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Economic Intelligence Report

**ESTIMATED CONSTRUCTION OF SHIPS
FOR THE SOVIET FISHING FLEET
DURING THE SEVEN YEAR PLAN
1959-65**



CIA/RR ER 62-1

January 1962

CENTRAL INTELLIGENCE AGENCY

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ESTIMATED CONSTRUCTION OF SHIPS FOR THE SOVIET FISHING FLEET
DURING THE SEVEN YEAR PLAN, 1959-65*

Summary and Conclusions

By the end of the Seven Year Plan (1959-65), the USSR probably will have the world's largest high seas fishing fleet, equipped with the most modern fishing ships of practically all types, which will operate on a worldwide basis. Whereas the Soviet fishing fleet** in 1959 is estimated to have consisted of about 16,500 ships of 1.9 million gross register tons (GRT)*** with 1.3 million horsepower (hp), it is estimated that this fleet by the end of 1965 will consist of about 24,600 ships of about 3.3 million GRT with 2.4 million hp.

The total number of ships (excluding non-self-propelled ships) constructed for the Soviet fishing fleet during 1959-65 will amount to about 13,600 ships of more than 2.1 million GRT with about 1.6 million hp. About 72 percent, or 1.5 million GRT, will be constructed in the USSR; about 24 percent, or 500,000 GRT, will be built in the European Satellites; and the remainder, about 4 percent, or 84,000 GRT, will come from countries outside the Sino-Soviet Bloc.

The importance of the fishing fleet to the Soviet economy is perhaps best seen in the total investment figures for the Seven Year Plan for the construction and import of fishing ships, about US \$2.7 billion,† a considerable investment when compared with the estimated \$7 billion to be spent on construction of naval ships in the same period.

* The estimates and conclusions contained in this report represent the best judgment of this Office as of 1 December 1961.

** Unless otherwise indicated, all data in this report exclude miscellaneous non-self-propelled ships.

*** Gross register tonnage is a measure whereby the entire internal cubic capacity of a ship is expressed in register tons (100 cubic feet per ton). Not included in the measurement are certain spaces such as peak tanks and other tanks of water ballast, open fore-castle, bridge and poop, hatchway excess, certain light and air spaces, anchor gear, wheelhouse, galley, cabins for passengers, and other minor spaces specified by law.

† Monetary values throughout this report are given in 1960 US dollars.

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The following tabulation shows the breakdown of this investment between domestic construction and imports:

	Number of Ships	Million GRT	Value	
			Billion US \$	Percent of Total
Construction				
USSR	13,283	1.49	2.01	75
Imports				
From:				
European				
Satellites	264	0.50	0.57	22
Non-Bloc countries	15	0.08	0.08	3
Total	<u>13,562</u>	<u>2.07</u>	<u>2.67</u>	<u>100</u>

The planned growth and catch of the Soviet fishing fleet, the continuing search for new fertile fishing areas, and the employment of ships in distant areas have necessitated a change in the type of ships built or projected. During the Seven Year Plan the emphasis will be on combination ships -- that is, on ships that both catch and process fish and on ships that both process and transport fish. In addition to these combination types of ships, three classes of purely transport ships will continue to be built.

Construction of all these types of ships points to the fact that the USSR is striving not only to increase the catch but also to process it and transport the finished product quickly to shore bases for further processing and distribution to the consumer.

In addition to increasing the fish catch, an important item in the Soviet diet -- per capita consumption was about 9.5 kilograms (21 pounds) of fish in 1961, and per capita consumption is expected to be 14.6 kilograms (32 pounds) by 1965 -- the expanded fishing fleet will offer a great potential for Soviet intelligence collection and mine warfare activities and provide valuable support functions to the Soviet Navy.

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I. Introduction

The growth of the Soviet fishing fleet during the Seven Year Plan (1959-65) is of importance to the USSR both militarily and economically. By the end of 1965 the USSR probably will have the world's largest high seas fishing fleet, equipped with the most modern fishing ships of practically all types, which will operate on a worldwide basis.

The fishing fleet provides the Soviet Navy with additional capacities in amphibious assault, mine warfare, and intelligence collection. Although not capable of direct over-the-beach assault, fishing trawlers are suited to conduct hit-and-run and infiltration landings in isolated coastal areas. The mine warfare capability of the Soviet fishing fleet centers on its present capacity of laying about 20,000 mines of 1,000 pounds each without any modification to currently installed equipment. 1/* Some of these ships are known to have both an active and a passive electronic warfare capability -- in fact, approximately 20 trawlers that were observed were equipped for ELINT collection. 2/ Soviet fishing ships operate regularly in or near virtually all major shipping lanes of the world, indicating a great potential for intelligence collection as well as for conducting mine warfare. Fishing ships also could be used as auxiliary support to other ships.

The Soviet fish catch, planned to reach 4.6 million tons** in 1965, is an important item in the Soviet diet, providing, it is estimated, about 20 to 25 percent of the animal protein in the diet. Luxury items such as caviar and salmon are exported for needed foreign exchange.

A considerable investment is required for the construction of new ships and shore facilities necessary to catch, transport, and process fish. It is estimated that the equivalent of about \$2.7 billion will be required for construction and imports of fishing ships alone during the Seven Year Plan, with an unknown amount for shore processing facilities and other necessities such as canning and refrigeration plants and ship-repair yards. The total investment in the Soviet fishing industry during 1959-65 is estimated to be more than \$5 billion. 3/

** Unless otherwise indicated, tonnages throughout this report are given in metric tons.

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II. Total New Construction and Value*

The aggregate sum of newly constructed ships for the Soviet fishing fleet during the Seven Year Plan period, including indigenous, European Satellite, and non-Bloc construction, will amount to about 13,600 ships of about 2.1 million GRT with about 1.6 million hp. The three sources of ships for the Soviet fishing fleet, according to percentage of importance as a builder, are as follows:

<u>Builder</u>	<u>Number of Ships</u>	<u>GRT</u>	<u>Horsepower</u>	<u>Percent of Total</u>	
				<u>GRT</u>	<u>Horsepower</u>
USSR	13,283	1,491,275	1,227,300	72	77
Satellites	264	495,680	329,360	24	20
Non-Bloc	15	83,560	44,840	4	3
Total	<u>13,562</u>	<u>2,070,515</u>	<u>1,601,500</u>	<u>100</u>	<u>100</u>

According to the plan figures, the USSR has called for 14,000 new ships to be received by the fishing fleet during 1959-65. Present evidence indicates that this plan figure will be achieved and that 72 percent of the total estimated GRT will be constructed in the USSR. This figure represents an average of about 213,000 GRT per year to be built in Soviet shipyards. For comparative purposes, about 87,500 GRT, or an average of about 17,500 GRT per year, were built in the USSR under the Fifth Five Year Plan (1951-55). In this same period, 283,500 GRT were imported from the Satellites, and 83,200 GRT were imported from non-Bloc countries, 4 or a total of 454,200 GRT was added to the fishing fleet under the Fifth Five Year Plan, an average of 90,840 GRT per year from all sources. During the Seven Year Plan, 2.1 million GRT of fishing ships will be added to the fishing fleet, an average of about 296,000 GRT per year from all sources, or more than three times the average yearly addition in the Fifth Five Year Plan.

In terms of types of ships constructed or to be constructed in the USSR under the Seven Year Plan, about 26 percent (3,468 ships) represent ships that catch fish**; about 73 percent (9,732 ships), ships that are used in processing, transporting, canning, and supply; and about 1 percent (83 ships), ships that will form part of the whaling fleet. Of the 264 ships coming from the European Satellites, 90 percent represent ships that catch fish.

* For a detailed listing of additions to the fishing fleet of the USSR, see Table 1, which follows on p. 5.

** Excluding whales.

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Table 1

Estimated New Construction of Ships for the Fishing Fleet in the USSR a/
 During the Seven Year Plan, 1959-65

<u>Class and Type of Ship</u>	<u>Number</u>	<u>Gross Register Tons</u>	<u>Horsepower</u>
Trawlers and seiners			
<u>Mayakovskiy-class fish-factory trawlers</u>	64	202,880	128,000
All classes of medium fishing trawlers	129	59,615	84,800
Unknown classes of small fishing craft b/ Seiners, all types	1,560	62,400	70,200
	1,715	222,950	180,075
Total	<u>3,468</u>	<u>547,845</u>	<u>463,075</u>
Other ships			
<u>Sovetskaya Ukraina-class whale factory ships</u>	3	96,060	45,000
<u>Mirnyy-class whale catchers</u>	80	67,200	248,000
<u>Andrey Zakharov-class crab-canning factory ships</u>	3	32,100	18,750
Unknown classes of fish-processing ships	12	128,400	75,000
<u>Sevastopol'-class refrigerated fish-carrier/factory ships</u>	14	77,280	87,220
<u>Tavriya-class refrigerated fish carriers</u>	18	58,140	67,500
Total	<u>130</u>	<u>459,180</u>	<u>541,470</u>
Miscellaneous			
Miscellaneous self-propelled ships	<u>9,685</u>	<u>484,250</u>	<u>222,755</u>
Total self-propelled ships	<u>13,283</u>	<u>1,491,275</u>	<u>1,227,300</u>
Miscellaneous non-self-propelled ships	<u>4,116</u>	<u>10,700</u>	<u>0</u>
Grand total	<u>17,399</u>	<u>1,501,975</u>	<u>1,227,300</u>

a. For an annual breakdown by numbers, types, and gross register tons of Soviet construction during 1959-65, see Tables 2 and 3, Appendix A, pp. 21 and 22, respectively, below.

b. Including small fishing trawlers (malye rybolovnyye traulery -- MRT's), fishing boats (rybolovnyye boty -- RB's), medium fishing boats (sredniye rybolovnyye boty -- SRB's), small fishing boats (malye rybolovnyye boty -- MRB's), and similar types of craft built at numerous Soviet shipyards.

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In terms of value, the total construction of fishing ships* during 1959-65 represents an investment of about \$2.7 billion. Of this amount, approximately 75 percent (about \$2.0 billion) represents Soviet construction; 22 percent (or \$575 million), Satellite construction; and 3 percent (or \$78 million), non-Bloc construction. Thus, one-fourth, or \$654 million, of the total investment figure is planned for the import of fishing ships.

This total investment of \$2.7 billion for construction and imports of fishing ships is a considerable one when it is compared with about \$7.0 billion estimated to be spent on construction of naval ships during 1959-65. Such an expenditure for additions to the fishing fleet is considered prima facie evidence of the importance of this fleet to Soviet planners.

Of the estimated value of ships constructed or to be constructed in the USSR, 35 percent (\$711 million) will be spent on ships that catch fish; 55 percent (\$1,107 million), on ships that do not catch fish; and 10 percent (about \$196 million), on ships of the whaling fleet. About 57 percent (approximately \$327 million) of the investment for ships imported from the Satellites is for ships that catch fish.

The value of all fishing ships estimated to be built for the Soviet fishing fleet under the Seven Year Plan is as follows:

Builder	Number of Ships	GRT	Value	
			Million US \$	Percent of Total
USSR	13,283	1,491,275	2,014	75
Satellites	264	495,680	575	22
Non-Bloc	15	83,560	78	3
Total	<u>13,562</u>	<u>2,070,515</u>	<u>2,667</u>	<u>100</u>

The facts that the preponderance of money to be allocated to construction of fishing ships will be for ships built in the USSR and that about one-fourth of the allocation will be for ships to be built in the Satellites and non-Bloc countries are shown in the chart, Figure 1.**

* Excluding miscellaneous non-self-propelled ships.

** Following p. 6.



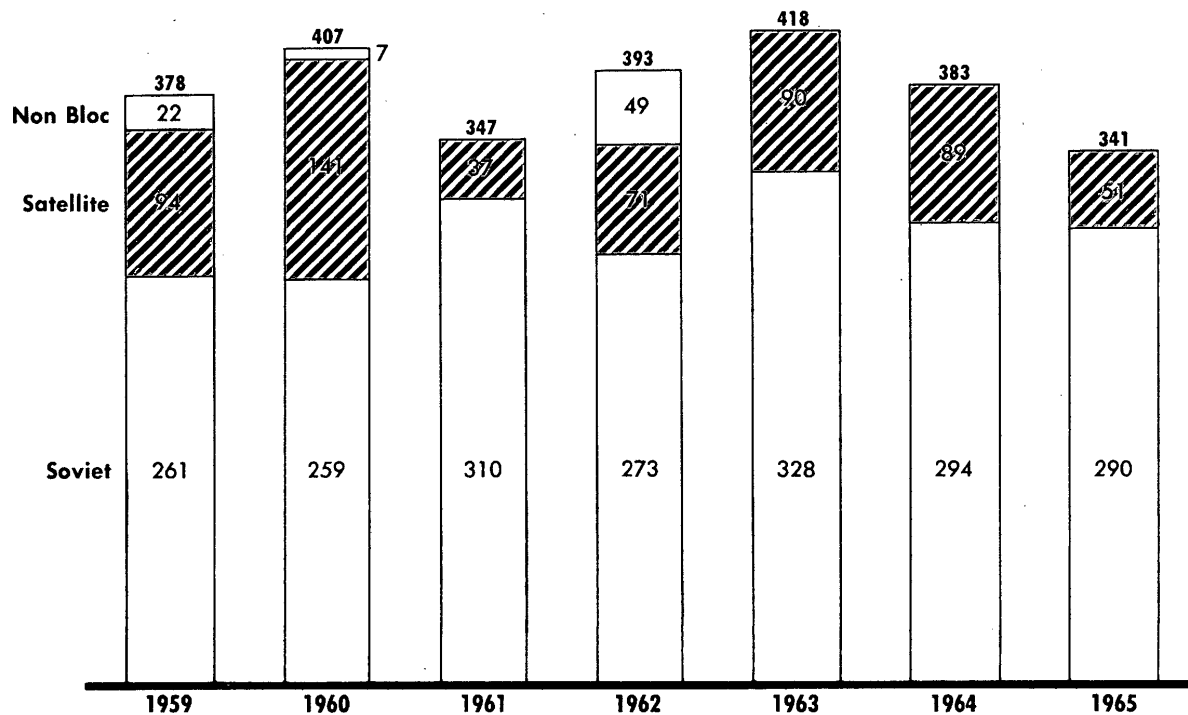
Figure 1

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Estimated Value of Construction of Fishing Ships for the USSR*

1959-65

Million 1960 US Dollars



Because of rounding components may not add to the totals shown

* Does not include non-self-propelled ships



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III. Soviet Construction

A. General

Information from open sources has provided some aggregate data and a lesser amount of specific details concerning the numbers and types of new ships for the Soviet fishing fleet during the Seven Year Plan. It was announced in October 1959, for example, that the fishing fleet would receive 14,000 new ships during the Seven Year Plan 5/ and that included among these new ships would be Tropik-class trawlers, Okean-class medium trawlers, 68 "industrial" ships, 47 transport refrigerators with a cargo-carrying capacity of 2,500 to 3,000 tons, 26 floating fish-processing ships displacing 15,000 to 18,000 long tons, an unknown number of floating crab-canning ships with a capacity of 1,400 to 1,800 cans per day, whale factory ships, new whale catchers, Mayakovskiy-class trawlers, and a special ship for carrying out research. Earlier, in January 1959, 6/ it was announced that the following ships would be built during the plan: a herring factory ship displacing 15,300 long tons, a crab-canning ship displacing 15,300 long tons, a sardine factory ship displacing about 13,000 long tons, a large freezer-trawler displacing about 38,000 long tons, refrigerator ships with about 3,000 tons of cargo-carrying capacity, and fishing seiners of 80 hp and 300 hp.

It is difficult in the above announcements to separate fact from speculation or to separate deliveries of new ships from the Satellites and non-Bloc countries from indigenous Soviet construction to arrive at an estimated total of Soviet construction for the fishing fleet during this period. Nevertheless, information presently available on the Seven Year Plan, on known and estimated future imports, and on the estimated inventory of the Soviet fishing fleet presents a reasonable basis for estimating Soviet construction of ships for the fishing fleet during 1959-65.

1. Fish-Factory Trawlers

The fish-factory trawler, which combines the catching and the processing of fish in a single ship, undoubtedly will become the basic ship of the Soviet fishing industry. 7/ The Mayakovskiy class (3,170 GRT and 2,000 hp), an example of this type of ship, has been under construction in the USSR at the Nosenko Shipyard in Nikolayev since 1957. By the end of 1961, more than 40 of these ships will have been completed and will be operational with the fishing fleet. In Soviet parlance these ships are known as large fishing-freezing trawlers (bol'shiye morozil'kiye rybolovnyye traulery -- EMRT's). This type of fish-factory trawler, together with a similar type of ship under construction in Poland and East Germany, designated the Leskov class and Tropik class, respectively, constitutes the most ambitious new ship

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construction program for the fishing fleet. In February 1959 8/ it was stated that the BMRT flotilla at that time numbered about 31 ships and that by the end of the Seven Year Plan it would be five times greater. Such an increase would mean about 155 fish-factory trawlers by the end of 1965. The statement probably took into account the imports from East Germany and Poland. Because East Germany is falling behind its original schedule, one way for the USSR to meet the original plan of 155 trawlers is to continue construction at the Nosenko Shipyard longer than was originally planned. Alternatively the USSR could begin construction of trawlers at another shipyard. The alternative may have become a fact in September 1959, when the Baltic Shipyard in Klaipeda was preparing to build "large trawlers of the Mayakovskiy class." 9/ The first ship is scheduled to be delivered from this yard in 1962. 10/

The first successful fish-factory trawler, the Fairtry, built in the UK early in 1954, 11/ probably represents the basic design from which the Soviet, Polish, and East German trawlers were derived. The Mayakovskiy class has a refrigerated cargo space capacity of about 600 tons. About 64 ships of this class will be constructed during 1959-65, possibly 43 at Nikolayev and 21 at Klaipeda, for a total of 202,880 GRT and 128,000 hp.

2. Medium Fishing Trawlers

The most numerous single type of ship in the Soviet fishing fleet is the medium fishing trawler (sredniy rybolovnyy trawler -- SRT). A refrigerated version is referred to as SRT-R. These trawlers range in size from about 260 to 650 GRT and from about 300 to 800 hp.

Medium fishing trawlers probably are built at several Soviet shipyards, the most important being the Leninskaya Kuznitsa Shipyard in Kiev. This shipyard has its own design bureau, which has provided drawings of medium trawler designs for construction at such shipyards as the Khabarovsk Shipyard in Khabarovsk and the Baltic Shipyard in Klaipeda. 12/

The newest medium trawler to be added to the fishing fleet is the Atlantik class displacing about 930 long tons. This trawler is estimated to be 650 GRT and to have 800 hp. It is the largest medium trawler ever built in the USSR and was designed at the design bureau of Leninskaya Kuznitsa Shipyard. The first ship of this class built by this same yard was scheduled to join the fleet late in 1961. The Atlantik class differs from other medium trawlers not only in size but also in the fact that it is the first medium trawler designed to can and package fish and to deliver its catch directly to ports. In other words, the trawler is designed to operate independently of a factory ship or a mother ship. The cargo-carrying capacity of the Atlantik-class medium trawler is estimated to be about 200 tons.

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Soviet construction of medium fishing trawlers during 1959-65 is estimated at 129 ships totaling 59,615 GRT and 84,800 hp.

3. Small Fishing Trawlers and Fishing Boats

Construction of small fishing trawlers, fishing boats, and similar types of craft is undertaken at numerous Soviet shipyards. It is estimated that 1,560 of these types of ships totaling 62,400 GRT and 70,200 hp* will be built during the Seven Year Plan period.

4. Seiners

Seiners in varying sizes ranging from about 35 to about 150 GRT and averaging about 130 GRT per ship with 80 to 300 hp probably are built at shipyards located in Nikolayevsk-na-Amur, Astrakhan', Khabarovsk, Nevelsk, and Petrozavodsk ^{14/} and at other unlocated shipyards. Construction of all types of seiners during 1959-65 is estimated at 1,715 ships totaling 222,950 GRT and 180,075 hp.**

5. Other Ships

The category of "other ships" consists of the larger types of ships such as refrigerated fish-carrier/factory ships, refrigerated fish carriers, whale factory ships, crab-canning factory ships, and whale catchers, in addition to numerous auxiliary and unknown types of ships. Individual discussion of each major type is presented below.

a. Whale Factory Ships

The first ship of this class, the Sovetskaya Ukraina, was completed in 1959 at the Nosenko Shipyard in Nikolayev. A sister ship, the Sovetskaya Rossiya, was completed about October 1961. The keel was laid in October 1960 for the third and last ship of the series, the Sovetskiy Soyuz,*** which should be completed early in 1963.

Ships of this class are of 32,020 GRT and 15,000 hp and have a total processing capacity of 65,280 tons, of which 48,000 tons consist of whale oil. All treatment processes aboard ship are fully automated, and each ship is equipped to service 20 whale catchers. ^{15/} The USSR will construct three ships of the Sovetskaya Ukraina class at the Nosenko Shipyard in Nikolayev totaling 96,060 GRT and 45,000 hp.

* The average horsepower per ship is estimated at 45.

** The average horsepower per ship is estimated at 105.

*** It is believed that in 1963 the Sovetskiy Soyuz will replace the old whale factory ship Slava of 14,770 GRT, which was built in 1929.

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b. Whale Catchers

Whale catchers of the Mirnyy class (840 GRT and 3,100 hp) were designed to operate with the new whale factory ships and probably to replace the old Slava type of whale catcher. In comparison with the old Slava type, the ships of the Mirnyy class are larger; are of higher speed, of better maneuverability, and of superior seagoing qualities; and have better crew quarters. 16/

Construction during the Seven Year Plan period is estimated to be 80 ships* totaling 67,200 GRT and 248,000 hp. These ships probably are built at the Northern Shipyard in Nikolayev.

c. Crab-Canning Factory Ships

By mid-1961 the first ship of this class, the Andrey Zakharov (10,700 GRT and 6,250 hp), had been completed, and the second ship of the class, the Pavel Chebotnyagin, had been launched. 17/

Ships of the Andrey Zakhakov class are reported to have an annual capacity of 20 million cans. Because the crabbing season is only 6 months long, during the remainder of the year the ship will be used to can fish, and the annual capacity includes cans of fish as well as crabs. 18/

Construction during the plan probably will consist of three ships with a total of 32,100 GRT and 18,750 hp, all to be built at the Admiralty Shipyard in Leningrad. It is believed that the three ships will go to the Far East, one each for the fishing industries of Sakhalin, Primor'ye, and Kamchatka.

A total of 12 fish-processing ships, possibly consisting of herring factory ships, sardine factory ships, and other unknown types, may be built at the Admiralty Shipyard in Leningrad and the Nosenko Shipyard in Nikolayev, possibly 6 at each shipyard. On the basis of a hull and of propulsion equipment of the same type as that of the Andrey Zakharov, it is estimated that construction of these ships by the end of 1965 would amount to 128,400 GRT and 75,000 hp.

* The total construction of 100 whale catchers (20 were produced before the beginning of the Seven Year Plan) is based on 20 catchers for each of 4 whale factory ships (3 built in the USSR and 1 built in East Germany) and 10 catchers for each of 2 whale/fish-factory ships to be built in West Germany.

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d. Refrigerated Fish-Carrier/Factory Ships

The Sevastopol'-class combination refrigerated fish-carrier/factory ship (5,520 GRT and 6,230 hp) is an improved version of the Aktyubinsk-class refrigerator ship. Whereas the Aktyubinsk class was purely a refrigerated transport ship, the Sevastopol' class is actually a combined factory-transport ship designed for processing and freezing whale meat and freezing whole fish, in addition to transporting frozen produce from the fishing grounds. By the end of 1965, possibly 14 of these ships totaling 77,280 GRT and 87,220 hp will have been completed. All ships of the Sevastopol' class will be built at the Baltic Shipyard in Leningrad.

e. Refrigerated Fish Carriers

The newest and only class of purely refrigerated fish carrier now under construction in the USSR is the Tavriya class (3,230 GRT and 3,750 hp). It has been reported that ships of this class are built at "a shipyard in Nikolayev." 19/ The actual building yard is unknown, but it may be the Northern Shipyard in Nikolayev.

Ships of this class will receive eviscerated and whole fish at sea, freeze them, and transport them to shore bases. The ships have a carrying capacity of 1,575 tons of frozen fish in cardboard containers or 1,430 tons in crates. Possibly 18 ships of the Tavriya class totaling 58,140 GRT and 67,500 hp will be built during 1959-65.

f. Miscellaneous Self-Propelled Ships*

Extremely limited information is available concerning ships of the Soviet fishing fleet in the miscellaneous self-propelled category, with the possible exception of small refrigerated transport ships. The Kirov Shipyard in Astrakhan' is building this type of ship for use in the Caspian Sea and in the Volga and Ural River estuaries. The Stretensk Shipyard also is building these ships for rivers of the Amur Basin, and the Ulan-Ude Shipyard is constructing them for the fishermen of Lake Baikal. 20/ The total construction of all types of miscellaneous self-propelled ships during 1959-65 is estimated to be 9,685 ships totaling 484,250 GRT and 222,755 hp.**

g. Miscellaneous Non-Self-Propelled Ships

One of the most important types of non-self-propelled ships to be constructed in the USSR under the Seven Year Plan will be

* Probably including research ships, barges, tankers, tugs, crabbing boats, and other unknown types arbitrarily estimated at 50 GRT per ship.

** The average horsepower per ship is estimated at 23.

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a floating fish factory made of ferroconcrete that displaces 3,500 long tons. Six of these floating factories are scheduled to be built at the Gorodets Shipyard for use in the Caspian Sea. 21/

Many Soviet shipyards also will build barges and other miscellaneous craft during the Seven Year Plan. Floating docks for the Far East fishing industry are being built at the Baltic Shipyard in Klaipeda, 22/ and the ship repair yard in Klaipeda in 1959 began construction of floating repair shops that may be similar to such craft built in East Germany. 23/

The total construction of all types of non-self-propelled ships during 1959-65 is estimated at 4,116 ships of 10,700 GRT.

IV. Imports

A. Satellite Construction

1. Poland

Poland's contribution to the Soviet fishing fleet during the Seven Year Plan* will consist mainly of three types of ships: the B-14 Zelenodolsk-class trawler (680 GRT and 800 hp); the B-15 Leskov-class fish-factory trawler (2,670 GRT and 2,000 hp), which is very similar to the Soviet-built Mayakovskiy class and to the Pushkin class built in West Germany in 1955-57; and the B-62 Severodvinsk-class mother ship, or herring factory ship (10,030 GRT and 5,000 hp). An improved version of the Severodvinsk class probably will be completed in 1962. This new class, B-64 (estimated at 12,000 GRT and 6,250 hp), will differ from the Severodvinsk class in that it will be adapted as a carrier of fish preserves and fillets; will be the flagship for a fishing flotilla; and will have a special communication station, a weather office, and a helicopter. 24/ Poland also was working on designs for a new trawler in May 1961. 25/ The Gdansk Shipyard is the main Polish shipyard constructing ships for the Soviet fishing fleet.

The estimated construction of ships by Poland for the fishing fleet of the USSR during the Seven Year Plan period is as follows:

<u>Type</u>	<u>Number</u>	<u>GRT</u>	<u>Horsepower</u>
Zelenodolsk-class trawler	12	8,160	9,600
Leskov-class fish-factory trawler	20	53,400	40,000
Severodvinsk-class mother ship	8	80,240	40,000
B-64-class combined fish-factory/ mother ship	10	120,000	62,500
Total	<u>50</u>	<u>261,800</u>	<u>152,100</u>

* For the annual construction of ships in Poland by number, type, and gross register tons, see Table 4, Appendix A, p. 23, below, and for the value of this construction, see Table 7, Appendix A, p. 26, below.

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2. East Germany

The most prolific supplier of fishing ships to the USSR during 1959-65,* in regard to numbers delivered, will be East Germany. The USSR will import the following types of ships for its fishing fleet from East Germany: Okean-class refrigerated medium fishing trawlers (500 GRT and 540 hp), Tropik-class fish-factory trawlers (estimated at 2,500 GRT and 1,300 hp), Bratsk-class refrigerated fish carriers (2,900 GRT and 1,300 hp), and the whale factory ship Yuriy Dolgorukiy (25,380 GRT and 25,000 hp).**

Construction of the Okean-class medium trawlers actually began in 1958, before the beginning of the Seven Year Plan, at the Volkswerft in Stralsund. The total construction program was completed in 1960 with delivery of 171 of these ships to the USSR.

Tropik-class fish-factory trawlers were under construction at two shipyards in 1961, at the Neptun Werft in Rostock and at the Volkswerft in Stralsund. The Neptun Werft launched one hull early in 1961. Because new facilities at this yard for constructing Tropik-class trawlers are not yet completed, it appears that the construction schedule is lagging and that the first hull will not be completed at the Volkswerft until early in 1962.

The Tropik class is intended for tuna fishing in the South Atlantic and can perform normal trawling operations. A senior official of the fishing industry in Kaliningrad stated that the Tropik class was designed because experience had shown that technical equipment on fish factory trawlers (Mayakovskiy and Pushkin classes) was insufficient to make use of all opportunities in the rich South Atlantic fishing grounds. 26/ A total of 67 ships of this class was scheduled to be built under the Seven Year Plan, 27/ but this number now seems unrealistic because of delayed construction at the Volkswerft in Stralsund. A more realistic estimate is 39.

A total of 10 refrigerated fish carriers of the Bratsk class are to be built at the Peenewerft in Wolgast and at the Volkswerft in Stralsund.

* For annual construction of ships in East Germany, see Table 4, Appendix A, p. 23, below, and for the value of this construction, see Table 7, Appendix A, p. 26, below.

** The Yuriy Dolgorukiy is technically not a new construction but a conversion of a former liner.

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Under the Seven Year Plan, East Germany will construct the following fishing fleet ships for the USSR:

<u>Type</u>	<u>Number</u>	<u>GRT</u>	<u>Horsepower</u>
Okean-class trawler	164	82,000	88,560
<u>Tropik</u> -class fish-factory trawler	39	97,500	50,700
<u>Bratsk</u> -class refrigerated fish carrier	10	29,000	13,000
<u>Yuriy Dolgorukiy</u> (whale ship factory)	1	25,380	25,000
Total	<u>214</u>	<u>233,880</u>	<u>177,260</u>

B. Non-Bloc Construction*

1. West Germany

A contract has been signed between West Germany and Sudoimport, the Soviet ship importing agency, that calls for construction of two combination whaling/fish-factory ships (of 18,000 GRT and 6,250 hp each) to be built at the Howaldtswerke in Kiel. These ships will be unique in that they will be the first ships of the Soviet fishing fleet, and possibly of any nation's fishing fleet, that will combine the catching and processing of whales and the processing of fish catches from trawlers. These ships will hunt 50-ton sperm whales in the tropical waters off the west coast of South and Central America. When not engaged in this activity, the ships will be busy processing fish catches.

The capacity of each of the whaling/fish-factory ships is estimated to be about 30,000 tons of fish oil, fillets, and fish meal. The delivery of these new combination ships to the USSR is scheduled for 1962. The possibility exists that the USSR may order "six fish-factory ships of a larger type" in the future. 28/

2. Denmark

In 1959 and 1960, Denmark delivered five refrigerated fish carriers of the Pervomaysk class (3,320 GRT and 2,160 hp) to the USSR.

* For non-Bloc construction of ships by number, type, gross register tons, and country, see Table 5, Appendix A, p. 24, below, and for the value of this construction, see Table 8, Appendix A, p. 27, below.

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Recently a contract was signed between Sudoimport and Burmeister and Wain of Copenhagen for four combination refrigerated fish-carrier/factory ships (5,000 GRT and 3,100 hp) for delivery in 1962. These ships will have a crew of 102 and will be equipped to process, freeze, and transport fish and to extract oil from fish livers. 29/

The total new ship deliveries from Denmark to the USSR during 1959-65 will be as follows:

<u>Type</u>	<u>Number</u>	<u>GRT</u>	<u>Horsepower</u>
<u>Pervomaysk-class refrigerated fish carrier</u>	5	16,600	10,800
<u>New combined refrigerated fish-carrier/factory ship</u>	4	20,000	12,400
<u>Total</u>	<u>9</u>	<u>36,600</u>	<u>23,200</u>

3. Japan

In 1959, Japan delivered four ships to the USSR for the Soviet fishing fleet. Two of the ships were Lamut-class herring factory ships (4,980 GRT and 3,360 hp), and two were Dnepr-class tuna fishing ships (500 GRT and 1,210 hp). The total deliveries to the USSR through the end of 1961 were as follows:

<u>Type</u>	<u>Number</u>	<u>GRT</u>	<u>Horsepower</u>
<u>Lamut-class herring factory ship</u>	2	9,960	6,720
<u>Dnepr-class tuna ship</u>	2	1,000	2,420
<u>Total</u>	<u>4</u>	<u>10,960</u>	<u>9,140</u>

V. Estimated Size and Efficiency of the Soviet Fishing Fleet

The Soviet fishing fleet* in 1959 is estimated to have numbered about 16,500 ships of 1.9 million GRT with 1.3 million hp. By the end of 1965 it is estimated that the fleet will number about 24,600 ships

* Excluding non-self-propelled ships.

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of about 3.3 million GRT with 2.4 million hp.* This growth between 1959 and 1965 represents an increase of about 50 percent in the number of ships and compares favorably with the estimated increase of about 50 percent in the total fish catch between 1959 and 1965.

A very important segment in the Soviet fishing fleet, especially in relation to the fish catch, is that of trawlers and seiners. At the end of 1959, there was an estimated total of about 4,600 trawlers and seiners comprising about 1.2 million GRT. In 1965 an estimated total of 6,800 trawlers and seiners of about 1.6 million GRT will be a part of the fishing fleet.

Based on the estimated Soviet deep-sea fish catch during 1959-65, as shown in Table 10,** and on the number of trawlers and seiners in the fishing fleet for these years, the efficiency of these fishing ships will average about 435 tons of catch per ship, or about 1.8 tons per GRT during the Seven Year Plan.*** These figures indicate that the efficiency of Soviet fishing is below that of other countries.†

In spite of the relatively low efficiency of the Soviet fishing fleet, if the catch of marine animals and whales and the inland catch reach the figures shown in Table 10, the USSR will achieve the planned total fish catch for 1965 of 4.6 million tons. Although the total fish catch will increase steadily during 1959-65, the total deep-sea catch (including marine animals and whales) will remain almost constant at about 78 percent of the total fish catch, as shown in the chart, Figure 2,†† and in Table 10. The actual percentage increase of all of the total fish catch is as follows:

<u>Type of Fish Catch</u>	<u>Percentage Increase 1965 Above 1959</u>
Deep sea	
Fish	51
Marine animals and whales	89
Total deep sea	57
Inland and coastal	32
Total fish catch	51

* For the estimated inventory of the Soviet fishing fleet during 1959-65, see Table 9, Appendix A, p. 28, below.

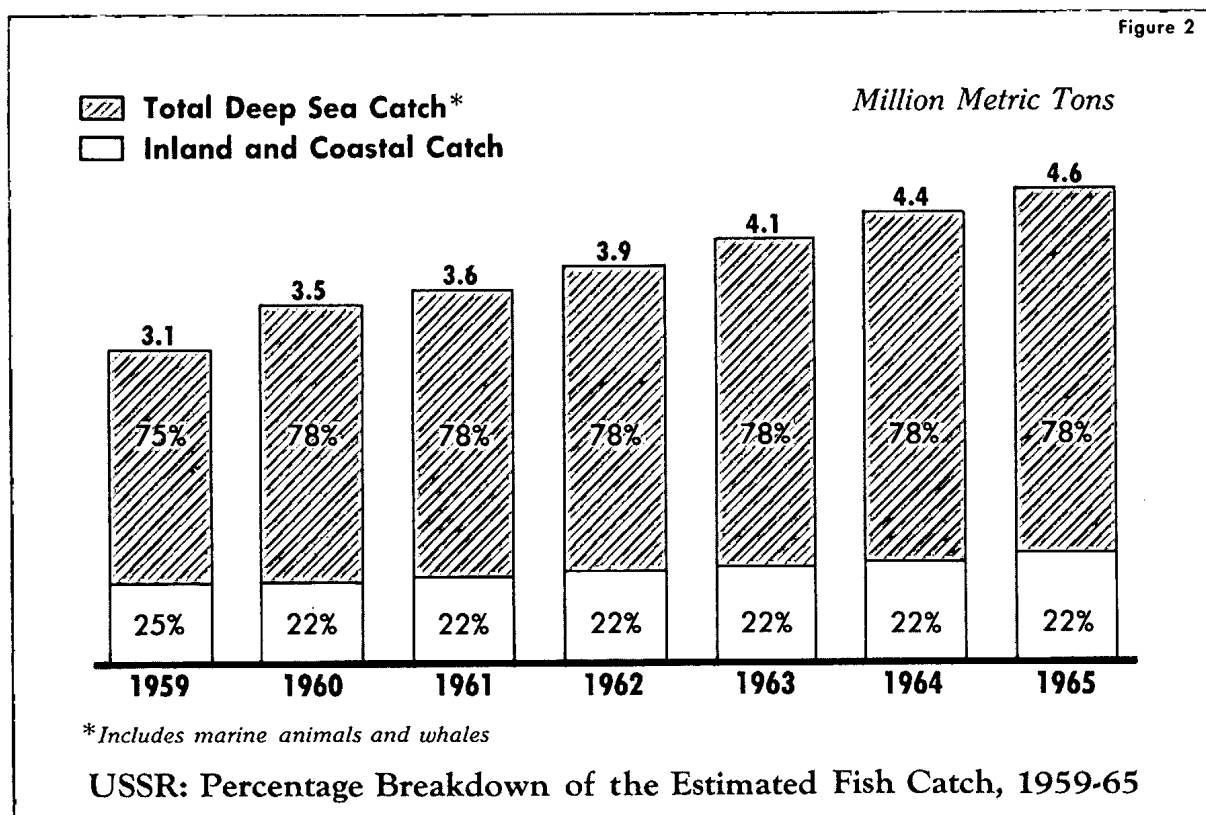
** Appendix A, p. 29, below.

*** See Table 11, Appendix A, p. 30, below.

† During 1950-55 the average tonnage of catch per gross register ton for the US was 4.6; for the UK, 1.8; for Japan, 3.4; for the Netherlands, 3.5; and for Iceland, 6.9.

†† Following on p. 17.

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The planned growth and catch of the Soviet fishing fleet, the continuing research for new fertile fishing areas, and the employment of fishing ships in distant areas have necessitated a change in the types of ships built or projected for the fishing fleet. Under the Seven Year Plan the emphasis will be on combination ships -- that is, on ships that both catch fish and process fish, such as the Mayakovskiy, Leskov, Tropik, and Atlantik classes; ships that both process fish and transport fish, such as the Sevastopol' class; and a new class to be completed in Denmark in 1962. Poland will soon begin constructing a class of ship, the B-64, that will both process fish and serve as a mother ship. The new whaling ships to be built in West Germany not only will process whales but also will process fish catches from trawlers. In addition to the combination type of ships, three classes of purely transport ships, the Pervomaysk, the Tavriya, and the Bratsk, either are completed or construction of them will continue.

Construction of all classes of ships points to the fact that the USSR is striving not only to increase the catch but also to process the catch and transport the finished product quickly to shore bases for further processing or for distribution to the consumer. Recent Soviet figures indicate that the per capita consumption of fish in 1961 was about 9.5 kilograms, an amount that is expected to increase to 14.6 kilograms by 1965. 30/

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APPENDIX A

STATISTICAL TABLES

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Table 2

Estimated Soviet Construction of Trawlers, Fishing Boats, and Seiners
for the Fishing Fleet
During the Seven Year Plan, 1959-65

Class and Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total	
	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons
Fish factory trawlers																
<u>Mayakovskiy a/</u>	11	34,870	12	38,040	12	38,040	8	25,360	6	19,020	6	19,020	6	19,020	43	136,310
<u>Mayakovskiy b/</u>							3	9,510						21	66,570	
Total	<u>11</u>	<u>34,870</u>	<u>12</u>	<u>38,040</u>	<u>12</u>	<u>38,040</u>	<u>11</u>	<u>34,870</u>	<u>6</u>	<u>19,020</u>	<u>6</u>	<u>19,020</u>	<u>6</u>	<u>19,020</u>	<u>64</u>	<u>202,880</u>
Medium fishing trawlers																
<u>Bologoye c/</u>	20	6,680	15	5,010	5	1,670									40	13,360
<u>Bologoye d/</u>	8	2,670	4	1,335											12	4,005
<u>Komsomolets Litva b/</u>	5	1,300	6	1,560	9	2,340	10	6,500	15	9,750	15	9,750	15	9,750	20	5,200
<u>Atlantik e/</u>					2	1,300									37	37,050
Total	<u>33</u>	<u>10,550</u>	<u>25</u>	<u>7,905</u>	<u>16</u>	<u>5,310</u>	<u>10</u>	<u>6,500</u>	<u>15</u>	<u>9,750</u>	<u>15</u>	<u>9,750</u>	<u>15</u>	<u>9,750</u>	<u>129</u>	<u>59,615</u>
Unknown classes of small fishing craft e/																
Total trawlers and fishing boats	<u>186</u>	<u>51,200</u>	<u>173</u>	<u>51,385</u>	<u>272</u>	<u>53,110</u>	<u>272</u>	<u>51,410</u>	<u>276</u>	<u>38,970</u>	<u>284</u>	<u>39,290</u>	<u>290</u>	<u>39,530</u>	<u>1,753</u>	<u>324,895</u>
Seiners (all types) f/																
Total trawlers, fishing boats, and seiners	<u>416</u>	<u>81,100</u>	<u>408</u>	<u>81,935</u>	<u>512</u>	<u>84,318</u>	<u>517</u>	<u>83,260</u>	<u>526</u>	<u>71,470</u>	<u>539</u>	<u>72,440</u>	<u>550</u>	<u>73,330</u>	<u>3,468</u>	<u>547,845</u>

a. Construction at the Nosenko Shipyard in Nikolayev.

b. Construction at the Baltic Shipyard in Klaipeda.

c. Construction at the Leninskaya Kuznitsa Shipyard in Kiev.

d. Construction at the Khabarovsk Shipyard in Khabarovsk.

e. Including small fishing trawlers (malyye rybolovnyye trawlery -- MRT's), fishing boats (rybolovnyye boty -- RB's), medium fishing boats (sredniye rybolovnyye boty -- SRB's), small fishing boats (malyye rybolovnyye boty -- MRB's), and similar types of craft built at numerous Soviet shipyards.

f. Including fishing seiners (rybolovnyye seyneryy -- RS's), medium seiners (sredniye rybolovnyye seyneryy -- SRS's), small fishing seiners (malyye rybolovnyye seyneryy -- MRS's), and similar craft built at numerous Soviet shipyards.

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Table 3

Estimated Soviet Construction of Selected Self-Propelled and Non-Self-Propelled Ships
for the Fishing Fleet
During the Seven Year Plan, 1959-65

Class and Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total	
	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons
Self-propelled																
Sevastopol'-class refrigerated fish-carrier/factory ship	2	11,040	2	11,040	2	11,040	2	11,040	2	11,040	2	11,040	2	11,040	14	77,280
Tavriya-class refrigerated fish carrier	1	3,230	2	6,460	3	9,690	3	9,690	3	9,690	3	9,690	3	9,690	18	58,140
Total	3	14,270	4	17,500	5	20,730	5	20,730	5	20,730	5	20,730	5	20,730	32	135,420
Sovetskiye Ukrainy-class, whale factory ship	1	32,020			1	32,020			1	32,020					3	96,060
Andrey Zakharov-class crab-canning factory ship			1	10,700	2	21,400									3	32,100
Unknown classes of fish processing ships							1	10,700	4	42,800	3	32,100	4	42,800	12	128,400
Total			1	10,700	2	21,400	1	10,700	4	42,800	3	32,100	4	42,800	15	160,500
Mirnyy-class whale catcher	11	9,240	13	10,920	14	11,760	14	11,760	14	11,760	14	11,760	14	11,760	80	67,200
Miscellaneous self-propelled ships a/	1,294	64,700	1,323	66,150	1,353	67,650	1,377	68,850	1,408	70,400	1,442	72,100	1,488	74,400	9,685	484,250
Total self-propelled	1,309	120,230	1,341	105,270	1,375	153,550	1,397	112,040	1,432	177,710	1,464	136,690	1,497	137,930	9,815	543,430
Non-self-propelled																
Miscellaneous b/	588	1,530	588	1,530	588	1,530	588	1,530	588	1,530	588	1,530	588	1,530	4,116	10,700
Total self-propelled and non-self-propelled	1,897	121,760	1,929	106,800	1,963	155,080	1,985	113,570	2,020	179,240	2,052	138,220	2,085	139,460	13,931	554,130

a. Probably including research ships, barges, tankers, tugs, crabbing boats, and other unknown types arbitrarily estimated at 50 GRT per ship.
b. Probably including kungases, barges, floating repair ships, and other unknown types.

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Table 4

Estimated Satellite Construction of Ships for the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

Country and Class and Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total	
	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons
Poland																
Zelenodolsk-class medium fishing trawler	7	4,760	5	3,400											12	8,160
Leskov-class fish-factory trawler			3	8,010	5	13,350	6	16,020	6	16,020					20	53,400
Severodvinsk-class mother ship	3	30,090	4	40,120	1	10,030					4	48,000	1	12,000	8	80,240
Combined fish-factory/mother ship							2	24,000	3	36,000					10	120,000
Total	<u>10</u>	<u>34,850</u>	<u>12</u>	<u>51,530</u>	<u>6</u>	<u>23,380</u>	<u>8</u>	<u>40,020</u>	<u>9</u>	<u>52,020</u>	<u>4</u>	<u>48,000</u>	<u>1</u>	<u>12,000</u>	<u>50</u>	<u>261,800</u>
East Germany																
Okean-class medium fishing trawler	73	36,500	91	45,500											164	82,000
Tropik-class fish-factory trawler					1	2,500	6	15,000	8	20,000	12	30,000	12	30,000	39	97,500
Bratsk-class refrigerated fish carrier			1	2,900	3	8,700	3	8,700	3	8,700					10	29,000
Yuriy Dolgorukiy (whale factory ship)			1	25,380											1	25,380
Total	<u>73</u>	<u>36,500</u>	<u>93</u>	<u>73,780</u>	<u>4</u>	<u>11,200</u>	<u>9</u>	<u>23,700</u>	<u>11</u>	<u>28,700</u>	<u>12</u>	<u>30,000</u>	<u>12</u>	<u>30,000</u>	<u>214</u>	<u>233,880</u>
Total Satellite construction	<u>83</u>	<u>71,350</u>	<u>105</u>	<u>125,310</u>	<u>10</u>	<u>34,580</u>	<u>17</u>	<u>63,720</u>	<u>20</u>	<u>80,720</u>	<u>16</u>	<u>78,000</u>	<u>13</u>	<u>42,000</u>	<u>264</u>	<u>495,680</u>

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Table 5

Estimated Non-Bloc Construction of Ships for the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

Country and Class and Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total	
	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons	Number	Gross Register Tons
West Germany																
Combination whaling/fish- factory ship							2	36,000							2	36,000
Total							<u>2</u>	<u>36,000</u>						<u>2</u>	<u>36,000</u>	
Denmark																
Pervomaysk-class refrigerated fish carrier	3	9,960	2	6,640											5	16,600
Combination refrigerated fish- carrier/factory ship							4	20,000							4	20,000
Total	<u>3</u>	<u>9,960</u>	<u>2</u>	<u>6,640</u>			<u>4</u>	<u>20,000</u>						<u>9</u>	<u>36,600</u>	
Japan																
Lamut-class herring factory ship	2	9,960													2	9,960
Dnepr-class tuna ship	2	1,000													2	1,000
Total	<u>4</u>	<u>10,960</u>													<u>4</u>	<u>10,960</u>
Total non-Bloc construction	<u>7</u>	<u>20,920</u>	<u>2</u>	<u>6,640</u>			<u>6</u>	<u>56,000</u>						<u>15</u>	<u>83,560</u>	

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Table 6

Estimated Number and Value of Soviet Construction of Ships for the Fishing Fleet
During the Seven Year Plan, 1959-65

Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total		Percent of Total Value of Self-Propelled Ship
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	
Mayakovskiy-class fish factory trawlers	11	38.3	12	41.8	12	41.8	11	38.3	6	20.9	6	20.9	6	20.9	64	222.9	11
All classes of medium fishing trawlers	33	14.7	25	10.9	16	7.3	10	9.0	15	13.5	15	13.5	15	13.5	129	82.4	4
Other classes of small fishing craft	142	8.5	136	8.2	244	14.6	251	15.1	255	15.3	263	15.8	269	16.1	1,560	93.6	5
Seiners, all types	230	41.9	235	42.8	240	43.7	245	44.6	250	45.5	255	46.4	260	47.3	1,715	312.1	15
Sevastopol'-class refrigerated fish-carrier/factory ships	2	14.3	2	14.3	2	14.3	2	14.3	2	14.3	2	14.3	2	14.3	14	100.1	5
Tavriya-class refrigerated fish carriers	1	4.6	2	9.2	3	13.8	3	13.8	3	13.8	3	13.8	3	13.8	18	82.8	4
Sovetskaya Ukraina-class whale factory ships	1	25.2			1	25.2			1	25.2					3	75.6	4
Andrey Zakharov-class crab-canning factory ships			1	13.2	2	26.4									3	39.6	2
Unknown classes of fish processing ships							1	13.2	4	52.8	3	39.6	4	52.8	12	158.4	8
Mirnyy-class whale catchers	11	16.5	13	19.5	14	21.0	14	21.0	14	21.0	14	21.0			80	120.0	6
Miscellaneous self-propelled ships	1,294	97.1	1,323	99.2	1,353	101.5	1,377	103.3	1,408	105.6	1,442	108.2	1,488	111.6	9,685	726.5	36
Total self-propelled ships	<u>1,725</u>	<u>261.1</u>	<u>1,749</u>	<u>259.1</u>	<u>1,887</u>	<u>309.6</u>	<u>1,914</u>	<u>272.6</u>	<u>1,958</u>	<u>327.9</u>	<u>2,003</u>	<u>293.5</u>	<u>2,047</u>	<u>290.3</u>	<u>13,283</u>	<u>2,014.0</u>	<u>100</u>
Miscellaneous non-self-propelled ships	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>588</u>	<u>1.5</u>	<u>4,116</u>	<u>10.5</u>	
Grand total all types of ships and value	<u>2,313</u>	<u>262.6</u>	<u>2,337</u>	<u>260.6</u>	<u>2,475</u>	<u>311.1</u>	<u>2,502</u>	<u>274.1</u>	<u>2,546</u>	<u>329.4</u>	<u>2,591</u>	<u>295.0</u>	<u>2,635</u>	<u>291.8</u>	<u>17,399</u>	<u>2,024.5</u>	

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Table 7

Estimated Number and Value of Satellite Construction of Ships for the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

Country and Class and Type of Ship	Values in Million 1960 US \$														Type as a Percent of Total Value	Country Total as a Percent of Total		
	1959		1960		1961		1962		1963		1964		1965				Total	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value			Number	Value
Poland																		
Zelenodolsk-class trawlers	7	11.2	5	8.0											12	19.2	6	
Leskov-class fish-factory trawlers			3	10.2	5	17.0	6	20.4	6	20.4					20	68.0	23	
Severodvinsk-class mother ships	3	31.8	4	42.4	1	10.6									8	84.8	28	
Combined fish-factory/ mother ships							2	25.4	3	38.1	4	50.8	1	12.7	10	127.0	43	
Total	<u>10</u>	<u>43.0</u>	<u>12</u>	<u>60.6</u>	<u>6</u>	<u>27.6</u>	<u>8</u>	<u>45.8</u>	<u>9</u>	<u>58.5</u>	<u>4</u>	<u>50.8</u>	<u>1</u>	<u>12.7</u>	<u>50</u>	<u>299.0</u>	<u>100</u>	
East Germany																		
Okean-class medium fishing trawlers	73	51.1	91	63.7											164	114.8	42	
Tropik-class fish-factory trawlers					1	3.2	6	19.2	8	25.6	12	38.4	12	38.4	39	124.8	45	
Bratsk-class refrigerated fish carriers			1	2.1	3	6.3	3	6.3	3	6.3					10	21.0	8	
Yuriy Dolgorukiy (whale factory ship)			1	15.0 a/											1	15.0	5	
Total	<u>73</u>	<u>51.1</u>	<u>93</u>	<u>80.8</u>	<u>4</u>	<u>9.5</u>	<u>9</u>	<u>25.5</u>	<u>11</u>	<u>31.9</u>	<u>12</u>	<u>38.4</u>	<u>12</u>	<u>38.4</u>	<u>214</u>	<u>275.6</u>	<u>100</u>	
Total Satellite construction	<u>83</u>	<u>94.1</u>	<u>105</u>	<u>141.4</u>	<u>10</u>	<u>37.1</u>	<u>17</u>	<u>71.3</u>	<u>20</u>	<u>90.4</u>	<u>16</u>	<u>89.2</u>	<u>13</u>	<u>51.1</u>	<u>264</u>	<u>574.6</u>	<u>100</u>	

a. Estimated conversion cost.

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Table 8

Estimated Number and Value of Non-Bloc Construction of Ships for the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

Country and Class and Type of Ship	1959		1960		1961		1962		1963		1964		1965		Total		Country Total as a Percent of Total
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	
West Germany																	
Combination whaling/fish- factory ships							2	28.4							2	28.4	
Total							2	28.4							2	28.4	36
Denmark																	
Pervomaysk-class refrigerated fish carriers	3	10.4	2	6.9											5	17.2	
Combination refrigerated fish carrier/factory ships							4	20.8							4	20.8	
Total	3	10.4	2	6.9			4	20.8						9	38.0	49	
Japan																	
Lamut-class herring factory ships	2	10.8													2	10.8	
Dnepr-class tuna ships	2	1.2													2	1.2	
Total	4	12.0													4	12.0	15
Total non-Bloc construction	7	22.4	2	6.9			6	49.2							15	78.4	100

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Table 9
Estimated Inventory of the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

Classification	1959	1960	1961	1962	1963	1964	1965
Self-propelled							
Trawlers a/							
Number	2,385	2,585	2,785	2,985	3,185	3,385	3,585
Horsepower	747,000	829,000	862,000	899,000	931,000	955,000	978,000
Gross register tons	884,000	968,000	1,011,000	1,063,000	1,109,000	1,146,000	1,180,000
Seiners b/							
Number	2,228	2,396	2,564	2,732	2,900	3,068	3,236
Horsepower	234,000	252,000	269,000	287,000	304,000	322,000	340,000
Gross register tons	290,000	311,000	333,000	355,000	377,000	399,000	421,000
Other c/							
Number	11,857	12,850	13,843	14,836	15,829	16,822	17,815
Horsepower	368,000	507,000	627,000	764,000	916,000	1,049,000	1,126,000
Gross register tons	698,000	861,000	1,014,000	1,194,000	1,394,000	1,555,000	1,679,000
Total trawlers, seiners, and others	16,470	17,831	19,192	20,553	21,914	23,275	24,636
Total horsepower	1,349,000	1,589,000	1,758,000	1,950,000	2,151,000	2,326,000	2,444,000
Total gross register tons	1,872,000	2,140,000	2,358,000	2,612,000	2,880,000	3,100,000	3,280,000
Non-self-propelled d/							
Number	49,820	50,408	50,996	51,584	52,172	52,760	53,348
Gross register tons	130,000	131,000	133,000	134,000	136,000	137,000	139,000
Grand total all types:							
Number	66,290	68,239	70,188	72,137	74,086	76,035	77,984
Gross register tons	2,002,000	2,271,000	2,491,000	2,746,000	3,016,000	3,237,000	3,419,000

a. Including the *Pushkin*, the *Mayakovskiy*, the *Leskov*, the *Tropik*, and older classes of large trawlers, all classes of medium fishing trawlers, and all classes of small fishing craft.

b. Including all classes of seiners.

c. Including, in nearly all cases, all self-propelled ships that do not catch fish but operate in an auxiliary capacity, such as supply, repair, transport, and the like.

d. Including barges, floating repair ships, and other unknown types.

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Table 10

Estimated Soviet Fish Catch ^{a/}
During the Seven Year Plan, 1959-65

Year	Fish Catch (Thousand Metric Tons)					Fish Catch (Percent of Total)			
	Deep Sea			Inland and Coastal	Total Catch	Deep Sea			Inland and Coastal
	Fish	Marine Animals and Whales	Total			Fish	Marine Animals and Whales	Total	
1959 ^{b/}	1,940	360	2,300	775	3,075 ^{c/}	63	12	75	25
1960	2,304	426	2,730	770	3,500 ^{d/}	66	12	78	22
1961	2,390	455	2,845 ^{e/}	802	3,647 ^{f/}	66	12	78 ^{g/}	22
1962	2,453	585	3,038	857	3,895	63	15	78	22
1963	2,653	579	3,232	911	4,143	64	14	78	22
1964	2,775	650	3,425	966	4,391	63	15	78	22
1965	2,939	680	3,619	1,021	4,640 ^{h/}	63	15	78	22

a. Including marine animals and whales. Unless otherwise indicated, data are estimated

- b. 31/
c. 32/
d. 33/
e. 34/
f. 35/
g. 36/
h. 37/

50X1
50X1

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Table 11

Estimated Efficiency of the Soviet Fishing Fleet
During the Seven Year Plan, 1959-65

<u>Year</u>	<u>Trawlers and Seiners</u>		<u>Deep Sea Catch b/ (Thousand Metric Tons)</u>	<u>Metric Tons of Catch a/</u>	
	<u>Number</u>	<u>Thousand Gross Register Tons</u>		<u>Per Ship</u>	<u>Per Gross Register Ton</u>
1959	4,613	1,174	1,940	420	1.65
1960	4,981	1,279	2,304	465	1.80
1961	5,349	1,344	2,390	445	1.80
1962	5,717	1,418	2,453	430	1.75
1963	6,085	1,486	2,653	435	1.80
1964	6,453	1,545	2,775	430	1.80
1965	6,821	1,601	2,939	430	1.85

a. Data are rounded to the nearest five.

b. Excluding marine animals and whales.

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