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POLITICAL AND POPULATION SURVEY

**MURMANSKAYA OBLAST**

NO. 111

31 MARCH 1959

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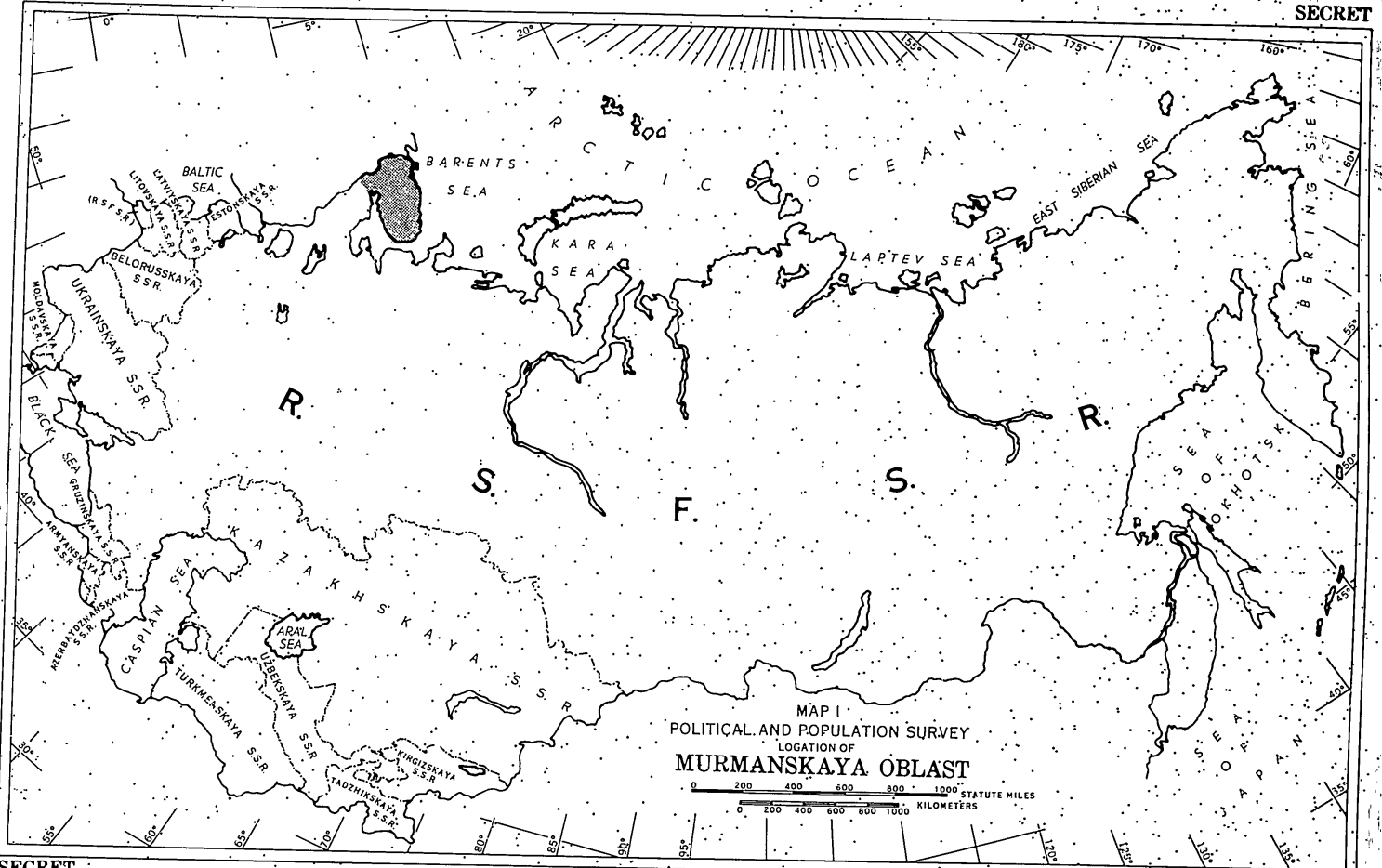
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S E C R E T

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NOTICE

1. The estimates appearing in this study result from an accelerated survey of available data. All figures are the best possible estimates to be derived from accessible information.

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2. Population estimates as of 1 January 1959; administrative-territorial boundaries as of 30 September 1958.

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## Political and Population Survey

MURMANSKAYA OBLAST

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## MURMANSKAYA OBLAST

Statistics

Area in Square Miles.....	55,922
Total Est. 1959 Pop.....	552,000
Urban Pop.....	505,000
Rural Pop.....	7,000
Cities.....	5
Towns.....	2
Urban Settlements.....	20
Rural Rayons <sup>1/</sup> .....	8
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I. Government ControlsA. General

Located in the NW part of European USSR almost entirely N of the Arctic Circle, Murmanskaya Oblast is bordered on the W by Norway and Finland, on the S by Karelskaya ASSR and the White Sea, on the N by the Barents Sea, and on the E by the Barents and White Seas (see Map I). The oblast occupies all of the Kola Peninsula as well as part of the mainland adjacent to it on the W. The oblast, about one-third the size of Sweden, is approximately 373 miles long and 186 miles wide and has a NW-SE orientation.

Until 1927, it was known as Murmanskaya Guberniya; from August 1927 until May 1938 it was called Murmanskii Okrug and administratively was part of Leningradskaya Oblast, although physically separated from

<sup>1/</sup> By decree of the Presidium of the Supreme Soviet, RSFSR, on 19 March 1959, the Kandalakshskiy City and Rayon Soviets were merged and Kandalakshskiy Rayon became an administrative area. All of the accompanying maps and statistics used in this study are based upon the oblast as it existed prior to this change, word of which was received after the study had been written.

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it by Karelskaya ASSR. Upon its formation as a separate oblast on May 28, 1938, its size was increased by the addition of Kandalakshskiy Rayon (formerly part of the Karelskaya ASSR).

As a result of the 1941-1944 Russo-Finnish War, about 8,110 square miles of Finnish territory (the present-day Pechengskiy Rayon) were added to Murmanskaya Oblast between 1944 and 1947 including the rich Pechenga (Petsamo) nickel region. Then, in 1955, 2,240 square miles of former Finnish territory were transferred from Karelskaya ASSR to Murmanskaya Oblast.

Until May 1957 the oblast comprised part of the old Northwest Economic Region, which also included Leningradskaya, Novgorodskaya, Pskovskaya, and Kaliningradskaya Oblasts and Karelskaya ASSR. Although next to Karelskaya ASSR it is the largest of the administrative divisions of the former Northwest Economic Region, it has the smallest population and sparsest density of the group. The oblast is unique in having the highest degree of urbanization (91.5 per cent) in the USSR.

Murmanskaya Oblast is of national economic significance for its fishing and mining industries. Its fish catch comprises between one-fourth to one-third of the total USSR catch, and the Murmansk Fish Combine is one of the largest in the USSR. Of all-union significance also are the oblast's apatite-nepheline mining and the copper-nickel mining and metallurgical industries. The apatite-nepheline industry, centered at Kirovsk, produces 90-95 per cent of the apatite mined in the USSR and provides the raw material base for three-quarters of the country's production of phosphorous fertilizer. The copper-nickel enterprises located in Monchegorsk and the Nikel-Pechenga region, account for more than a third of all nickel produced in the Soviet Union. The iron ore deposits at Olenegorsk and in the Yena-Kovdor area are also of a significance. There are numerous other, largely unexploited, resources in the oblast (see Section IV, E).

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The oblast's military significance is to be noted in the facts that it is a border area, that Severomorsk is the headquarters of the Northern Fleet, and that the port of Murmansk is a year-round ice-free port with direct access to the open seas.

Under the economic-administrative reorganization law of May 1957, Murmanskaya Oblast became one of the 4 economic regions replacing the former Northwest Economic Region, with its own Council of National Economy (Sovmarkhoz). Practically all industry, except for local and cooperative enterprises, has been placed under the Sovmarkhoz. The city, rayon, and oblast executive committees in the oblast have the responsibility of providing communal services and administering local and cooperative enterprises. Control over foreign trade, the maritime fleet, shipbuilding and repairing, rail, air and sea transportation, defense industries, telecommunications, military units and installations is directly exercised by republic and USSR Communist Party and government agencies. Indirect control and supervision over the activities of the Sovmarkhoz and oblast executive committees is exercised at the republic and USSR levels.

The city of Murmansk containing an estimated 37 per cent of the oblast's civilian population is the administrative, cultural, and transportation center of the oblast. It is of economic significance for its fishing industry, which employs about half of the city's workers and employees. With the exception of ship repair, its other industries are of only local significance.

#### B. Control Force

##### 1. General

There are 4 control groups operating in Murmanskaya Oblast, as in all other areas of the USSR: the Communist Party, civil government, economic, and military, including militarized forces of the MVD and KGB.

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Each control group is comprised of primary, intermediate, and lower control personnel. The primary control group is responsible for policy making and for general administration and military functions at the national level. In the oblast it is comprised chiefly of flag and general officers of the armed forces and members of the central apparatus of the Murmanskoy Sovmarkhoz.

The intermediate control group is responsible for supervising the implementation of policy, adapting and applying it to specific areas. In Murmanskaya Oblast it includes members of the oblast and city Party and government apparatuses, field and company grade officers of the armed forces and militarized security forces, personnel of economic agencies above the plant or enterprise level, such as employees of the Sovmarkhoz branch directorates and trusts. The number in this category amounts to about 30 per cent of the total oblast control force.

The lower control group is made up of supervisory-administrative personnel at the operational level and clerical aides of control force supervisory-administrative personnel. It includes workers in rayon Party committees and rayon and rural soviets, noncommissioned officers in the armed forces and militarized security forces, and supervisory personnel within economic enterprises and public institutions in the oblast. Almost 70 per cent of all oblast control personnel are in this category.

The Murmanskaya Oblast control force is estimated to total 102,200 (see Table I) comprising about 15 per cent of the total population (including military).

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TABLE I

## ESTIMATED OBLAST CONTROL FORCE: 1959

Category	Primary	Intermediate	Lower	Total	Per Cent of Total
Communist Party	neg.	500	2,000	2,500	2.4
Government	neg.	2,900	9,900	12,800	12.5
Economic	200	900	27,800	28,900	28.3
Military, MVD, KGB	300	26,300	31,400	58,000	56.8
Total	500	30,600	71,100	102,200	100.0

2. Communist Party and Komsomol

The Party control group is the most important of the 4 control groups. In addition to comprising a distinct entity, it has its special representatives in each of the other control groups. Furthermore, with few exceptions, persons occupying important positions in the civil government, economic administration or military are Party members and therefore subject to its discipline.

The January 1959 Communist Party membership in the oblast is estimated at 44,700. Approximately 5.5 per cent of the membership (2,500) are full-time Party members and comprise the Party control force. The incidence of 65 Party members per 1,000 population (including military) is one of the highest in the Soviet Union, the incidence in the USSR and in the RSFSR being 39 and 45 respectively. The large number of military personnel in the oblast (an estimated 132,000) account for the high ratio of Party members per 1,000 population.

The Murmanskaya Oblast Committee of the Communist Party, the highest Party organ the oblast, is responsible for the implementation and fulfillment of directives from the Bureau for RSFSR Affairs of the Central Committee of the Communist Party in Moskva. It directs the activities of subordinate committees in each of the cities and rural.

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rayons of the oblast. The local Party committees direct the activities of members in fulfilling all directives of higher Party organs, and supervise all civil Primary Party Organizations formed in enterprises, collective and state farms, government agencies, research and educational institutions, trade unions, and other establishments. Primary Party Organizations are expected to play an active role in the branch administrations of the Sovnarkhoz.

Party organizations in military units in the oblast are exempt from oblast, city, or rayon Party committee supervision and have their own independent channels of control. The Chief Political Directorate which functions both as a section of the USSR Central Committee of the Communist Party and as a part of the USSR Ministry of Defense, controls the activities of Primary Party Organizations in military units located in the oblast through special offices in Hq., Northern Military District, Petrozavodsk (Karelskaya ASSR). Party organizations in MVD internal security troops and KGB guard units in the oblast are independent of local Party authorities and are responsible, through their own hierarchy, to the USSR Central Committee of the Communist Party.

The Komsomol (the All-Union Leninist Communist League of Youth), an organization for the training and indoctrination of youths aged 15 to 28, is closely modeled on the hierarchical pattern of the Communist Party and is the chief mechanism through which Party directives are transmitted to Soviet youth. Information is not available on total Komsomol membership in the oblast. While in the USSR as a whole more than one-third of the 15 to 28 age group are members, the membership is probably proportionately higher in Murmanskaya Oblast because of the relatively large number of military personnel.

The Murmanskaya Oblast Komsomol organization has been severely criticized for lack of constructive activity. In 1957 less than one-third of the Komsomol members engaged in sports or were enrolled in political education courses. In the same year more than 4,000 Komsomol

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members in the city of Murmansk were enrolled in no study group at all. Furthermore, the quality of character training and instruction in many Komsomol organizations was declared to be unsatisfactory. A particularly disturbing fact to the oblast Party committee was the decline in the number of Party members in the local Komsomol organizations since 1954. Whereas in that year all city and rayon Komsomol secretaries were Party members, in 1957 less than two-thirds of the Komsomol secretaries were Party members. This situation was blamed on the mistaken practice by the Komsomol organizations of recommending for Party membership chiefly Komsomol members over 25 or 26, who, once accepted by the Party, are immediately written off the Komsomol books. A higher incidence of Party members in the Komsomol organizations would be assured, it was suggested, if the best Komsomol members between the ages of 18 and 23 were given strong recommendations for Party membership. They could then remain and work in the Komsomol for several years after joining the Party.

Religious influences were said to have made some disturbing headway among the youth. According to the shocked Party Committee's report, in one case there was the baptism by an itinerant priest at a lumber camp of a large group of young people, including the secretary of the Komsomol and his assistant. It was also pointed out that special Party vigilance was necessary because in this area, a maritime oblast, there were a great number of sailors who travel abroad. "Unhealthy views of life" had permeated some of the youth, it was stated.

### 3. Military

The military control force in the oblast is estimated at 58,000--approximately 44 per cent of the estimated 132,000 total military personnel in the oblast. Table II shows the distribution by branch of service of the armed forces and the military control force.

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TABLE II

ESTIMATED COMPOSITION OF ARMED FORCES AND  
MILITARY CONTROL FORCE IN MURMANSKAYA OBLAST

<u>Branch of Service</u>	<u>Number</u>	<u>Control Force</u>	<u>Per Cent</u>
Army	14,000	4,800	34.3
Navy (excl. SNAF)	75,000	32,100	42.8
Air Force	35,000	18,500	52.8
MVD Security Troops and KGB Border Guards	8,000	2,600	32.5
Total	132,000	58,000	43.9

There are approximately 300 primary control personnel in the oblast military control force, (see Table I) including an estimated 200 in the Navy and 100 in the Air Force. These personnel are flag and general officers who hold positions of high-level responsibility and are in command of significant numbers of troops. The number of primary personnel in the army and MVD and KGB in the oblast are believed to be negligible. It is estimated that there are 26,300 in the intermediate military control force, comprised of field and company grade officers and their counterparts in the MVD and KGB, more than half of whom are Navy personnel and more than a quarter of whom are Air Force personnel. The lower military control force totals an estimated 31,400, Navy and Air Force personnel comprising 83 per cent. This control group is comprised of non-commissioned officers in the regular military and in the MVD and KGB.

The estimated 132,000 military personnel represents about 28 per cent of the oblast's adult population, age 18 and over. A reported 86.4 per cent of all the officers (primary and intermediate control force) and an estimated 50 per cent of the NCO's (lower control force) are members of the Communist Party or Komsomol. Party membership is believed to be higher in the MVD and KGB militarized units.

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Murmanskaya Oblast is on the direct air route between northern U.S. and the Moskva-Leningrad industrial areas; it comprises part of the NW border of the USSR (having a common border with Finland and Norway); the Arctic port of Murmansk is the only year round ice free Soviet port with direct access to the open seas. The oblast is thus understandably the site of extensive naval activity, with the headquarters of the Soviet Northern Fleet located at Severomorsk (Vayenga). The oblast also comprises part of the Northern Military District, which also includes the Karelskaya ASSR, Arkhangelskaya, and Vologodskaya Oblasts. Hq., Northern Military District, located in Petrozavodsk (Karelskaya ASSR) and subordinate to the Ministry of Defense in Moskva, directs army and tactical air operations in Murmanskaya Oblast.

Subordinate to the Northern Military District are 2 identified army rifle division headquarters and a possible third rifle division headquarters in the oblast: the 15th Rifle Division in the Pechenga/Nikel area subordinate to the 14th Army; headquarters in Petrozavodsk; the 67th Rifle Division in Murmansk (army subordination unknown); and possibly the 341st Rifle Division in the Kandalaksha area. An anti-aircraft regiment is attached to each rifle division.

Murmanskaya Oblast, together with almost the entire Karelskaya ASSR, forms part of the Northern Air Defense District (17th); Hq., Belomorsk (Karelskaya ASSR). The District Commander of PVO Strany (Anti-aircraft Defense of the Homeland) has over-all authority for employment of all military and civilian components in defense of the Northern Air Defense District against air attack. Responsibility for the coastal area defense is shared with the Northern Fleet Air Defense District (16th), Hq., in Severomorsk. An unidentified anti-aircraft division (PVO) headquarters in the oblast is probably located at Murmansk. All Air Defense Command (PVO) personnel in the oblast are subordinate to their respective Defense District headquarters at Belomorsk or Severomorsk.

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The headquarters of the Commander-in-Chief of the Soviet Northern Fleet is located at Severomorsk Naval Base (Target 0051-0055). The Northern Fleet Air Force has its headquarters at Murmanskaya-Gryaznyy Airfield (Target 0051-8602).

Murmanskaya Oblast contains no identified MVD headquarters. Hq., Murmanskaya Oblast KGB Border District located in Murmansk commands the 100th Border Detachment in Salmiyarvi, 5 miles from the Norwegian border. No other border detachments have been identified or located in the oblast, but they probably exist, considering the fact that the border is approximately 285 miles long.

Murmanskaya Oblast is an area of significant naval activity, particularly in the Kola Gulf region (also known as Kola Inlet) where there are a number of closely integrated naval activities which make it the major operating, repair, and supply area of the Soviet Northern Fleet (refer to Map IV). All major Arctic naval activities, with the exception of the shipbuilding at Severodvinsk (Arkhangelskaya Oblast), are concentrated on the Kola Gulf. The gulf is also important as a convoy and servicing center for naval vessels traversing the Northern Sea Route. The Kola Gulf, open all year, has easy access to the open seas and provides excellent protection for the fleet based there. Principal naval activity on the gulf is concentrated at 3 points: Severomorsk, Polyarnyy, and Murmansk-Severomorsk Naval Base (Target 0051-0055) is the headquarters of the Soviet Northern Fleet and its main operating base. As of 1 January 1959, Hq., Northern Fleet, at Severomorsk exercised control over an estimated 6 light cruisers, 33 destroyer types, 130 submarines, 231 patrol vessels, 101 mine vessels, and 48 auxiliaries. About 8 per cent of the USSR's major combat ships operate out of Severomorsk.

Polyarnyy Naval Base (Target 0051-0030) is the main submarine operating base for the Soviet Northern Fleet; 14.3 per cent of the USSR's long and medium range submarines are estimated to be stationed

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there. Its shipyard has a reported 450-ft. floating drydock. Rosta Naval Base and Shipyard, "Sevmorput" (Target 0051-0017) at Murmansk is the principal repair and supply base of the Soviet Northern Fleet, furnishing logistics and operational services to major units of the fleet. It makes major repairs in an 800 ft. graving dock. An estimated 9.6 per cent of the major combat ships and 1.7 per cent of the long and medium range submarines in the USSR operate out of Murmansk. Other naval activities in the oblast are itemized in Table III.

TABLE III

## OTHER NAVAL ACTIVITIES IN MURMANSKAYA OBLAST

<u>Location<sup>a/</sup></u>	<u>Type of Activity</u>
Murmansk Naval Base and Shipyard, "Chelmpushka" (Target 0051-0144)	Naval vessel ship repair up to size of destroyer, supplementing the shipyard at Rosta. Accounts for 5 per cent of USSR's ship repair capacity.
Guba Dolgaya Zapadnaya (69-18N; 33-50E)	Minor naval operating base for patrol craft.
Olenya Guba Submarine Base (Target 0051-0153)	Minor operating base for submarines and patrol craft; naval supply depot, probably as an auxiliary base to Polyarnyy.
Sayda Guba Toros Naval Base (Target 0051-0062)	Minor operating base for submarines, patrol craft, and destroyer escorts, probably as an auxiliary base to Polyarnyy.
Tyuva Naval Base (Target 0051-0131)	Minor operating base for minesweepers and patrol craft, functioning as an auxiliary base to Polyarnyy. Base for an estimated 5.2 per cent of USSR long and medium range subs.
Mokhnatkina Pakhta (69-03N; 33-09E)	Naval auxiliary fuel base.
Pechenga Submarine Base (Target 0051-0028)	Reports indicate that Pechenga is becoming a naval operating base for light units of the fleet. Base for an estimated 1.8 per cent of USSR long and medium range subs.

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Table III (continued)

<u>Location</u> <sup>a/</sup>	<u>Type of Activity</u>
Teriberka Naval Base (Target 0051-0161)	Minor operating base for submarines, submarine chasers, patrol craft, and mine-sweepers.
Yokanga Naval Base (Target 0051-0054)	Naval anchorage up to destroyer size; advance patrol and repair base. Base for an estimated 1.2 per cent of USSR long and medium range submarines; shipyard makes major repairs to destroyer leaders and submarines.
Port Vladimir Naval Base (Target 0051-0127)	Provides minor logistic and operational support to a limited number of surface forces.

<sup>a/</sup> When target numbers are not available, coordinates are given.

Naval training in the oblast is carried on at Severomorsk, Polyarnyy, and Murmansk. Severomorsk is the site of an enlisted men's school and an officers' school, giving training in navigation and specialized subjects; a naval aviation school may be located there also. Murmansk has a school for training personnel in small boat handling, as well as a school for divers. Polyarnyy has a petty officers' school; a submarine training school is located either at Polyarnyy or nearby at Guba Olenya.

Severomorsk, Polyarnyy, and Murmansk are principal naval supply centers supporting the operating forces of the Soviet Northern Fleet. Murmansk maintains large quantities of ammunition, mines, and torpedoes and has underground POL storage facilities. Polyarnyy has storage facilities for torpedoes, materiel, ammunition, and POL. Severomorsk has supplies of POL, ammunition, explosives, and materiel storage facilities.

There are 28 targeted airfields and seaplane stations in the oblast, of which 25 are military, 2 are joint civil/military and one is of unknown subordination (see Table IV). The Northern Fleet

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Air Force, Hq., Murmanskaya-Gryaznyy Airfield (Target 0051-8602) has a known complement of 515 aircraft (October 1958), including 8 fighter regiments with 240 aircraft and 5 medium bomber regiments with 100 aircraft, dispersed throughout the Northern Military District. Eight of the 28 airfields and seaplane stations in the oblast are classified as staging bases, which are believed to be capable of supporting heavy bomber and/or medium bomber staging and recovery operations. With the exception of Yokanga Airfield, (Target 0051-8009) all are located near the Murmansk railroad. (Refer to Map IV). Six of the oblast's airfields are classified as Air Defense Bases which are believed to be capable of supporting jet fighter operations. With the exception of Taybola Northwest Airfield (Target 0051-8620), these airfields lie NW and NE of Murmansk. Most of the oblast's airfields are dependent on the Murmansk Railroad (and its branch to Pechenga and Nikel) for logistic support. Were this vital line to be interdicted, supplying these airfields would pose a serious problem.

An aircraft control and warning radar (AC&W) network exists in Murmanskaya Oblast. There are 16 Early Warning, 5 Ground Control Intercept, 4 Early Warning/Ground Control Intercept, one Target Control and 2 unknown type radar sites distributed throughout the oblast. The majority of them are located near airfields or in the border areas of the oblast.

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TABLE IV  
TARGETED AIRFIELDS AND SEAPLANE STATIONS IN MURMANSKAYA OBLAST

Location	Status	Type	Runway/ Category	Longest Run (in feet)	Target No.	Lat./Long.	Headquarters
Afrikanda	MIL.	Staging Base	6P	6,600	0091-8601	67-27N; 32-46E	1 JF regt., 1 JLB regt.
Alakurtti	MIL.	Staging Base	6P	6,600	0091-8602	66-58N; 30-21E	Poss. JLB regt. 2 JF regts.
Apatity	MIL.	Seaplane Station	SS	--	0091-8633	67-33N; 33-20E	1 JLB regt.
Kildin	MIL.	Air Defense Base	6P	6,600	0051-8603	69-19N; 34-11E	--
Kildin	MIL.	Seaplane Station	SS	--	0051-8604	69-19N; 34-20E	--
Kirovsk	MIL.	Reserve Base	3T	3,900	0091-8612	67-34N; 33-34E	--
Koshka-Yavr	MIL.	Air Defense Base	6P	6,600	0051-8625	69-15N; 31-12E	--
Kulp-Yavr	MIL.	Staging Base	9P	9,600	0051-8615	69-06N; 32-24E	--
Mul-Yavr	MIL.	Staging Base	8P	8,200	0051-8633	68-52N; 33-43E	--
Monchogorsk	MIL.	Staging Base	6P	6,600	0091-8625	67-59N; 33-01E	JLB div.
Murmanok/- Kola	MIL.	Reserve Base	3T	3,600	0051-8605	68-51N; 33-01E	--
Murmanok Northout	MIL.	Air Defense Base	6P	6,300	0051-8628	69-01N; 33-18E	--
Murmanok/- Gryaznyy	MIL.	Seaplane Station	SS	--	0051-8602	69-04N; 33-17E	Northern Fleet Air Force
Murmansk	Civ./ MIL. B/	Reserve Base	4T	4,700	0051-8609	68-48N; 32-48E	Poss. 3 JLB regts.
Narval	Unk.	Reserve Base	3T	5,500	0051-8612	69-04N; 29-10E	Poss. 1-2 JF regts.
Nivokiy	MIL.	Reserve Base	4T	4,200	0091-8622	67-26N; 32-50E	--
Olonya	MIL.	Staging Base	11P	11,500	0051-8634	68-09N; 33-27E	--
Olonya North	MIL.	Reserve Base	4T	4,100	0051-8613	68-10N; 33-17E	--
Pochonga	MIL.	Air Defense Base	6P	6,900	0051-8616	69-24N; 33-00E	JF regt.
Ponoy	MIL.	Reserve Base	5T	5,000	0092-8027	67-06N; 41-07E	--
Salmiyarvi	MIL.	Air Defense Base	3T	5,000	0051-8619	69-20N; 29-59E	--
Soveromorsk	MIL.	Staging Base	8P	8,200	0051-8627	69-02N; 33-25E	--
Shonguy	MIL.	Reserve Base	3T	3,520	0051-8620	68-45N; 33-09E	Poss. 2 JF regts.
Taybala Northwest	MIL.	Air Defense Base	6P	6,600	0051-8622	68-31N; 33-19E	JF div., 2 JF regts.

TABLE IV (Continued)

Location	Status	Type	Runways/ Category	Longest Run (in Feet)	Target No.	Lat./Long.	Headquarters
Tariberka	Mil.	Reserve Base	5T	5,000	0051-8623	69-09N; 35-05E	--
Ura Guba	Mil.	Reserve Base	4N	4,200	0051-8625	69-13N; 32-42E	--
Yokanga	Civ./-						
	Mil.	Staging Base	6P	6,600	0051-8009	67-58N; 39-35E	--
Yokanga	Mil.	Seaplane Station	SS	--	0051-8010	68-04N; 39-31E	--

a/ The numeral refers to the longest run in thousands of feet and the letter to the type of surface: P-permanent, N-natural, T-temporary.

b/ Civilian flights from Murmansk originate from this airfield.

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Targeted facilities of military interest in the oblast  
are listed below:

## Fissionable Materials Production and Storage

0051-0166 Olenya Atomic Energy Installation

## Nuclear Weapons Storage

0051-0165 Olenya Special Weapons Storage Site  
0091-0181 Monchegorsk Special Weapons Storage Site

## Petroleum, Products Storage, Monrefinery

0091-0119 Monchegorsk Petroleum Storage No 2 (4,000 M. T.)  
0091-0120 Monchegorsk Petroleum Storage No 1 (8,000 M. T.)  
0051-0056 Murmansk Petroleum Prd Storage No 1 (5,000 M. T.)  
0051-0050 Murmansk Petroleum Prd Storage No 2 (3,000 M. T.)  
0051-0048 Murmansk Petroleum Storage Kola (8,000 M. T.)  
0051-0027 Murmansk Petroleum Storage Rosta UG (20,000 M. T.)  
0051-0093 Vayenga Petroleum Storage Kolskiy Bay (4,000 M. T.)  
0051-0057 Yokanga Petroleum Storage Gremikha (4,000 M. T.)  
0051-0128 Polyarnyy Petroleum Storage Submarine  
Base (2,000 M. T.)

Missile Storage<sup>1/</sup>

0051-0157 Severomorsk ASM Storage Site

## Naval Supply Depots

0051-0095 Murmansk Naval Supply Depot Rosta No 1  
0051-0132 Vayenga Naval Storage UG  
0051-0071 Vayenga Torpedo Storage A Workshops

A program of paramilitary training of young (both men and women) and veterans is carried on throughout the oblast branch of the All-Union Society for Cooperation with Army, Air Force, and Navy (DOSAAF). The Murmanskaya Oblast DOSAAF organization was the target of serious criticism in 1958. It was criticized for its repeated failure to put the decisions and resolutions of the DOSAAF presidium into effect, for its lack of fervor and activity, for the lack of consultation among the DOSAAF oblast, city, and rayon committees. The Kandalaksha city committee of DOSAAF was singled out for its ineffectual propagandizing of military knowledge, for its failure to enlarge its membership, to collect membership dues, for rendering little assistance to DOSAAF primary organizations under its jurisdiction. In the city of Murmansk, many of the DOSAAF

<sup>1/</sup> Two untargeted installations associated with guided missile activity are believed to be located in the Pechenga area; one, within 15 nautical miles of Pechenga, stores or launches guided missiles and one, within approximately 5 nautical miles of Pechenga, stores "V-I" type missiles.

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primary organizations were said to be at half strength and to lack a strong "material-technical base." Dissemination of military knowledge in Murmansk, as well as in many other part of the oblast, was said to be unsatisfactory.

#### 4. Government

The civil government control force in the oblast is estimated at 12,800. Of this total the number of primary control personnel at the oblast level is negligible. There are 2,900 persons believed to comprise the intermediate government control force, consisting mainly of administrative supervisory personnel of the oblast and city executive committees, as well as of institutions funded through local budgets. The largest group of oblast government control personnel are the lower control personnel. Totalling an estimated 9,900, they consist of administrative-supervisory personnel of the rayon and village executive committees, as well as their clerical and other aides--all funded through local budgets (from the oblast level down).

The highest civil government organ in the oblast is the Murmanskaya Oblast Soviet. The executive committee of the Soviet carries out its functions through several departments and directorates. These functions, since the creation of the Murmanskiy Sovnarkhoz, are almost entirely non-industrial in nature and are concerned with only local needs. They include such communal services as health, education, social security, culture, local transportation, water supply, police and fire protection. Local industry and trade also are under the jurisdiction of the executive committees.

The oblast government organs are supervised and controlled in 2 ways: city, rayon, and village executive committees, which carry out functions similar to those of the oblast executive committee and which serve as transmission belts of authority from above, are subordinate to the next higher ranking government organ in the oblast. Murmanskaya Oblast Executive Committee, in turn, is subordinate to the RSFSR

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Council of Ministers (Moskva); a second channel of control is effected through the Communist Party organization. At each level in the administrative hierarchy, the key positions in the executive committees of the soviets are occupied by Party members.

The oblast economic control force totals an estimated 28,900. Of this total an estimated 200 are considered primary control personnel, these persons responsible for major economic decisions and plans which have nationwide import. The majority of them occupy positions of authority in the central apparatus of the Murmanskii Sovnarkhoz. About 900 persons comprise the oblast intermediate economic control personnel; they are those who are engaged in the regional management of transportation and communication, trade, supply, procurement and public catering; and employees of the various branch administrations of the Murmanskii Sovnarkhoz. The lower economic control force is estimated at 27,800, 96 per cent of the total oblast economic control force. This category includes all persons in administrative, clerical, and technical positions at the plant or enterprise level. In Murmanskaya Oblast, the majority are engaged in industry or construction; the fewest are in agriculture.

Although more responsibility and authority have devolved upon local administrators and agencies with the formation of the Sovnarkhoz, the central government has not relinquished its powers of supervision and control. The Murmanskii Sovnarkhoz is directly subordinate to the Russian Republic Council of Ministers, and all its decisions and directives must be within the framework of the laws of the USSR Council of Ministers and the RSFSR Council of Ministers; both of which can revoke them if they are not.

The basic structure of the Murmanskii Sovnarkhoz has been determined by the RSFSR Council of Ministers. The Sovnarkhoz has a chairman, a vice-chairman, a technical-economics council with consultative functions, and functional departments. In addition, it has branch industrial administrations to operate the industrial enterprises in the oblast.

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which were formerly directly administered by union, union-republic, or republic ministries.

Specifically, the Sovnarkhoz is charged with the responsibility of elaborating and implementing current and long range plans drawn up by RSFSR Gosplan (State Planning Commission) in Moskva, promoting industrial specialization, arranging the delivery of raw materials and semi-finished products, and determining financial and economic activities of subordinate agencies.

A reported 185 industrial enterprises and construction projects--practically all of the oblast's industry--are under the operational control of the Murmanskii Sovnarkhoz. Although the total number of branch industrial administrations is not known, two are reported to be the Administration of Fishing Industry and the Administration of Construction and Building Materials Industry. The economy of the region would suggest the likelihood of the existence of the following industrial administrations in addition: Mining and Metallurgical Industry, Timber and Wood Processing Industry, Light Industry, and Shipbuilding and Ship-repairing Industry. Most of the enterprises under the Murmanskii Sovnarkhoz are reported to be those of the fishing industry. The second largest number are probably mining and metallurgical enterprises.

There is some tenuous evidence in other parts of the USSR of jurisdictional disputes between Sovnarkhozes and Oblast Executive Committees which may result in the broadening of the jurisdiction of the Sovnarkhozes. While the Oblast Executive Committee is considered the supreme government organ in an oblast, the Sovnarkhoz is not subordinate to it, and since it is the supreme economic agency in the oblast, it may in fact exercise more influence than the Oblast Executive Committee. Recent press articles discussing the necessity of eliminating "parallelism" in the work of the Sovnarkhozes and the Oblast Executive Committees have generally proposed solutions which increase the authority of the Sovnarkhozes. Although there are no specific examples of such problems in Murmanskaya Oblast, they may well exist.

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II. Population, Ethnic Composition, and Labor Force

The principal characteristics of the 1959 population of Murmanskaya Oblast are summarized in Table V.

TABLE V

SUMMARY OF DEMOGRAPHIC CHARACTERISTICS,  
MURMANSKAYA OBLAST: 1959

Total civilian population	552,000
Total population (incl. military) <sup>a/</sup>	684,000
Population density (persons per square mile)	9.86
Urban population	505,000
Per cent urban	91.5
Population in working ages (16-59)	340,032
Per cent in working ages	61.6
Females per 100 males in working ages	115
Urban labor force	238,000
Military personnel	132,000
Per cent of Russians of total population	90. plus

<sup>a/</sup> Unless stated otherwise, all references to population, both in tables and in text, refer to the civilian population only.

The estimated 1959 civilian population of 552,000 represents an estimated 0.59 per cent of the total RSFSR population and 0.26 per cent of the total USSR population.

Until the 1930's Murmanskaya Oblast was a region of negligible population; over-all density was less than one person per square mile. With the reconstruction of the Murmansk Railroad in 1923 and the launching of the First Five-Year Plan (1928-1932), the economic development of the oblast got underway. As a result, the population of the oblast experienced a tremendous growth between 1926 and 1939, increasing from 33,000 to 291,000 (see Table VI). This growth of 781 per cent was the result of heavy in-migration (much of it forced labor), particularly to the

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urban areas of Murmansk (center of the fishing industry) and Kirovsk (apatite mining center), which together accounted for 70 per cent of the total oblast population in 1935.

TABLE VI  
POPULATION CHANGES, MURMANSKAYA OBLAST:  
1926-1959

Year	Total	Urban	Per Cent Urban	Rural	Per Cent Rural
1926	33,000	17,000	51.5	16,000	48.5
1939	291,000	245,000	84.2	46,000	15.8
4/1956	474,000	426,000	89.9	48,000	10.1
1959 <sup>a/</sup>	552,000	505,000	91.5	47,000	8.5

<sup>a/</sup> Estimated.

World War II had a marked effect on the population growth of the oblast. There was an exodus of significant numbers of men to enter the armed services, approximately half the population of the city of Murmansk was evacuated during the war because of intensive German bombing, in-migration ceased, and the birth rate declined sharply. The reported 1956 population of 474,000 represents an increase of 62.8 per cent (183,000) since 1939--a growth of 3.9 per cent a year for the 16 year period. While this is a much smaller rate of growth than occurred between 1926-1939 it is significantly greater than the RSFSR annual average growth of 0.26 per cent during this period.

The estimated 1959 population of 552,000--an increase of 78,000 since April 1956--reflects a rate of growth greater than the oblast's natural increase rate, indicating that in-migration of about 10-14,000 a year has occurred since 1956.

Sizeable increments to the territory of the oblast which occurred since 1944 have resulted in no significant increase in the population of the oblast. The 8,110 square miles ceded by Finland in 1944 and 1947 were almost wholly without population by the time of the transfer of

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territory. The 2,240 square miles transferred from the Karelskaya ASSR to Murmanskaya Oblast in 1955 contained few people.

The distinguishing feature of the population of Murmanskaya Oblast is its extremely high urban percentage, in 1959 reaching an estimated 91.5 per cent, the highest urban proportion in the Soviet Union.

Murmanskaya Oblast, an area little suited to agricultural activity, has had an overwhelming urban population ever since the economic development of the oblast was undertaken by the Soviet government in the late twenties. From an urban population of 17,000 in 1926 (51.5 per cent of the total population), the urban population grew to 245,000 in 1939 (an increase of 1,341 per cent), constituting 84.2 per cent of the oblast population. Since that date the urban proportion has increased to 90.0 per cent in 1956 and an estimated 91.5 per cent in 1959.

The cities of Murmansk and Kirovsk accounted for 93 per cent of the total urban population in 1935. Today, they continue to be the major focal points of the oblast's economic activity and contain over half of the urban population. The population of Murmansk for selected years is shown in Table VII.

TABLE VII

POPULATION OF THE CITY OF MURMANSK:  
1926-1959

<u>Year</u>	<u>Population</u>
1926	6,700
1931	29,200
1935	103,800
1939	117,000
1956	168,000
1959 <sup>a/</sup>	198,000

<sup>a/</sup> Estimated.

The rural population of Murmanskaya Oblast totalled an estimated 47,000 in 1959--only 8.5 per cent of the total population. Unlike most areas of the USSR, Murmanskaya Oblast's rural population increased rather

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than decreased between 1926 and 1939. This is explained by the fact that although it constituted 48 per cent of the total population in 1926, in absolute numbers it was very small--only 16,000. Therefore, it not only did not serve as a source of urban growth, as most other rural areas did, but grew together with the urban population. However, its rate of growth was minute compared to the oblast's urban growth. From 16,000 in 1926 it increased to 46,000 by 1939/40--a growth of 187 per cent (compared with a 1,341 per cent urban increase). But, whereas in 1926 rural population constituted 48 per cent of the total population, in 1939/40 it comprised only 15.7 per cent. In absolute terms the rural population has varied little since 1939/40. It reached 48,000 in 1956 and declined slightly to an estimated 47,000 in 1959:

Although there is little prospect of increased agricultural activity in rural areas, the rural population may increase by a modest degree as new timber areas of the oblast become accessible to exploitation. Increased road and rail construction has opened up this possibility.

The age pattern in Murmanskaya Oblast varies from the over-all USSR pattern, the population of the oblast having a larger proportion of younger people (see Table VIII). The 0-15 group, for example, constitutes an estimated 33.9 per cent of the total oblast population compared with the USSR average of 29.3 per cent. The 60 plus group in Murmanskaya Oblast is estimated at 4.5 per cent of the total oblast population--a little more than half the USSR average of 8.2 per cent. Within the 16-59 group, the greatest number of people are in the child-bearing ages of 20-40--a conclusion indicated by the high oblast birth rate (32 per thousand in 1956 compared with the USSR average of 25 per thousand).

TABLE VIII

ESTIMATED AGE AND SEX COMPOSITION: 1959

Age Group	Male	Female	Total	Per Cent
0-15	93,000	94,000	187,000	33.9
16-59	158,000	182,000	340,000	61.6
60 plus	11,000	14,000	25,000	4.5
Total	262,000	290,000	552,000	100.0

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The relatively young population of the oblast is reflected in its male-female ratio. The sex ratio of the total oblast population is 110.7 females per 100 males contrasted with the USSR average of 113.5 females per 100 males. Within the 16-59 age group, there are an estimated 115.2 females to 100 males compared with the USSR average of 117.4. The 60 plus oblast population has an estimated 127.3 females to 100 males in contrast to 140.8 for the USSR as a whole.

The ethnic composition of the oblast population is predominantly Russian. In 1926 before the large in-migration of settlers, Russians comprised about 73 per cent of the total population. In 1934, they comprised about 89 per cent. Today they account for more than 90 per cent of the total population. Lapps (Saamis), Komi, Izhemtsy, Finns, Karelians, Nentsy (Samoyeds), and Norwegians constitute the majority of other nationalities in the area. Russians live chiefly in the urban and coastal areas. The minority groups are located mainly in the interior non-urban areas, particularly in the east-central part of the oblast. Karelians are found in the SW part of the oblast. A small group of Norwegians live on Kildin Island and in the Kola Gulf area.

The population density of Murmanskaya Oblast, less than 10 persons per square mile, is lower than the RSFSR average (18 persons per square mile) and is the lowest of the administrative divisions in the Northwest region. Approximately 78 per cent of the total population is concentrated in urban areas located along or near the N-S Murmansk rail line (refer to Map IV). The remainder of the urban population is located on branches of the main Murmansk line or in the region of the Kola Gulf; a few urban settlements are located on the shores of the Barents and White Seas.

The rural population is situated mainly on the coasts of the White and Barents Seas or on inland natural waterways, river or maritime transportation being in most instances their only means of contact with other areas. There are large areas of the oblast wholly devoid of population. Distribution of population by the administrative divisions of the oblast is shown in Table IX.

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TABLE IX  
ESTIMATED POPULATION BY ADMINISTRATIVE-  
TERRITORIAL DIVISION: 1959.

Division	Population (in thousands)		
	Urban	Rural	Total
City of Murmansk	203.0	--	203.0
Kirovsk Administrative Area	80.0	2.2	82.2
Mónchegorsk Administrative Area	64.0	1.1	65.1
Rayons:			
Kandalakshskiy	57.0	9.5	66.5
Kolskiy	41.0	4.2	45.2
Lóvozerskiy	3.0	4.3	7.3
Pechengskiy	23.0	negl.	23.0
Polyarnyy	19.0	4.3	23.3
Saamskiy	3.0	3.2	6.2
Teriberskiy	4.0	6.4	10.4
Terskiy	8.0	11.8	19.8
Total	505.0	47.0	552.0

The 1959 estimated civilian labor force of 268,000 in Murmanskaya Oblast represents 48.6 per cent of the civilian population (see Table X). This relatively low percentage is due, at least in part, to the relatively large 0-15 group in the oblast.

The principal components of the civilian labor force in the oblast are shown in Table XI. Being an area of little agriculture, the oblast has a small percentage of collective farmers and a high percentage of workers and employees.



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TABLE X

## ESTIMATED LABOR FORCE: 1959

<u>Category</u>	<u>Number</u>
Total labor force	400,000
(Military)	(132,000)
Per cent of total pop.	58.5
Civilian labor force	268,000
Per cent of total labor force	67.0
Per cent of civilian pop.	48.6
Per cent of working ages (16-59)	78.8
Urban labor force	238,000
Per cent of civilian labor force	88.8
Per cent of urban pop.	47.1
Rural labor force	30,000
Per cent of civilian labor force	11.2
Per cent of rural pop.	63.8

TABLE XI

## ESTIMATED CIVILIAN CATEGORIES OF EMPLOYMENT: 1959

<u>Category</u>	<u>Number</u> <u>(in thousands)</u>	<u>Per Cent</u> <u>of Total</u>
Workers and employees <sup>a/</sup>	230.0	85.8
Collective farmers and families of workers and employees in Private agriculture	22.0	8.2
Others <sup>b/</sup>	16.0	6.0
Total	268.0	100.0

<sup>a/</sup> Includes cooperative workers.

<sup>b/</sup> Includes self-employed, non-cooperative handicrafts-men, full-time Party workers, and special defense workers.

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Although prior to 1953, forced labor constituted a significant percentage of the labor force in Murmanskaya Oblast, it is believed to be a negligible factor today as a consequence of the amnesty decrees issued between 1953 and 1956.

The urban labor force of 238,000 constitutes an estimated 88.8 per cent of the total labor force and 47 per cent of the urban population. Industry and transportation comprise the largest segments of the urban labor force. Of the estimated 230,000 workers and employees comprising the total civilian labor force, approximately 90.4 per cent are in the urban labor force. The distribution of workers and employees within the oblast is shown in Table XII.

TABLE XII  
ESTIMATED DISTRIBUTION OF WORKERS  
AND EMPLOYEES: 1959

Administrative Division	Number <sup>a/</sup> (in thousands)	Per Cent of Total
City of Murmansk	95.7 <sup>b/</sup>	41.6
City of Kandalaksha	15.4	6.7
Kirovsk Administrative Area	32.7	14.2
Monchegorsk Administrative Area	29.7	12.9
City of Severomorsk Administrative Area	1.6	0.7
Kandalakshskiy Rayon	12.2	5.3
Kolskiy Rayon	11.5	5.0
Lovozerskiy Rayon	3.4	1.5
Pechengskiy Rayon	10.4	4.5
Polyarnyy Rayon	3.4	1.5
Samskiy Rayon	0.7	0.3
Teriberskiy Rayon	2.5	1.1
Terskiy Rayon	5.5	2.4
TOTAL	224.7	97.7

<sup>a/</sup> The 5,300 workers and employees comprising 2.3 per cent of the total number of workers and employees which are not distributed by administrative division are possibly migratory workers.

<sup>b/</sup> Almost 50 per cent of Murmansk's workers are employed in the fishing industry.

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The rural labor force is estimated at 30,000, of which an estimated 73 per cent are workers and employees. Most of the workers and employees in rural areas are engaged in forestry, on state farms, and in the extraction of construction materials. Less than 25 per cent of the rural labor force are on collective farms or fishing artels.

Approximately 41 per cent of the total number of workers and employees are employed in industry. The second largest group--15.4 per cent--are in transportation. Table XIII shows the distribution of workers and employees by sector of employment.

TABLE XIII

ESTIMATED DISTRIBUTION OF WORKERS AND  
EMPLOYEES BY SECTOR OF EMPLOYMENT: 1959

Sector of Employment	Number. (in thousands)	Per Cent of Total
Industry	93.4	40.6
Construction	32.7	14.2
State farms and subsidiary agricultural enterprises	4.1	1.8
MTS (RTS)	0.2	0.1
Transportation		
Railroad	10.3	4.5
Water	6.9	3.0
Automotive and other transport., freight loading and unloading	18.1	7.9
Communications	3.2	1.4
Trade, procurement, and supply	11.5	5.0
Public dining	4.6	2.0
Education, research, and cultural institutions	11.0	4.8
Health	10.6	4.6
Credit	1.0	0.4
Government administration	3.5	1.5
Other <sup>a/</sup>	18.9	8.2
TOTAL	230.0	100.0

<sup>a/</sup> Includes employment in geological prospecting organization; drilling, capital repairs, forestry, municipal housing, and other types of enterprises not enumerated above.

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Women comprise 48 per cent of the total number of workers and employees (slightly higher than the RSFSR average of 47 per cent). While the percentage of women in industry is lower than for the RSFSR as a whole (40 per cent as compared with the RSFSR average of 48 per cent), this is compensated for by markedly higher percentages in other categories (see Table XIV).

TABLE XIV

ESTIMATED PERCENTAGE OF WOMEN OF TOTAL NUMBER OF WORKERS AND EMPLOYEES BY SECTOR OF EMPLOYMENT: 1959

<u>Sector of Employment</u>	<u>Murmanskaya Oblast</u>	<u>RSFSR</u>
Industry	40	48
Construction	39	34
MTS (RTS)	17	8
State Farms and subsidiary agricultural enterprises	65	45
Transportation and communication	36	36
Trade, procurement, and supply	80	64
Public dining	90	87
Education; research and cultural institutions	81	71
Public health	94	88
Government administration, public organizations, credit and savings institutions	69	54

The percentage distribution of workers and employees by sector of employment has undergone no significant change since 1950. There have been slight decreases in the percentage in agriculture, trade, construction, and administration, and a slight increase in the percentage of workers and employees in industry since 1950.

With regard to the distribution of workers by branch of industry, there has been more change. Table XV indicates the changes that have occurred between 1950 and 1955.

The 1959 percentage distribution of industrial workers is estimated to be similar to that of 1955. The percentage of workers in mining will probably continue to increase as more of the virgin mineral wealth of the oblast is tapped.

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TABLE XV

PERCENTAGE DISTRIBUTION OF INDUSTRIAL  
WORKERS BY BRANCH OF INDUSTRY: 1950-1955

<u>Branch of Industry</u>	<u>1950</u>	<u>1955</u>
Electric power	1.7	1.4
Mining <sup>a/</sup>	7.7	10.7
Forestry	10.5	6.9
Production of building materials	4.8	6.7
Metalworking	15.3	10.9
Clothing	3.6	3.7
Food processing <sup>b/</sup>	22.8	28.1
Printing	0.4	0.3
Wood processing	7.9	9.2
Other	25.3	22.1
Total	100.0	100.0

<sup>a/</sup> Literally "chemical mining" (gornokhimiicheskaya). Probably refers primarily to the mining of apatite and nepheline, excluding the mining of copper, nickel, iron ore, etc, which may be included in the "other" category.

<sup>b/</sup> Primarily processing of fish.

The number of specialists working in Murmanskaya Oblast as of December 1956 was 19,149--9.4 per cent of the total number of workers and employees, a lower percentage than the over-all USSR average of 12.5 per cent. Of the total number of specialists, 36.4 per cent were graduates of higher educational institutions. The remainder were semiprofessionals trained in specialized secondary schools.

Of the professionals, 36.4 per cent were engineers, 26.6 per cent were teachers, and 16.6 per cent were doctors. Of the semiprofessionals, 41 per cent were technicians, 28.5 per cent were medical aides, and 13.2 per cent were elementary and nursery school teachers.

### III. Psychological and Sociological Factors

#### A. Political and Social Tensions

There is no evidence indicating a significant potential for resistance in Murmanskaya Oblast. The absence of any sizeable minority group which might serve as a nucleus around which anti-Soviet sentiment could crystallize and the high proportion of military personnel and Party

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members in the area obviate the likelihood of any active resistance.

There is undoubtedly some discontent and resentment of a political nature, although to what extent is unknown. A residue of antagonistic sentiment probably exists among the segment of the population who entered the oblast in the 1930's as forced laborers, were later amnestied but forced to remain as settlers in the oblast. However, this resentment probably would not result in anti-regime activity since the status of those who harbor such resentment is an improvement over their prior one. The efforts of the present government to dissociate itself from the harshness of the Stalin regime may have resulted in mollifying this resentment.

The presence of a large number of military enjoying better living conditions than the rest of the population may be the cause of tension, particularly in the area of Murmansk and its northern environs where the heaviest concentrations of military exist. At the same time, such tensions are bound to be frustrated as the cause of these tensions is also the deterrent to any overt manifestation of them.

Dissatisfaction with living conditions, particularly with inadequate and poor housing, is a continual source of discontent. Nonfulfillment of the oblast housing plan for several years and a shortage of communal facilities have been reported. A 1958 Soviet press report stated that in the city of Murmansk "goods of primary necessity" are often unobtainable.

Discontent among the youth in the oblast has been a matter of concern to the authorities. Poor working and living conditions and lack of cultural facilities are said to have left the youth no recourse but to engage in "drunken bouts and card games", which are reported as "rampant" in Murmansk. Wages of young workers are often low because of enforced periods of idleness resulting from badly organized work and lack of tools. Plant dormitories are reported to be in a poor state of repair. Shortcomings in Komsomol activity have resulted in young men and women being

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vulnerable to religious influence to the extent that an itinerant priest succeeded in baptizing a large group of young people, including the Kom-somol secretary and his assistant at a lumber camp. Because Murmanskaya Oblast is a frontier oblast, having a great number of sailors who travel abroad, concern has been expressed with regard to the influence of "bourgeois ideologists." Some youth, particularly students, are said to have been "caught in the web of enemy propaganda" and have expressed "unhealthy views on our life."

Ethnic tensions are probably minimal in the oblast. Russians make up over 90 per cent of the population, the remaining 10 per cent comprising several ethnic minorities (see Section II). The small number of people living in rural areas where communal facilities and medical services are often poorer than in urban areas makes their discontent unimportant. The lack of any sizeable intellectual center in the oblast (there is no university and only 2 schools of higher education, both specialized) is also a factor militating against overt resistance.

B. Civil Defense

Because of its strategic border location, Murmanskaya Oblast is undoubtedly the locus of a significant amount of civil defense activity, although there is little specific information available confirming this. The Soviet Union has an elaborate civil defense plan, but the extent to which it is implemented in the oblast is unknown.

Civil defense in Murmanskaya Oblast is primarily the responsibility of the oblast MPVO (Local Civil Defense) organization and DOSAAF (The Society for Cooperation with Army, Air Force, and Navy). Other organizations, including the oblast Red Cross, have supporting functions. According to the USSR civil defense plan MPVO and DOSAAF groups are formed at all administrative levels within the oblast as well as in organizations such as industrial enterprises, multiple dwellings, and collective farms.

MPVO is responsible for the organization and planning of civil defense in the oblast. It has representatives assigned to posts at all

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levels of government down to the city and rayon level as well as to major installations such as factories, ports, and railroad centers. MPVO personnel also play a role in the approval of new construction and town planning. MPVO "groups of self-defense," the basic civil defense units, are formed in industrial enterprises, dwellings, and collective farms. These groups, relatively inactive in peacetime, would perform, in case of war or threat of war, such necessary functions as warning of an impending air attack, enforcing blackout regulations, maintaining order, protecting property, fire-fighting, antichemical defense, and rendering first aid.

MPVO is an arm of the MVD. Each link of the MPVO chain of command has dual subordination to its next highest administrative unit and to the MVD organization at its own level. On the national level the MVD's GUMPVO (Main Administration of Local Civil Defense), principal government agency for directing passive civil defense, cooperates closely with the USSR Ministry of Defense's Office of PVO Strany (Civil Defense of the Country), which coordinates and monitors active civil defense.

DOSAAF is the main civil defense training organization in the oblast and therefore plays a more active role in peacetime than MVPO. It is subordinate to the Ministry of Defense (Moskva). DOSAAF groups are formed at the various administrative levels within the oblast as well as in factories, farms, schools, and dwellings. In addition to its function of training the "whole" population in defense against conventional attack, atomic attack, and chemical and bacteriological warfare, DOSAAF organizes and promotes such militarily related activities as parachuting, target shooting, radio technology, and seamanship.

Since Murmanskaya Oblast is an important border area, civil defense training is probably the object of particular attention. In January 1958 the Murmanskaya Oblast DOSAAF organization was sharply criticized for serious shortcomings in its civil defense work. The spreading of civil defense information was said to be unsatisfactory.



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In addition to a lack of enthusiasm and drive in the DOSAAF organizations in carrying out their defense responsibilities, it was charged that many of the decisions taken by the DOSAAF presidium were never carried out. This was due in part it was stated, to a lack of coordination between primary DOSAAF groups and the oblast organization. Since the February 1958 national DOSAAF Congress put renewed emphasis on training of the population in civil defense, some of these deficiencies may have been corrected. There is no available evidence of the construction of air raid shelters or reinforced basement shelters in the oblast. The USSR civil defense plan, however, provides for the construction of basement shelters in new public buildings, factories, schools, and apartment dwellings. Murmanskaya Oblast is moderately well suited for the construction of tunnel type of underground installations, except in the SE. Most of the oblast is poorly suited for the construction of bunker type of shelters; the SE is moderately well suited for such construction.

The Soviet Union has not stressed the concept of evacuation in event of air attack, although the possibility exists that some Soviet cities may be evacuated if time permits. During World War II a considerable proportion of the population of the city of Murmansk was evacuated by the N-S Murmansk rail line. Given sufficient time, this would be the most feasible, perhaps the only, evacuation route for any large-scale migration out of the oblast into the interior of the country. Air evacuation would accommodate only a limited number of persons. The oblast has no inland waterways that could be used as evacuation routes. Most of the rivers in the oblast are not navigable, being characterized by rapids and turbulent currents. Good roads are extremely scarce, and roads of any kind are absent in many parts of the oblast. The oblast is unsuited for cross-country movement by tracked vehicles because of the presence of rugged, steep, rock-strewn slopes, forest, and swamps. Such terrain would make cross-country movement by foot also extremely difficult. The most feasible natural routes for movement in the oblast

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are the N-S valleys which intersect the N-S Kola-Karelia Mountains. The N-S Murmansk rail line runs along such a valley. Excessively wet ground in the spring and the fall is an obstacle to foot or vehicular movement. Some local movement in winter would be possible along "winter-roads" which utilize frozen soils and ice-covered water bodies. Low temperatures, however, would make foot or sled travel of any extended duration an arduous undertaking in winter. Little protective natural cover is available along and inland from the N and E coasts. In the S and W forests are more abundant and provide good cover.

There is ample potable surface water available in the oblast, even in the winter when many of the lakes and rivers are frozen. Since most of the region's agriculture is concentrated in or near urban areas, a steadily decreasing food supply would be met with as one travelled away from them, although wild game and birds would be a possible source of food in the nonurban areas and fish could be obtained from the numerous rivers and lakes.

C. Medical Facilities

Murmanskaya Oblast has a higher incidence per 1,000 population of doctors, dentists, middle medical personnel (feldshers and midwives), and hospital beds than the RSFSR or the USSR as a whole (see Table XVI).

TABLE XVI

MEDICAL PERSONNEL AND FACILITIES:  
JANUARY, 1956

Territorial Division	Doctors		Sec. Med. Personnel		Hospital Beds	
	Number	Per 1,000 Population	Number	Per 1,000 Population	Number	Per 1,000 Population
USSR	310,175	1.6	800,000	4.0	1,288,890	6.4
RSFSR	183,401	1.6	578,900	5.1	761,632	6.7
Murmanskaya Oblast	1,081	2.3	3,441	7.3	3,913	8.3

Oblast facilities for training medical personnel are extremely limited; there are no medical schools for training doctors, although there is a school for training secondary medical personnel in Kirovsk.

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Distribution of medical personnel and facilities within the oblast is shown in Table XVII. Each large city and each rayon has at least one hospital; each collective farm medical assistant and midwife stations. There are 3 sanitariums in the oblast; with a total of 250 beds; 2 of these, with a total of 175 beds, are for children.

TABLE XVII

DISTRIBUTION OF MEDICAL PERSONNEL AND FACILITIES IN MURMANSKAYA OBLAST: JANUARY 1956<sup>a/</sup>

Division	Number of Doctors and Dentists <sup>b/</sup>	Number of Hospital Beds
City of Murmansk	441	1,640
City of Kandalaksha	69	285
Kirovsk Administrative Area	116	647
Monchegorsk Administrative Area	102	340
City of Severomorsk	50	20
Rayons:		
Kandalakshskiy	41	140
Kolskiy	30	81
Lovozerkiy	19	71
Pechengskiy	28	150
Polyarnyy	38	105
Saamskiy	13	26
Teriberskiy	11	35
Terškiy	13	70
Total	971	3,610

<sup>a/</sup> Not including personnel and facilities of the Ministry of Communications.

<sup>b/</sup> Dentists comprise approximately 7 per cent of the total.

The incidence of doctors per 1,000 urban population is 2.9; in rural areas, .87. Secondary medical personnel traditionally play an important role in rural areas, but their incidence in oblast rural areas is lower than in urban areas (5.1 and 8.4 per 1,000 population, respectively). There are approximately 2.6 hospital beds per 1,000 rural population and 10.0 per 1,000 urban population.

While the oblast is above average in the number of medical personnel and facilities, little is known about the quality of its medical care. Because of the high degree of urbanization in the oblast

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(91.5 per cent), they may be somewhat above the USSR average since medical facilities in urban areas of the Soviet Union are more accessible and of higher quality than in rural areas.

Criticisms which were made in 1958 of medical care in the USSR as a whole probably also pertain to some degree to Murmanskaya Oblast. The organization of medical services was called unsatisfactory in many respects, preventive medicine, particularly among children, inadequate, rural medical facilities below minimal standards, child mortality from infectious diseases too high, labor safety measures insufficient. Recent criticism of medical conditions in Karelskaya ASSR, which is contiguous to Murmanskaya Oblast, may also be relevant to the oblast. Acute dysentery and other intestinal infections were said to be high, inoculation procedures unsatisfactory, obstetrical care deficient, the incidence of pneumonia among children high, and preventive TB measures inadequate. The fact that one of the 2 children's sanitariums in Murmanskaya Oblast is known to be a tuberculosis sanitarium suggests that this last criticism has particular relevance to the Oblast.

D. Educational and Cultural Facilities

Murmanskaya Oblast has little to offer in the sphere of higher education facilities. In 1957 there were only 2 institutions of higher education, both located in Murmansk and both of a specialized nature. The Murmansk Higher Nautical School offers training in navigation and marine engineering. It is reported to have a 5 and a half year course and admit students between the ages of 18 and 24. The Murmansk Pedagogical Institute trains elementary and secondary school teachers. In the academic year 1956-57, these 2 schools had an enrollment of 1,244 of which 325 were corresponding students; in 1956 they graduated 111 students.

There are 5 tekhnikum and specialized secondary schools in the oblast: the Murmansk Nautical School, the Murmansk Preschool Pedagogical School, the Kirovsk Chemical & Mining Tekhnikum, the Kirovsk Medical School (for training medical assistants and midwives), and the

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Monchegorsk Mining-Metallurgical Tekhnikum. In 1956-57 their enrollment was 3,097; constituting 0.65 per cent of the total oblast population (as compared with the RSFSR average of .11 per cent). In 1956, 813 students were graduated from these schools.

In the 260 primary, 7-year, and 10-year schools which provide a general education to children between the ages of 7 and 17, enrollment totaled 63,568 in 1956-57, or about 13 per cent of the oblast population (the same percentage as for the RSFSR as a whole). The number of teachers totaled 3,336. For the distribution of schools, students, and teachers within the oblast, see Table XVIII. The total number of students receiving

TABLE XVIII

NUMBER OF PRIMARY, SEVEN YEAR, AND TEN YEAR SCHOOLS, STUDENTS, AND TEACHERS: 1956-57

Administrative Division	Schools	Students	Teachers	No. of Students per Teacher
City of Murmansk	32	22,126	1,073	20.6
City of Kandalaksha	10	4,840	237	20.4
Kirovsk				
Administrative Area Monchegorsk	44	7,679	430	17.6
Administrative Area City of Severomorsk	22	7,222	368	19.6
	8	4,002	203	19.7
Rayons:				
Kandalakshskiy	31	3,359	181	18.5
Kolskiy	21	4,064	235	17.3
Lovozerkiy	7	1,034	64	16.2
Pechengskiy	16	2,899	142	20.4
Polyarnyy	24	2,722	178	15.3
Saamskiy	9	816	49	16.6
Teriberskiy	12	864	65	13.3
Terskiy	24	1,941	111	17.5
Total	260	63,568	3,336	

a primary, elementary, and secondary education has continued to increase since 1940. However the distribution of the students by grade has undergone a change (see Table XIX). The decrease in the number of students in grades 5-7 which occurred in 1955-56 and 1956-57 and in grades 8-10 in 1956-57 reflects the decline in the birth rate during and immediately

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TABLE XIX

DISTRIBUTION OF STUDENTS, GRADES 1-10,  
BETWEEN 1940-41 and 1956-57

<u>Year.</u>	<u>1-4</u>	<u>Grade's 5-7</u>	<u>8-10</u>
1940-41	22,982	14,377	3,114
1950-51	26,019	17,372	1,631
1954-55	27,545	18,636	8,794
1955-56	32,757	15,558	9,740
1956-57	39,250	13,579	9,667

following World War II. Conversely, the sharp increase in the number of students in grades 1-4 in 1955-56 and 1956-57 is due to an increase in births in the late 1940's and early 1950's as well as to in-migrating. The number of students in grades 8-10 since 1954-55 has averaged about 16 per cent. of the total enrollment in the 10 grades.

In addition to the general education schools, in 1956-57 there were 32 schools for working youth, both urban and rural, with an enrollment of 6,478 providing both general and specialized training. Two general education schools for adults had an enrollment of 977 in 1956-57 (see Table XX).

TABLE XX

NUMBER OF STUDENTS IN  
SCHOOLS FOR WORKING YOUTH AND  
SCHOOLS FOR ADULTS  
1956-57

<u>School</u>	<u>Number of Students</u>			<u>Total</u>
	<u>1-4</u>	<u>5-7</u>	<u>8-10</u>	
Schools for Working Youth	225	2,811	3,442	6,478
Schools for Adults	0	295	682	977

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Little is known about the quality of education in the oblast. The teacher-student ratio in general is favorable, but undoubtedly the schools in the remote rural areas experience considerable difficulty in attracting qualified teachers. Late in 1957 a shortage of physical education, art, and music teachers in the oblast was reported.

In January 1958 there was criticism of the physical conditions of some of the schools. Many schools, it was claimed, had poor illumination and ventilation.

Although 100 per cent literacy is claimed by the Soviet government, it is doubtful that all the nomadic Lapps in Lovozerskiy and Saamskiy Rayons are literate.

In December 1958 a new law on education was passed by the Supreme Soviet of the USSR, providing for an increased emphasis on specialized and polytechnical education. The main provisions of the law include the abolition of 7- and 10-year schools and the substitution of 8-year compulsory education schools. These schools are to give the students general and polytechnical knowledge. After the completion of the 8-year school, further education will be on the basis of a combination of formal study and work. Students may obtain a complete secondary education in 3 types of schools:

Schools of Working Youth (3-year evening schools);

Secondary General Educational Labor Polytechnical Schools (3-year term, with alternating periods of study and work);

Tekhnikum and other specialized educational schools.

All will provide general as well as specialized training.

The number of boarding schools will be increased and on local conditions will be organized along the line of 8-year schools or secondary general labor polytechnical schools. A 3 to 5 year transitional period from 1959/60 has been granted to put the reorganization of the educational system into effect.

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Cultural facilities in the oblast (1956) include 184 libraries, containing 1,800,000 books (of which 61 libraries and 280,000 books are in rural areas), 129 clubs (65 in rural areas), 2 museums, 3 theaters; and 215 moving picture projectors (99 in rural areas). In 1956, 3 city newspapers, 8 rayon newspapers and one oblast newspaper, "Polyarnaya Pravda" (daily edition, 45,000), were published. The oblast has 2 research institutes--the Arctic Institute of Fishbreeding and Oceanography and the Institute of Territorial Magnetism, Ionosphere, and Propagation of Radio Waves (both located in the city of Murmansk) in addition to the Kola Affiliate of the USSR Academy of Sciences, the main branch of which is located in Kirovsk. Several other divisions, including the Geological Institute, the Arctic Botanical Gardens, the Murmansk Biological Station, and a number of laboratories are at various places in the oblast. The major work of the Kola Branch of the USSR Academy of Sciences is focussed on the oblast's geological structure and mineral deposits.

Murmansk is the cultural center, containing all of the 3 theaters and one of the 2 museums in the oblast. Although there were a reported 42 libraries in the city in 1957, a press criticism claimed that practically all of them were located in the center of the city, inconvenient for most of the workers who live on the outskirts.

IV. Socio-Economic FactorsA. Housing

The housing problem in Murmanskaya Oblast, severe before World War II, became worse as a result of it. Half of the housing in the cities of the oblast was destroyed, the city of Murmansk suffering a loss reported as from 50 to 75 per cent of its total housing area. Not until 1952 did housing in the oblast reach its prewar level. Since by this date, the population of the oblast had increased by several thousand, the housing shortage in 1952 was more acute than in 1940. A housing shortage continues to exist up to the present, due to an under-fulfillment of the housing construction plan for several years in the postwar period.



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of the housing problem in the next few years," but it is doubtful that the goal of 2,000,000 sq. meters (21,520,000 sq. ft.) of housing included in the Seven-Year Plan (1959-1965) will be met unless timely measures are taken to alleviate the critical shortage of construction materials.

B. Food Supplies

Because of adverse climatic and soil conditions, agriculture is a marginal and limited activity in Murmanskaya Oblast. This situation is reflected in the fact that an estimated 91.5 per cent of the oblast's population in 1959 (the highest percentage in the USSR) is urban. The great bulk of the oblast's food requirements, therefore, must be imported from other areas of the Soviet Union. One plentiful locally available food staple which mitigates to an appreciable degree the paucity of crop acreage and livestock raising is fish. Found in great abundance and variety in the Barents Sea which borders the oblast on the N and E, as well as in many of the numerous rivers and lakes in the oblast, this important food is readily available to a significant proportion of the oblast population. An important food supply available to the population in the interior areas of Lovozerskiy and Saamskiy Rayons is reindeer meat. Because of the lack of locally available agricultural products, storage facilities are believed to be fairly extensive in the main population centers. Reportedly, fresh fruit is available in Monchegorsk "practically all year" because of storage facilities. In 1956 the oblast food supplies in reserve would have sufficed for 61 days of normal trade turnover.

Fish is the chief food staple for the residents of the oblast. In 1955 the oblast fish catch totalled 6,319,400 metric centners (1,393,174,924 lbs.), or one-fourth of the total USSR 1955 catch. There are over 110 kinds of fish in the Barents Sea. Cod, herring, and perch constitute the bulk of the 22 commercial varieties.

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Between 1946 and 1956, approximately 1,200,000 sq. meters (12,912,000 sq. ft.) of housing were constructed in the oblast, more than half of which was in the city of Murmansk. This total fell short of the quota called for; in fact, the first time they fulfilled the housing construction plan was in 1957, and then again in 1958 they lagged behind.

Wood construction is the prevailing type of housing in the oblast. Murmansk city housing was described by a non-Soviet observer in 1958 as being predominantly log and old wooden structure, slum-like in appearance. Recent Soviet reports state that stone construction is replacing wood and that construction of multiple dwellings will be given priority over detached houses. Poor quality of construction and high per unit cost are characteristic of housing construction in the oblast.

Lack of building materials may be one of the main causes of lagging. There has been considerable discussion but little evidence of constructive action taken to improve the oblast's poorly developed construction materials industry. Oblast brickworks supply less than half of the bricks required by building projects. Cementing materials, wall materials, limestone, slag wool, as well as numerous other building materials, are scarce. Inadequate transportation facilities inhibit the economic use of local construction materials. The bulk of construction materials must be brought into the oblast from as far away as Moskovskaya, Tulsкая, and Zaporozhskaya Oblasts, Armyanskaya SSR, and Latviyskaya SSR, as well as from Novgorodskaya Oblast, Leningradskaya Oblast, and the Karelskaya ASSR. Plans to produce construction materials from the by-products of the oblast's mining and metallurgical industries have not yet produced significant results.

The Murmanskij Sovnarkhoz administers over 80 per cent of housing construction in the oblast, the remainder being the responsibility of the local executive committees. The establishment of the Sovnarkhoz in June 1957 was hailed as having "created favorable conditions for the solving

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of the housing problem in the next few years," but it is doubtful that the goal of 2,000,000 sq. meters (21,520,000 sq. ft.) of housing included in the Seven-Year Plan (1959-1965) will be met unless timely measures are taken to alleviate the critical shortage of construction materials.

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In 1956 the food industry produced 41,432,000 cans of processed foods, 41,259,000 of which were fish. Other processed foods in 1956 were as follows:

<u>Item</u>	<u>No. of Tons</u>
Bread, rolls	76,100
Confectionary products	1,808
Macaroni products	2,639
Sausage products	2,329

The meat supply in the oblast is very limited. In 1956 there were 8,266 dairy cattle; 5,219 beef cattle, 15,816 sheep and goats, and 15,395 pigs. Milk production in 1956, representing a relatively high yield per cow, totalled 21,300 metric tons or 46,957,980 pounds—only 10 lbs. per capita. Reindeer, by far the most numerous livestock in the area, totalled 69,867 in 1956. Locally grown vegetables and grain are in short supply. In 1956 only 2,281 acres of potatoes; 353 acres of other vegetables (mainly cabbage), and 10 acres of grain were sown.

Hothouse and hotbed agriculture provide some vegetables to a few urban areas. A Soviet report states that a state farm in the vicinity of Kirovsk, with 8,000 hotbed frames and 107,600 sq. ft. of hothouse area, supplies vegetables to the population of the city as well as to the entire apatite mining area. Cucumbers, radishes, tomatoes, and green onions are reported to be grown in hothouses and hotbeds in Pechengskiy Rayon for the local population. Hothouse agriculture is also being developed in the Murmansk city area.

The Severonikel Combine in Monchegorsk contributes to the local food supply. In 1957 it had more than 1,235 acres of sown area, 900 head of cattle, 400 pigs, a large poultry farm, hothouses and hotbeds. Other urban industrial enterprises and public institutions also engage in subsidiary agricultural activity.

The Murmansk-Leningrad railroad is the chief means of bringing food into the oblast. It is also important, along with its branches, for distributing food supplies within the oblast. Coastal transport is used

## S E C R E T

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to distribute food supplies to those areas (particularly in the N and E) not accessible by rail. Since most of the agricultural activity in the oblast, except for reindeer herding, is carried on in or near the main urban centers, the necessity for extensive hauling of food is obviated.

Given the limited agricultural activity in the oblast, it is to be expected that food expenditures would constitute a high percentage of total expenditures. In 1955, the average expenditure for food (including public dining) totalled 66.6 per cent of all expenditures (as compared with the Northwest regional average of 62.0 per cent and the RSFSR average of 57.0 per cent). Because of the small-scale agricultural activity, rural food expenditures are particularly high, constituting 3,562 rubles (adjusted prices) per capita in 1955 (as compared with 1,102 for the Northwest region and 748 for the RSFSR as a whole).

### C. Transportation and Telecommunications

#### 1. General

Railroads are the chief means of transportation in the oblast. The N-S Murmansk-Leningrad line is of particular importance, providing the oblast's main link with other parts of the USSR.

Coastal water transportation is next in importance as a means of transportation. It is of particular importance as a link between the scattered settlements in the E part of the oblast and Murmansk.

Highways and roads are used mainly for short hauls of passengers and freight. Adverse climatic conditions limit their usefulness and pose difficult maintenance problems.

Civil air transportation is limited. It is used as a means of transportation between remote coastal areas (which are not serviced by roads or railroads) and the oblast center; there are regularly scheduled flights from Murmansk to Moskva via Petrozavodsk and Leningrad.

#### 2. Rail

The rail network in Murmanskaya Oblast, while not extensive, is a vital means of transportation in an area where there are few roads.

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The single-track Murmansk line, running S from Murmansk for approximately 225 miles within the oblast (refer to Map IV) and thence to Petrozavodsk (Karelskaya ASSR) and Leningrad (900 miles S), is the only main rail line and the most important means of transportation in the oblast. A section 173 miles long between Murmansk and Kandalaksha is electrified. The railroad is vital to the economy of the oblast which depends largely on it for bringing in foodstuffs, consumer goods, fuel, machinery, and equipment for the mining and lumber industries; and salt for the fishing industry. It is also the chief means of transporting the mineral wealth of the oblast--apatite from Kirovsk, nickel and copper from Pechenga and Monchegorsk, iron ore from Olenegorsk and Kovdor--and fish from Murmansk to other parts of the country. Goods imported and exported through the port of Murmansk are also carried on this line. Freight shipped out of the oblast by railroad totalled 7,267,000 tons in 1956. Table XXI indicates some of the major items comprising the outgoing freight.

TABLE XXI  
OUTGOING RAIL FREIGHT: 1956

Item	Volume (Thousands of Tons)	Per Cent of Total
Mineral fertilizer (apatite)	3,128	43.0
Mineral construction materials	478	6.6
Lumber products (excl. firewood)	478	6.6
Firewood	127	1.7
Salted fish	318	4.4
Other <sup>a/</sup>	2,738	37.7
Total	7,267	100.0

<sup>a/</sup> Copper, nickel, and iron ore probably comprise a significant part of this group.

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Incoming rail freight in 1956 totalled 6,901,000 tons, distributed as shown in table XXII.

TABLE XXII

## INCOMING RAIL FREIGHT: 1956

<u>Item</u>	<u>Volume (thousands of tons)</u>	<u>Per Cent of Total</u>
Coal	1,368	19.8
Oil Products	677	9.8
Ferrous Metals	120	1.7
Lumber (excl. firewood)	548	7.9
Firewood	245	4.1
Grain	150	2.2
Other <sup>a/</sup>	<u>2,793</u>	<u>54.5</u>
Total	6,901	100.0

<sup>a/</sup> Manufactured goods and food products make up a large part of this category.

Intersecting the Murmansk-Leningrad railroad near Belomorsk (Karelskaya ASSR) is the Sorokskaya-Obozerskaya rail line which skirts the southern coast of the White Sea and connects Murmansk with the Northern (Severnaya) Railroad, Arkhangelsk, and the interior of the country, in particular the relatively new Cherepovets industrial area to which the oblast supplies iron ore. Built in 1941 when the Germans occupied most of the Karelskaya ASSR, thereby interdicting part of the Murmansk-Leningrad line, this railroad played a major role in transporting lend-lease supplies imported through Murmansk to the interior of the country.

Although Murmansk is considered the northernmost terminal of the Kirov Railroad, the line actually extends about 12 miles N to Severomorsk (Vayenga), an important naval base.

Running W from the trunk line are 2 important branch lines, both of which are single-track and steam operated (refer to Map IV). Connecting with the Finnish railway system at Kotala is the Ruchi Karelskiye-Kuolayarvi (formerly Salla) branch line, which runs W from the Murmansk line a few miles S of Kandalaksha. This line (sometimes referred



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to as the Salla line) does not carry regularly scheduled traffic across the Finnish border, but only as far as Alakurtti; 64 miles W of Ruchi Karelskiye. It is of significance insofar as it is the only rail line in the oblast which adjoins the Finnish Railroad and provides a direct rail route across Finland to the Gulf of Bothnia.

A second important branch line, built within the last few years, is the Murmansk-Pechenga line. This railroad runs S out of Murmansk to Murmashi and then NW to Pechenga and Liinakhamari, the chief harbor of Pechenga, with an extension W to Nikel from Luostari. In addition to serving the rich Pechenga-Nikel mining area, this rail line is the most important means of providing logistic support to the airfields (refer to Map IV) in this border region.

There are also 3 branch lines built expressly to serve mining areas in the central part of the oblast. The 14 mile Apatity-Kirovsk rail spur services the apatite-nepheline mining area near Kirovsk; the Olene-gorsk-Monchegorsk rail spur serves the rich copper-nickel mines in the Monchegorsk region. The Pinozero-Kovdor line extends E about 65 miles to the iron ore and mica deposits around Kovdor and Yena.

The fact that the Murmansk railroad is the only main line serving the oblast and that it is a single-track line is a weakness that the Soviet authorities have been taking steps to eliminate. Reports indicate the probable existence of a N-S rail line W of the Murmansk main line linking the E-W Murmansk-Pechenga line and the E-W Ruchi Karelskiye-Kuolayarvi line. This railroad (reportedly built about 1951) runs S from Pechenga, passes through Nikel and a number of mining areas near the Finnish border, and connects with the E-W Salla line, perhaps at Alakurtti. In addition to being of possible military significance, the railroad also taps rich mining and forest areas. It is possible that the Soviet government hopes to extend this line S through the Karelskaya ASSR and effect a connection with the West Karelian line now under construction. If this is done, an alternative rail route from Murmansk to Leningrad would exist.

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Plans to strengthen the main Murmansk railroad include the addition of a second track on the 200 mile Apatity-Sorokskaya (Karelskaya ASSR) section and the electrification of the 104 mile Kandalaksha-Loukhi (Karelskaya ASSR) section. Since these projects comprise part of the abortive Sixth Five-Year Plan, it is not possible to determine whether or not they still obtain.

Railway maintenance is a continual problem in the oblast. Alternate freezing and thawing in the spring and fall and improper drainage in the warm months cause extensive damage; numerous wooden railroad bridges over the rivers, lakes, and swamp areas traversed by the Murmansk trunk line also require much upkeep.

Railroads within Murmanskaya Oblast are under the jurisdiction of the Kirov Railroad System, Headquarters in Petrozavodsk. Murmansk, a division headquarters of the Kirov System, controls rail facilities in the oblast.

3. Water

Maritime transport ranks second in importance as a means of transportation in Murmanskaya Oblast. Coastal water transport is of particular importance, being, in some instances, the chief means of contact between certain rayons and Murmansk. Teriberskiy, Saamskiy, and Terskiy Rayons, which have no rail lines and no good roads, are almost wholly dependent on coastal transportation in maintaining contact with other areas of the oblast. Coastal water communication is also carried on between Murmansk and Pechenga on the Barents Sea and Murmansk and Kandalaksha on the White Sea. The sea route between Murmansk and Kandalaksha is of great distance, involving almost complete circumnavigation of the Kola Peninsula. But, in addition to supplementing rail transportation between these 2 cities, this route is used to supply the intervening coastal settlements.

Murmansk, a principal seaport, has direct access to the open seas the year round because of the effect of the northern extension

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of the warm Gulf Stream Current. Ranking second to Arkhangelsk as the largest Soviet Arctic port, Murmansk is the largest fishing port in the Arctic as well as the westernmost port on the 6,500-mile Northern Sea Route. Located on the Kola Gulf 28 miles from the Barents Sea, Murmansk has a well protected harbor. Because of its location and year-round accessibility, Murmansk played an important role during World War II as the major Soviet port for the receipt of lend-lease supplies.

In peacetime the port of Murmansk handles a limited traffic in goods. Apatite and lumber are the chief exports; general cargo is shipped to the coastal areas of the oblast and to northern Siberia (via the Northern Sea Route). Coal is imported from Spitsbergen (Norway). It is also brought in from the Pechora Basin (Komi ASSR), as are building materials from Arkhangelsk, and fish from the oblast's coastal areas. Murmansk has an estimated military port capacity of 21,500 long tons of general cargo per day.

There are numerous secondary ports in the oblast: Chelno-pushka, Severomorsk, Polyarnyy, Guba Tyava; Guba Sayda; and Guba Olenya on the Kola Gulf; Pechenga and Yokanga on the Barents Sea; Kandalaksha, Kovda, and Lesnoy--primarily lumber ports--on the White Sea. The Barents Sea ports are open all year; the White Sea ports about 6 months of the year.

Although most of the rivers in the oblast do not permit navigation of sizeable ships, river barges and small ships are used to carry some freight; particularly from coastal areas to inland river settlements. About 31,600 tons of freight were shipped into the oblast by river in 1956; lumber products comprised 3,800 tons, grain, 1,000 tons. Lumber accounted for the total volume (21,900 tons) of outgoing river freight in 1956.

An inland water route located outside the oblast which provides a connection via the Barents and White Seas between Murmansk and Leningrad is the Baltic-White Sea Canal, the northern terminus of which

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is Belomorsk (Karelskaya ASSR) on the White Sea. This waterway, which intersects the Volga-Baltic Waterway (formerly the Mariinsk Waterway) also provides a link between Murmansk and the Cherepovets and Moskva industrial regions. On these waterways lumber, apatite, and iron ore are shipped S from Murmanskaya Oblast. Salt for Murmansk's fishing industry, consumer goods, machinery, and building materials comprise northernbound freight. In 1957 only a small proportion of the total freight to Murmanskaya Oblast, however, was shipped by inland waterway, since the limiting depths of the waterways permit the passage of only small ships. Upon completion of the present extensive reconstruction of the 2 waterways, as a result of which large ships will be able to travel their length, they will have enhanced economic and military significance.

Port facilities and port operations in the oblast have been the target of criticism. Many of the ports, including Murmansk, on the Kola Gulf reportedly do not have proper embarkation and debarkation facilities. Loading and unloading operations are characterized by uneven, sporadic work, resulting in heavy financial losses and nonfulfillment of production plans. Obsolete port facilities at Murmansk are said to prevent an increase in the volume of apatite mined in the oblast. Because of poor port facilities, apatite, comprising in 1956 about one-third of Murmansk's total cargo turnover, had to be transloaded from railroad cars to piers by hand shovels or obsolete steam railroad cranes. As a result, serious financial losses were sustained and labor productivity was low. In 1957 the Murmansk Arctic Steamship Company was criticized for failing to meet the growing needs of the oblast in sea transportation. Reportedly many of its ships were old and without proper equipment. In addition, confusion and inefficiency existed from an overlapping of authority and functions of the large number of port organizations subordinate to various administrations and divisions of the USSR Ministry of Maritime Fleet.

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According to the now defunct Sixth Five-Year Plan (1956-1960), the port of Murmansk was to be expanded and its shipyard modernized. There is no available evidence indicating the present status of these plans.

The commercial seaports in Murmanskaya Oblast are administered by the Chief Administration of Traffic, Fleet Operations, and Ports of the USSR Ministry of the Maritime Fleet who directs the ports through the chief of the Murmansk Arctic Steamship Company. All maritime transport ship repair plants in the oblast are subordinate to the Murmansk Arctic Steamship Company. Ports that handle Ministry of Defense vessels (refer to Map IV) have a military officer attached to the port's harbormaster's office.

4. Road

Motor transport ranks third in importance as a means of transportation in the oblast. Swampy terrain, numerous rivers and lakes, and a rigorous climate render difficult, and often impossible, the maintenance and construction of roads and highways in Murmanskaya Oblast. Short freight hauls near the main centers of population, however, constitute a significant volume. In 1956, 33,339,000 metric tons of freight were transported by automotive conveyance.

There are 2, possibly 3, improved highways in the oblast (refer to Map IV). One, a 113 mile section of the former Finnish Arctic Highway, runs SW from the Liinakhamari-Pechenga region through Salmiyarvi to the Finnish border, from where it continues on to Kemi on the Gulf of Bothnia via Rovaniemi. Connecting with this highway at Pechenga is an improved dirt road from Murmansk. In 1956 the Soviet government reported a plan to construct an express highway from Murmansk to Pechenga to be completed between 1958 and 1960. The present status of this project is unknown. A second highway in the oblast is the E-V Kandalaksha-Kuolayarvi highway, which provides a second direct route in this area (roughly paralleling the E-V railroad) to the Finnish border. The probable existence

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of a N-S highway between Pechenga and Kuoloyarvi, connecting with the E-W highway from Kandalaksha has been reported. One unconfirmed report states that this highway, built about 1951, runs E of the former Finnish Arctic Highway in the northern part of the oblast.

There are few other roads, improved or unimproved, in Murmanskaya Oblast. In addition to the Murmansk-Pechenga road, there is an improved road leading 12 miles NE from Murmansk to Severomorsk, which is, reportedly, heavily travelled and kept in a fairly good state of repair. Another road runs S from Murmansk through Kola and Kildinstroy paralleling the tracks of the Murmansk railroad S to Pulozero where it turns E toward rayon center, Lovozero. Cobblestone or dirt is the prevailing type of surfacing of improved roads. Except for the road to Lovozero, which is intersected by a branch road from Olenegorsk, practically the entire area E of the Murmansk rail line is without roads. In the winter travel by sled is not infrequent, and in the remote interior reindeer are used.

Several cobblestone roads leading W from the vicinity of the Murmansk Railroad were in existence during World War II. Designed for carrying heavy military vehicles and ending near the Finnish border, they have apparently only military significance, since they appear to serve no economic purpose. An unconfirmed postwar report states that an E-W cobblestone road was built in the early 1950's W from Kandalaksha via Yena to Girvas (NW of Kovdor) near the Finnish border.

The Oblast Administration of Motor Transport and Roads is responsible for the construction and maintenance of local roads. The Main Administration of Highway Construction RSFSR of the Ministry of Motor Transport and Highways RSFSR (Glavdorstroy) is responsible for the construction of major highways. Highways in the oblast leading to or located near the Finnish border are probably under the jurisdiction of a USSR agency in Moskva.

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5. Air

There are 28 targeted airfields and seaplane stations in Murmanskaya Oblast, of which only Murmashi Airfield (Target 0051-8609) and Yokanga Airfield (Target 0051-8009) have been identified as jointly used by civilian and military planes. Regularly scheduled flights from Murmansk to Moskva via Petrozavodsk and Leningrad originate from Murmashi, a few miles S of Murmansk. Although not identified as being used by both civilian and military planes, it is probable that the airfields at Teriberka and Ponoy are so used, given the scarcity of other means of transportation available in these areas.

The Northern Territorial Directorate of Civil Air Fleet, headquarters in Leningrad and directly subordinate to the USSR Chief Directorate of Civil Air Fleet under the USSR Ministry of Defense in Moskva, coordinates all civil air traffic in passengers, freight, and mail in the oblast.

6. Telecommunications

Telecommunications in the oblast are designed to serve state and military requirements rather than the general public. Domestic point-to-point radiocommunication stations are used in conjunction with wire facilities, and radio and wire communications are integrated into one telecommunications system. Because of the difficulty in building and maintaining wire lines in the northern latitudes radio is probably used more extensively in the oblast than wire communications.

A telephone-telegraph line with carrier connects Murmansk via Belomorsk and Petrozavodsk (Karelskaya ASSR) with Leningrad where it joins with other lines of the national communications network, including the Leningrad-Moskva line. The Murmansk wireline is connected with the Arkhangelsk-Moskva telephone-telegraph wireline with carrier (a major open wireline) via a E-1 telephone and telegraph line with carrier extending between Belomorsk (Karelskaya ASSR) and Obozerskaya (Arkhangelskaya Oblast). Wirelines (without carriers) also exist between Murmansk and

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Ivalo, Finland, via Pechenga and Rayakoski; and between Ruchi Karelskiye and Kuolayarvi (Salla).

A submarine cable along the N and E coasts of Murmanskaya Oblast connects Murmansk and Yokanga with Arkhangelsk. Two short submarine cables across the White Sea straits extend from Pyalitsa and Pulonga in the oblast to Intsy (Arkhangelskaya Oblast).

Principal radio communication stations in the oblast are located at Murmansk, Kandalaksha, Kirovsk, Kola, and Tyuva Guba. There are also coastal radiocommunication stations which handle all maritime traffic in their general vicinity. Radio-telegraph circuits include a teletype line and a Morse line between Murmansk and Moskva.

Within the oblast, rayon centers have direct telephone or radiocommunication with Murmansk, the oblast center, but are linked only indirectly, through Murmansk, with other rayon centers.

Telephone and telegraph service in the rural areas is minimal. Reportedly the 3 machine tractor stations (1956) in the oblast had telephone communication with their respective rayon centers; very likely the 4 state farms (1956) also had such communication. How many of the 43 (1956) agricultural and fishing collective farms have telephone or radiocommunication with their rayon centers is not known.

Private telephones are rare in the oblast. Generally, telephones for personal use are located only in public buildings such as post offices. Murmansk has an automatic telephone system; Kandalaksha a manually-operated switchboard.

Murmansk is the location of one of the 39 main regional broadcasting stations (656 kc) in the USSR. In 1956 there were 36,400 radio receivers and 83,000 radio relaying stations and wall loudspeakers (radio tockha) in the oblast. Lovozerskiy Rayon was reported to have 490 radio receivers and 1,235 wall loudspeakers in 1957. Pechengskiy Rayon in 1957 had 1,700 radio receivers, 559 of which were in Nikel.

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In November 1957 a television station began operation in Murmansk. Still in the planning stage is the construction of television relay lines to population centers outside Murmansk.

Civil telephone, telegraph, and radiocommunication facilities of local significance are controlled by the RSFSR Ministry of Communications through the Oblast Directorate of Communications. Direct control over the operation of telegraph, telephone, and radio installations having an all-union significance is exercised by the USSR Ministry of Communications. MVD units are responsible for the security of all telecommunication facilities, except military.

D. Utilities

With the exception of electric power, utilities are poorly developed in Murmanskaya Oblast. One reason for this is the heavy damage sustained by certain areas of the oblast during World War II. Murmansk, for example, suffered severe bomb damage, resulting in the destruction of about 90 per cent of the public buildings and between 50-75 per cent of the housing. Kandalaksha, in the southern part of the oblast, also suffered bomb damage. Heavy fighting in the Pechenga-Nikel region (then Finnish territory) resulted in extensive destruction. Other factors which have inhibited the development of utilities are the difficulty of access to certain areas in the oblast, the scarcity of construction materials and equipment, and the rigorous climate.

Since the oblast lacks coal or oil resources, a prerequisite to industrial development was the creation of an electric power system, the many swift-flowing rivers in the oblast providing the major source of such power. In 1956, Murmanskaya Oblast reportedly ranked first in the USSR in per capita production of electricity. The Murmansk Regional Power Network has an estimated installed capacity of 608,000 kws.

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Kandalakshskiy Rayon, having in 1957 an estimated installed capacity of 368,000 kw. of electric power, or more than half of the present installed capacity in the entire oblast, is the main power base of the oblast. At the present time there are 4 hydroelectric power plants in Kandalakshskiy Rayon--3 on the Niva River with an estimated installed capacity of 240,000, and one on the Kovda River, the Knyazhaya Guba Hydroelectric Power Plant, Knyazhegubskaya GES (Target 0091-0111), with an estimated installed capacity of 128,000 kw. The Kandalaksha Hydroelectric Power Plant, Niva GES 3 UG (Target 0091-0015), with a capacity of 150,000 kw., is the largest plant in the Murmansk Grid. It is located underground and believed to have an average dependable capacity throughout the year of 90,000 kw. The 3 Niva River plants and the Kovda River plant supply power to the Monchegorsk and Korovsk mining areas, the Murmansk-Kandalaksha electric rail line, as well as to Kandalaksha and surrounding area. Both industrial and consumer needs are served.

On the Lower Tuloma River near Murmasi in Kolskiy Rayon, the Tuloma Hydroelectric Power Plant, GES (Target 0051-0012), with an estimated capacity of 48,000 kw. and an annual output of more than 200,000,000 kw-hr, supplies power to Murmansk and its environs. Another hydroelectric plant of unknown capacity in this area is located near the mouth of the Kola River. A 30,000 kw. hydroelectric power plant is located at Afrikanda.

Under a postwar Finnish-Soviet trade agreement, the Finns have constructed 3 hydroelectric power plants for the Soviet Union with an estimated capacity of 90,000 kw. on the Patsoiki River (near Nautsi) in Pechengskiy Rayon. Their main purpose is to serve the Pechenga-Nikel mining area, but they could supplement Murmansk's power supply, since they are probably tied in to the Murmansk Regional Grid.

All the hydroelectric power plants are interconnected by 110 kv. lines. They are also connected to 2 thermal power plants, both of 36,000 kw. located at Murmansk and Kirovsk, and probably to a third thermal power plant of unknown capacity at Monchegorsk.

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Although the thermal power plants are more expensive to operate than comparable hydroelectric power plants, they play an important role in the winter when the power potential of the hydroelectric plants is reduced.

Probably most populated places in the oblast are now supplied with electricity. According to Soviet reports, the electrification of Lovozerskiy Rayon was completed in 1955. All villages in Teriberskiy Rayon are reported to have electricity.

The distribution of electric power is directed from Murmansk by the Murmansk Regional Power Network, an agency of the USSR Ministry of Electric Power Stations.

Continued development of hydroelectric power in the oblast will probably occur, given the growing needs of the mining and metallurgical industries, the increase in rail mileage, and the absence of other sources of power. A 1957 Soviet estimate indicated that the oblast had a potential capacity of 1,300,000 kw of hydroelectric power--more than twice the present installed capacity. In addition to the Niva and Tuloma Rivers, the most lucrative potential sources of hydropower are the Ponoy, Umba, Voronya, and Teriberka Rivers. Scheduled for construction under the Seven-Year Plan is a power plant on the Upper Tuloma River, the Kir-ovsk Regional Power Plant, and the Borisoglebskiy Power Plant (whose location in the oblast is not known). Although an August 1957 Soviet report stated that a new power development of more than 300,000 kw was planned for the region drained by the Ponoy and Yokanga Rivers, no provision for a power plant in this area is known to have been included in the Seven-Year Plan.

Two plants under construction on the Paz and Kovda Rivers in northern Karelskaya ASSR are viewed as a future link between the Murmanskaya Oblast and Karelskaya ASSR power networks, supplying power to both areas. Under present plans the Murmanskaya Oblast and Karelskaya ASSR power grids will be united into one network at some time in the

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future, a preliminary step to achieving the much-announced ultimate goal of a single power system for the entire RSFSR.

In 1956 Soviet reports indicated that the city of Murmansk was experiencing a water shortage; having depleted the supply of several small lakes near the city. To remedy this, a water main leading to the city from a point on the Kola River 8 miles S was under construction in 1957. Upon its completion, it was claimed that an ample supply of water would be available for the city's needs.

In 1954 there were 2 waterworks which supplied water to small areas of Murmansk. No sewage treatment plants are known to exist, and sewage is probably dumped untreated into the Kola Gulf.

In 1958 Soviet reports stated that all multistoried dwellings in Murmansk are supplied with heat and hot water by a central heating plant in the city, but the capacity of this plant is insufficient to meet the needs of new construction. Suggestions have been made that a second thermal plant be built, but there is no evidence that construction is underway. One Soviet report indicates that the existing heating plant is being reconstructed to meet the increased demand.

Gas has not been available as a utility in Murmansk. In 1958, however, preparatory work for supplying gas to the city was reported to have been initiated. By the end of 1958, the first 1,000 apartment units were scheduled to receive locally bottled gas brought in from Bashkirskaya ASSR by railroad.

Murmansk has several bus lines connecting it with its suburbs and nearby towns, such as Rosta and Severomorsk to the N and Murmashi and Kola to the S. In 1957, 85 buses and 48 taxis were said to be operating in the city. The few main roads in the city are cobblestone or asphalt.

Kirovsk, Monchegorsk, and Kandalaksha--the next largest cities in the oblast--are known to be well supplied with electricity; but other utilities are probably minimal. Bus lines are reported to operate in these cities on the few streets which are hard-surfaced.

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Olenogorsk, a city founded in 1949, is constructing a water-works and a heating system. Water is available in most areas of the oblast, because of the plethora of lakes and rivers.

Firewood is probably widely used by nonindustrial consumers for heating and cooking purposes in the oblast. It is available in large quantities in Kandalakhskiy, Terskiy and Pechengskiy Rayons. Although the oblast is believed to have significant peat resources, they have been little developed, and peat is not extensively used as a fuel. Coal, imported from the Pechora Basin and Spitzbergen, is probably not available for nonindustrial purposes.

E. Economic Characteristics

Abundant natural resources of fish and minerals provide the basis for the oblast's nationally significant fishing and mining-metallurgical industries.

There are more than 110 types of fish, 22 of commercial significance, present in the Barents Sea which borders the oblast on the N and E. A relatively warm body of water because of the influence of the Gulf Stream Current, its plentiful supply of fish is accessible to the oblast fishermen on a year-round basis. It provides 99 per cent of the oblast's fish catch, cod, herring, and perch constituting the bulk of the commercial volume. The oblast's fish catch, which in 1956 totalled about one billion, 500 million lbs (6,847,000 metric centners) comprises from one-fourth to one-third of the total USSR catch. Fishing (including fish processing) is the most important industry, in 1952 accounting for about 55 per cent of the gross industrial product. Between 1945 and 1956 there was a steady increase in the volume of fish caught; the 1960 quota, included in the now defunct Sixth Five-Year Plan, was approximately 2 billion, 800 million lbs. In 1957, however, the production quota for the fishing enterprises of the Sovmarkhoz was only about 1 billion, 300 million lbs. and even this reduced goal was not met, only 1 billion, 96 million lbs. of fish being caught.

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Some of the reasons for this decline are apparent in the criticism which has been levelled at the Murmansk fishing industry in the past year. The shore bases are reported to be inadequate and incapable of properly servicing the fishing fleet, thus contributing to the failure of most of the fishing boats to meet their 1957 production quota. With the aim of increasing the fish catch, plans have been announced to modernize the Murmansk shipyard, construct a second major fishing port, and search out new commercial fishing regions.

Murmansk is the most important fishing and fish processing center in the oblast and the location of one of the largest fish processing combines in the USSR. About 80 per cent of the total production of the city in 1951 was contributed by the fishing and fish processing industries. Large fish processing plants are also located at Sayda Guba, Port Vladimir, Teriberka. In 1956, 41,259,000 cans of fish were processed in the oblast.

The Seven-Year Plan (1959-1965) calls for an increase of 160 per cent by 1965 over the 1958 oblast fish catch. According to the First Secretary of the Murmanskaya Oblast Communist Party, however, the RSFSR Gosplan has not provided in sufficient measure for additional refrigerator and floating bases which are needed to accomplish the established goal.

Mineral resources form the basis of the oblast's mining and metallurgical industries. Of all-union significance are the apatite-nepheline and the copper-nickel mining industries. In 1957, the Murmanskaya Oblast apatite industry produced three-fourths of the raw material for the USSR'S production of phosphorous fertilizers. The apatite-nepheline deposits, located near Kirovsk, are considered among the richest in the world. Nepheline, which makes up about 40 per cent of the apatite-nepheline ores (apatite accounting for about 33 per cent) contains about 50 per cent alumina. In addition to being an alternate to bauxite as a raw material for the aluminum industry, it also has applications in the ceramic, glass, tanning, rubber, textile, chemical, paint, metallurgical,

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and railroad industries. Apatite-nepheline ore also contains titanium, magnetite and other minerals, but these have not been exploited to any significant degree in Murmanskaya Oblast.

The main centers of the oblast's copper-nickel industry which accounts for a third of all nickel production in the USSR are Monchegorsk, Nikel, and Pechenga. Pechengskiy Rayon, where additional nickel deposits were recently discovered, has the most extensive copper-nickel deposits. Monchegorsk, reportedly, is the most important nickel refining center in the oblast.

Iron ore deposits in the regions of Lake Imandra near Olenogorsk and further west near Yena and Kovdor have led to the development in recent years of a ferrous metallurgical industry, supplying iron ore to the Cherepovets Metallurgical Works in Vologodskaya Oblast.

Other minerals mined in the oblast include cobalt in the Monchegorsk region and mica in the Yena-Kovdor area.

The oblast has numerous mineral deposits that are little developed at the present time. In the region between Kirovsk and Lovozero, there are reported to be more than 100 minerals, among them chibinite, fersmanite, murmanite, lead, tin, zinc, and imandrite. Molybdenum, vanadium, niobium deposits are also present in the oblast.

In the basins of the Ponoy and Yokanga Rivers in the eastern part of the oblast, there are rich untapped mineral resources of mica, granite, quartz, and cyanite. Cyanite ores have application in the production of aluminum and heat-resistant materials.

There have been unconfirmed reports of uranium deposits in the central tundra region of Lovozerskiy Rayon, in the Yokanga area of Saamskiy Rayon, and along the Tuloma River in the interior of Kolskiy Rayon.

The state of the mining industry in the oblast appears to be unsatisfactory. According to Soviet reports, there is a great gap between the discovery of mineral resources and the rate of their industrial exploitation. Even the relatively few minerals which are currently

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being worked--apatite, nepheline, copper, nickel, iron ore, and mica-- are not mined at a rate commensurate with their potential capacity. The extraction of apatite during the course of 30 years, for example, has totalled no more than 5 per cent of the apatite reserves. Lagging construction of mines and plants and insufficient modernization of existing plants are reported to have had a retarding effect on the development of apatite mining.

There has been an appalling waste of valuable minerals and lack of utilization of by-products. According to an October 1957 Soviet report, the aluminum plant at Volkhov uses 12 per cent of the nepheline mined at Kirovsk. The remaining 88 per cent is dumped into a nearby river, while at the same time the aluminum plant at Kandalaksha imports alumina from the Urals. There are said to be 20 useful mineral components in apatite-nepheline ore (including titanite and aegirite), but only apatite and nepheline (in small part) are used, the rest being discarded. It was stated that the USSR Ministry of the Chemical Industry (now the State Committee on the Chemical Industry) which had jurisdiction over the mining of apatite had no interest in extracting alumina from nepheline, since this came under the jurisdiction of another ministry (probably the Ministry of Nonferrous Metallurgy in Moskva). Similar noncoordination and disinterest among various ministries was reported with regard to the mining of other ores. With the elimination of numerous industrial ministries in 1957, including the Ministry of Nonferrous Metallurgy, and the transfer of the oblast nonferrous enterprises to the jurisdiction of the Murmanskii Sovnarkhoz, it was announced that the necessary conditions for eliminating these wasteful practices had been established.

The Seven-Year Plan provides that more than half of all capital investment in the oblast is to be directed to the mining-metallurgical industries, with particular emphasis on the construction of new mining enterprises. The extraction of iron ore is slated to increase 2.5 times, the production of nickel, copper, and cobalt 2.3 times, apatite production,

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2.3 times, nepheline 4.5 times. The RSFSR Gosplan, however, has made no provision for the utilization of the numerous mineral components of the apatite-nepheline ores. Preliminary to tapping the mineral resources in the eastern part of the oblast, it would be necessary to build a railway, some roads, and hydroelectric power plants, probably on the Ponoy and Iokanga Rivers. Since the necessary capital investment for these projects has not been provided by the RSFSR Gosplan in the Seven-Year Plan, despite the urging of the Murmanskaya Oblast Party Committee, the development of mineral resources in this part of the oblast will not take place in the near future.

A limited amount of lumbering is carried on in Murmanskaya Oblast. Although about 32 per cent of the oblast's territory is forested, containing about 4 billion, 413 million cu. ft. of timber, much of this total is inaccessible. Logging is carried out mainly in the regions served by communication routes--along the Murmansk Railroad and along the banks of the Kovda River in Kandalakshskiy Rayon, the Tuloma River in Kolskiy Rayon, and the Varzuga River in Terskiy Rayon. In 1955 the oblast produced 55,366,000 cu. ft. of lumber--only 0.46 per cent of the total USSR production. Kandalakshskiy Rayon, where lumbering is the leading economic activity, has the largest and highest quality of timber reserves. Pechengskiy Rayon has large forest areas, but for the most part they are inaccessible. The ports of Kandalaksha, Kovda, Lesnoy, and Lesozavodskiy on Kandalaksha Gulf (White Sea) are primarily lumber ports. Large lumber plants are located in Kandalaksha and Murmansk.

Practically all of the oblast's industrial enterprises and construction projects, numbering about 185, are under the jurisdiction of the Murmanskii Sovnarkhoz. Local industry is supervised by the oblast, city, and rayon executive committees. The oblast's economy, which suffered a severe setback during World War II, industrial production being reduced to 40 per cent of its pre-war output, regained its former level by 1950. In 1957 the gross industrial product of the oblast was approximately 0.605 per cent of the total USSR gross industrial product. Of this

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total, Sovmarkhoz enterprises accounted for about 76 per cent. The city of Murmansk contributed about 40 per cent of the oblast gross industrial production. The cities of Murmansk and Kirovsk are the focal points of the oblast's economic activity, containing over 50 per cent of the urban population. Under the Seven-Year Plan, the gross industrial product of the oblast is slated to increase 1.7 times over 1958-- a growth more than twice that established for the RSFSR or the USSR as a whole. Such an increase would depend in large part on the broadening of the electric power system, since there are no coal or oil resources in the oblast. Several power plants have been scheduled for construction under the Seven-Year Plan (see Section IV,D).

Agriculture is of only subsidiary importance in the economy of Murmanskaya Oblast. Although the moderating effect of the warm Gulf Stream current in the Barents Sea permits some agricultural activity in the oblast, in general the rigorous climate, short growing season, and soils (podzolic, rocky, and marshy) do not favor crop and livestock raising. Peat soils, after being drained and fertilized, are the most amenable to cultivation. Most of the oblast's agricultural activity is in the vicinity of urban areas, chiefly those located near the N-S Murmansk railroad. In 1956, there were 4 state farms, 13 collective farms, and 3 machine tractor stations. In the same year only .04 per cent of the total land area--14,863 acres--was under cultivation. This represents a slight increase since 1953, but is lower than it was in 1950. Potato and other vegetable acreage in 1956 was also less than in 1950. Grain acreage decreased sharply since 1950. (See Table XXIII.)

One Soviet source reports that private garden plots and dairying around the urban areas and reindeer raising in the remote tundra areas characterize agricultural activity in the oblast. However, the total area of private crop acreage is very small, comprising only 4.5 per cent of the sown acreage.

The distribution of crop acreage by type of agricultural organization in 1956 is shown in Table XXIV.

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TABLE XXIII

SOVN AREA: 1950-1956  
(in acres)

Crop	1950	1953	1955	1956
Potatoes	2,491	1,945	2,533	2,281
Other vegetables	546	350	440	353
Fodder and silage crops	768	909	2,194	1,875
Annual grasses	5,347	4,685	3,563	4,876
Perennial grasses	5,967	6,071	5,614	5,468
Grain	193	89	10	10
Other	35	16	3	--
Total	15,347	14,065	14,357	14,863

TABLE XXIV

DISTRIBUTION OF CROP ACREAGE: 1956

Crop	Collective Farm Acreage	State Farm & Other State Acreage <sup>a/</sup>	Private Acreage	Total
Potatoes	403	1,228	650	2,281
Other vegetables	64	282	7	353
Fodder and Silage crops	430	1,445	--	1,875
Grasses	2,365	7,959	20	10,344
Grain	--	10	--	10
Total	3,262	10,924	677	14,863

<sup>a/</sup> Includes subsidiary agriculture of industrial and public organizations (plants, logging camps, hospitals, etc.)

Livestock raising and dairying are considerably more important than crop raising. Raising of reindeer constitutes the major branch of the oblast's animal husbandry. In 1956, there were 69,867 reindeer, 8,266 dairy cattle, 5,219 beef cattle, 15,816 sheep and goats, 15,395 pigs, and 4,516 horses. The number of sheep, goats, and horses in 1956 was less than in 1950; other kinds of livestock have increased since that year (see Table XXV). Given sufficient fodder, dairying can be carried on successfully. In 1958, Murmanskaya Oblast ranked second in the RSFSR in average

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yield per cow on state and collective farms, producing an average yearly yield of 6,758 lbs. per cow compared with the RSFSR average of 4,529 lbs. The 1958 yield represented an increase of 18.6 per cent over 1956.

TABLE XXV

## LIVESTOCK POPULATION: 1950-1956

Livestock	1950	1953	1955	1956
Dairy cattle	5,699	8,878	8,095	8,266
Beef cattle	4,008	5,041	5,432	5,219
Sheep and goats	16,155	18,841	17,576	15,806
Pigs	7,344	14,187	13,594	15,395
Horses	4,829	6,392	4,983	4,516
Reindeer	53,883	62,478	66,174	69,867
Total	91,918	113,817	115,854	119,069

Privately owned livestock accounted for about 23 per cent of the total in 1956. Approximately 96 per cent of the sheep and goats and 43 per cent of the pigs in 1956 were privately owned. The distribution of livestock by type of agricultural organization is shown in Table XXVI.

TABLE XXVI

## DISTRIBUTION OF LIVESTOCK: 1956

Livestock	Collective Farms	State Enterprises	Private	Total
Dairy cattle	1,456	5,400	1,410	8,266
Beef cattle	790	3,736	693	5,219
Sheep and goats	617	9	15,180	15,806
Pigs	---	8,856	6,539	15,395
Horses	284	4,231	1	4,516
Reindeer	56,697	9,549	3,621	69,867
Total	59,844	31,871	27,444	119,069

Livestock raising, other than reindeer, is reported to be hampered by a lack of fodder, the bulk of it having to be imported. Reindeer moss pastures in the oblast are extensive and reportedly not yet fully utilized. Over 87 per cent of the reindeer were concentrated in 2 rayons (Lqvozer-skiy and Saamskiy) in 1956.

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Despite the fact that statistics indicate a decline in hot-house and hotbed agriculture between 1950 and 1956, in 1957 Soviet sources indicated that efforts would be made to develop this type of agriculture in order to make the oblast less dependent on outside sources for vegetables. At present hothouse agriculture is undertaken at Kirovsk and is being developed in the Murmansk area.

V. Gazetteer of Urban Areas

TABLE XXVII

URBAN AREA POPULATION RANGES: 1959  
(estimated)

<u>Population Range</u>	<u>Number of Urban Areas</u>	<u>Population</u>	<u>Per Cent</u>
Over 100,000	1	203,000	40.2
50,000-100,000	2	115,000	22.8
20,000-50,000	2	66,000	13.0
10,000-20,000	1	10,000	2.0
Less than 10,000	21	111,000	22.0
Total	27	505,000	100.0

Following is a list of the 27 urban areas in Murmanskaya Oblast with an indication of their location, population, administration, economic, military and rural significance:

## Murmansk

68-58N; 33-05E.

Population: 203,000 (1959 est.)

Administration: Capital of Murmanskaya

Oblast; city of oblast subordination;

Oblast Committee of Communist Party;

City Committee of Communist Party;

Council of National Economy (Murmanskiy

Sovnar Khoz); Oblast Executive Committee;

City Executive Committee; MVD Department

of Local Civil Defense; Oblast Society

for Cooperation with Army, Air Force

and Navy (DOSAAF); Oblast Red Cross

Society.

Military: Hq., Northern Fleet Air Force

(Target 0051-8602); Oblast KGB Border

District. Rosta Naval Base and Ship-

yard "Sevmorput" (Target 0051-0017);

Murmansk Naval Base and Shipyard,

"Chelmpushka" (Target 0051-0144);

naval training center.

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## Murmansk (continued)

Airfields: One Reserve Base (3T mil.); one Air Defense Base (6P mil.), one Sea-plane Station (mil.) (See Table IV; refer to Map IV.)

Transportation: Principal seaport on Kola Gulf (second largest Arctic commercial seaport); westernmost port on Northern Sea Route; Division Headquarters, Kirov Railroad System; electric and steam locomotive engine house; railroad car repair shop, engine depot.

Economic: Fishing industry center of all-union importance (1/4-1/3 USSR catch); most important industrial center in the oblast, accounting for approximately 39 per cent of oblast's gross industrial production; ship repairing, shipbuilding (fishing boats), wood-working; fish combine (one of USSR's largest), refrigeration plants, net and barrel factories; prefabricated construction, plywood, reinforced concrete, asphalt concrete, plastics, aluminum, roofing material, furniture, processed foods plants; sawmill, brick-yards, bakeries; thermal power plant; Hq., Murmansk Regional Power Network.

Educational: Higher nautical school, pedagogical institute, nautical tekhnikum, preschool pedagogical school; Murmansk Branch of Research Institute of Territorial Magnetism, Ionosphere, and Propagation of Radio Waves; Arctic Research Institute of Fish-breeding and Oceanography. Refer also to Murmansk Target Complex Study (A-103, 0051-9999, July 1954; SECRET) for more detailed city analysis.

## Kirovsk

67-37N; 33-39E.

Population: 59,000 (1959 est.)

Administration: City of oblast subordination; center of Kirovsk Administrative Area.

Airfields: One Reserve Base (3T mil.)

Transportation: Rail-spur terminus.

Economic: Nationally significant apatite-nepheline mining center (90-95 per cent of USSR production); second most important industrial center in oblast; apatite combine, concentrating plant; local industry enterprises (bakery, macaroni plant, woodworking combine); thermal power plant.

Educational: Chemical mining tekhnikum, medical assistant midwife school; main branch of Kola Affiliate of USSR Academy of Sciences.

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Monchegorsk

67-54N; 32-58E.  
Population: 56,000 (1959 est.)  
Administration: City of oblast subor-  
dination; center of Monchegorsk Admini-  
strative Area.  
Airfields: One Staging Base (6P mil.)  
Transportation: Rail-spur terminus.  
Economic: Non-ferrous metallurgical  
center (copper, nickel, cobalt); pro-  
duces one-third USSR nickel production;  
enterprises of local food and lumber  
industries; state farm.  
Educational: Mining-metallurgical  
tekhnikum.

Kandalaksha

67-09N; 32-26E.  
Population: 43,000 (1959 est.)  
Administration: City of oblast subor-  
dination; located in Kandalakshskiy  
Rayon.  
Military: Possible location of Hq.,  
341st Rifle Division.  
Transportation: Secondary seaport; river-  
port; rail center; electric locomotive  
engine house.  
Economic: Sawmilling, woodworking, rail-  
road-servicing enterprises; metalworking,  
fish canning; aluminum and superphos-  
phate works, brick and tile plants, gran-  
ite quarries; hydroelectric power plants  
nearby.

Severomorsk (Vayenga)

69-05N; 33-27E.  
Population: 23,000 (1959 est.)  
Administration: City of oblast subor-  
dination; located in Kolskiy Rayon.  
Military: Principal naval base; Hq.,  
Northern Fleet (Target 0051-0055); Hq.,  
Northern Fleet Air Defense District  
(16); naval training center.  
Airfields: One Staging Base (8P mil.)  
Transportation: Secondary seaport; rail  
terminus.  
Economic: Local industries.

Nikel

69-24N; 30-18E.  
Population: 10,000 (1959 est.)  
Administration: Urban settlement; center  
of Pechengskiy Rayon.  
Military: (see Pechenga).  
Transportation: Rail-spur terminus.  
Economic: Copper-nickel mining center;  
metallurgical plant.

Pechenga

69-33N; 31-12E.  
Population: 9,000 (1959 est.)  
Administration: Urban settlement; located  
in Pechengskiy Rayon.  
Military: Hq., 45th Rifle Division  
(Pechenga-Nikel area); submarine base.  
Airfields: One Air Defense Base (6P mil.)

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Pechenga (continued)

Transportation: Secondary seaport; rail terminus.  
Economic: Metallurgical works, ship-repair yard; copper-nickel mines nearby.

Lesnoy

66-40N; 34-25 E.  
Population: 8,000 (1959 est.)  
Administration: Urban settlement; center of Terskiy Rayon.  
Transportation: Secondary seaport.  
Economic: Sawmilling, fishing, fish canning.

Olenegorsk

68-09N; 33-15E.  
Population: 8,000 (1959 est.)  
Administration: Town of rayon subordination; subordinate to Monchegorsk City Executive Committee.  
Airfields: One Staging Base (11P mil.)  
 one Reserve Base (4T mil.)  
Transportation: Rail junction.  
Economic: Iron ore enterprises.

Polyarnyy

69-12N; 32-28E.  
Population: 8,000 (1959 est.)  
Administration: Town of rayon subordination; center of Polyarnyy Rayon.  
Military: Principal naval base; main submarine operating base of Northern Fleet.  
Transportation: Secondary seaport.  
Economic: fishing, fish canning, lumber mills.

Apatity

67-35N; 33-20E.  
Population: 6,000 (1959 est.)  
Administration: Urban settlement; subordinate to Kirovsk City Executive Committee.  
Airfields: One Seaplane Station (mil.)  
Transportation: Rail junction.  
Economic: Apatite mines nearby.

Kildinstroy

68-48 N; 33-06E.  
Population: 6,000 (1959 est.)  
Administration: Urban settlement; located in Kolskiy Rayon.  
Economic: Brickworks.

Kola

68-52N; 33-00E.  
Population: 6,000 (1959 est.)  
Administration: Urban settlement; center of Kolskiy Rayon.  
Transportation: Minor port.  
Economic: Construction materials plant, food combine, brewery; livestock raising, truck farming.



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Murmashi

68-49N; 32-49E.  
Population: 6,000 (1959 est.)  
Administration: Urban settlement;  
 located in Kolskiy Rayon.  
Airfields: One Reserve Base (4T  
 civ/mil.)  
Economic: Lumbering; 2 sawmills; hydro-  
 electric power plant.

Nivskiy

67-18N; 32-28E.  
Population: 6,000 (1959 est.)  
Administration: Urban settlement;  
 located in Kandalakshskiy Rayon.  
Airfields: One Reserve Base (4T mil.)  
Economic: Metalworks; hydroelectric  
 power plant.

Afrikanda

67-26N; 32-45E.  
Population: 5,000 (1959 est.)  
Administration: Urban settlement; subor-  
 dinate to Kirovsk City Executive Com-  
 mittee.  
Airfields: One Staging Base (6P mil.)  
Economic: Hydroelectric power plant.

Kovdor

66-42N; 32-53E. (approx.)  
Population: 5,000 (1959 est.)  
Administration: Urban settlement; subor-  
 dinate to Kirovsk City Executive Com-  
 mittee.  
Transportation: Rail terminus.  
Economic: Iron ore mining center.

Zasheyek

67-24N; 32-33E.  
Population: 5,000 (1959 est.)  
Administration: Urban settlement; sub-  
 ordinate to Kirovsk City Executive  
 Committee.  
Economic: Sawmilling.

Lesozavodskiy

58-30N; 49-45E.  
Population: 4,000 (1959 est.)  
Administration: Urban settlement; located  
 in Kandalakshskiy Rayon.  
Economic: Sawmilling.

Port Vladimir

69-25N; 33-06E.  
Population: 4,000 (1959 est.)  
Administration: Urban settlement; located  
 in Polyarnyy Rayon.  
Military: Minor naval base.  
Transportation: Minor seaport.  
Economic: Fishing; large fish cannery.

Sayda-Guba

69-15N; 33-15E.  
Population: 4,000 (1959 est.)  
Administration: Urban settlement;  
 located in Polyarnyy Rayon.  
Military: Minor naval base.  
Transportation: Secondary seaport.  
Economic: Fishing; large fish cannery.

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Teriberka

69-09N; 35-12E.  
Population: 4,000 (1959 est.)  
Administration: Urban settlement;  
 center of Teriberskiy Rayon.  
Military: Minor naval base.  
Airfields: One Reserve Base (5T mil.)  
Transportation: Minor seaport.  
Economic: Fishing, fish canning; ship-  
 repair yard.  
Educational: Biological station nearby.

Zapolyarnyy

69-24N; 30-13E. (approx.)  
Population: 4,000 (1959 est.)  
Administration: Urban settlement;  
 located in Pechengskiy Rayon.  
Economic: Nickel mining.

Zelenoborskiy

66-49N; 32-20E.  
Population: 4,000 (1959 est.)  
Administration: Urban settlement;  
 located in Kandalakshskiy Rayon.  
Economic: Hydroelectric Power Plant  
 nearby.

Gremikha

68-02N; 39-30E.  
Population: 3,000 (1959 est.)  
Administration: Urban settlement;  
 center of Saamskiy Rayon.  
Economic: Fishing.

Revda

67-58N; 34-32E.  
Population: 3,000 (1959 est.)  
Administration: Urban settlement;  
 located in Lovozerskiy Rayon.  
Economic: Livestock raising, fishing.

Tyuva-Guba

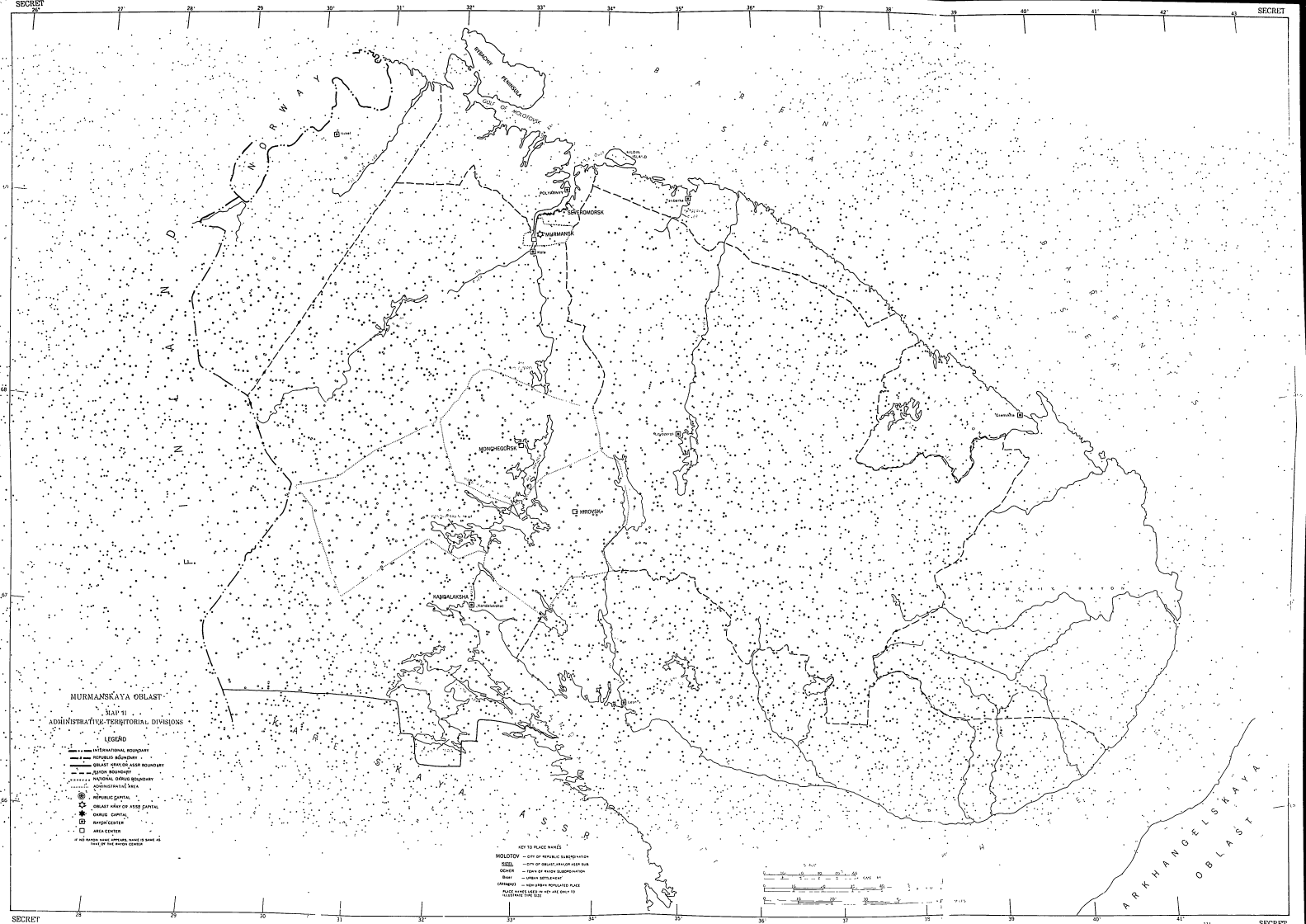
69-11N; 33-08E.  
Population: 3,000 (1959 est.)  
Administration: Urban settlement;  
 located in Polyarnyy Rayon.  
Military: Minor naval base.  
Transportation: Secondary seaport.  
Economic: Fishing, fish canning.

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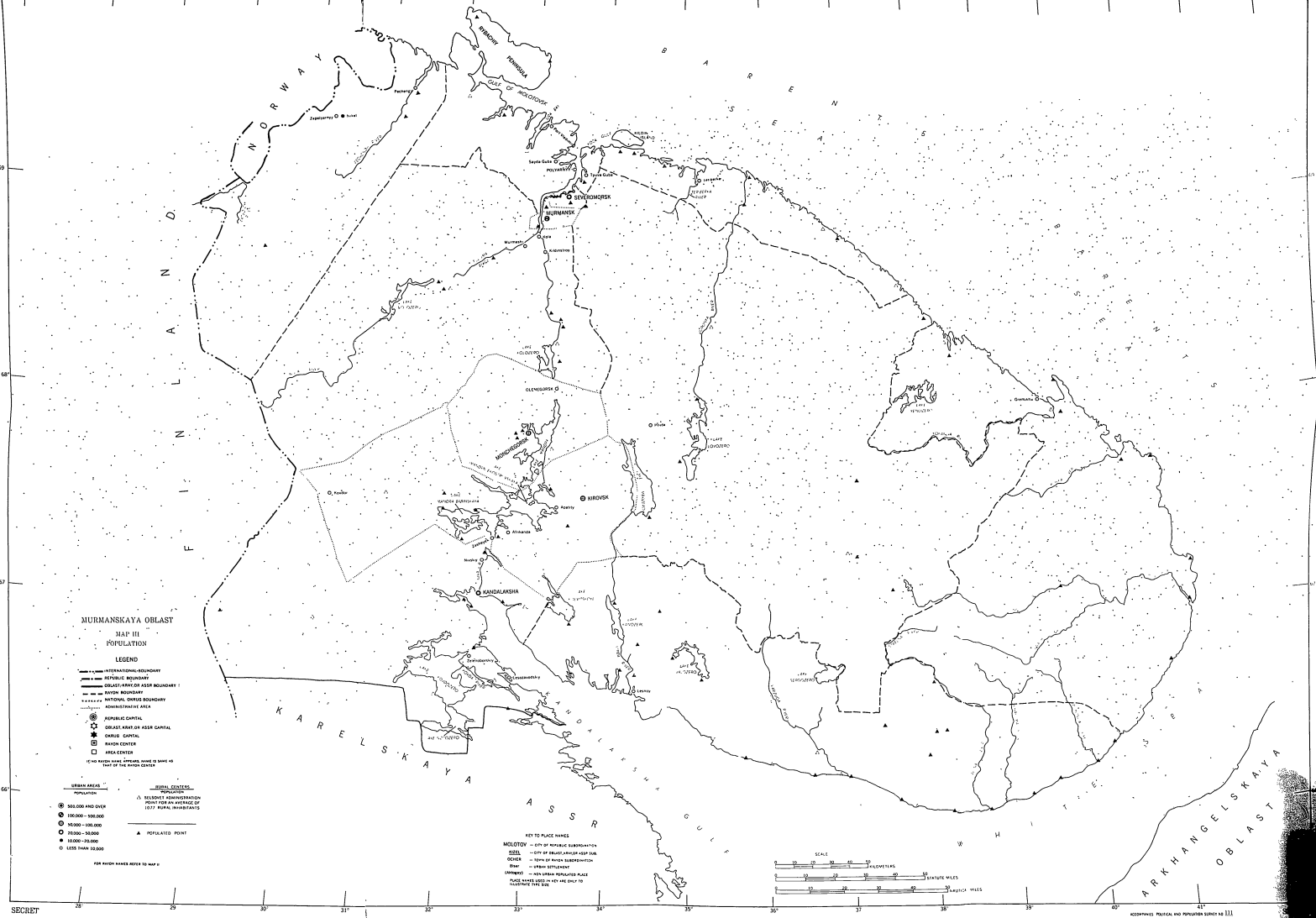


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