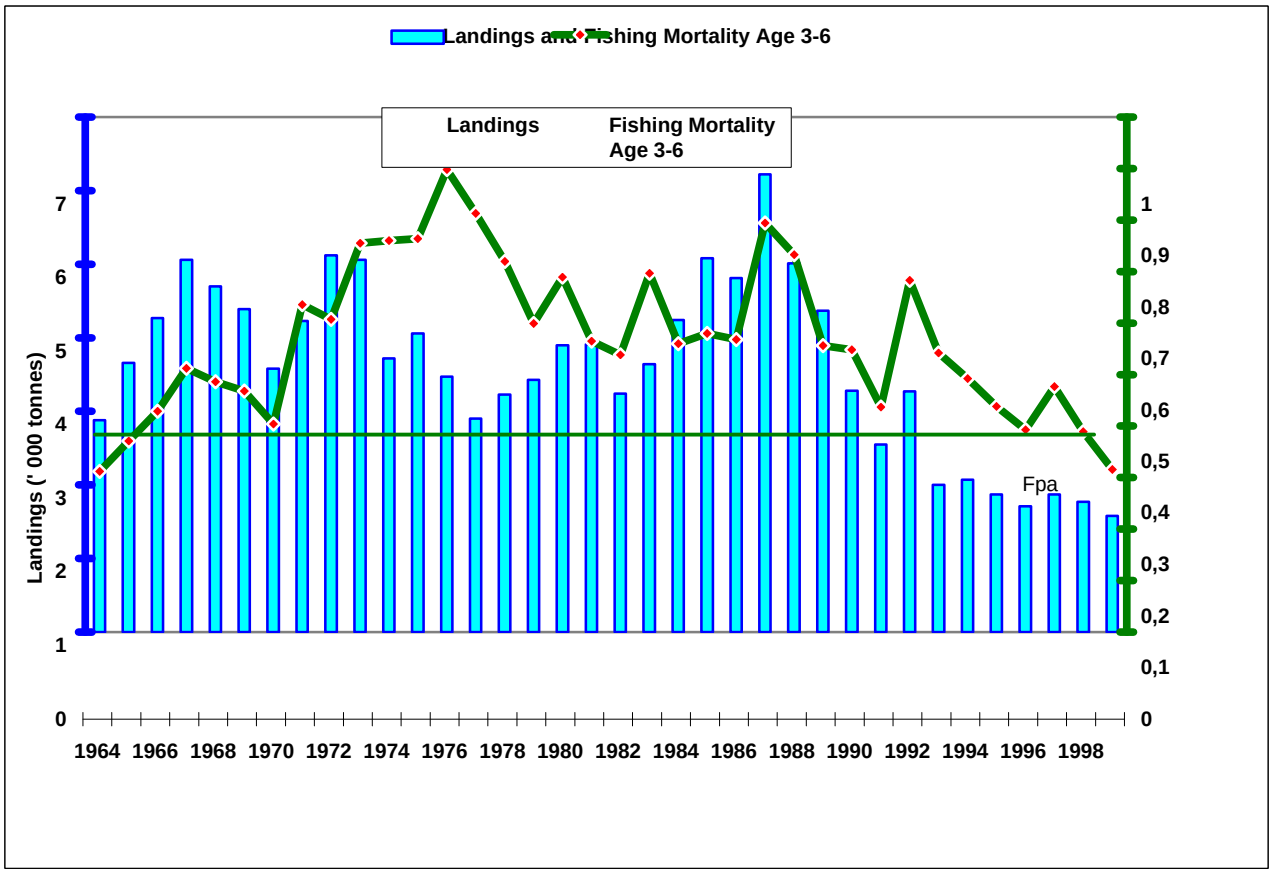

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 0
Spawning Stock Biomass

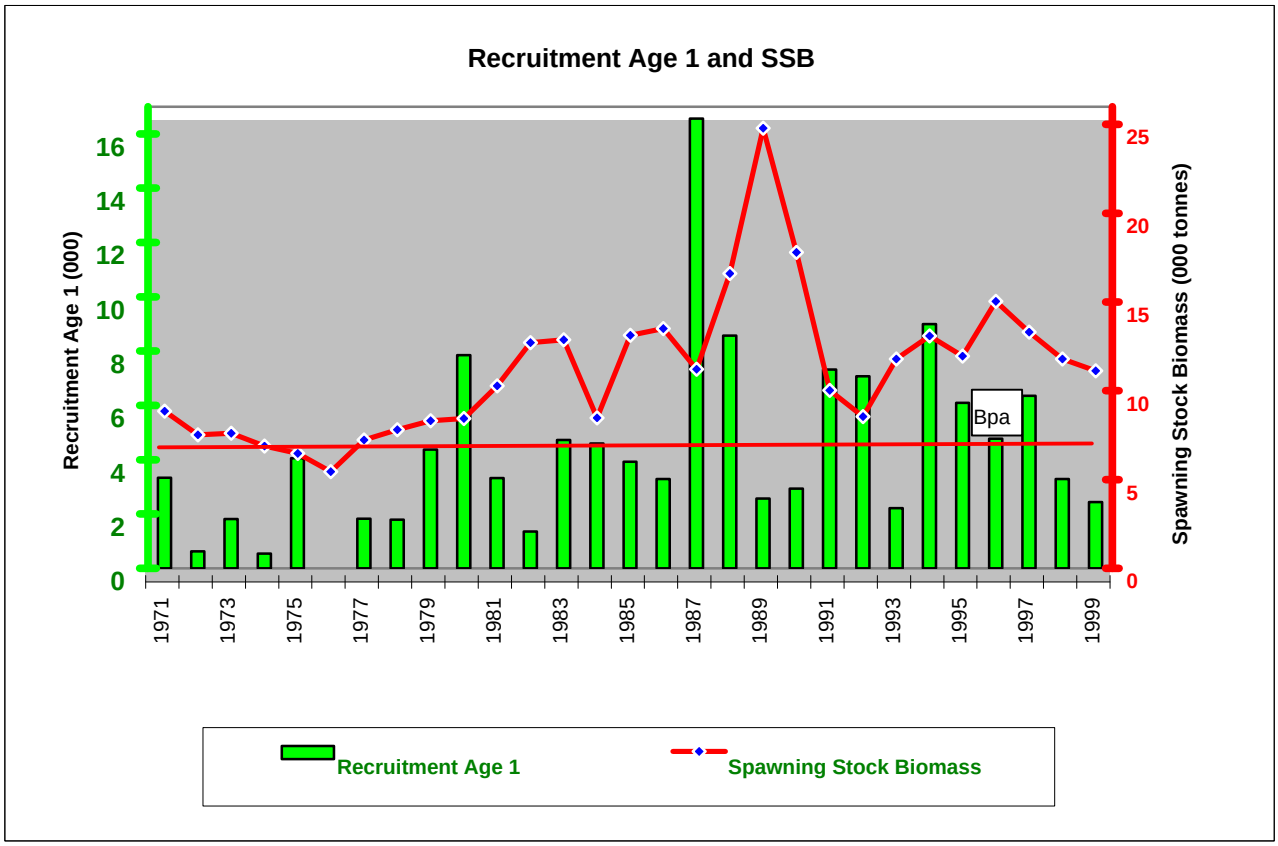

Landings and Fishing Mortality Age 2-4
Landings
Fishing Mortality Age 2-4
Fpa

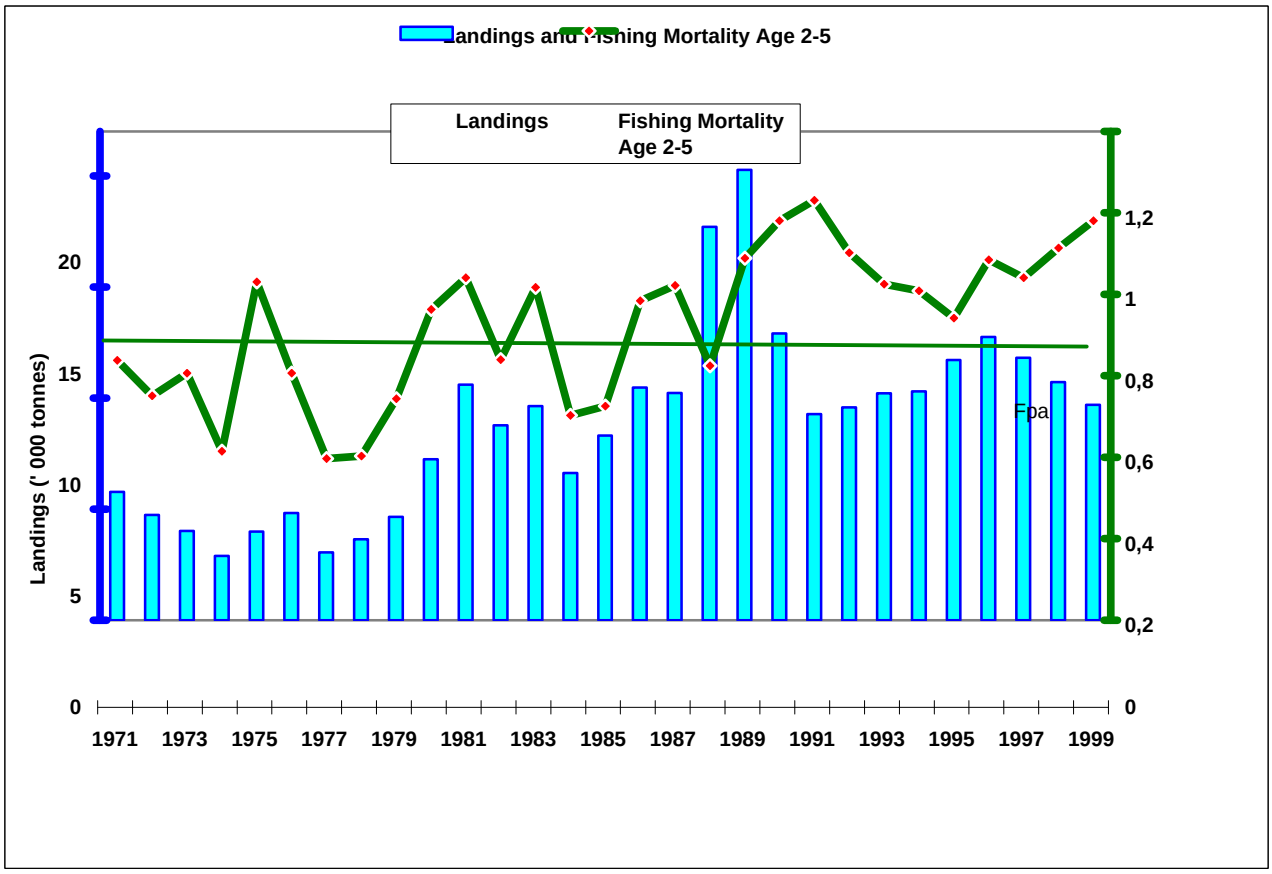

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
Spawning Stock Biomass (000 tonnes)
250
200
150
100
50
0
30
25
20
15
10
5
0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
Bpa
Recruitment Age 0
Spawning Stock Biomass

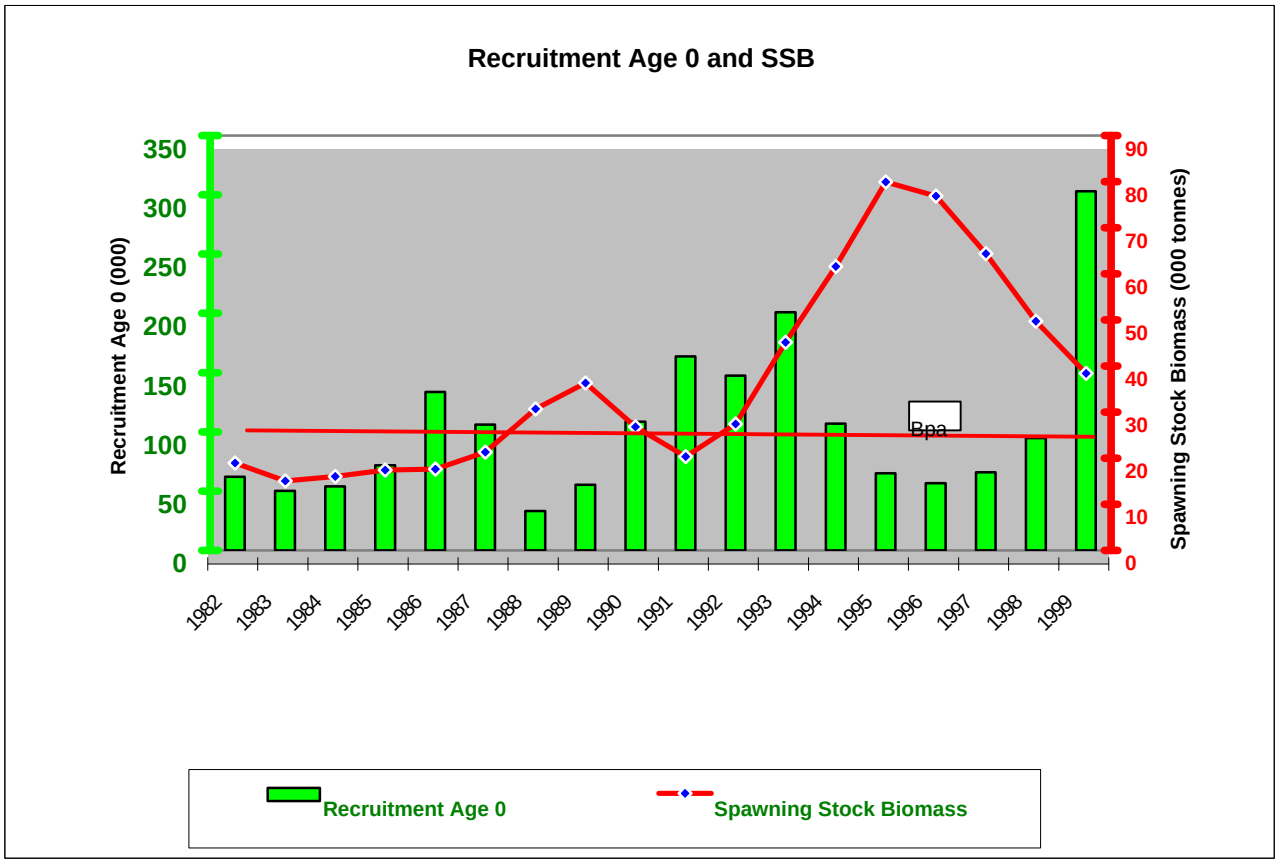

Landings and Fishing Mortality Age 1-3
Landings
Fishing Mortality Age 1-3
Landings (' 000 tonnes)
25
20
15
10
5
0
1,6
1,4
1,2
1
0,8
0,6
Fpa
0,4
0,2
0
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

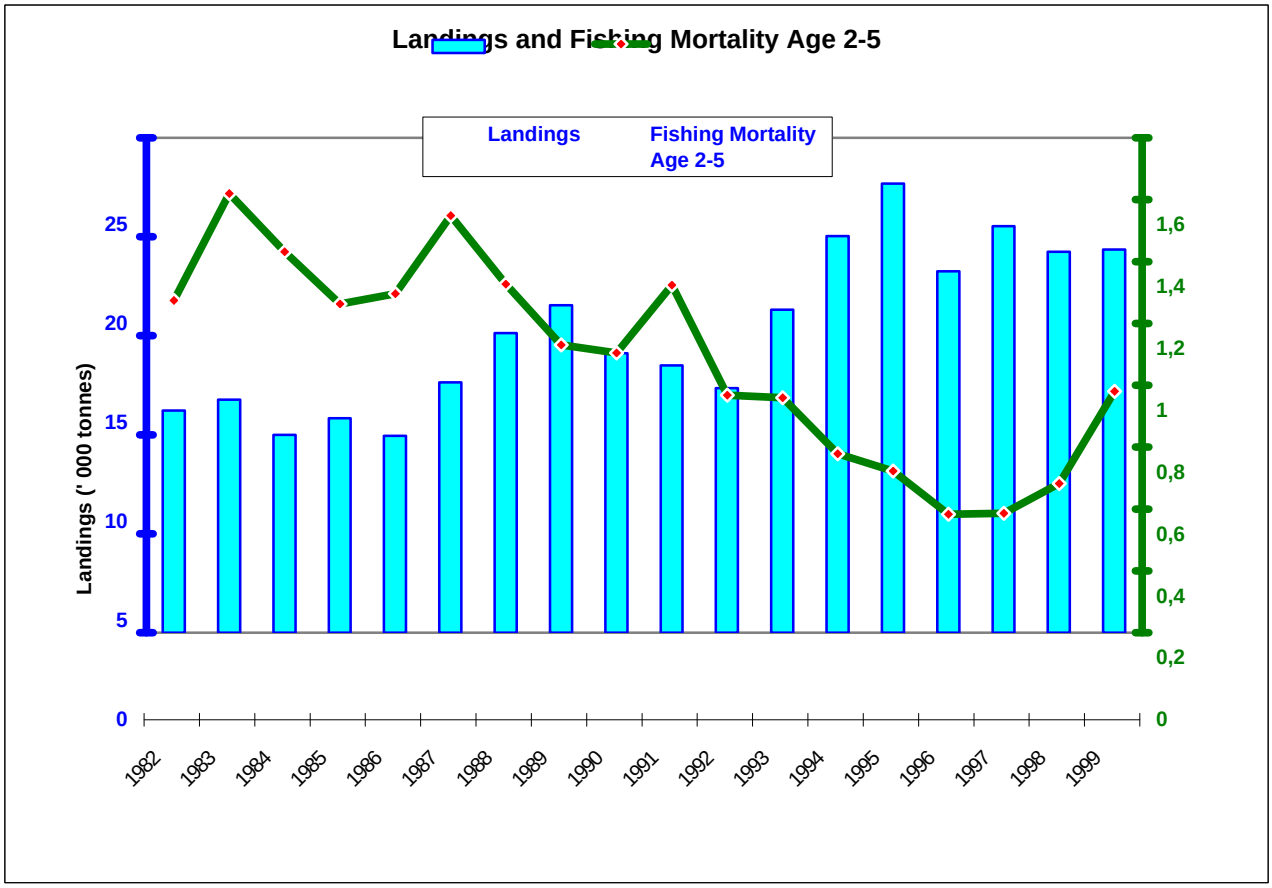

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 1
Spawning Stock Biomass

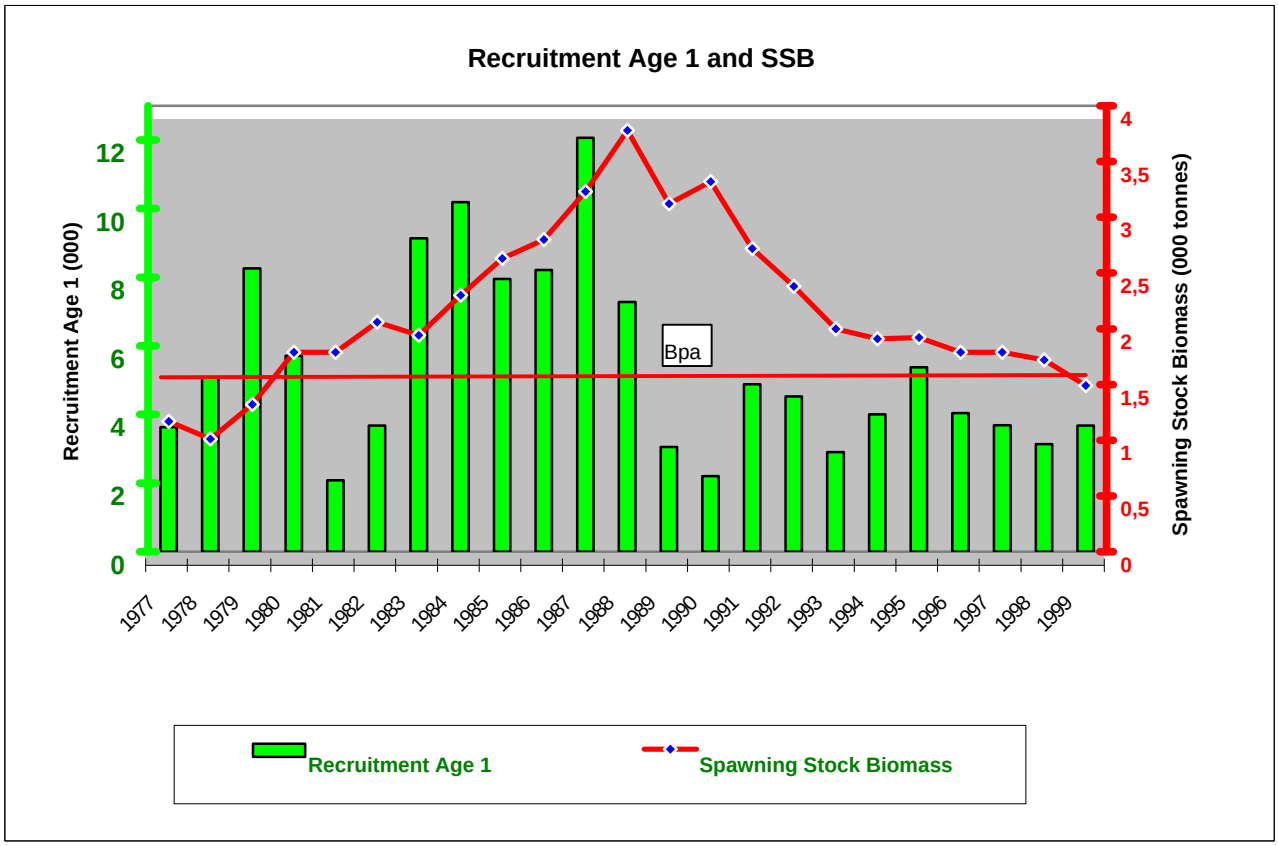

Landings and Fishing Mortality Age 3-6
Landings
Fishing Mortality Age 3-6
Landings (' 000 tonnes)
Fpa

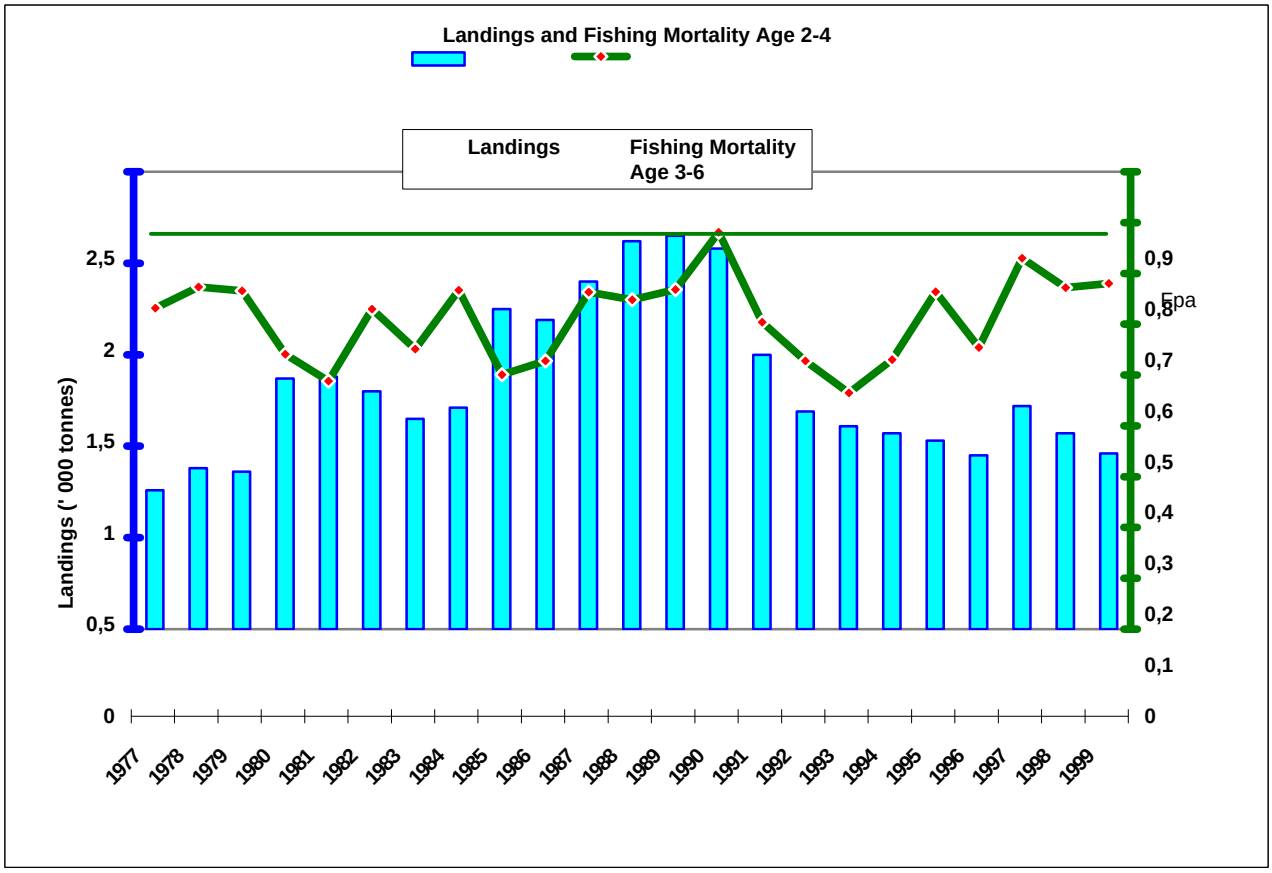

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 1
Spawning Stock Biomass

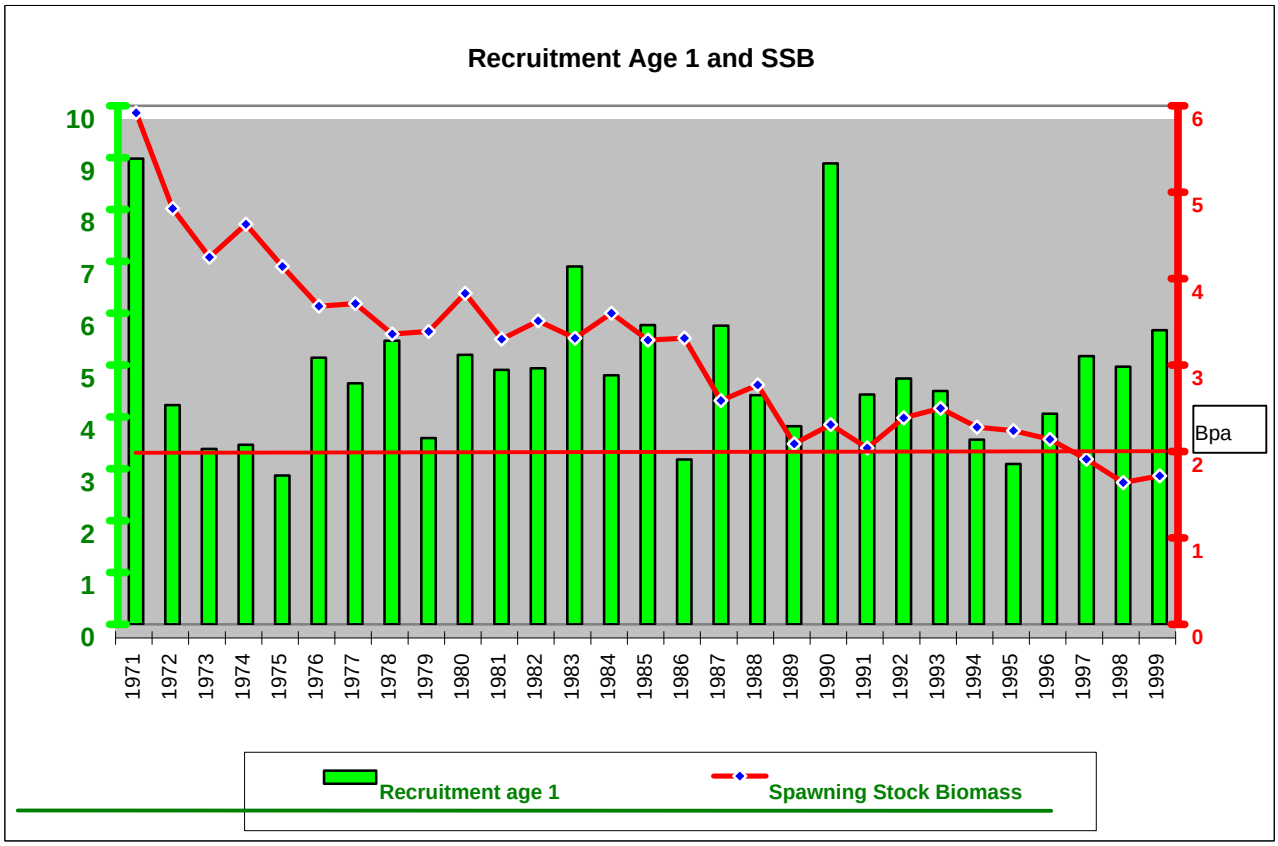

Landings and Fishing Mortality Age 2-5
Landings
Fishing Mortality Age 2-5
Landings (' 000 tonnes)
Fpa

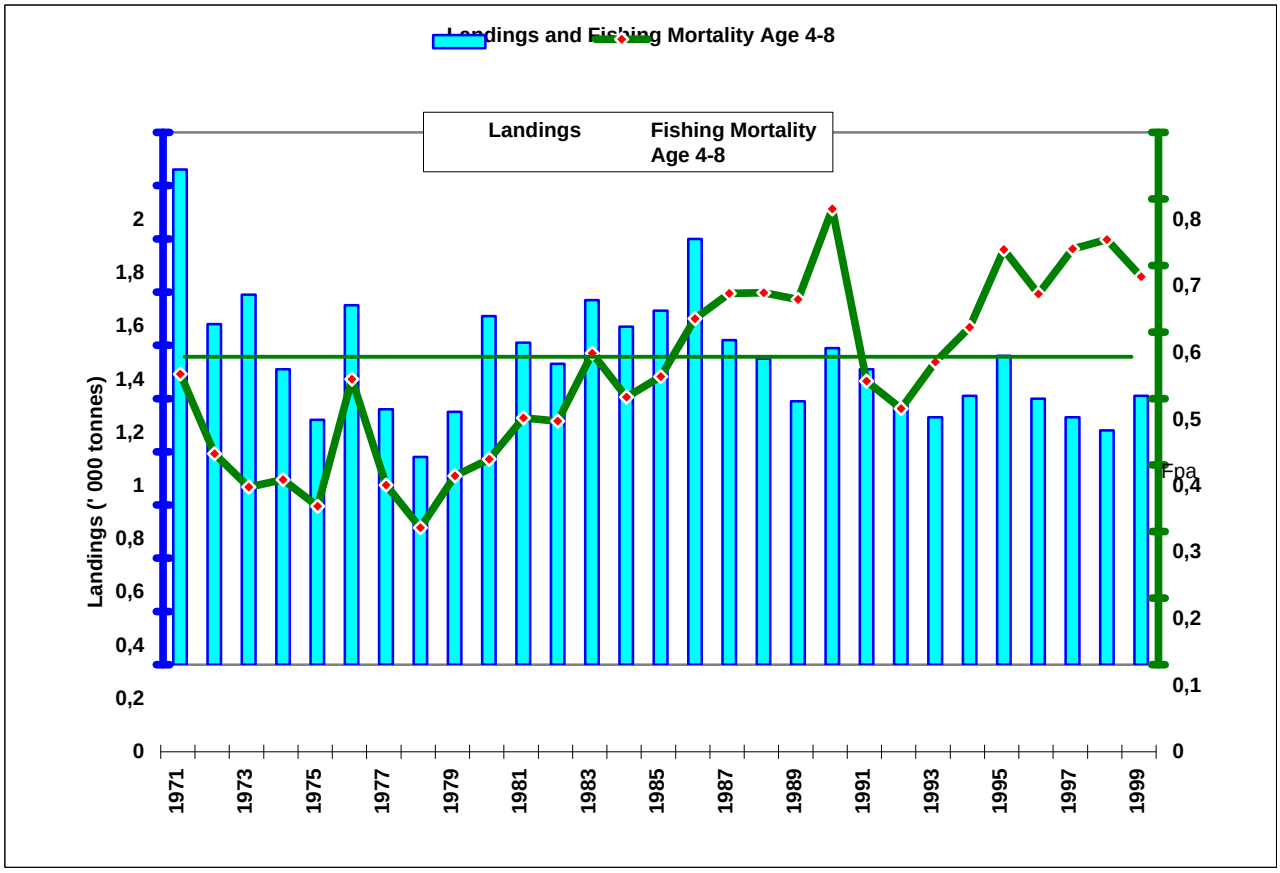

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 0
Spawning Stock Biomass

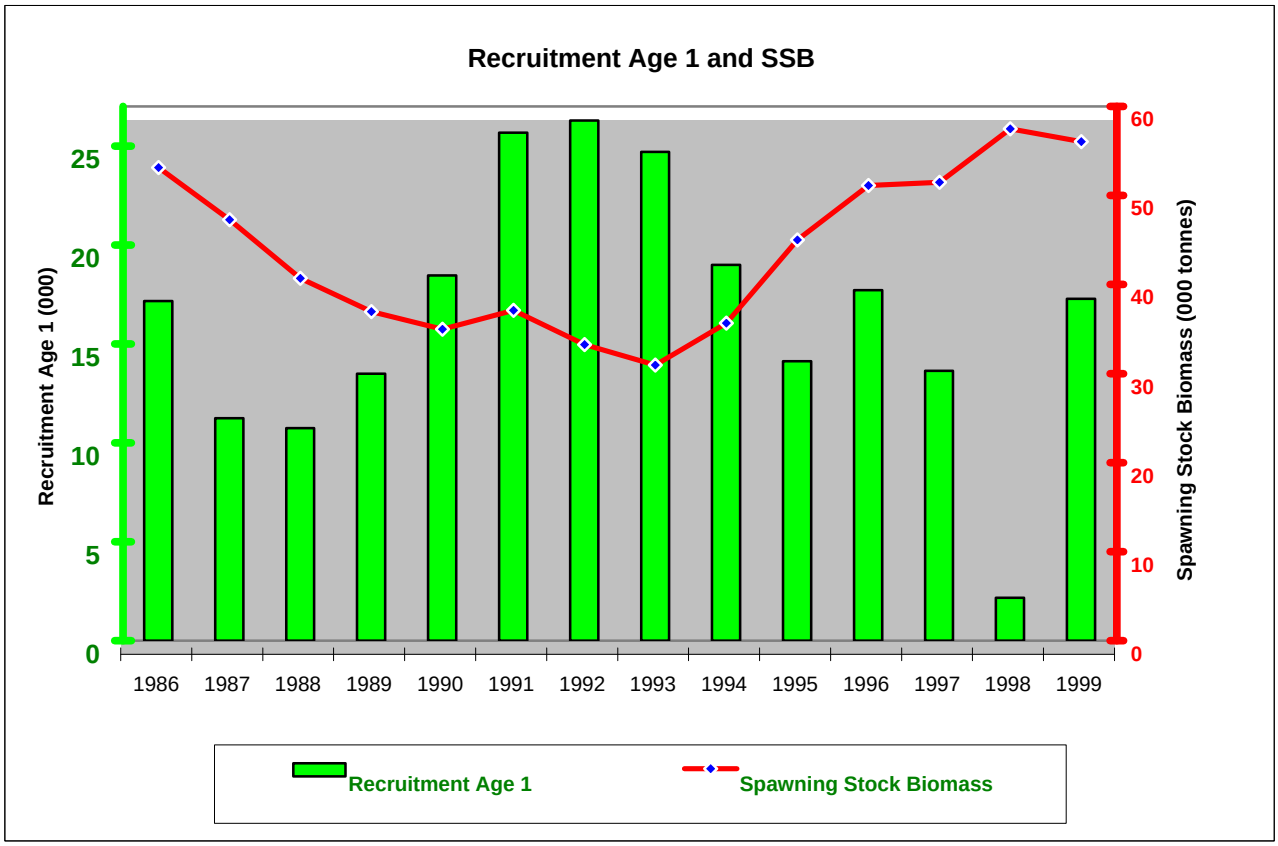

Landings and Fishing Mortality Age 2-5
Landings
Fishing Mortality Age 2-5
Landings (' 000 tonnes)

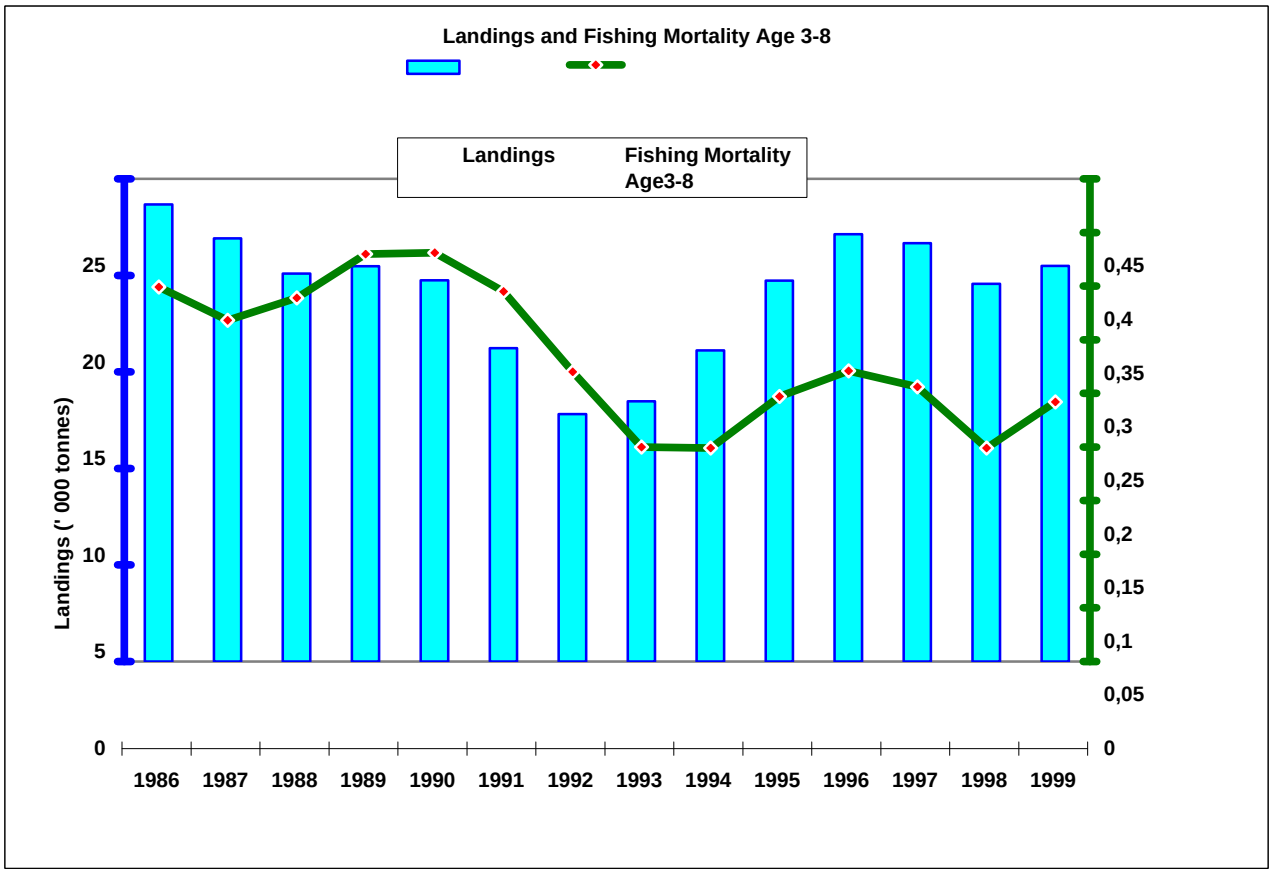

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
Bpa
Recruitment Age 1
Spawning Stock Biomass

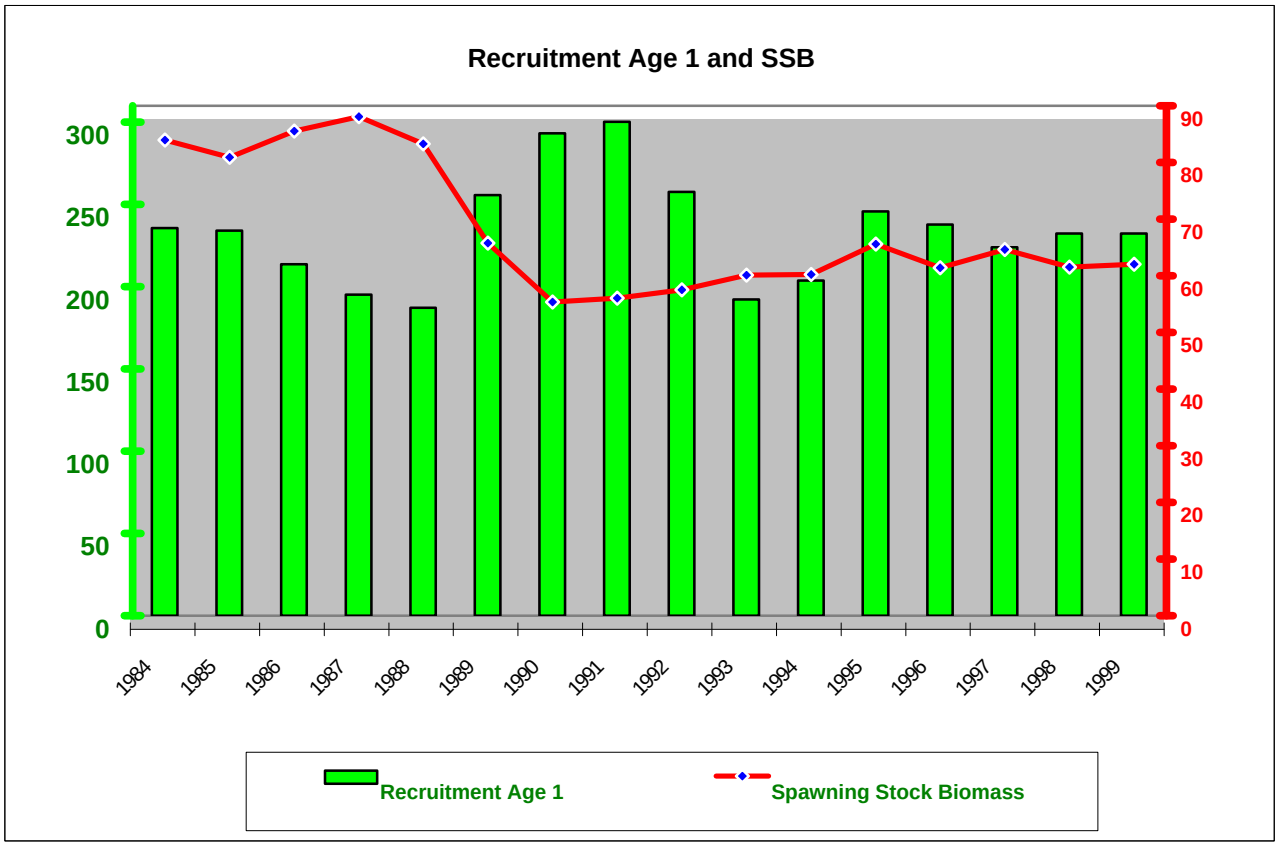

Landings and Fishing Mortality Age 2-4
Landings
Fishing Mortality Age 3-6
Landings (' 000 tonnes)
Fpa

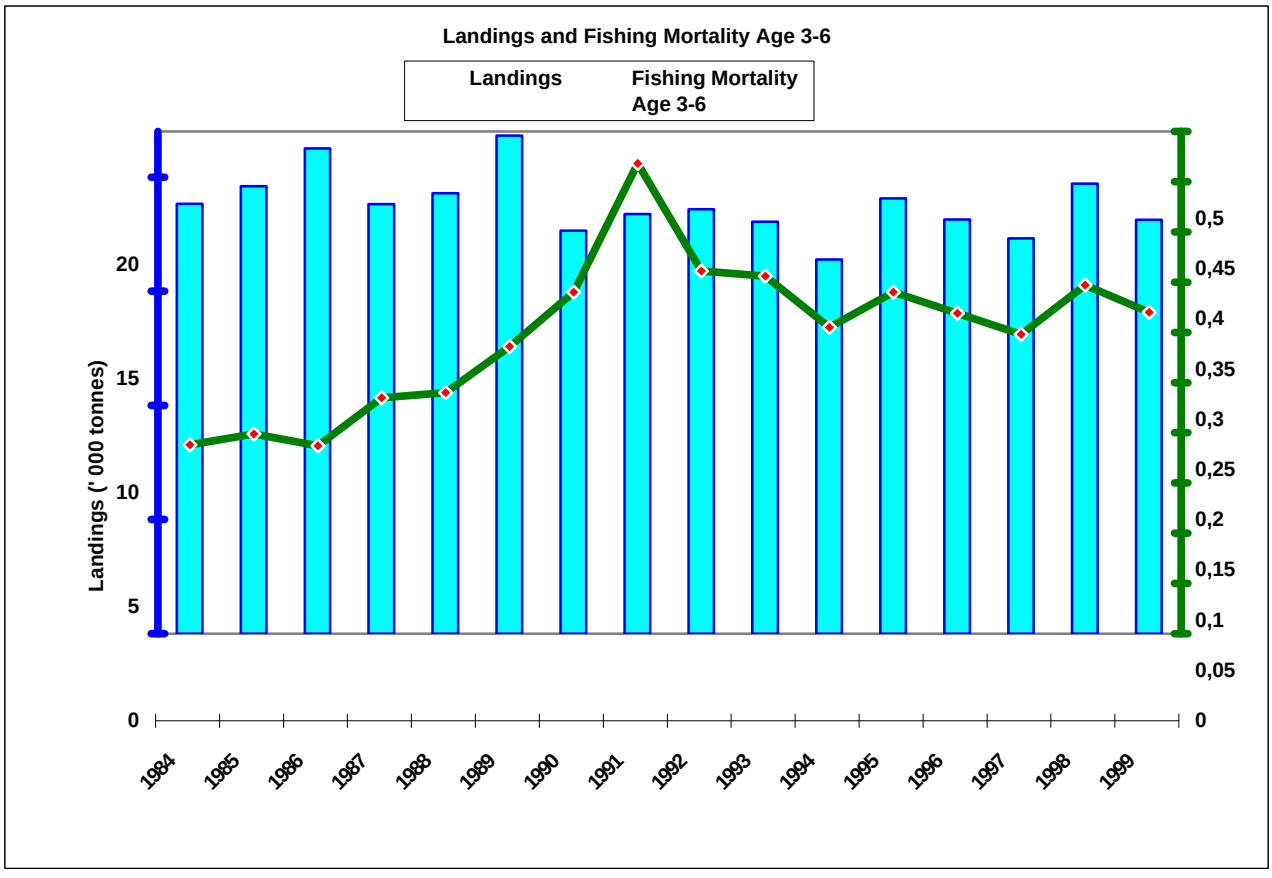

Recruitment Age 1 and SSB
10
9
8
7
6
5
4
3
2
1
0
6
5
4
3
2
1
0
Bpa
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Recruitment age 1
Spawning Stock Biomass

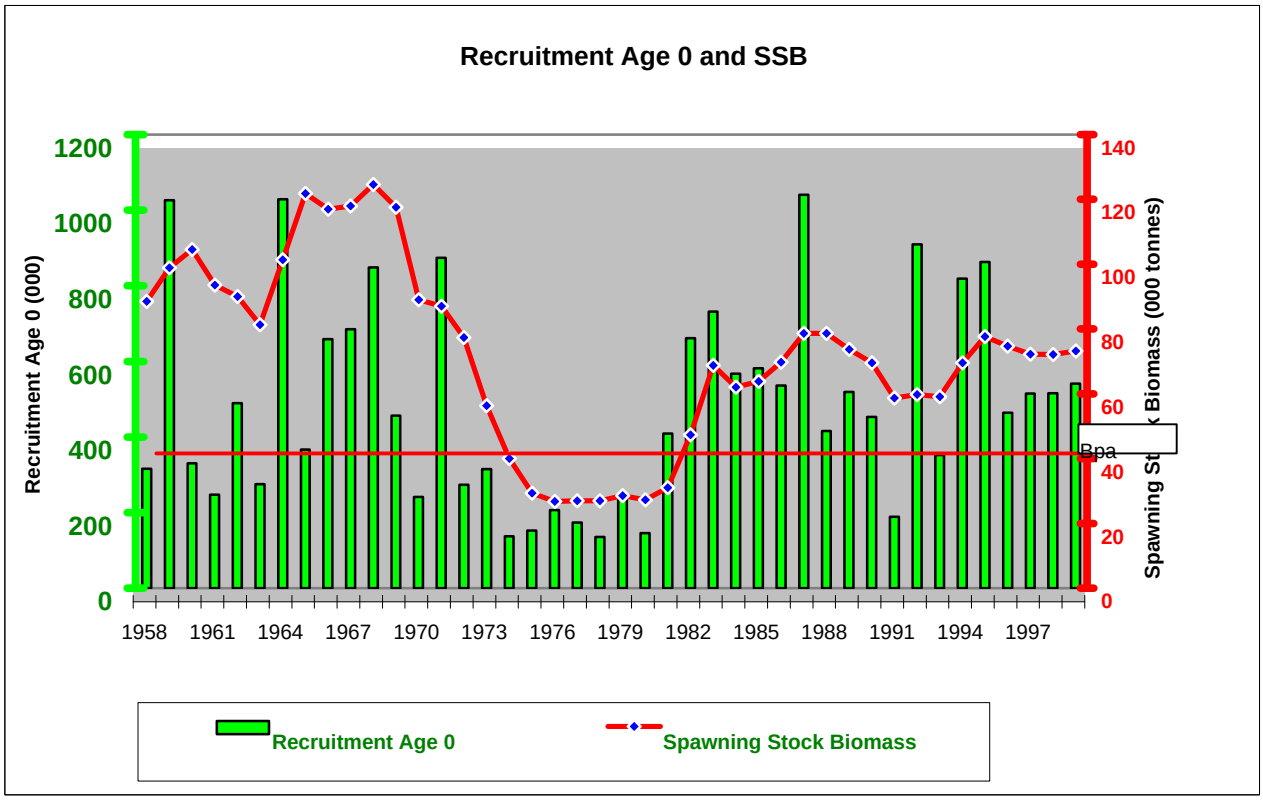

Landings and Fishing Mortality Age 4-8
Landings
Fishing Mortality Age 4-8
Landings (' 000 tonnes)
2
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Fpa
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999

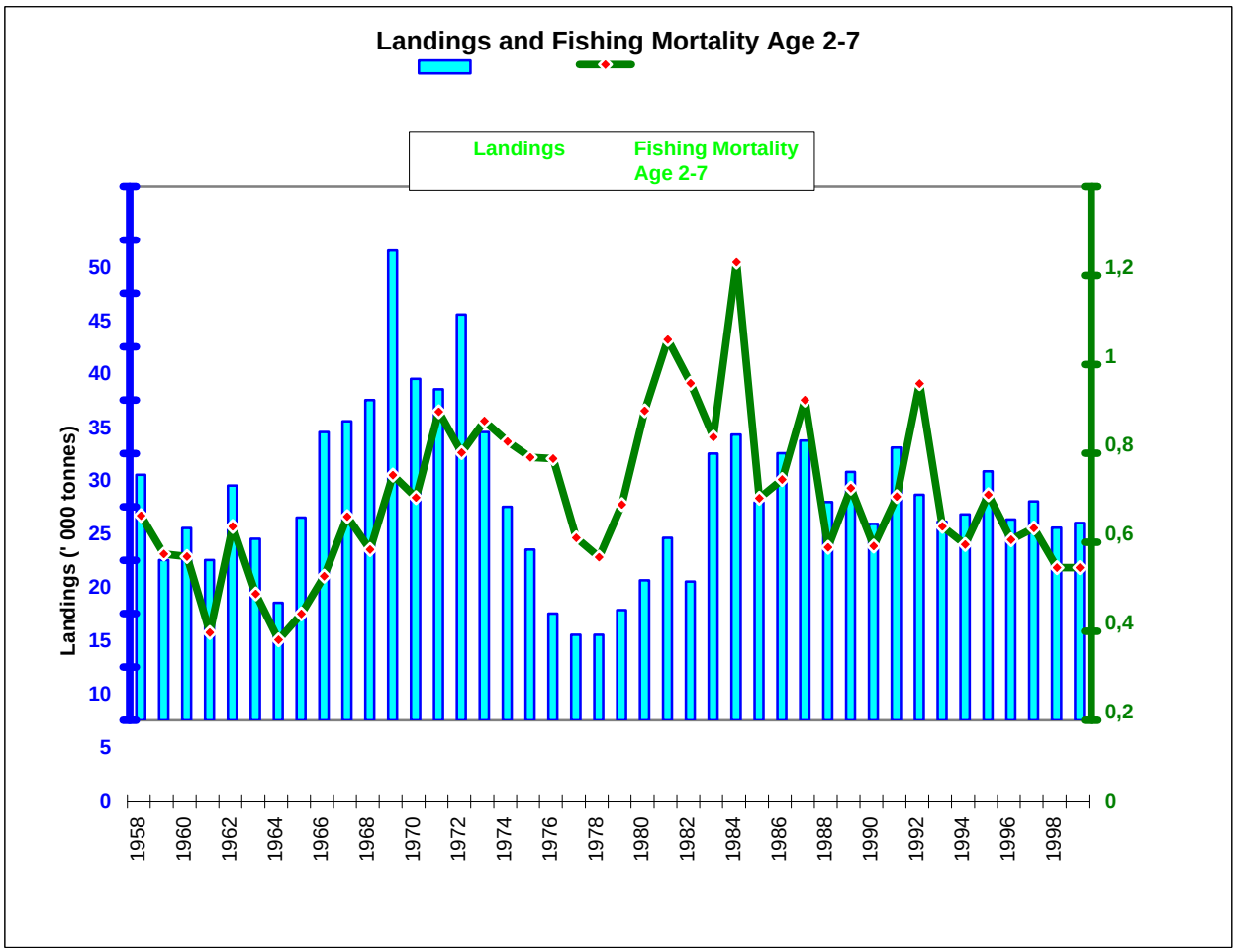

Recruitment Age 1 and SSB
Recruitment Age 1 (000)
Spawning Stock Biomass (000 tonnes)
0
5
10
15
20
25
0
10
20
30
40
50
60
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Recruitment Age 1
Spawning Stock Biomass

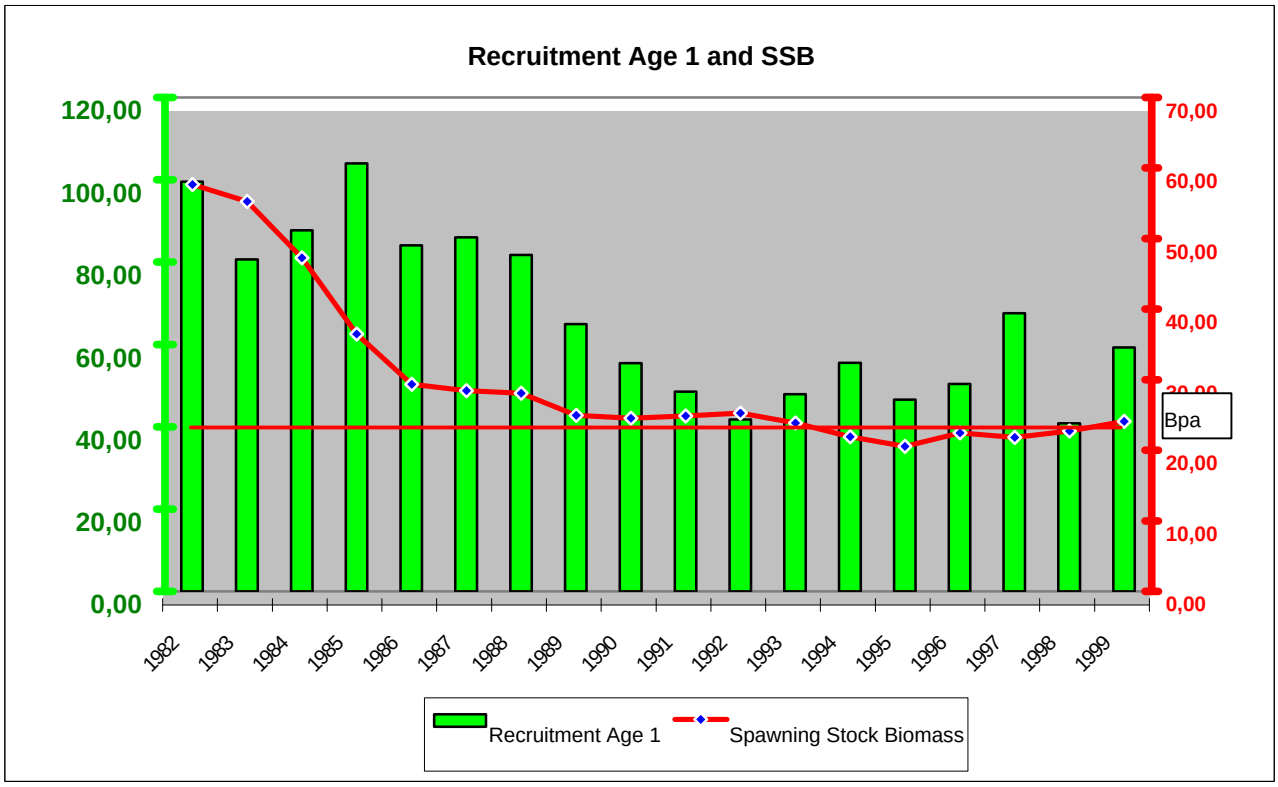

Landings and Fishing Mortality Age 3-8
Landings
Fishing Mortality Age3-8
Landings (' 000 tonnes)
0
5
10
15
20
25
0
0,05
0,1
0,15
0,2
0,25
0,3
0,35
0,4
0,45
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

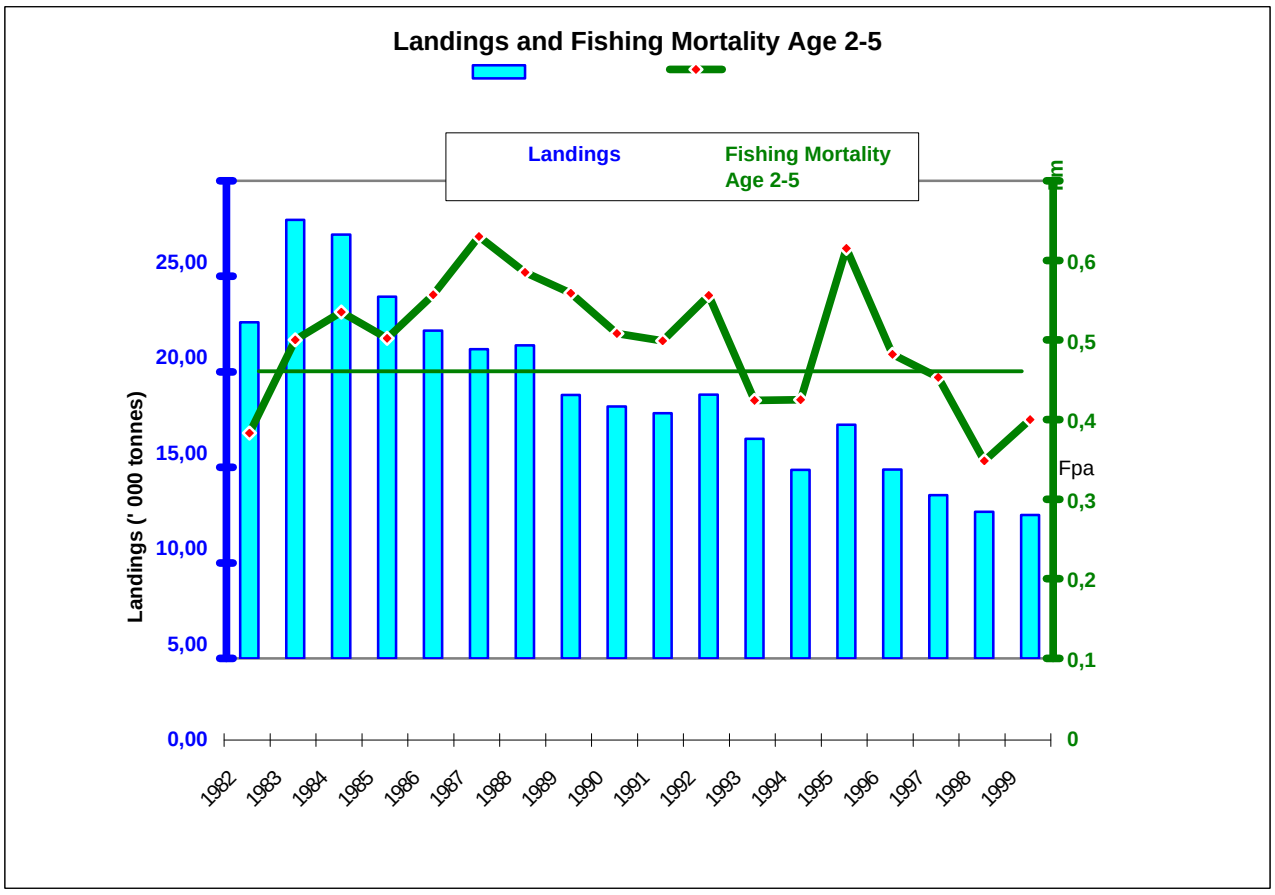

Recruitment Age 1 and SSB
300
250
200
150
100
50
0
90
80
70
60
50
40
30
20
10
0
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Recruitment Age 1
Spawning Stock Biomass

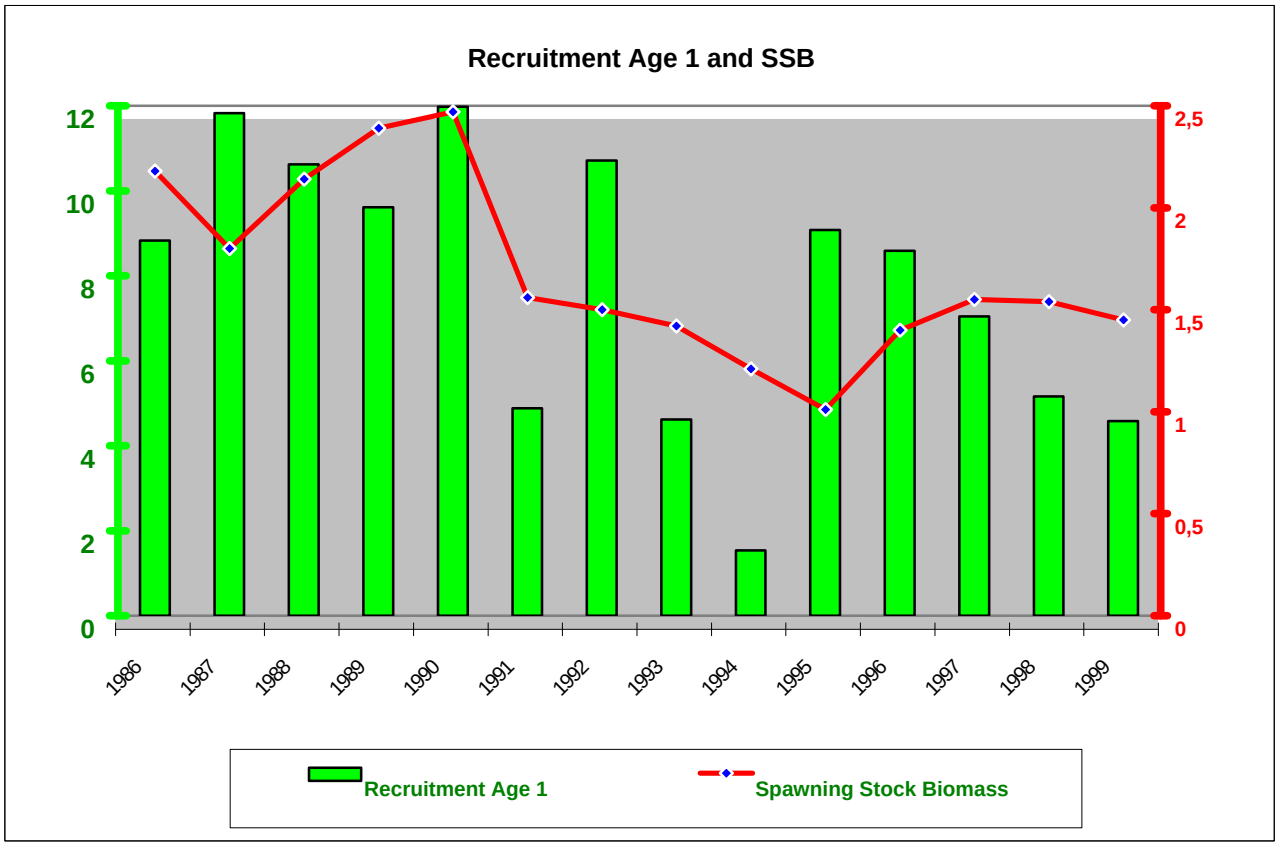

Landings and Fishing Mortality Age 3-6
Landings
Fishing Mortality Age 3-6
Landings (' 000 tonnes)
20
15
10
5
0
0,5
0,45
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

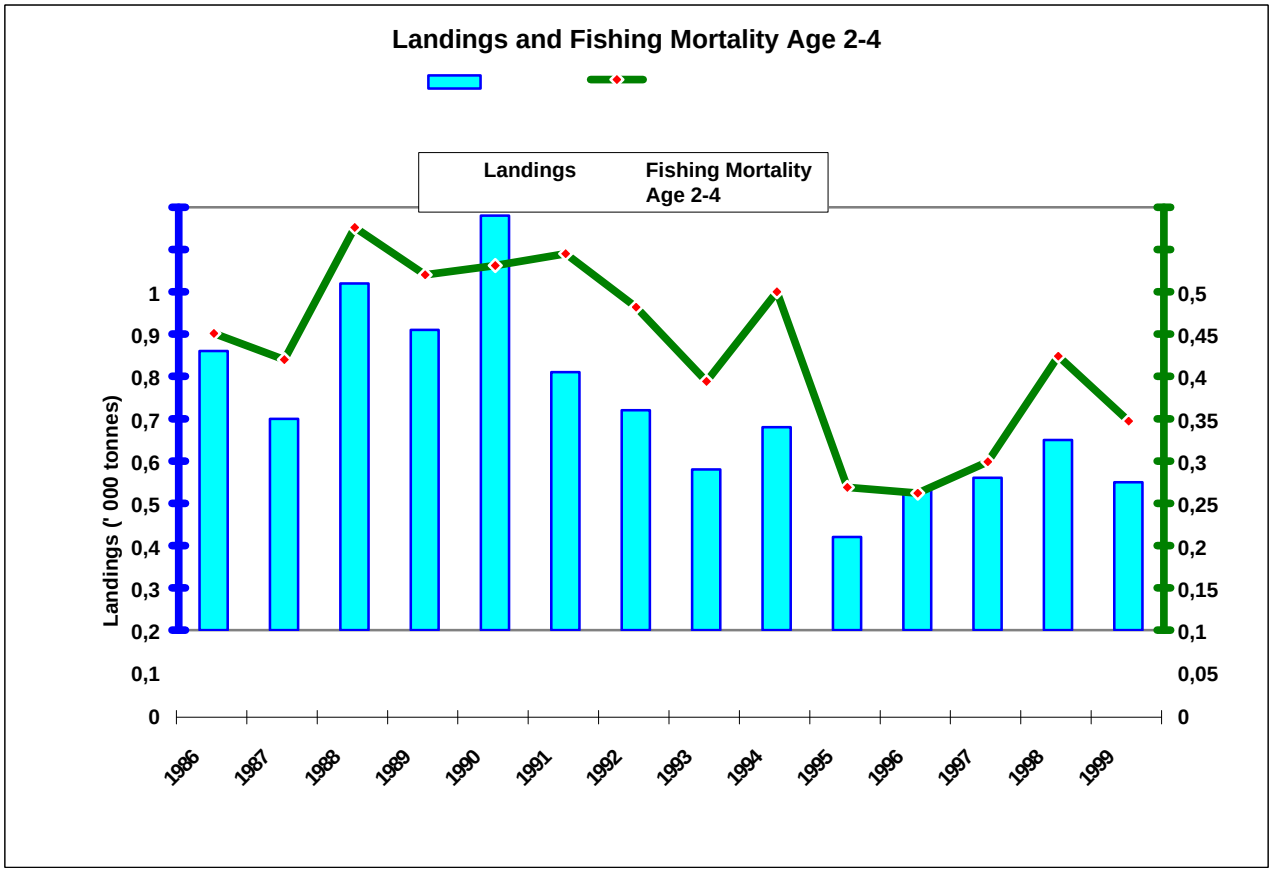

Recruitment Age 0 and SSB
Recruitment Age 0 (000)
Spawning Stock Biomass (000 tonnes)
1200
1000
800
600
400
200
0
140
120
100
80
60
40
20
0
Bpa
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
Recruitment Age 0
Spawning Stock Biomass

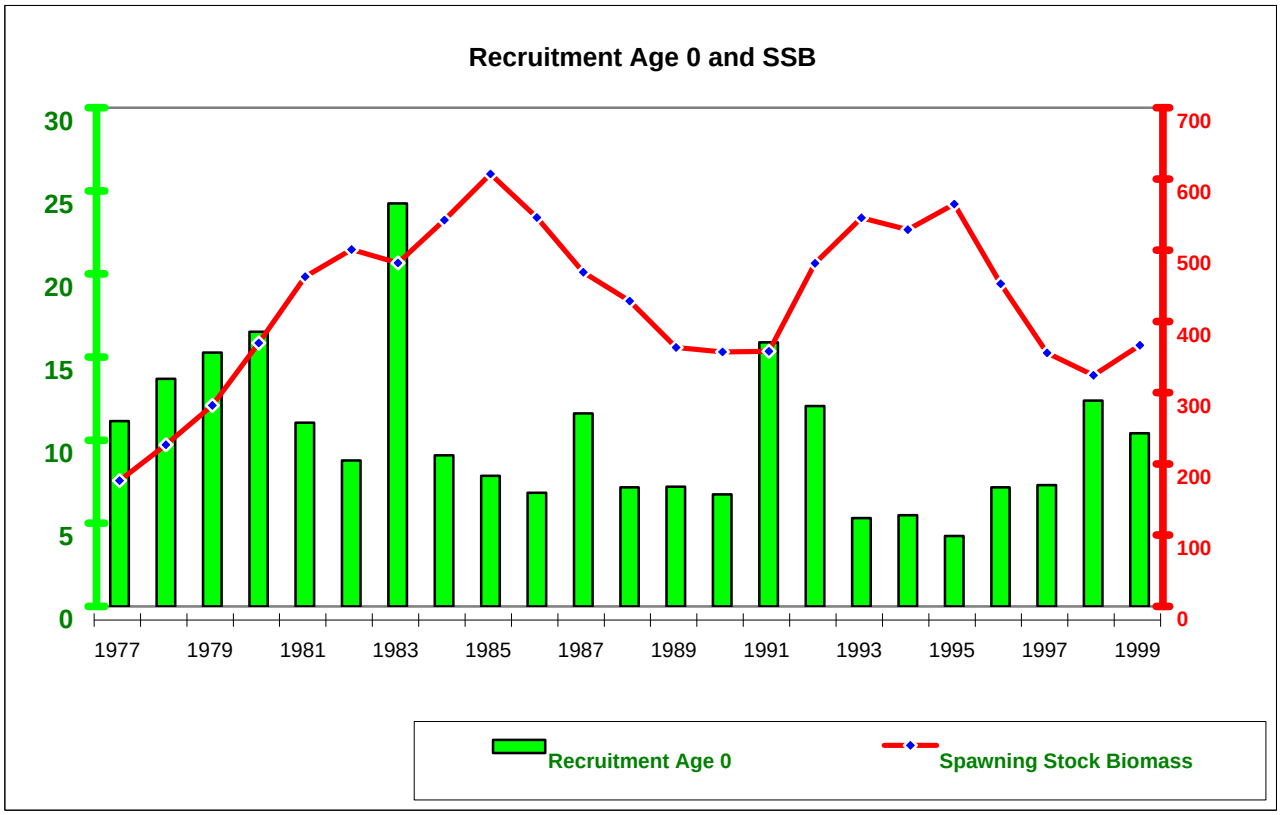

Landings and Fishing Mortality Age 2-7
Landings
Fishing Mortality Age 2-7
Landings (' 000 tonnes)
50
45
40
35
30
25
20
15
10
5
0
1,2
1
0,8
0,6
0,4
0,2
0
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998

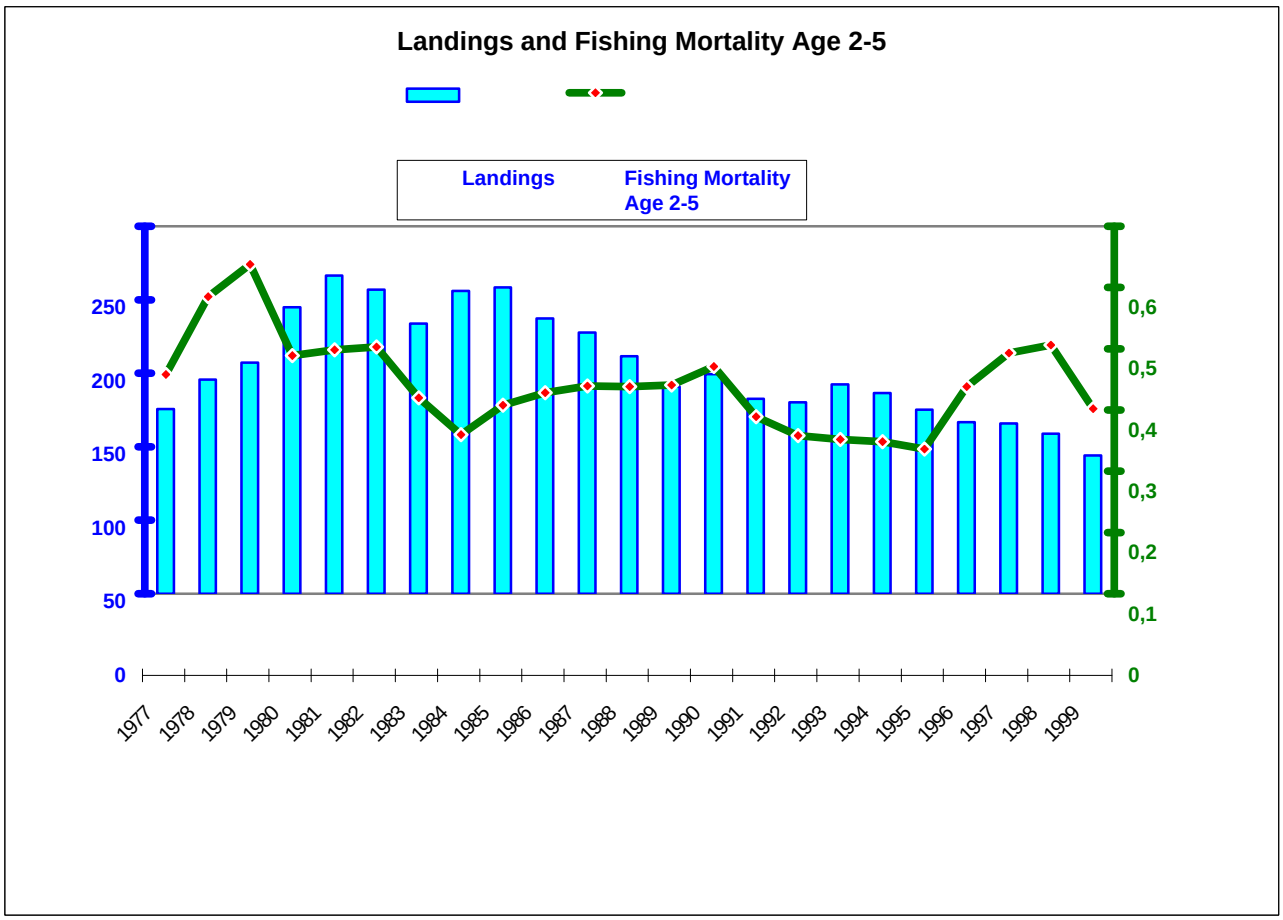

Recruitment Age 1 and SSB
120,00
100,00
80,00
60,00
40,00
20,00
0,00
70,00
60,00
50,00
40,00
20,00
10,00
0,00
Bpa
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Recruitment Age 1
Spawning Stock Biomass

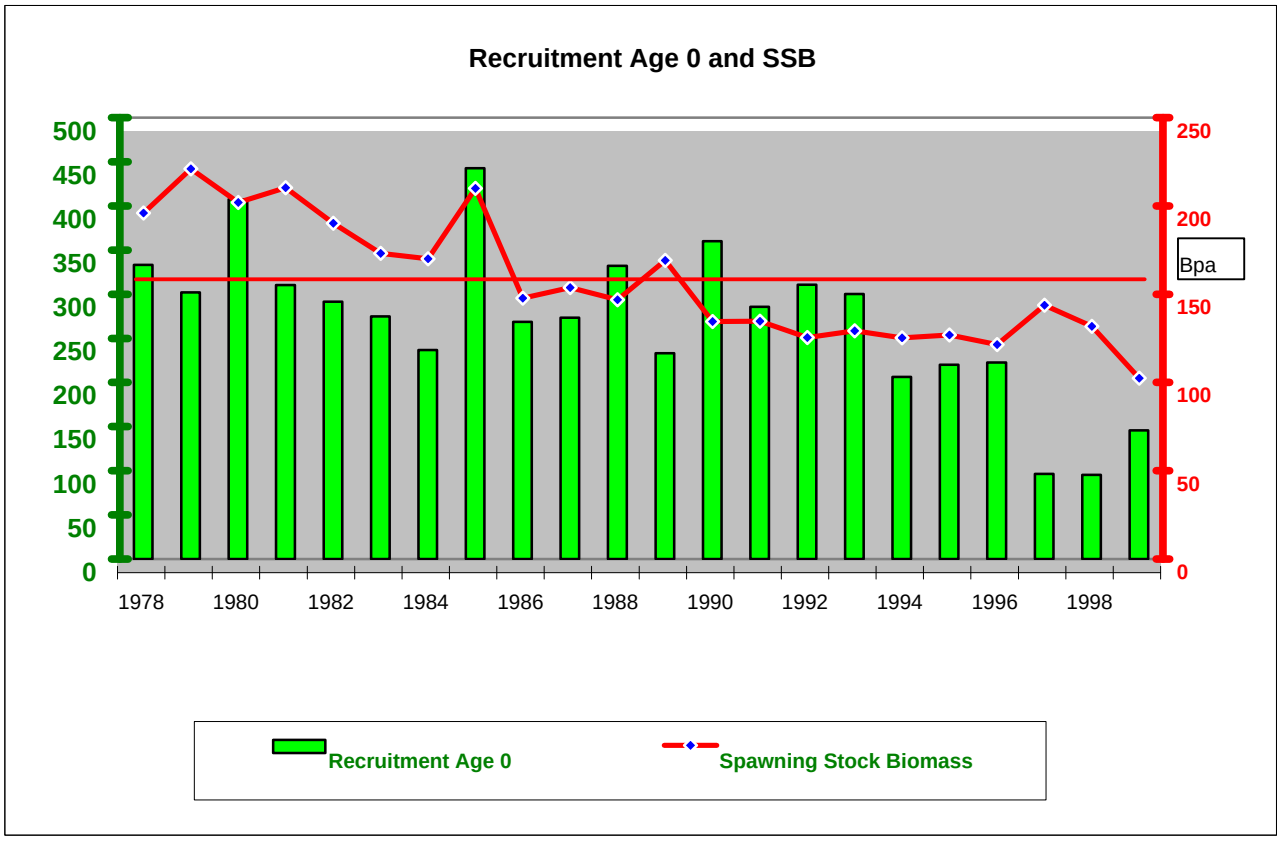

Landings and Fishing Mortality Age 2-5
Landings
Fishing Mortality Age 2-5
Landings (' 000 tonnes)
25,00
20,00
15,00
10,00
5,00
0,00
0,6
0,5
0,4
Fpa
0,3
0,2
0,1
0
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

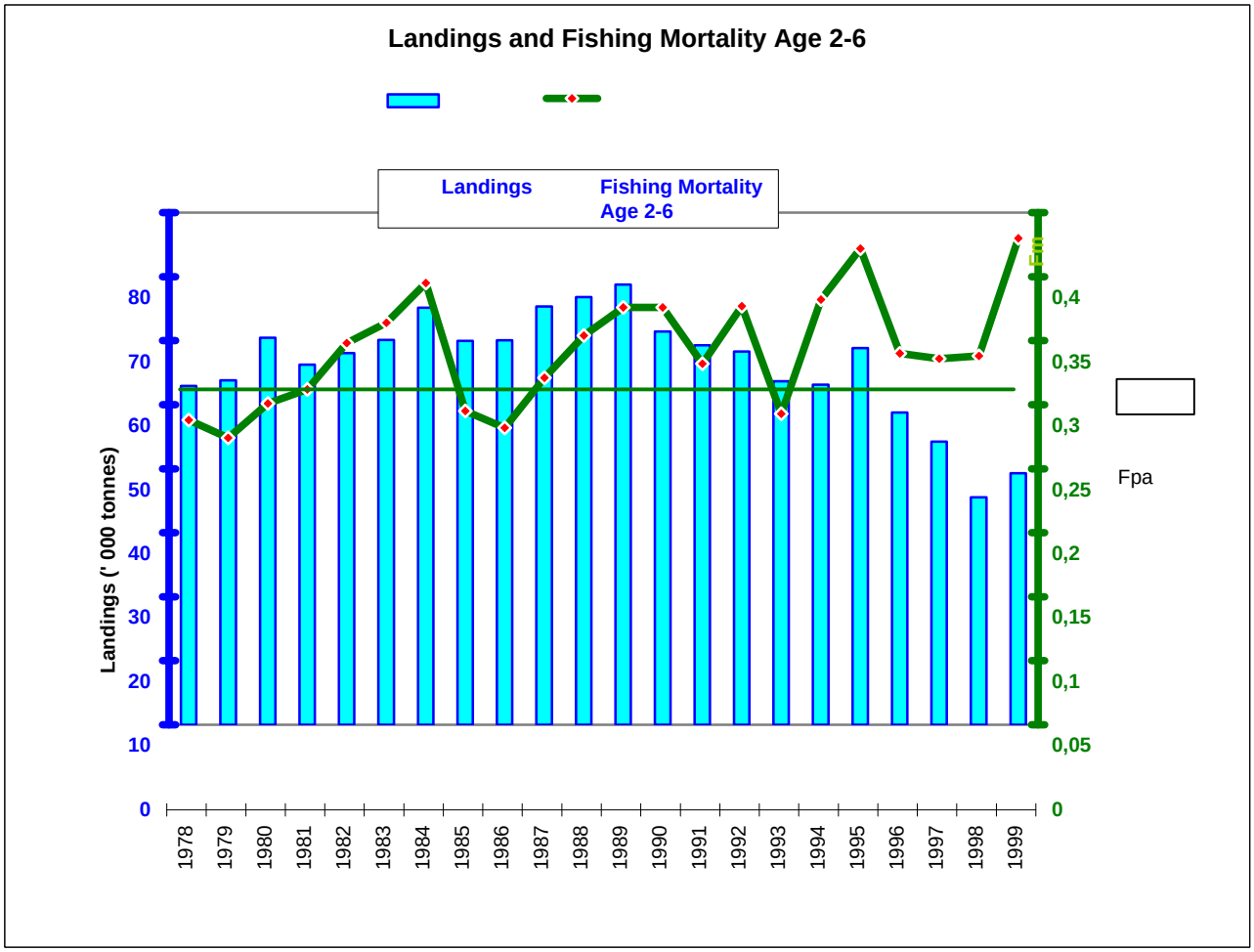

Recruitment Age 1 and SSB
12
10
8
6
4
2
0
2,5
2
1,5
1
0,5
0
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
Recruitment Age 1
Spawning Stock Biomass

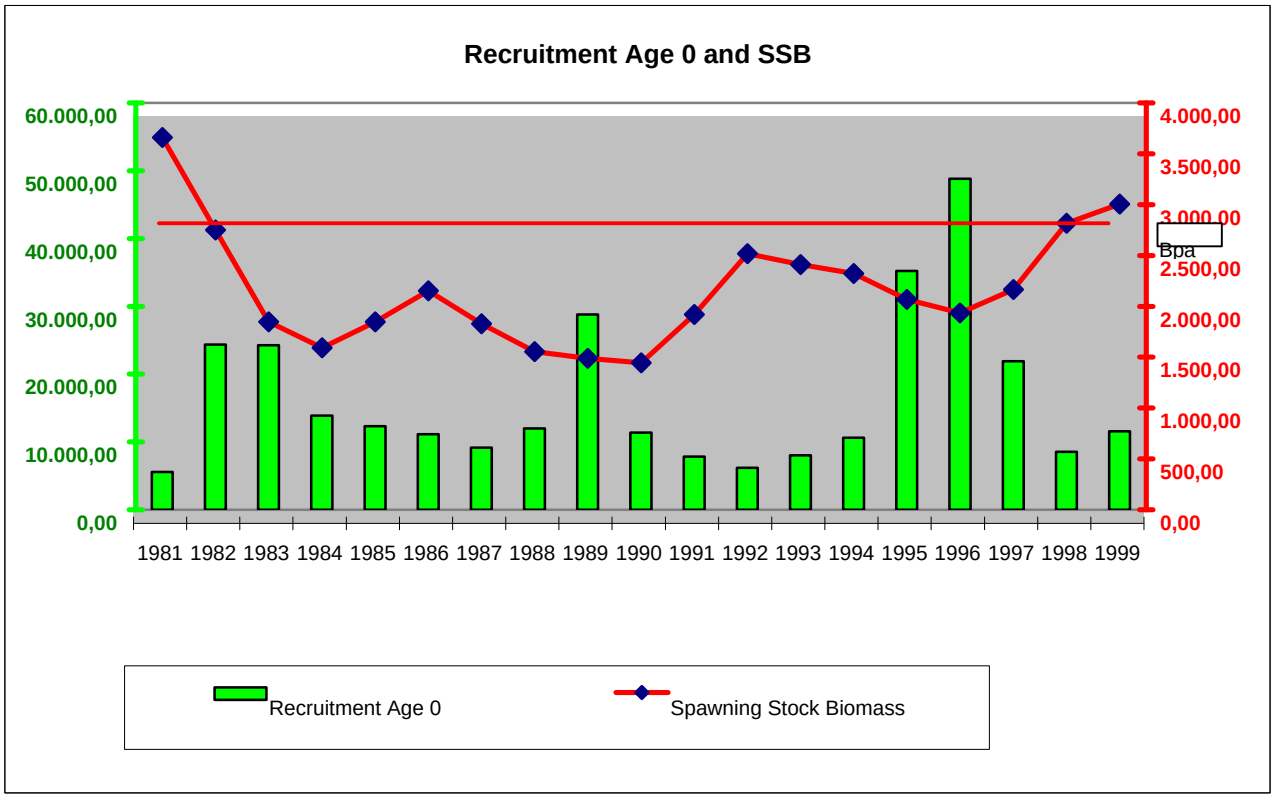

Landings and Fishing Mortality Age 2-4
Landings
Fishing Mortality Age 2-4
Landings ('000 tonnes)
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
0,5
0,45
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

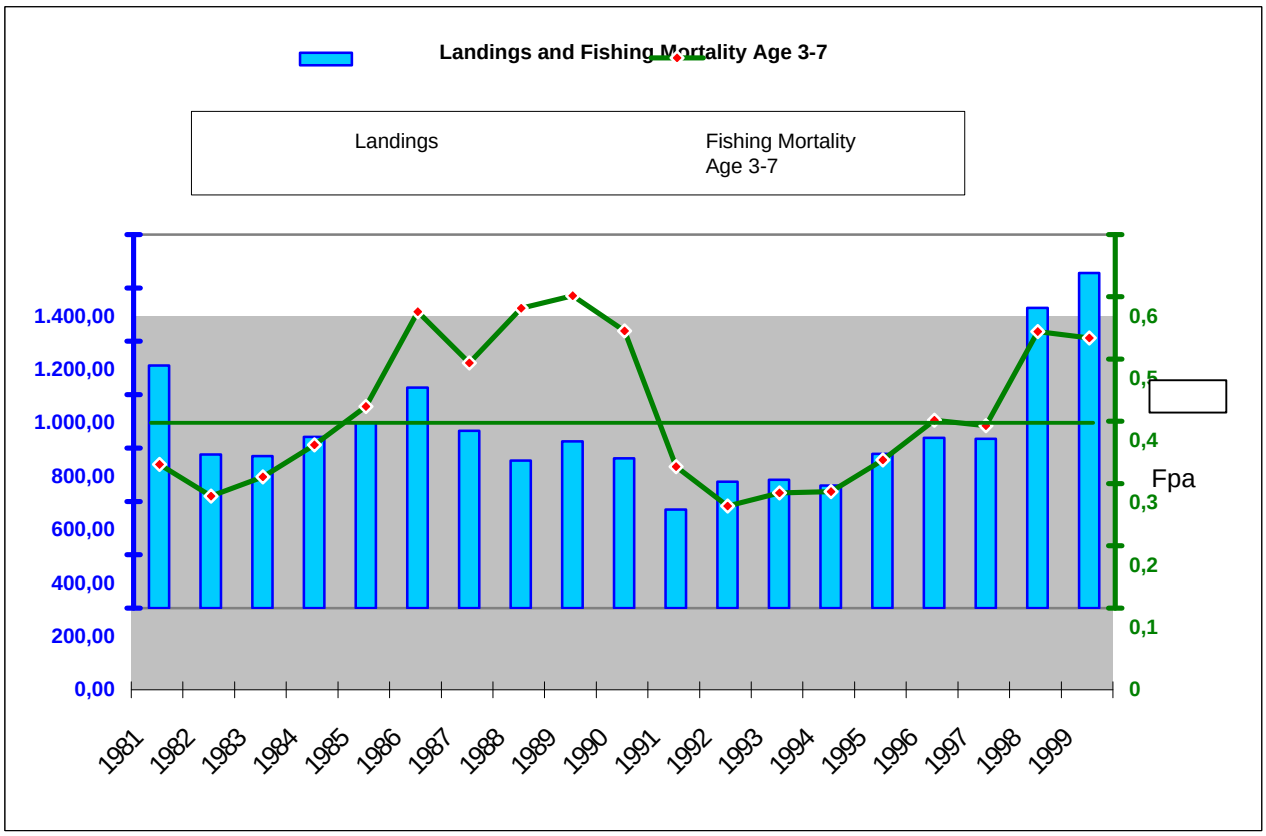

Recruitment Age 0 and SSB
30
25
20
15
10
5
0
700
600
500
400
300
200
100
0
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
Recruitment Age 0
Spawning Stock Biomass


Landings and Fishing Mortality Age 2-5
Landings
Fishing Mortality Age 2-5
250
200
150
100
50
0
0,6
0,5
0,4
0,3
0,2
0,1
0
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999


Recruitment Age 0 and SSB
500
450
400
350
300
250
200
150
100
50
0
250
200
150
100
50
0
Bpa
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
Recruitment Age 0
Spawning Stock Biomass

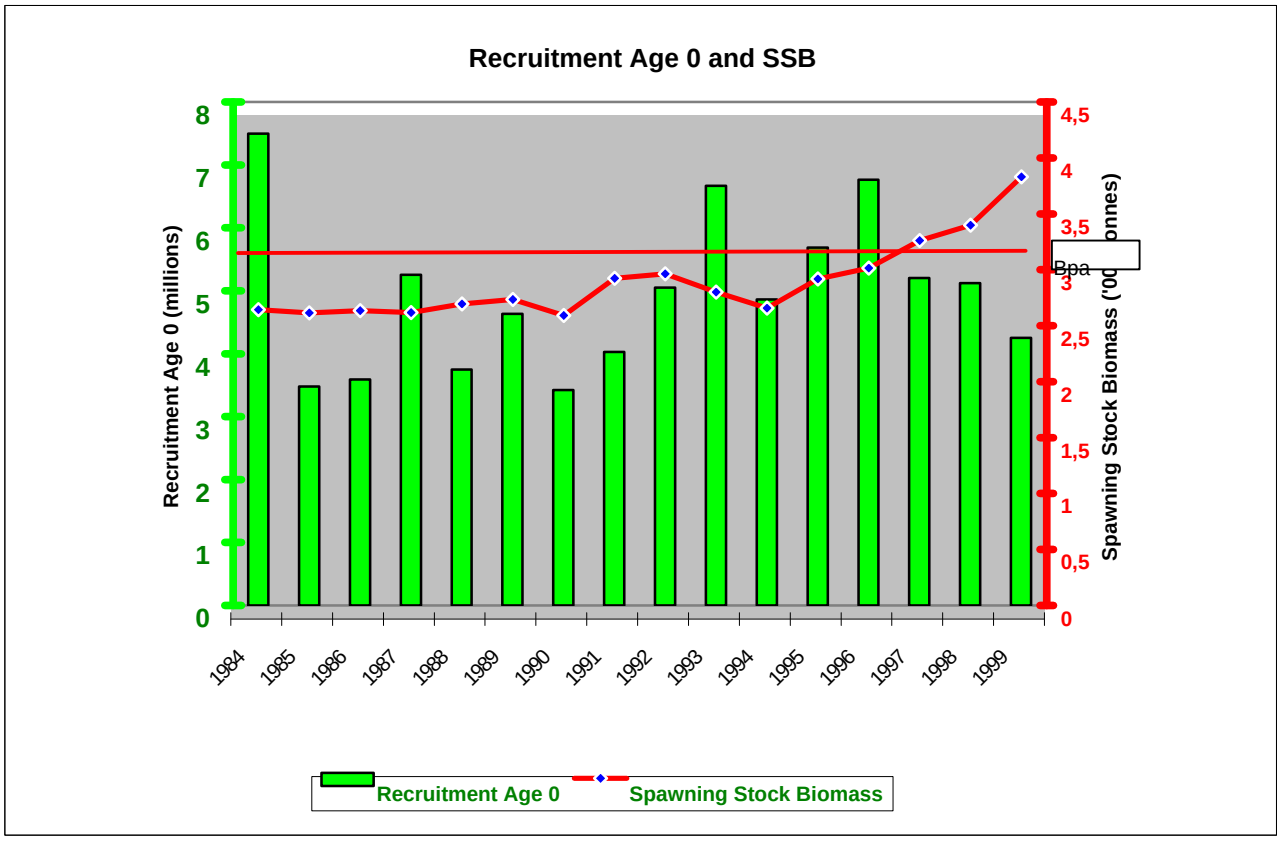

Landings and Fishing Mortality Age 2-6
Landings
Fishing Mortality Age 2-6
Landings (' 000 tonnes)
80
70
60
50
40
30
20
10
0
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
Fpa
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999

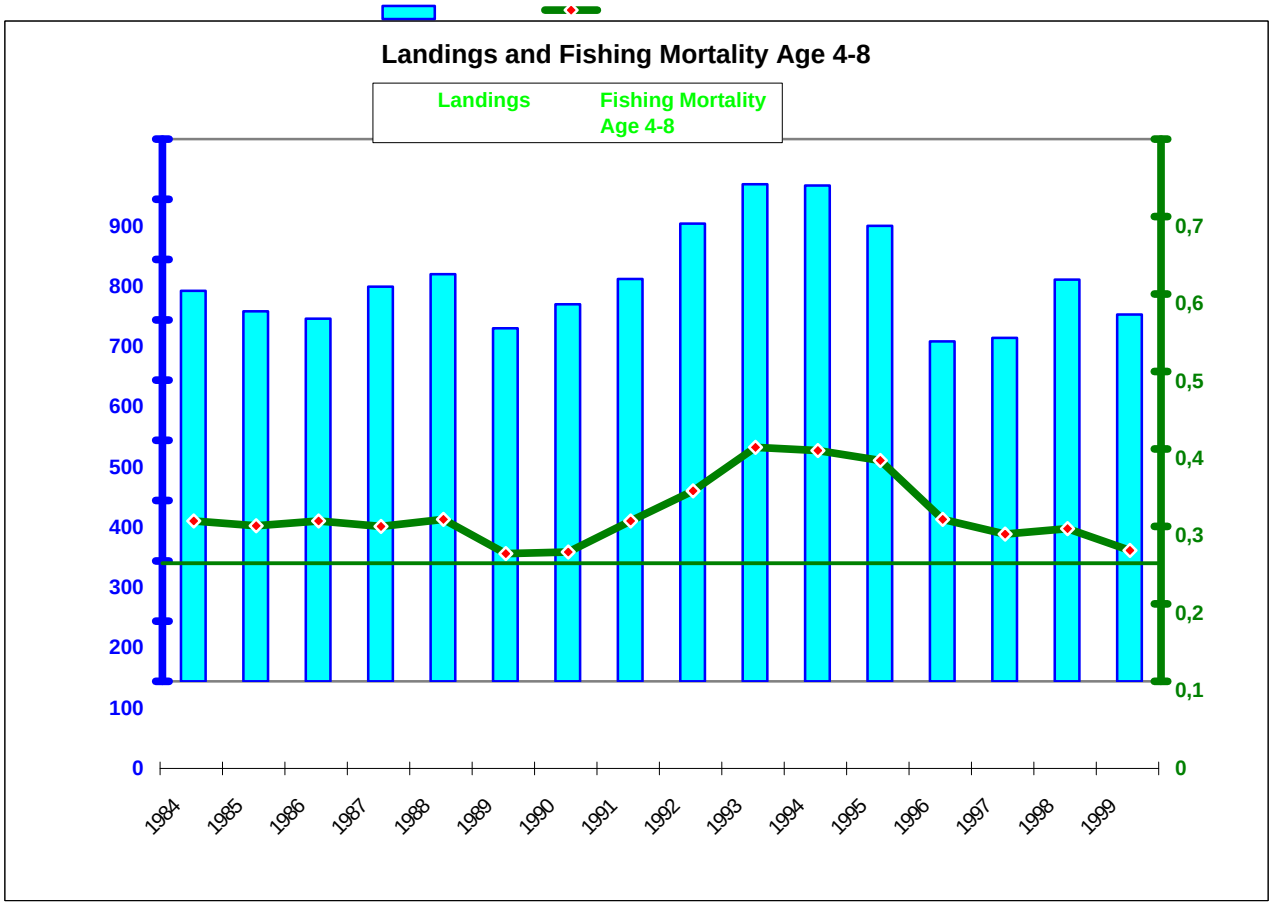

Recruitment Age 0 and SSB
60.000,00
50.000,00
40.000,00
30.000,00
20.000,00
10.000,00
0,00
4.000,00
3.500,00
3.000,00
2.500,00
2.000,00
1.500,00
1.000,00
500,00
0,00
Bpa
1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999
Recruitment Age 0
Spawning Stock Biomass

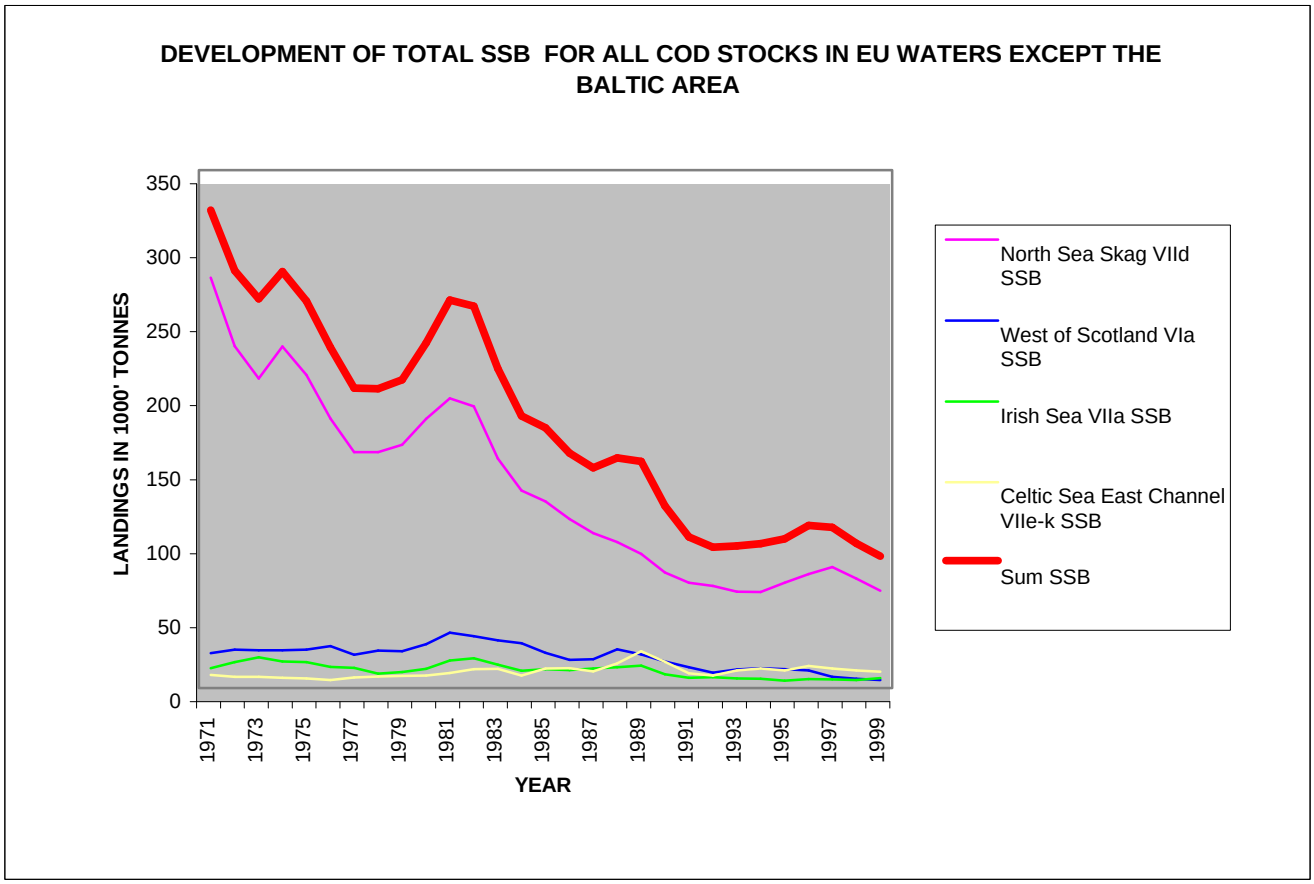

Landings and Fishing Mortality Age 3-7
Landings
Fishing Mortality Age 3-7
1.400,00
1.200,00
1.000,00
800,00
600,00
400,00
200,00
0,00
0,6
0,5
0,4
0,3
0,2
0,1
0
Fpa
1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

Mackerel Age 0 and SSB

Figure 29






DEVELOPMENT OF TOTAL SSB FOR ALL COD STOCKS IN EU WATERS EXCEPT THE BALTIC AREA
LANDINGS IN 1000' TONNES
350
300
250
200
150
100
50
0
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
YEAR
North Sea Skag VIId SSB
West of Scotland VIa SSB
Irish Sea VIIa SSB
Celtic Sea East Channel VIIe-k SSB
Sum SSB

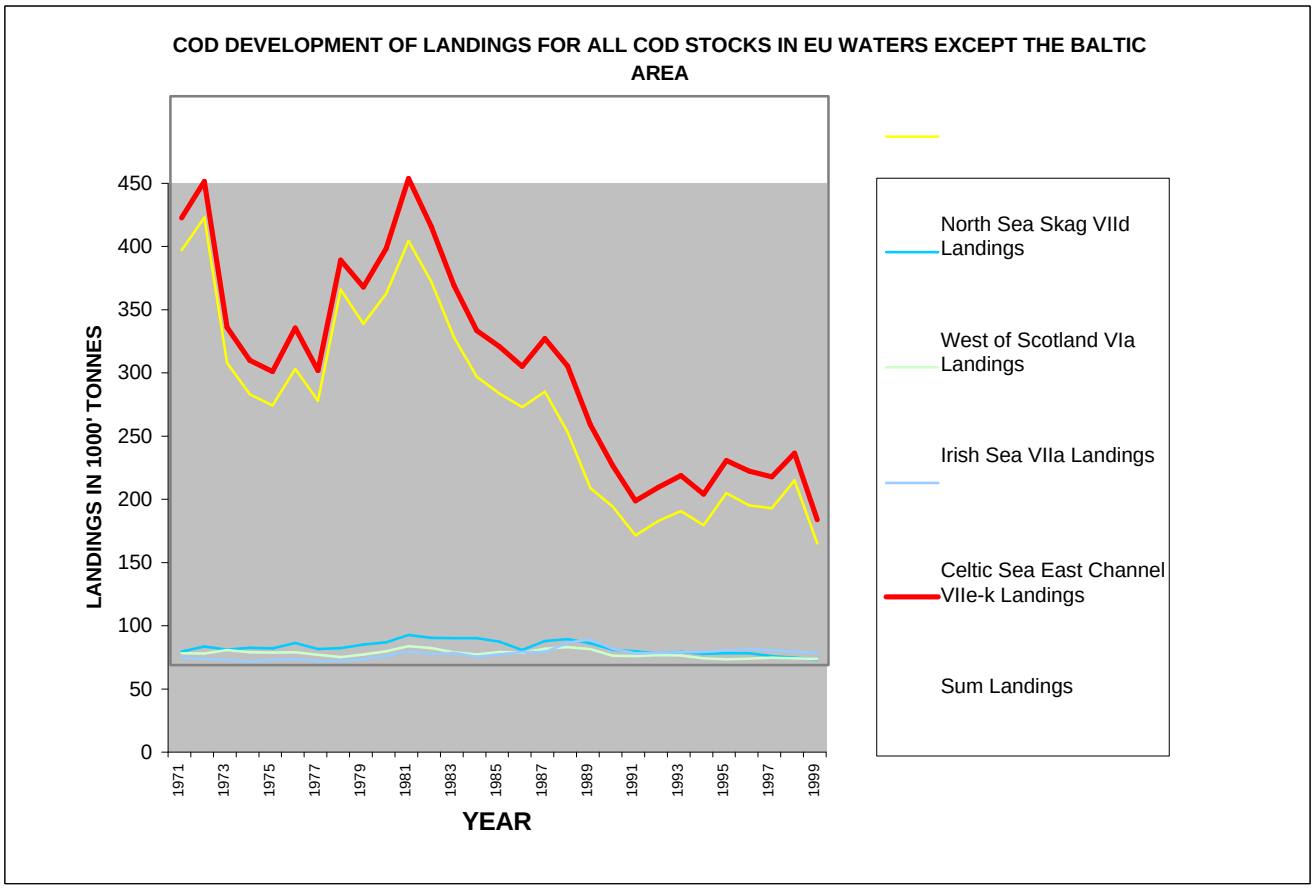
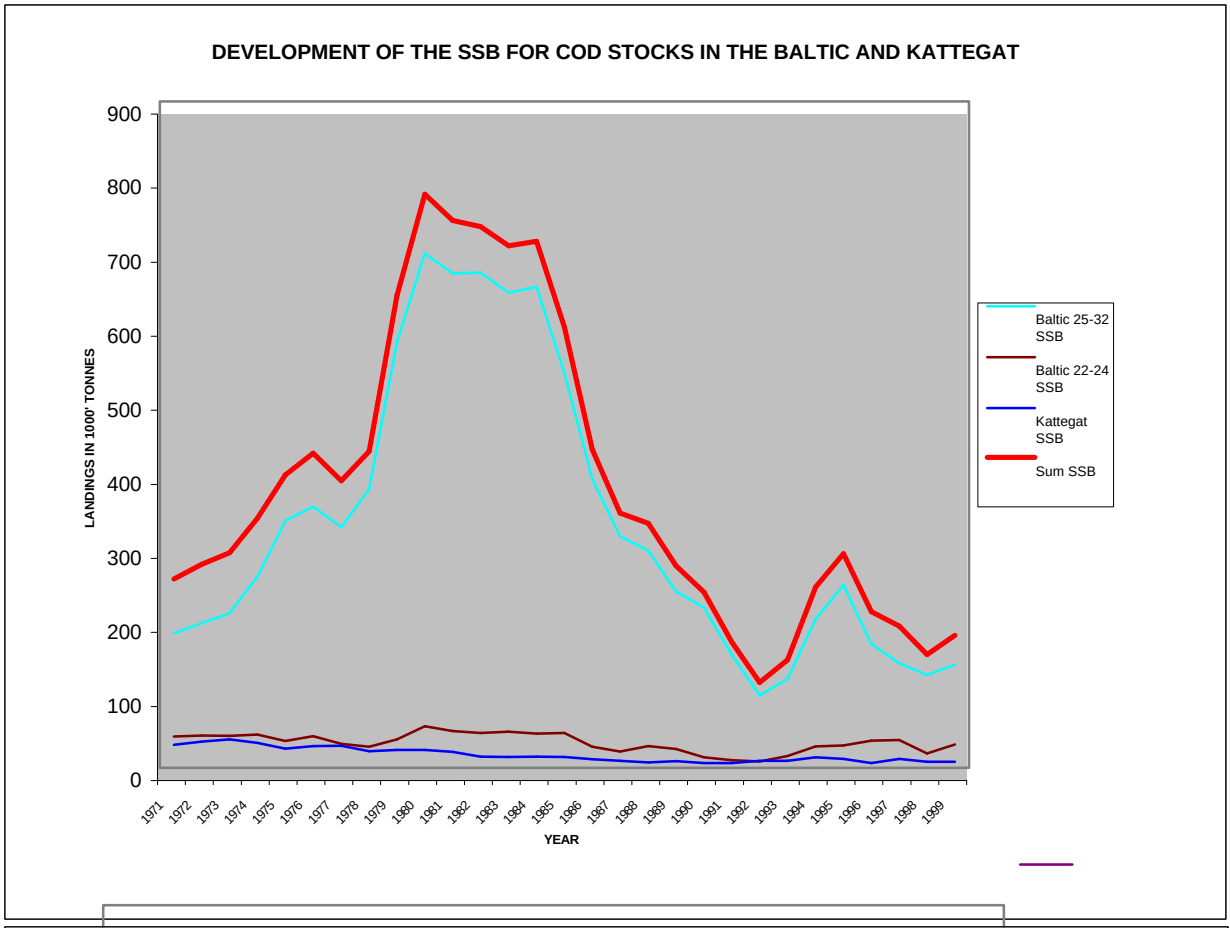

COD DEVELOPMENT OF LANDINGS FOR ALL COD STOCKS IN EU WATERS EXCEPT THE BALTIC AREA
LANDINGS IN 1000' TONNES
450
400
350
300
250
200
150
100
50
0
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
YEAR
North Sea Skag VIId Landings
West of Scotland VIa Landings
Irish Sea VIIa Landings
Celtic Sea East Channel VIIe-k Landings
Sum Landings

Figure 31


DEVELOPMENT OF THE SSB FOR COD STOCKS IN THE BALTIC AND KATTEGAT
LANDINGS IN 1000' TONNES
YEAR
Baltic 25-32 SSB
Baltic 22-24 SSB
Kattegat SSB
Sum SSB

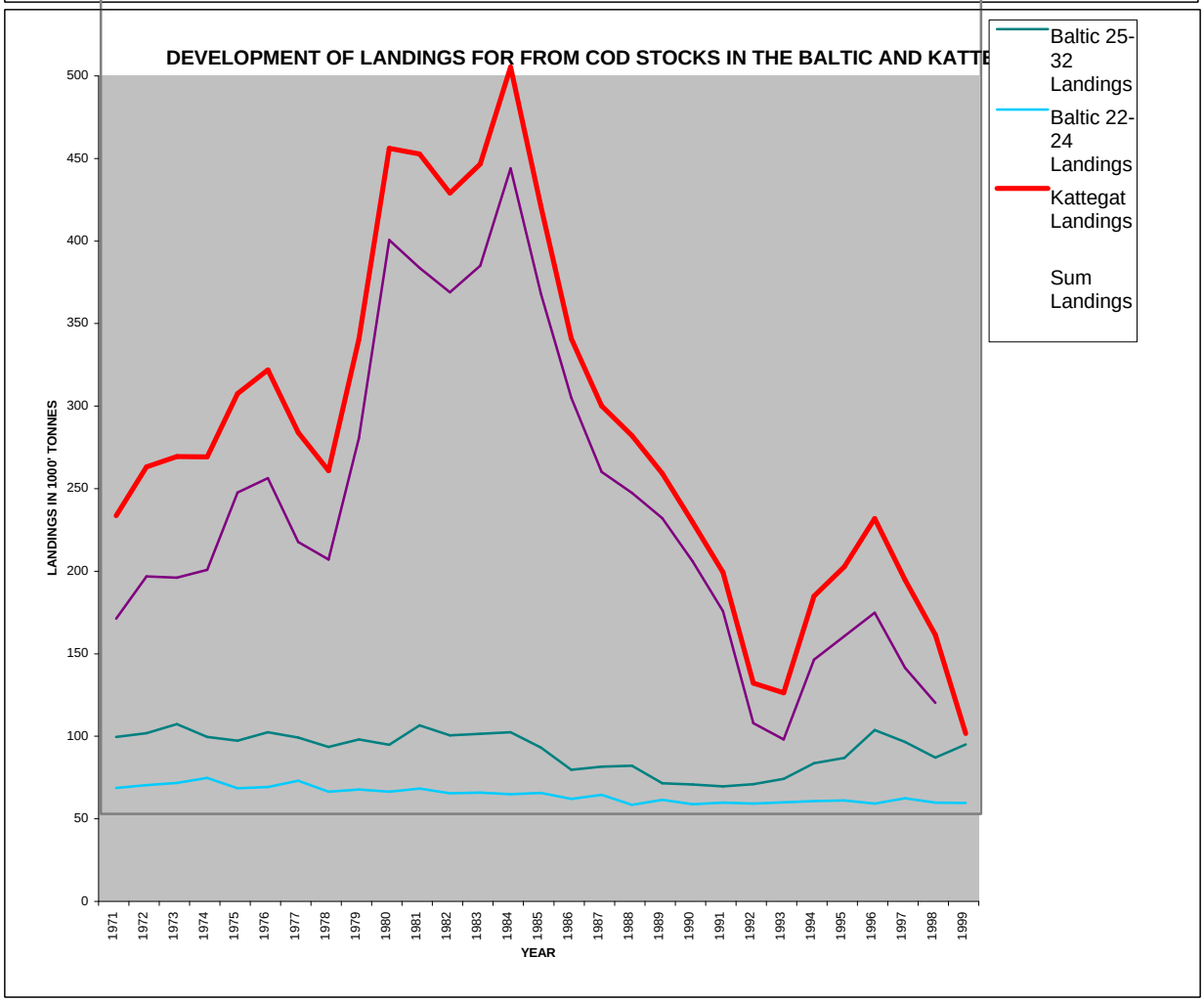
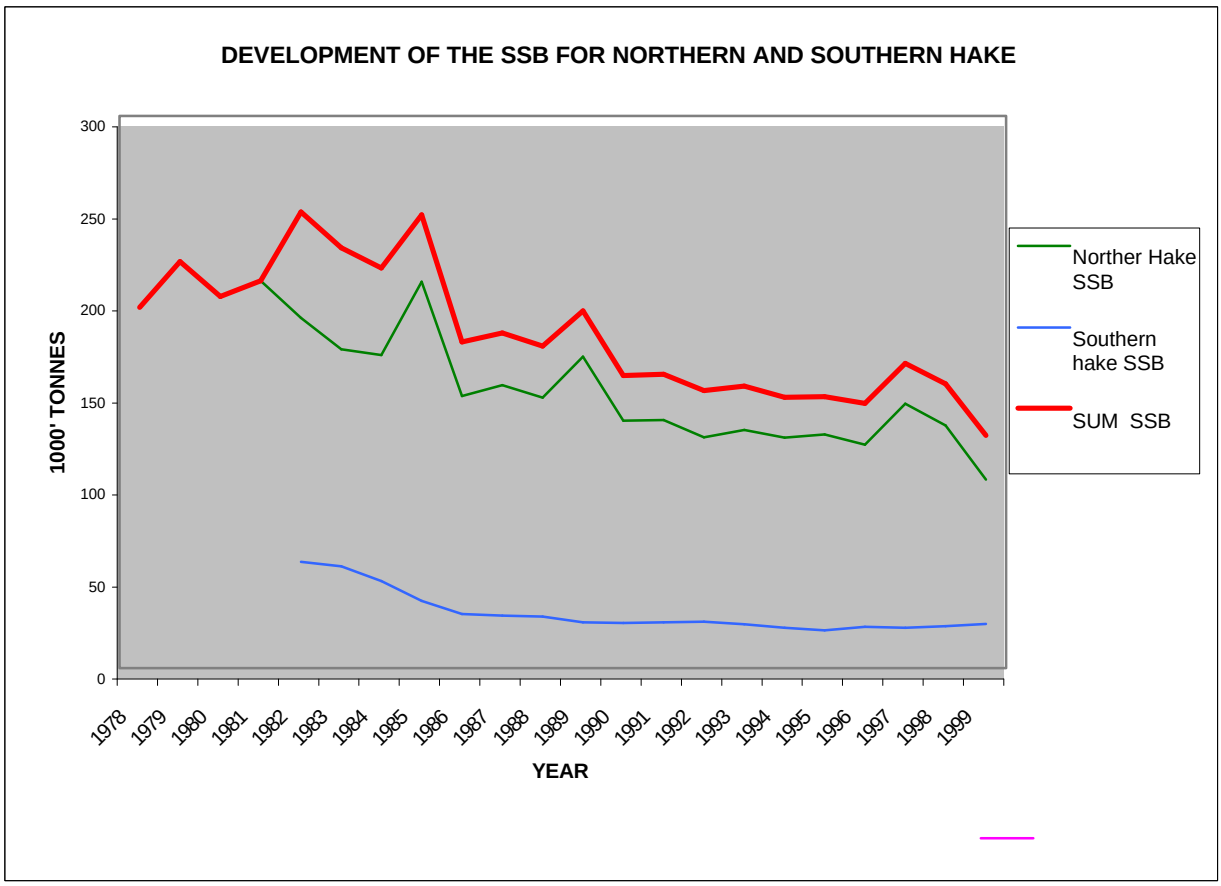

DEVELOPMENT OF LANDINGS FOR FROM COD STOCKS IN THE BALTIC AND KATTE
LANDINGS IN 1000' TONNES
YEAR
Baltic 25-32 Landings
Baltic 22-24 Landings
Kattegat Landings
Sum Landings

Figure 32


DEVELOPMENT OF THE SSB FOR NORTHERN AND SOUTHERN HAKE
1000' TONNES
YEAR
Norther Hake SSB
Southern hake SSB
SUM SSB

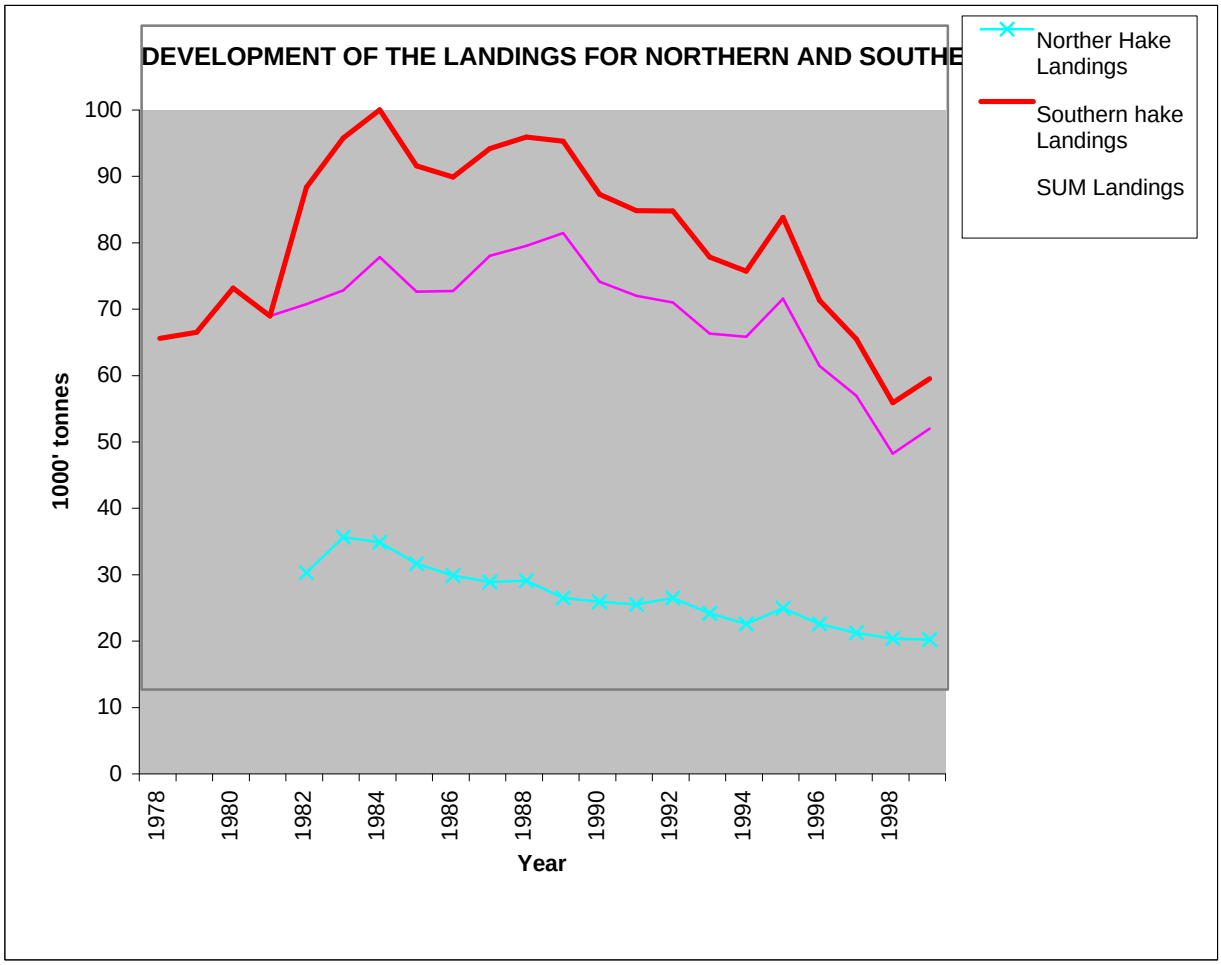
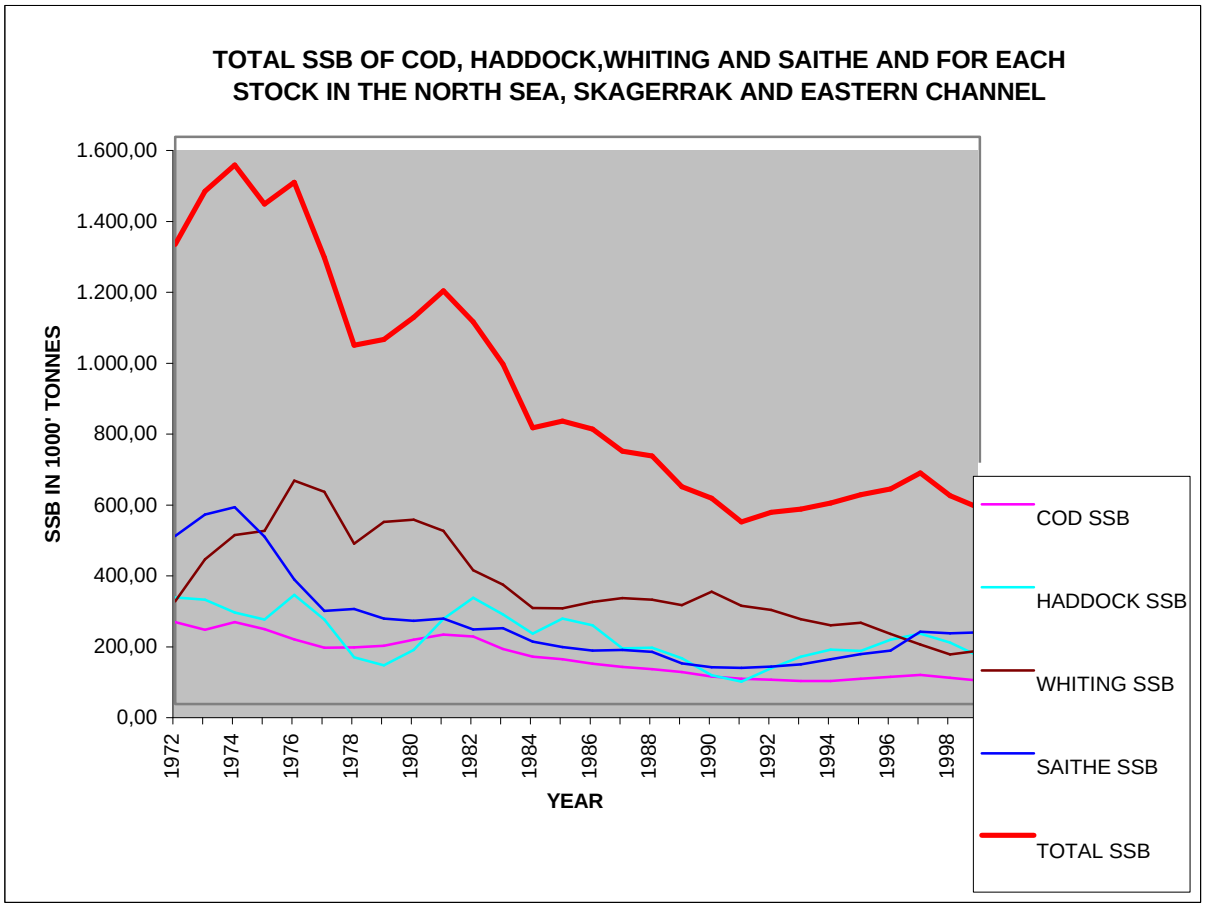

DEVELOPMENT OF THE LANDINGS FOR NORTHERN AND SOUTHE
1000' tonnes
Year
Norther Hake Landings
Southern hake Landings
SUM Landings

Figure 33


TOTAL SSB OF COD, HADDOCK,WHITING AND SAITHE AND FOR EACH STOCK IN THE NORTH SEA, SKAGERRAK AND EASTERN CHANNEL
SSB IN 1000' TONNES
1.600,00
1.400,00
1.200,00
1.000,00
800,00
600,00
400,00
200,00
0,00
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
YEAR
COD SSB
HADDOCK SSB
WHITING SSB
SAITHE SSB
TOTAL SSB

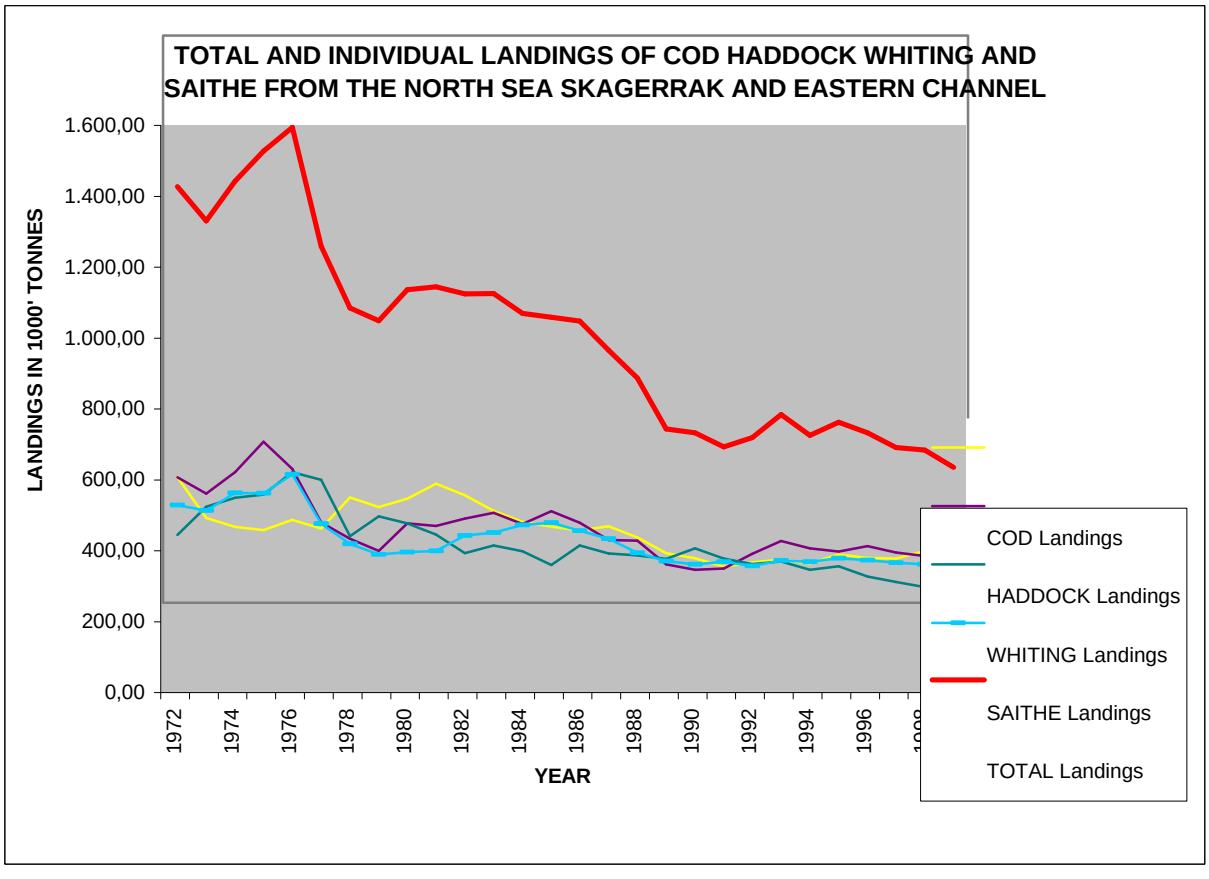
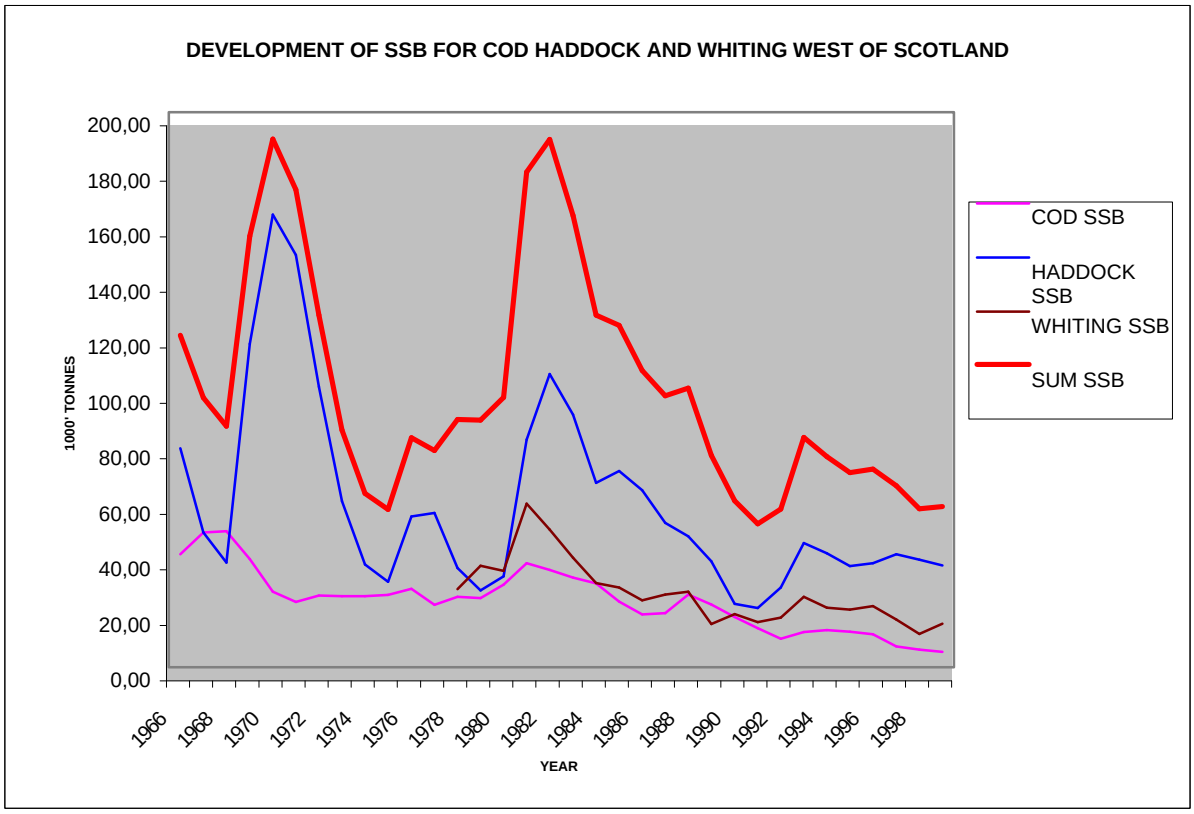

TOTAL AND INDIVIDUAL LANDINGS OF COD HADDOCK WHITING AND SAITHE FROM THE NORTH SEA SKAGERRAK AND EASTERN CHANNEL
LANDINGS IN 1000' TONNES
1.600,00
1.400,00
1.200,00
1.000,00
800,00
600,00
400,00
200,00
0,00
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
YEAR
COD Landings
HADDOCK Landings
WHITING Landings
SAITHE Landings
TOTAL Landings

Figure 34


DEVELOPMENT OF SSB FOR COD HADDOCK AND WHITING WEST OF SCOTLAND
1000' TONNES
200,00
180,00
160,00
140,00
120,00
100,00
80,00
60,00
40,00
20,00
0,00
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
YEAR
COD SSB
HADDOCK SSB
WHITING SSB
SUM SSB

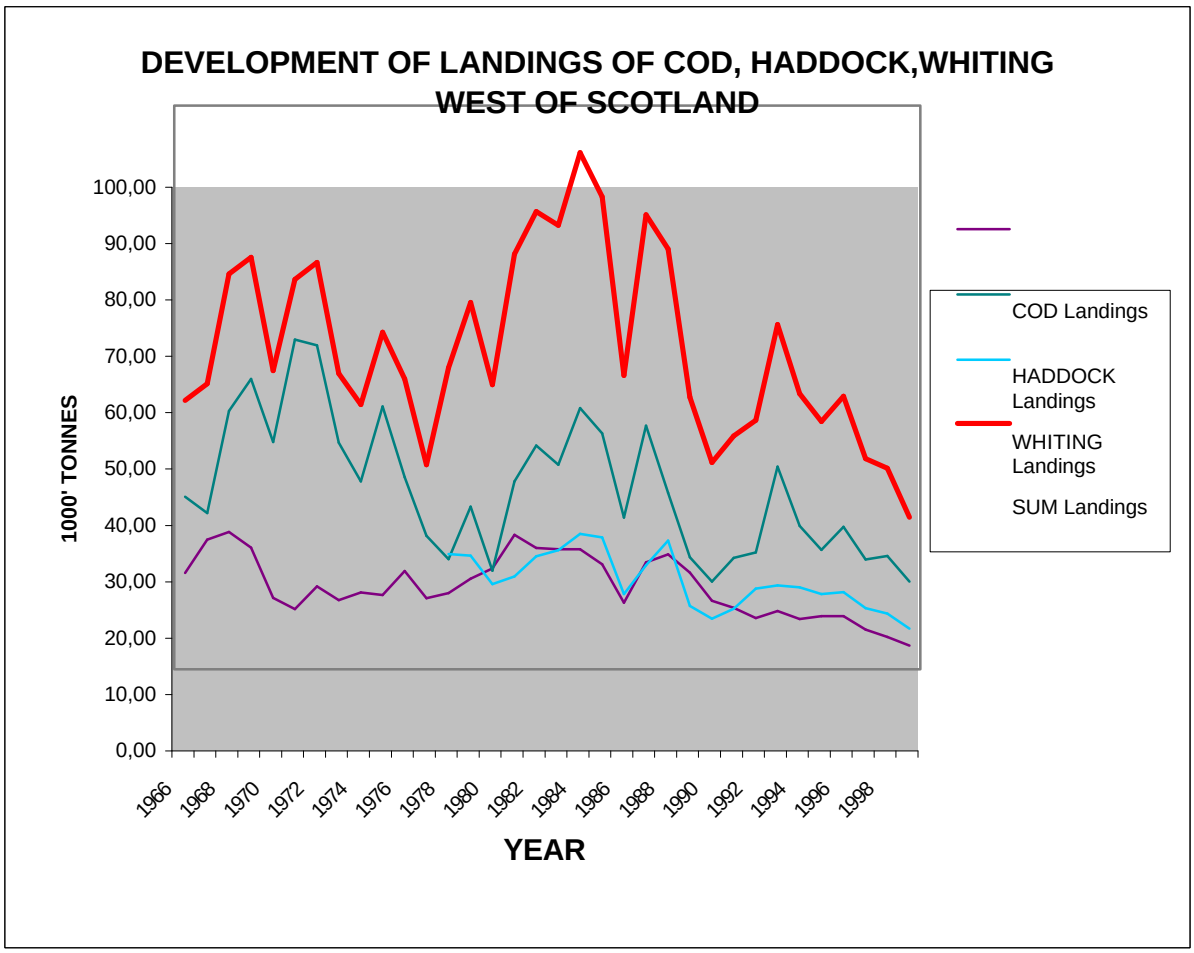
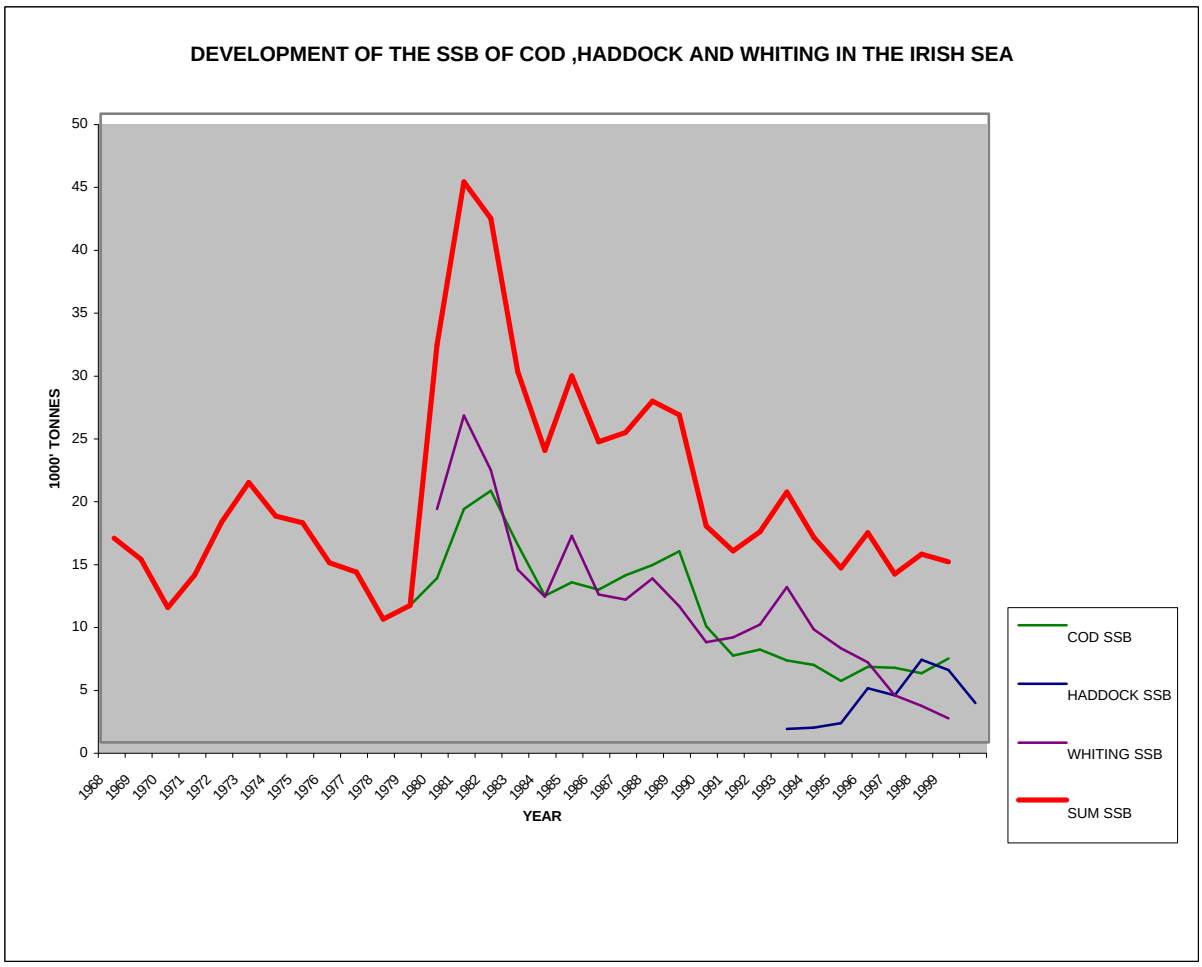

DEVELOPMENT OF LANDINGS OF COD, HADDOCK,WHITING WEST OF SCOTLAND
1000' TONNES
100,00
90,00
80,00
70,00
60,00
50,00
40,00
30,00
20,00
10,00
0,00
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
YEAR
COD Landings
HADDOCK Landings
WHITING Landings
SUM Landings

Figure 35


DEVELOPMENT OF THE SSB OF COD ,HADDOCK AND WHITING IN THE IRISH SEA
1000' TONNES
YEAR
COD SSB
HADDOCK SSB
WHITING SSB
SUM SSB

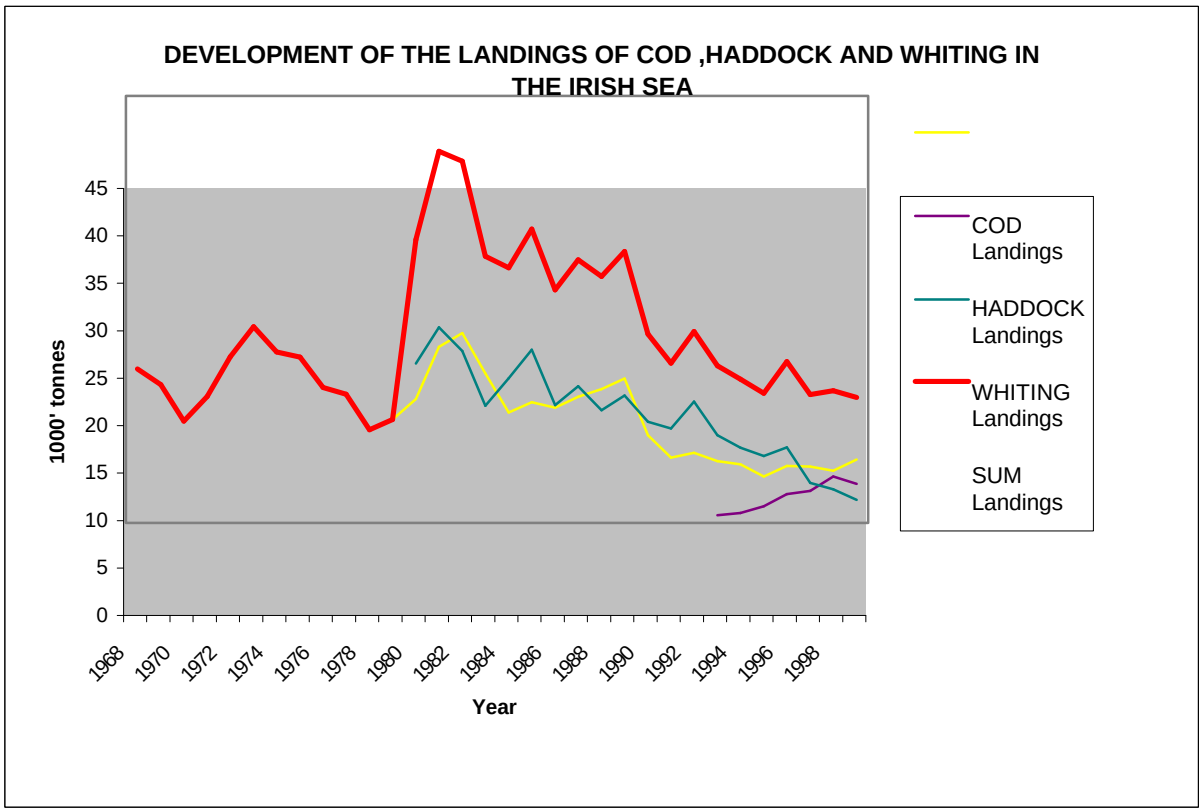

DEVELOPMENT OF THE LANDINGS OF COD ,HADDOCK AND WHITING IN THE IRISH SEA
1000' tonnes
Year
COD Landings
HADDOCK Landings
WHITING Landings
SUM Landings

Table 1

Table 1 Relative changes in SSB, landings and fishing mortality between time preriods.

DEMERSAL STOCKS (Roundfish flatfish stocks etc)

PELAGIC STOCKS (Herring, sprat mackerel etc)

			Average for period(s)		Difference in %			Average for period(s)		Difference in %
Area	Stock		1978 - 1982	1995 - 1999		Stock		1978 - 1982	1995 - 1999	
Baltic Sea	COD SD 25-32	SSB 1000 tonnes	596,47	164,00	-72,51	Herring 25-29S,32	SSB 1000 tonnes	1494,77	695,82	-53,45
		Landings 1000 tonnes	275,22	96,39	-64,98		Landings 1000 tonnes	291,72	169,54	-41,88
		Fishing Mortality Age 4-7	0,65	0,86	31,86		Fishing Mortality Age 4-7	0,17	0,29	70,59
						Sprat 22-32	SSB 1000 tonnes	289,74	1.148,63	296,43
							Landings 1000 tonnes	73,11	408,59	458,87
							Fishing Mortality Age 3-5	0,27	0,40	48,15
North Sea Div IIIa, VIId	Cod IV Skag,VIId	SSB 1000 tonnes	178,34	73,97	-58,52	Herring IV Div IIIa	SSB 1000 tonnes	164,46	619,37	276,61
		Landings 1000 tonnes	299,88	125,76	-58,06		Landings 1000 tonnes	111,36	394,09	253,89
		Fishing Mortality Age 2-8	0,79	0,87	10,13		Fishing Mortality Age 4-7	0,19	0,5	163,16
	Haddock IV Skag	SSB 1000 tonnes	348,91	186,85	-46,45					
		Landings 1000 tonnes	308,89	200,95	-34,94	**INDUSTRIAL SPECIES**				
		Fishing Mortality Age 2-6	0,84	0,92	9,52	Sandeel IV	SSB 1000 tonnes	615,8	1195,8	94,19
	Whiting IV VIId	SSB 1000 tonnes	470,53	177,28	-62,32		Landings 1000 tonnes	653,8	911,4	39,40
		Landings 1000 tonnes	197,56	67,96	-65,60		Fishing Mortality Age 3-6	0,70	0,46	-35,00
		Fishing Mortality Age 2-6	0,79	0,67	-15,19	Norway pout IV	SSB 1000 tonnes	244,6	239,4	-2,13
	Saithe IV Div IIIa	SSB 1000 tonnes	239,14	179,41	-24,98		Landings 1000 tonnes	336	150	-55,36
		Landings 1000 tonnes	156,10	116,11	-25,62		Fishing Mortality Age 2-6	0,99	0,42	-57,32
		Fishing Mortality Age 3-6	0,42	0,39	-7,14	Sprat IV	Landings 1000 tonnes	288,8	189,8	-34,28
	Plaice IV	SSB 1000 tonnes	307,92	208,68	-32,23					
		Landings 1000 tonnes	138,72	83,05	-40,13					
		Fishing Mortality Age 2-10	0,40	0,40	0,00					
	Sole IV	SSB 1000 tonnes	36,10	40,62	12,52					
		Landings 1000 tonnes	19,13	22,46	17,41					
		Fishing Mortality Age 2-8	0,47	0,58	23,40					
West of Scotland	Cod VIa	SSB 1000 tonnes	30,49	8,80	-71,14					
		Landings 1000 tonnes	18,57	7,16	-61,44					
		Fishing Mortality Age 2-5	0,69	0,96	39,13					
	Haddock VIa	SSB 1000 tonnes	56,78	38,03	-33,02					
		Landings 1000 tonnes	27,77	20,32	-26,83					
		Fishing Mortality Age 2-6	0,55	0,61	10,91					
	Whiting VIa	SSB 1000 tonnes	41,60	17,54	-57,84					
		Landings 1000 tonnes	18,44	11,00	-40,35					
		Fishing Mortality Age 2-4	0,62	0,88	41,94					
Irish Sea VIIa	Cod VIIa	SSB 1000 tonnes	14,47	5,80	-59,92					
		Landings 1000 tonnes	10,74	5,10	-52,51					
		Fishing Mortality Age 2-4	0,75	1,10	46,67					
	Whiting VIIa [1)]	SSB 1000 tonnes	18,31	4,48	-75,53					
		Landings 1000 tonnes	16,62	5,04	-69,68					
		Fishing Mortality Age 1-3	0,78	1,06	35,90					

Table 1

	DEMERSAL STOCKS (Roundfish flatfish stocks etc)						PELAGIC STOCKS (Herring, sprat mackerel etc)				
			Average for period(s)		Difference in %				Average for period(s)		Difference in %
Area	Stock		1978 - 1982	1995 - 1999		Stock			1978 - 1982	1995 - 1999	
	Plaice VIIa	SSB 1000 tonnes	4,73	4,07	-13,95						
		Landings 1000 tonnes	3,54	1,76	-50,28						
		Fishing Mortality Age 3-6	0,62	0,4	-35,48						
Celtic Sea West Channel northern part of Bay of Biscay	Cod VII b-k	SSB 1000 tonnes	9,51	12,64	32,91	Herring Celtic Sea	SSB 1000 tonnes		32,26	78,10	142,10
		Landings 1000 tonnes	6,98	11,34	62,46	VIIj	Landings 1000 tonnes		12,31	20,03	62,71
		Fishing Mortality Age 2-5	0,64	0,87	35,94		Fishing Mortality Age 4-7		0,63	0,39	-38,10
	Whiting VIIe-k [2]	SSB 1000 tonnes	17,03	61,87	263,30						
		Landings 1000 tonnes	10,76	20,02	86,06						
		Fishing Mortality Age 2-5	1,18	0,51	-56,78						
	Plaice VIIf,g	SSB 1000 tonnes	1,59	1,74	9,43						
		Landings 1000 tonnes	1,16	1,05	-9,48						
		Fishing Mortality Age 3-6	0,60	0,66	10,00						
	Plaice VIIe	SSB 1000 tonnes	2,09	1,69	-19,14						
		Landings 1000 tonnes	1,21	1,14	-5,79						
		Fishing Mortality Age 3-7	0,51	0,62	21,57						
	Sole VIIfg	SSB 1000 tonnes	3,48	1,93	-44,54						
		Landings 1000 tonnes	1,08	1,00	-7,41						
		Fishing Mortality Age 4-8	0,31	0,61	96,77						
	Sole VIII a,b [3]	SSB 1000 tonnes	13,33	13,83	3,75						
		Landings 1000 tonnes	4,84	6,08	25,62						
		Fishing Mortality Age 2-6	0,35	0,47	34,29						
	Megrim VIIIa,b,d,e [3]	SSB 1000 tonnes	84,34	63,04	-25,25						
		Landings 1000 tonnes	19,56	18,48	-5,52						
		Fishing Mortality Age 4-8	0,21	0,32	52,38						
	Anglerfish VIIb-k, VIIIa,b [4]	SSB 1000 tonnes	69,08	74,97	8,53						
		Landings 1000 tonnes	29,86	28,94	-3,08						
		Fishing Mortality Age 6-10,3-8	0,30	0,24	-20,00						
Iberian Peninsula	Hake southern stock [2]	SSB 1000 tonnes	45,2	22,32	-50,62	Sardine VIIIc, IXa	SSB 1000 tonnes		368,52	412,99	12,07
		Landings 1000 tonnes	19,76	9,17	-53,59		Landings 1000 tonnes		184,22	112,17	-39,11
		Fishing Mortality Age 2-5	0,40	0,36	-10,00		Fishing Mortality Age 2-5		0,44	0,34	-22,73
	Megrim VIIIc, IXa [5]	SSB 1000 tonnes	2,2	1,39	-36,82						
		Landings 1000 tonnes	0,73	0,34	-53,42						
		Fishing Mortality Age 4-8	0,4	0,22	-45,00						
Widely distributed stocks	Hake Northern stock	SSB 1000 tonnes	203,86	125,26	-38,56	Mackerel NE Atlantic [2]	SSB 1000 tonnes		2640	3280	24,24
		Landings 1000 tonnes	56,3	45,34	-19,47		Landings 1000 tonnes		639	633,2	-0,91
		Fishing Mortality Age 2-6	0,25	0,32	28,00		Fishing Mortality Age 4-8		0,20	0,21	5,00
						Blue whiting all areas [2]	SSB 1000 tonnes		2038,08	2399,02	17,71
							Landings 1000 tonnes		662,17	846,44	27,83
							Fishing Mortality Age 3-7		0,29	0,34	17,24

Footnotes

1) Time period 1980-84 and 1995-99
2) Time period 1982-86 and 1995-99
3) Time period 1984-88 and 1995-99
4) Time period 1986-90 and 1995-1999 Two species of anglerfish combined.
5) Time period 1986-90 and 1995-99

PELAGIC STOCKS HERRING AND SPRAT

Area	Stock		Average for period(s) 1978 - 1982	1995 - 1999	Difference in %
Baltic Sea	Herring 25-29S,32	SSB 1000 tonnes	1494,77	695,82	-53,45
		Landings 1000 tonnes	291,72	169,54	-41,88
		Fishing Mortality Age 3-5	0,17	0,29	70,59
	Sprat 22-32	SSB 1000 tonnes	289,74	1.148,63	296,43
		Landings 1000 tonnes	73,11	408,59	458,87
		Fishing Mortality Age 3-5	0,27	0,40	48,15
North Sea	Herring IV Div IIIa	SSB 1000 tonnes	164,46	619,37	276,61
		Landings 1000 tonnes	111,36	394,09	253,89
		Fishing Mortality Age 4-7	0,19	0,5	163,16
West of Scotland	Herring VI a	SSB 1000 tonnes			#DIV/0!
		Landings 1000 tonnes			#DIV/0!
		Fishing Mortality Age 4-7			#DIV/0!
Celtic Sea West Channel	Herring Celtic Sea	SSB 1000 tonnes	32,26	78,10	142,10
northern part of Bay of	VIIj	Landings 1000 tonnes	12,31	20,03	62,71
Biscay		Fishing Mortality Age 4-7	0,63	0,39	-38,10
Iberian Peninsula	Sardine VIIIc, IXa	SSB 1000 tonnes	368,52	412,99	12,07
		Landings 1000 tonnes	184,22	112,17	-39,11
		Fishing Mortality Age 2-5	0,44	0,34	-22,73
Widely distributed stocks	Mackerel NE Atlantic [1)]	SSB 1000 tonnes	2640	3280	24,24
		Landings 1000 tonnes	639	633,2	-0,91
		Fishing Mortality Age 4-8	0,20	0,21	5,00
	Hake Northern stock	SSB 1000 tonnes	203,86	125,26	-38,56
		Landings 1000 tonnes	56,3	45,34	-19,47
		Fishing Mortality Age 2-6	0,25	0,32	28,00
	Blue whiting all areas [2)]	SSB 1000 tonnes	2038,08	2399,02	17,71
		Landings 1000 tonnes	662,17	846,44	27,83
		Fishing Mortality Age 3-7	0,29	0,34	17,24

1) Time periods 1982-86 and 1995-99

2) Time periods 1982-86 and 1995-99