

THE NORWEGIAN FISHERY FOR ATLANTIC BLUEFIN TUNA*

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SUMMARY

Atlantic bluefin tuna have been caught along the Norwegian coast for several hundred years. In the 1920's some pioneers tried to establish a specialised and commercial tuna fishery in Norway. Two canneries were established and different types of fishing gear were tried out. The efforts in the 1920s did not lead to a breakthrough for the tuna fishery, mainly due to the problems of finding an efficient way of catching the tuna. In the late 1940s a new type of purse seine was constructed and this gave the fishermen the tool they had been missing. The fishermen were then able to trap large schools close to the coast. In the 1950s Norway became the number one Atlantic bluefin tuna fishing nation in Europe. In the 1960's the tuna migrating to Norwegian waters were fewer of the same year-classes. There were clear signs of over fishing. The fishermen saw a change in the migration pattern of the bluefin tuna and by 1970 the catches and the fleet became significantly reduced. Only old tuna were then found along the Norwegian coast. A few vessels kept on fishing tuna in the summers, but after 1987 the tuna were practically gone off Norway.

RÉSUMÉ

Le thon rouge de l'Atlantique est capturé le long de la côte norvégienne depuis plusieurs siècles. Dans les années 1920, des pionniers ont tenté d'établir une pêcherie commerciale et spécialisée de thonidés en Norvège. Deux conserveries ont été mises en place et divers types d'engins de pêche ont été testés. Les efforts déployés dans les années 1920 n'ont pas donné lieu à une découverte capitale pour la pêcherie de thonidés, ce qui était notamment dû aux problèmes rencontrés pour trouver une méthode de pêche de thonidés efficace. A la fin des années 1940, un nouveau type de senne a été élaborée, apportant aux pêcheurs l'outil qui leur manquait. Les pêcheurs ont alors été en mesure de piéger de grands bancs de poissons près de la côte, et, dans les années 1950, la Norvège est devenue la première nation de pêche de thon rouge de l'Atlantique en Europe. Dans les années 1960, les thonidés qui migraient vers les eaux norvégiennes étaient moins nombreux dans la même cohorte. Il y avait des indications évidentes d'une surpêche. Les pêcheurs ont constaté un changement du schéma migratoire du thon rouge et, en 1970, les prises et la flottille se sont considérablement réduites. Seuls des thonidés d'âge avancé étaient présents le long de la côte norvégienne. Quelques navires ont continué à pêcher des thonidés durant l'été mais, après 1987, les thonidés ont pratiquement disparu de la Norvège.

RESUMEN

El atún rojo del Atlántico se lleva capturando en las costas noruegas varios cientos de años. En los años 20, algunos pioneros trataron de establecer en Noruega una pesquería de túnidos comercial y especializada. Se establecieron dos conserveras y se probaron diferentes tipos de artes pesqueros. Los esfuerzos realizados en los años 20 no condujeron a un avance en la pesquería de túnidos, debido principalmente a problemas a la hora de encontrar un modo eficaz de capturar los túnidos. A finales de los 40, se construyó un nuevo tipo de cerco y esto ofreció a los pescadores la herramienta que necesitaban. Los pescadores pudieron entonces capturar grandes bancos cerca de la costa. En los años 50 Noruega se convirtió en la primera nación pesquera de atún rojo del Atlántico en Europa. En los años 60, los túnidos que migraban a aguas noruegas eran menos de las mismas clases anuales. Existían signos claros de sobrepesca. Los pescadores observaron un cambio en el patrón migratorio del atún rojo y en los 70 las capturas y la flota se vieron significativamente reducidas. En la costa noruega sólo se encontraban entonces atunes rojos mayores. Algunos buques continuaron pescando

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túnidos en verano, pero después de 1987 los túnidos prácticamente habían desaparecido de Noruega.

KEYWORDS

Bluefin tuna, tuna fisheries, migrations, fishery statistics

1. Tuna fishing before the 1920s

Based on archaeological findings and historical scripts the bluefin tuna has existed in Norwegian waters for thousands of years. The earliest evidence of a targeted fishery for bluefin tuna in Norway is the harpoon fishery in the 18th century. In some coastal areas the fishermen were engaged in the hunt for basking shark. It is likely to believe that the same fishermen used the same boats the same fishing gear (hand harpoon) to catch tuna. Although some tuna were caught during the 18th and 19th century, there was not yet established any specialized or commercial tuna fishery. The tuna was hard to locate and difficult to catch. A Norwegian tuna fishery around 200 years ago might have been targeted, but it was limited to a few locations along the coast.

We have no available data of these occasional catches, but it is likely to believe that the annual catches along the Norwegian coast were somewhere between 10 and 40 tuna.

2. Trying to establish a tuna industry

In 1921 Mr. Nils Haagenen from Trondheim learned that the tuna along the Norwegian coast was the same tuna he was served in Italian restaurants. He was a businessman and he then got the idea of establishing a Norwegian tuna fishery. Mr. Haagenen encouraged fishermen to try to catch tuna. In 1922 some young tuna were caught in a seine net in Oslofjorden. This led Haagenen to order a special tuna seine. The tuna seine was tried out several times with no luck. Ha also handed out free fishing hooks to fishermen along the coast. Only 100 tuna were caught in 1923.

Mr. Haagenen managed, with help from Mr. Emanuel Santi from Italy, to establish a tuna-cannery in Trondheim in 1924. Five Italians were employed. Mr. Haagenen also engaged a fisherman to fish tuna with a harpoon rifle, and the tuna seine was handed over to some experienced fishermen. After setting the seine several times they caught altogether 11 tuna. The fish caught with hooks, harpoon rifle and seine were transported to the cannery in Trondheim.

Mr. Haagenen had by then invited an Italian named Reis Andrea Bertolino to give an opinion about the Norwegian way of catching tuna. Mr. Bertolino saw the rough coastline and the deep fjords. He did not find the Norwegian coastline suitable for tonnar, but all the tuna he saw impressed him.

The interest in the Atlantic bluefin tuna spread to several locations along the coast. A total number of 125 tuna were caught with harpoon rifle and hooks in 1925, and 20 rifles were sold to fishermen in Trøndelag that year. In 1926 the seine was hauled on board an ordinary fishing vessel (seiner), and the first day they caught 24 tuna weighing 4500 kg.

Only a few catches were taken by seine in 1926 and 1927, but Mr. Haagenen had better luck with the harpoon rifle. He engaged Bernard Hanson to educate fishermen along the coast in how to use the harpoon rifle. In 1928 another purse seine was constructed. This would be a good year for both of the seiners.

Along with harpooned tuna and tuna caught on hooks, the 1928 season gave approximately 700 tuna. By then there were two tuna canneries in Norway.

Why the efforts in the 1920s did not result in a growing tuna-industry in the 1930s

- The prices of the tuna dropped with more than 50%.
- The purse seine was too expensive, heavy, hard to work with and still not strong enough. The 1930s was not the right time to take financial chances due to very unstable economy in the United States and Europe.

- The bluefin tuna stayed along the coast and did not enter the fjords every year. This made it hard to locate and catch tuna with seine and harpoon rifle.
- It was hard to tell and predict when the tuna would enter the coast and where it could be found at different times of the tuna feeding season.
- Most fishermen were engaged in other fisheries or had important work to do on their farms in late summer and early autumn.

The 1930s

In 1931 a tip of a harpoon made in Norway was found in a tuna caught in Tunisia. That was an interesting finding that proved the long-distance migration pattern of the Atlantic bluefin tuna feeding in Norwegian waters.

Not much happened with the Norwegian tuna fishery in the 1930s and during World War II. Tuna were still caught, but the fishery did not “take off”. After the war some vessels were trolling for tuna in the North Sea. The interest in fishing tuna had by then spread to the southwestern part of the country.

The story behind the Norwegian tuna seine

In 1942 two fishermen succeeded in trapping 12 tuna in a bay in Nordland, northwestern Norway. They used a trout seine to close the bay. The fishermen kept the tuna in the bay for a couple of days. They wondered why the tuna did not try to escape by swimming straight through the seine. When dragging the seine closer to the shore they noticed that the tuna still avoided the net. By dragging the seine closer and closer to the shore the fishermen managed to push the tuna close to the beach. Nine of the tuna were captured in shallow water.

The story about this amazing catch spread rapidly and one fisherman then got an idea of how he could construct a light and handy tuna seine that was long enough and still strong enough. The man, Johan Warholm, had learned that the tuna would avoid the seine and only attack and swim through the net if they felt trapped and had nowhere else to swim.

Mr. Warholm finally got a chance to make a new construction of purse seine when World War II ended in 1945. Most of the seine was an ordinary seine used for fishing coalfish (Atlantic saithe). The last part of the seine was made by hand. This part should be strong enough to hold the tuna when it had no more space in the seine. Mr. Warholm tried out the seine in 1946 and 1947. When the seine was set, the thin and light part was hauled in first. When the tuna had little space and tried to escape, only the strong part of the seine was left. The seine worked out as planned, but Mr. Warholm modified and improved the seine. After taking several catches in 1948, the interest in the tuna fishery spread.

A new age for the Norwegian tuna fishery

In 1949, 20 vessels participated in the tuna fishery in Nordland County up north using purse seine. Large catches were taken and the value of these catches resulted in a “tuna fever” along the coast of Norway.

A growing tuna fleet

Fishermen with seine nets from other parts of the country came to Nordland to fish tuna in 1950. This fishery was by now an inshore coastal fishery. Most catches were taken in wide fjords where the sea was calm and it was easy to work with the seine. The tuna was hard to find inshore in Nordland in 1950 and most fishermen from other parts of the country had no experience with this fishery. It was believed that it was impossible to catch the smaller tuna found further south in the country, but some vessels from the southwestern parts of the country proved that the tuna seine worked for all size groups of tuna present in Norwegian waters. The next few years the tuna fishery spread to be a fishery along most of the long Norwegian coast. In 1952 tuna fishing with purse seine expanded to also become an offshore fishery.

1952 – “The tuna adventure”

Although the tuna fishery was stopped several times during 1952, it became the best year for the Norwegian tuna fishery. The main reasons for this are:

- The tuna fleet had grown and tuna were caught along most of the coastline.
- The summer of 1952 was warm with calm air and calm sea.
- The tuna came close to shore and entered the fjords.
- The nice weather made it easy to spot the tuna.
- The calm sea gave good working conditions for the seiners.
- Large schools of small tuna (80-90 kg) entered the areas north of Stavanger (September/October).
- Large schools of young tuna (120-130 kg) entered the areas west of Bergen (August).

By now Norway was the number one Atlantic bluefin tuna fishing nation in Europe. Between 1951 and 1955 the annual catches were between 6,700 and 14,700 t.

Overcapacity in the tuna fleet

The tuna adventure in 1952 made people believe that the tuna was an easy pray, giving the fishermen easy money. This resulted in a fast growing tuna-fleet. The competition on the fishing grounds was hard, and too many seiners were chasing the same schools in the same areas. In order to make the fishery profitable it was obvious to the fishermen that the fleet had to be reduced, either they liked it or not.

The following years proved again that the tuna was unpredictable. You never knew exactly when the schools would enter the coast and you did not know exactly where to look for them. If the weather was bad (with wind and waves) you could not spot the tuna, and even if you saw them the weather would not allow you to set the seine. Even if the sea was calm, the fishermen could only spot the tuna if the schools were feeding or swimming in the surface. Like in the 1930s the tuna might not enter the fjords, and some times only small schools entered the inner coastal areas.

Only old and large tuna visiting Norway

The large catches in the middle of the 1950s indicated a large spawning stock. It was believed that this stock would be able to produce new strong year classes of tuna, but from 1959 there was an obvious decline in the appearance of young tuna along the southwestern part of the country. The average size of the tuna in Norway became bigger year by year.

A specialized and efficient tuna fleet

By 1961 most seiners had got power block and purse seines made of nylon. In 1961 and 1962 large catches of tuna were taken, and this inspired more seiners to participate in the tuna fishery. More than 8000 tons of tuna were caught each of these years. In spite of a new indication of a large spawning stock no young tuna < 5-10 years old migrated to the Norwegian coast in the 1960s.

Changes in the migration pattern

In 1963 the tuna fishery failed. No one knows why this happened, but when schools of tuna were observed in late September, the tuna fleet had already ended their season. The last part of the 1960s gave some years with good catches, but the tuna fleet was reduced year by year. In 1965 only 35 seiners participated. It was clear that the tuna stock was overfished.

The tuna did no longer migrate to the northern part of Norway and no tuna were found in the southeastern part of the country. The decline in catches, absent of young fish and several dramatic changes in the migration pattern proved that something was “wrong”.

A few schools of old tuna

In 1970 only 11 purse seine vessels participated in the tuna fishery. The result was 205 tons of tuna. It was clear to everyone that the tuna adventure in Norway was over. Only big fish were caught and there were still no signs of young fish or any new strong year classes. No fisherman dared anymore to count on any income from the tuna fishery. The Norwegian tuna fishing fleet were also fishing herring and other species through the year.

By now Norway had a strong reduction in the fishing fleet, mainly due to the collapse in the stock of the Norwegian spring-spawning herring (*Clupea harengus L.*). It was a period involving big changes in the coastal areas. Vessels were condemned and a lot of people had to find new jobs.

Though it was a difficult and hard time for many communities along the coast, some fishermen and former fishermen still preferred to spend their summer - or summer holiday - on a tuna seiner. The “tuna-fever” and the dream of the big catch still inspired some fishermen - it was in their mind and in their blood. Some catches were taken, and a few vessels had a couple of good seasons.

The end of the Norwegian bluefin tuna fishery

In 1986 only four vessels participated in the tuna fishery. Only 70 tuna were taken, and that was the end of the once rich and prosperous tuna fishery in Norway.

We all hope that Atlantic bluefin tuna once again will reappear in Norwegian waters on their long-distance feeding migration to these highly productive waters. Bluefin tuna ought to be a natural part of the biodiversity along the coast of Norway, and this would certainly be a healthy sign for the bluefin tuna population.

**Average weight of bluefin tuna caught in 1928,
based on catches where number and weight are known**

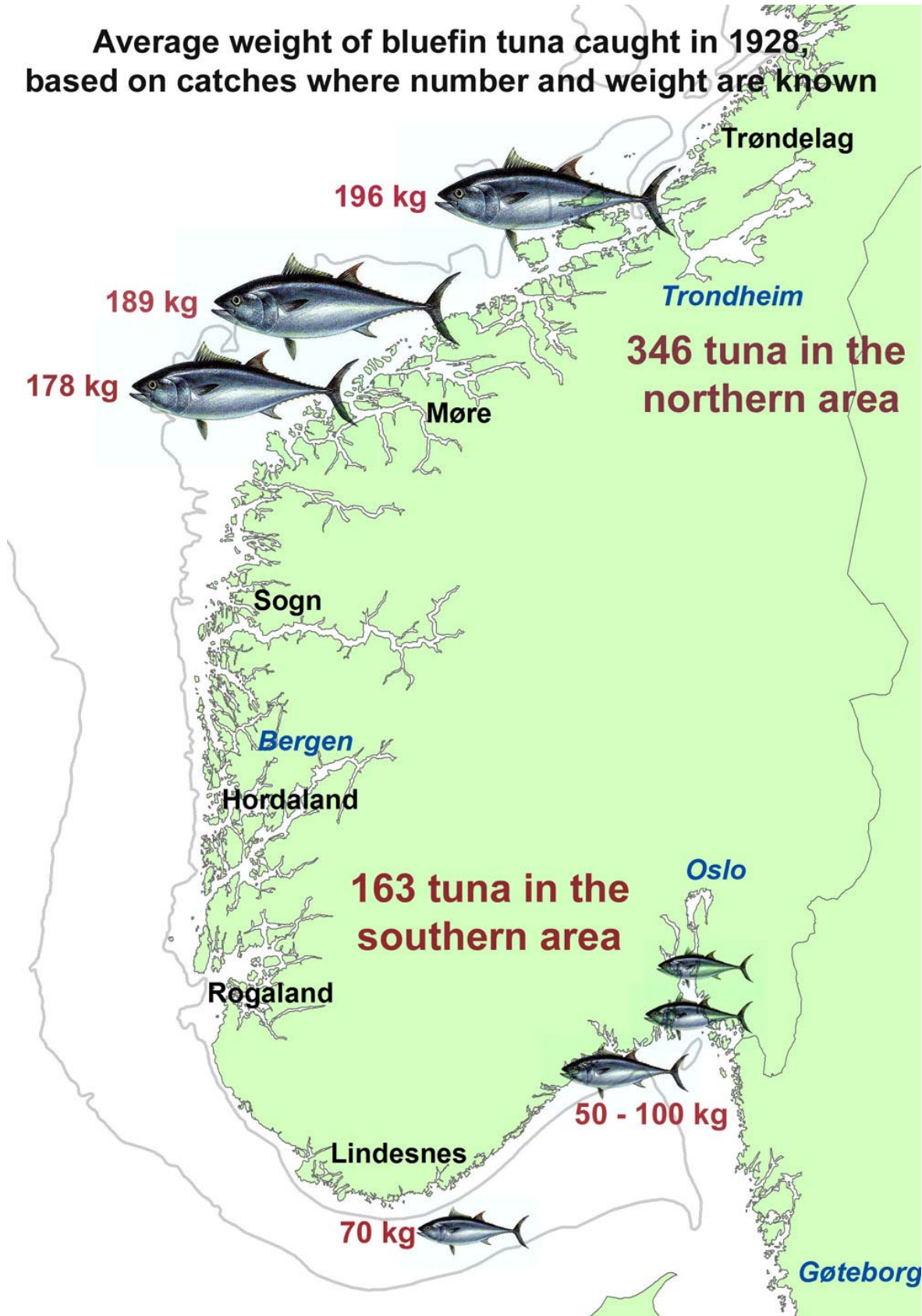


Figure 1. Average weight of Atlantic bluefin tuna caught along the Norwegian coast in 1928.



Hundreds of young adult tuna caught close to the coast in 1952. Photo: Harald Hausken



A bluefin tuna caught in a Norwegian fjord in 1920. Photo: Klaus Sefland



Bernard Hanson with his harpoon rifle in the 1920s.



A proud skipper with 24 tuna landed in Trondheim in August 1926. Photo: Olise Haugsnes



The seiner "Orfjord" loaded with 33 tuna caught in 1928. Photo: Kåre Sandøy



The seiner "Knut Viik" with a catch of bluefin tuna caught at Møre in 1928. Photo: Jarle Einar Hammervold.



*The first attempts to fish tuna off shore (trolling) were made by fishermen from the southwestern part of Norway.
Photo: Sverre Jacobsen.*



A seiner with a catch from the northern part of Norway. Photo: Rolf Holmen



Small seiners in the southwestern part of Norway in late September 1952. Totally 607 young tuna were landed from one catch. Photo: Harry Bentsen.



Fishing vessels with purse seine on the fishing ground in 1955. Photo: Egil Grotle



A purse seine vessel with 300 caught tuna in 1962. Photo: Jørgen Leon Hardsen



A "vessel-record" was set in 1962 when M/V "K.S.K." fished 432 tons of tuna. Photo: Karsten Karlsen



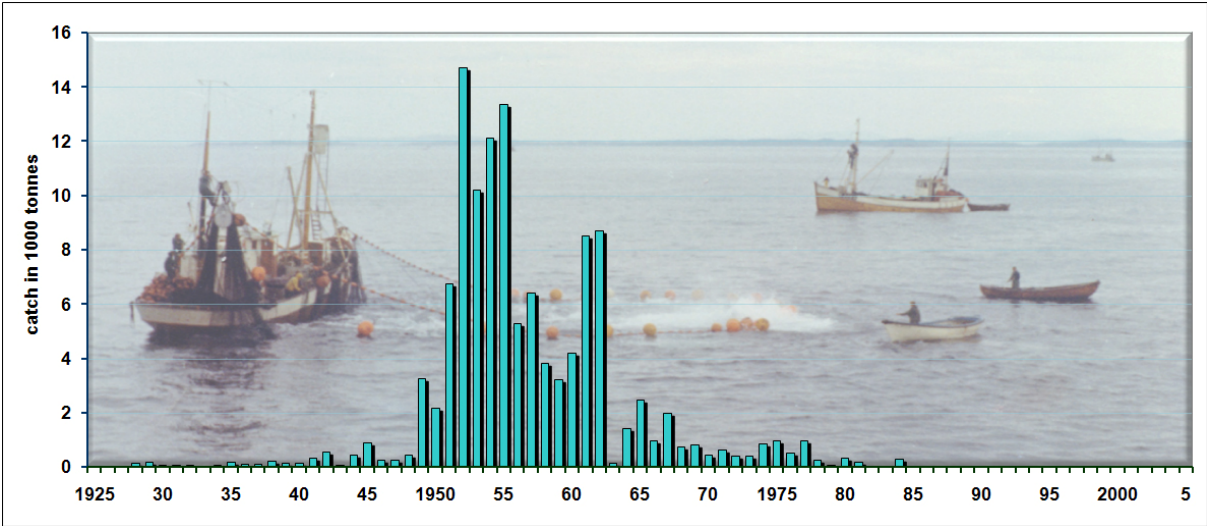
A purse seine vessel with a nice catch close to the coast in 1968. Photo: Kjell and Oddvar Hausken



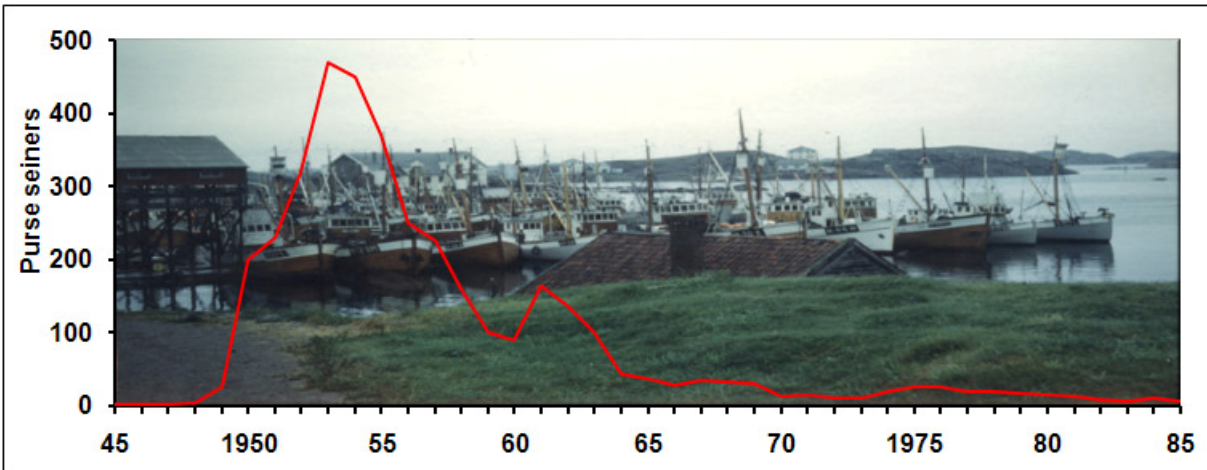
A fish carrier called "gutting vessel" is waiting while the purse seiner is working on the catch in 1971. Photo: Øyvind Tangen



A seiner with a catch of tuna in 1980. Photo: Edvin Bakkevik.



Norwegian catches 1925 – 1986



Purse seiners participating in the Norwegian tuna fishery 1945 - 1985. Figures made by Øyvind Tangen.