

Tactical Structure in World War II

Norway

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The Norwegian Army in the late 1930s existed almost entirely as a militia force subject to call-up in the event of emergency. The only units established on a full-time basis were the Guards Battalion in Oslo and a garrison company at Kirkenes in the far north.

The traditional organization of the Norwegian Army, in effect until 1933, called for six geographical "divisional" areas. Each of these was responsible for raising, training, and maintaining a set complement of subunits. The establishment was:

1st Division (Halden):

- 1st Östfold Infantry Regiment (Fredrikstad)
- 2nd Jegerkorpset Infantry Regiment (Oslo)
- 3rd Telemarkens Infantry Regiment (Kongsberg)
- 1st Akershus Dragoons Regiment (Oslo)
- 1st Field Artillery Regiment (Oslo)

2nd Division (Kristiana):

- 4th Akershus Infantry Regiment (Oslo)
- 5th Östopland Infantry Regiment (Elverum)
- 6th Vestopland Infantry Regiment (Honefoss)
- 2nd Opland Dragoons Regiment (Hamar)
- 2nd Field Artillery Regiment (Oslo)

3rd Division (Kristiansand):

- 7th Agder Infantry Regiment (Kristiansand)
- 8th Rogaland Infantry Regiment (Stavanger)
- 1st Mountain Artillery Battalion (Kristiansand)

4th Division (Bergen):

- 9th Hordaland Infantry Regiment (Bergen)
- 10th Fjordane Infantry Regiment (Bergen)
- 2nd Mountain Artillery Battalion (Bergen)

5th Division (Trondheim):

- 11th Möre Infantry Regiment (Molde)
- 12th Sör Trøndelag Infantry Regiment (Trondheim)
- 13th Nord Trøndelag Infantry Regiment (Stenkjaer)
- 3rd Trøndelag Dragoons Regiment (Levanger)
- 3rd Field Artillery Regiment (Trondheim)
- Trondelag Engineer Battalion

6th Division (Harstad):

- 14th Sör Halogaland Infantry Regiment (Mosjoen)
- 15th Nord Halogaland Infantry Regiment (Narvik)
- 16th Tromsøy Infantry Regiment (Tromsø)
- Alta Infantry Battalion
- Varanger Infantry Battalion
- 3rd Mountain Artillery Battalion (Harstad)
- Halogaland Engineer Battalion

Independent:

- Guard Battalion (Oslo)

Units Fighting Under Division Command						
1st Division	2nd Division	3rd Division	4th Division	5th Division	6th Division	
SE Norway	W of Mjosa	Kristiansand	Voss	Bergen	Steinkjer	Narvik
						Salangen
HQ, 1st Inf Regt	HQ, 4th Inf Regt	HQ, 5th Inf Regt	HQ, 9th Inf Regt	HQ, 4th Brigade	HQ, 5th Brigade	HQ, 15th Inf Regt
						HQ, 6th Brigade
I/1 Inf Bn	I/4 Inf Bn	I/5 Inf Bn	I/9 Inf Bn	I/9 Inf Bn	II/13 Inf Bn	I/13 Inf Bn
II/1 Inf Bn	II/4 Inf Bn	II/5 Inf Bn	1 Bicycle Co	I/10 Inf Bn	III/13 Lv Bn	I/12 Inf Bn
III/1 Lv Battalion	"Broch" Inf Bn	III/5 Lv Bn	1/1 Mtn Art Bty	8 Bicycle Co	3 Drag Regt (-)	I/16 Inf Bn
IV/1 Lv Battalion	Prov Bn/2nd Fld Art Regt	2 Drag Rgt (-)	5/2 Mtn Art Bty			II/16 Inf Bn
II/1 Fld Art Bn		II/2 Fld Art Bn		2 Mtn Art Bn		III/14 Lv Bn
						8/3 Mtn Art Bty
						6 Signal Co
crossed into	capitulated	capitulated	lost	capitulated	crossed into	capitulated
Sweden 13 Apr	on 30 Apr	on 2 May	on 15 Apr	on 25 April	on 4 May	on 10 June
						on 10 June
Units Not Fighting Under Division Command						
Stavanger	Kongsberg	Molde	Honefoss	Mosjoen		
HQ, 8th Inf Regt	HQ, 3rd Inf Regt	HQ, 11th Inf Regt	HQ, 6th Inf Regt			
I/2 Inf Bn	II/3 Inf Bn	I/11 Inf Bn	I/6 Inf Bn	I/14 Inf Bn		
I/8 Inf Bn	II/3 Lv Bn	II/11 Inf Bn	II/6 Inf Bn			
Mot MG Co/8 Inf		III/11 Inf Bn	III/6 Lv Bn			
		IV/11 Lv Bn	Engineer Bn			
		5 Pion Co	2 Signal Co			
capitulated	capitulated	subordinated to	subordinated to			
on 23 Apr	on 13 Apr	on 2 May	4 Bde on 18 Apr	5 Div on 17 Apr		
Norwegian Army Tactical Order of Battle, from 10 April 1940						

The wartime organization was identical to the peacetime organization, and on mobilization each of these units would be subject to movement out of its regional area. In such a case a small detachment would be split off from the divisional HQ to act as a territorial command to oversee the schools, depots, garrison units, etc. that remained behind.

In 1933, however, a major reorganization was implemented. The peacetime administrative chain of command remained as shown above, but the wartime mobilization structure was completely changed. The divisional and regimental HQs were stripped of all tactical responsibilities and became regional administrative units. Instead, each divisional area raised a brigade HQ that would command the field battalions directly.

Part of the reason for this was that it was becoming increasingly difficult to maintain the earlier force structure. As a result, the infantry regiments were reduced from three to two line battalions apiece. Thus, the 4th Division, for instance, would consist only of four infantry battalions and an artillery battalion, hardly a division in any real sense of the word. In partial compensation for this decrease the infantry regiments each raised a new third battalion of *Landvern* personnel, retired ex-servicemen. These, however, were not considered field units and would not fall under the brigade command on mobilization.

The artillery organization was somewhat similar, with each of the regiments providing a field battalion to support its field brigade, and the rest of the regiment falling under GHQ command on mobilization.

In general, each brigade would consist of four infantry battalions, an artillery battalion, a bicycle/ski reconnaissance company, an engineer company, medical company, signal company, pioneer company, and transport company. Depending on operational requirements some brigades could have up to six infantry battalions, but the excess infantry battalions were usually earmarked for GHQ use.

The new wartime force structure thus provided for a field army of six brigades capable of deployment throughout the country and six "divisional areas" to handle local defense and security and regional

administration. However, the German assault was so sudden and unexpected that the field army had no chance to deploy as such, and command of all elements frequently devolved to the division HQs.

The mainstay of the Norwegian Army was the infantry battalion, which consisted of a headquarters company, three rifle companies, and a machine gun company. The infantry in 1940 was in a minor state of flux. The official tables of organization, published in 1936, provided for four platoons each of four sections in a rifle company. As originally planned each platoon would consist of a five-man headquarters, two light machine gun squads each of nine men, and two rifle squads each of eight men. The difference in the squads was because the LMG squad was equipped with a 6.5mm Madsen m/14 or m/22 light MG in addition to the rifles of the squad members, while the rifle squad was not. Shortly before 1940 all the squads were equipped with light MGs, although it seems likely that some units may not have received the additional personnel. In addition, continuing manpower shortages meant that the rifle companies in fact consisted of three platoons instead of the specified four. An exception was the Landvern battalions, which did not suffer from personnel shortages and were able to field the full four platoons per company.

The personal weapons for the infantry were Colt .45 pistols for the officers and sergeants, and 6.5mm Krag-Jorgensen rifles for the enlisted riflemen, and no sidearm at all for the gunner of the light MGs. The rifle company HQ provided three carts for ammunition and three for equipment. A further three carts were provided for equipment and six wagons in the combat (first) trains and two in the baggage (third) trains.

	Officers	Enlisted	Pistols	Rifles	Light Machine Guns	Medium Machine Guns	81mm Mortars	Bicycles	Motorcycles	Trucks	Horses	Wagons & Carts
Battalion Headquarters	6	8	7	8	0	0	0	2	0	0	0	0
Headquarters Company												
Company Headquarters	1	1	1	1	0	0	0	1	0	0	0	0
Signal Platoon	2	34	3	33	0	0	0	4	0	0	1	1
Mortar Platoon	2	29	6	25	0	0	2	0	0	0	3	3
Medical Platoon	6	24	?	?	0	0	0	0	0	0	6	5
Trains Platoon	7	46	?	?	0	0	0	0	0	5	31	25
Three Rifle Companies, each												
Company Headquarters	3	8	4	7	0	0	0	2	0	0	0	0
Three Rifle Platoons, each												
Platoon HQ	2	3	3	2	0	0	0	0	0	0	0	0
Four Rifle Squads, each	0	9	0	8	1	0	0	0	0	0	0	0
Trains Platoon	2	16	4	14	0	0	0	1	0	2	7	6
Machine Gun Company												
Company Headquarters	3	16	5	14	0	0	0	3	0	0	1	1
Three Machine Gun Platoons, each	3	40	15	28	0	3	0	0	0	0	4	4
Trains Platoon	2	19	4	17	0	0	0	1	0	2	12	6

Infantry Battalion (Type M), 1940

The machine gun company was conventionally organized into a headquarters and three MG platoons. Each of these platoons consisted of a headquarters (with an ammunition cart) and three squads each with a 7.9mm Colt-Browning water-cooled machine gun¹ and a cart. If required the machine gun could be dismantled into three sections and backpack carried on special rucksack frames.

The headquarters company provided service and support elements for the battalion. The only fire support unit was the mortar platoon. This platoon consisted of two officers (a commander and a second-in-command), an ammunition corporal, two observer privates, two signalmen, an FDC squad of a corporal and two privates, and two gun squads each of a corporal and eight privates. Each gun squad was provided with a one-horse cart for the mortar and ammunition, and the platoon HQ also had cart for equipment. Signal facilities consisted of optical devices and telephones. Any officer in the battalion could call in fire, but it seems that the ability to do so was not universal.

The battalion signal platoon consisted of a platoon leader, assistant platoon leader, two telephone squads (each of a corporal and seven privates), two optical signal squads (each of a corporal and five privates), and four bicycle messengers. The platoon also had a one-horse cart for signal gear and an electrician.

The infantry battalion was thus hampered severely by an absence of radios and a shortage of indirect fire support. Further, the battalion had no submachine guns or hand grenades, neither weapon existing in the Norwegian inventory.

One positive characteristic was the relative independence of action conferred by the large train detachments. The transport facilities were divided into four main classifications depending on their role. Each unit had its organic vehicles or animals to carry its heavy weapons and equipment, and a combat train to carry ammunition and other expendables that would be immediately needed. In addition to the first, or combat, train, there were two others to carry baggage and

¹The *Landvern* Battalions apparently used the older 6.5mm and 7.9mm Hotchkiss m/98 and m/98t air-cooled models.

to ensure a continuous "pipeline" of supply to the unit from the rear services. The size of these trains usually meant that units from the company up could operate quite a bit more independently of its higher units than was true in many other armies. This was an important feature in a large country with a rugged topography and a relatively sparse population.

The units of the Army were divided into two types, depending on the equipment used in the second ("baggage") and third ("materiel") trains. In the type H (horsed) units, these trains consisted of horse-drawn wagons and carts. In the type M (motorized) the second and third trains were equipped with motor vehicles. In other respects the two types were similar.

Because of the nature of the German attack, many of the infantry battalions in the Army found their depots captured before they could mobilize. In other cases, units of other arms and services were quickly formed into provisional infantry battalions. Thus, the state of the Norwegian Army during the 1940 campaign did not follow the tables of organization closely. There were a few exceptions. Due to increased tensions resulting from the Russo-Finnish War, and the start of the Second World War, eleven of the thirty-five reserve battalions had been mobilized earlier in 1940 and were thus at or near full strength in men and equipment when the Germans invaded. For the other units, however, improvisation was a necessity. Several alternative organizations were used, one of the more common being the distribution of the medium machine guns of the MG company to the rifle companies and the formation of a fourth rifle company.

The Army also raised three cavalry, or Dragoons, regiments. In peacetime, each of these was to produce a headquarters, a HQ squadron, two mounted rifle squadrons, one machine gun squadron, two bicycle/ski squadrons, and a mortar squadron. On mobilization one of the bicycle/ski squadrons was to be detached for service with one of the brigades, and the rest of the regiment was to act as a unit in army reserve. In addition, Cavalry Regiments 1 and 2 produced a motor machine gun squadron, and Cavalry Regiment 3 produced a motor machine gun troop (platoon).

The headquarters squadron differed from that of the infantry battalion in two main respects. First, there was no mortar platoon since the regiment had a mortar squadron; and second, a pioneer platoon was included because while the infantry would be operating within a brigade which had a pioneer company, the cavalry would not.

	Officers	Enlisted	Light Machine Guns	Medium Machine Guns	81mm Mortars	Motor Vehicles	Motorcycles	Bicycles	Horses	Wagons & Carts
Regiment Headquarters	8	7	0	0	0	0	0	0	15	0
Headquarters Squadron										
Squadron Headquarters	1	1	0	0	0	0	0	0	2	0
Operations Platoon	1	11	0	0	0	5	1	0	0	0
Signal Platoon	3	47	0	0	0	0	6	0	40	6
Pioneer Platoon	3	16	0	0	0	0	0	0	20	2
Medical/Veterinary Platoon	4	27	0	0	0	3	0	0	9	1
Trains Platoon	3	27	0	0	0	4	0	0	19	4
Two Rifle Squadrons, each										
Squadron Headquarters	2	15	0	0	0	0	2	0	16	0
Three Rifle Platoons, each	3	40	4	0	0	0	0	0	45	0
Trains Platoon	4	32	0	0	0	3	0	0	24	12
Machine Gun Squadron										
Squadron Headquarters	2	21	0	0	0	0	2	0	21	1
Three MG Platoons, each	6	43	0	3	0	0	0	0	58	1
Trains Platoon	4	37	0	0	0	4	0	0	26	14
Motor Machine Gun Squadron										
Squadron Headquarters	2	22	0	0	0	3	2	0	0	0
Three MG Platoons, each	5	38	0	3	0	4	2	0	0	0
Rifle Platoon	2	44	4	0	0	5	2	0	0	0
Trains Platoon	3	17	0	0	0	6	0	0	0	0
Mortar Squadron										
Squadron Headquarters	2	12	0	0	0	0	2	0	12	1
Three Mortar Platoons, each	5	33	0	0	2	0	0	0	44	1
Trains Platoon	3	30	0	0	0	3	0	0	23	12
Bicycle/Ski Squadron										
Squadron Headquarters	5	12	0	0	0	0	2	15	0	0
Two Rifle Platoons, each	2	39	4	0	0	1	1	38	0	0
Trains Platoon	1	21	0	0	0	6	0	0	0	0

Cavalry (Dragoon) Regiment (Type M), 1940

trains was divided into an ammunition group (three ammo carts and a pioneer equipment cart) and a mess group (a veterinary cart, two kitchen carts, a smith's cart, three equipment carts and four reserve horses). The baggage (third) trains had a single truck with the squadron's tailer, shoemaker, and barber in the M-type squadron, or seven carts in the H-type squadron. The equipment (second) trains could be equipped with two trucks or 24 carts.

The rifle squadrons were organized along similar lines as the infantry rifle companies. In the early 1930s the platoons, or troops, had, like the infantry, been organized into four squads, two of which had light machine guns and two of which did not. It is not known for certain whether they were re-equipped with four light MGs per platoon or not, but it seems likely that they were, and the organizational table presented here reflects this.

The rifle squadron HQ included a bugler, four optical signallers, five pioneers, a medic corporal, five bicycle dispatch riders, and two motorcycle dispatch riders.

The squadron's combat (first)

The mortar squadron provided a considerably higher degree of fire support than its equivalent platoon in the infantry battalion, but at a high cost in manpower. A total of 161 men to man six medium mortars ranks as the highest expenditure of manpower per unit during the war. This was due to several factors; first was the insistence that the mortars be pack carried, rather than on wagons, ensuring greater mobility through mountainous terrain. The second was the large size of the trains detachments to insure independence of action.

The bicycle/ski squadron also formed an important part of the regiment. This was a unit composed of expert skiers chosen during the conscription process and capable of a high degree of mobility, using skis where they could, and bicycles at other times. As previously mentioned, the cavalry regiments were responsible for raising two such squadrons each in peacetime, with one of them being assigned to the brigades on mobilization. Since there were only three such regiments, there was a shortage of bicycle/ski squadrons. To fill this gap the infantry arm raised its own bicycle/ski companies in the 3rd and 4th Divisional Areas, and these companies had an organization and equipment scale identical with that of the cavalry units. No such companies or squadrons were produced at all in or for the 6th Divisional Area.

At the time of the German invasion the only cavalry units that had been mobilized were elements of the 3rd Dragoon Regiment (including the bicycle/ski squadron and the mortar squadron). The other two regiments were on peacetime status and had considerable difficulty mobilizing, although the 2nd Dragoon Regiment managed to improvise enough units to bring itself up to a total strength of slightly over 1200, including its motor machine gun squadron and a platoon of mortars.

In addition to the infantry and cavalry, the army also produced artillery battalions. Each brigade was to have an artillery battalion, either field or mountain. The 3rd, 4th, and 6th Brigades utilized the mountain battalions raised in their divisional areas. The 1st, 2nd, and 5th Divisional Areas each raised a field regiment, each of which contributed a field battalion to the resident brigade and two more battalions for army GHQ purposes.

The artillery battalions supporting the brigades directly were equipped with 75mm guns. Originally, these were pre-WW I models built by Erhardt, M.01 in the case of the field artillery and M.11 models in the mountain artillery. The mountain weapons, however, were at least partially replaced by more modern pieces made locally, the Kongsberg M.27. The Germans apparently captured some of the older guns, which had a maximum range of only 6,900 meters, but it is not clear if these were simply weapons in storage or whether they were still in use at the time. The limited capabilities of the mountain guns (even the M.27 had a range of only 8.8 km) was compounded by the fact that the guns had apparently proven difficult to maintain and by 1933 the mountain battalions had been reduced to two batteries apiece.

For the general support role the Army fielded five battalions of so-called heavy artillery. These were two varieties, motorized and horsed. The motorized battalions were equipped with old Schneider 105mm guns, while the horsed battalions were equipped with an inter-war 120mm howitzer of Norwegian manufacture.

The bulk of the anti-aircraft forces available were concentrated in the Army's Anti-Aircraft Regiment. The unit exercised some tactical control over the detachments in the Oslo area, but was a purely administrative headquarters for the units

	Officers	Enlisted	Medium Machine Guns	Artillery Pieces	Bicycles	Motorcycles	Trucks	Horses	Wagons & Carts
Field Artillery Regiment HQ	9	9	0	0	0	0	0	17	0
Field Artillery Battalion HQ & Battery									
Battalion Headquarters	6	5	0	0	0	0	0	10	0
HQ Battery HQ	1	1	0	0	0	0	0	2	0
Signal Platoon	6	51	0	0	2	1	0	34	9
Survey Platoon	1	8	0	0	2	0	0	3	2
Medical Platoon	2	19	0	0	0	0	0	7	4
Anti-Gas Squad	0	4	0	0	0	0	0	4	3
Trains Platoon	7	98	0	0	0	0	8	111	21
Field Artillery Battery (75mm Gun & 120mm Howitzer)									
Battery Headquarters	4	8	0	0	0	0	0	9	0
Signal Platoon	1	24	0	0	2	0	0	13	5
Two Gun Platoons, each	3	29	0	2	0	0	0	30	2
Machine Gun Platoon	1	18	3	0	0	0	0	7	6
Trains Platoon	1	11	0	0	0	0	1	6	2
Mountain Artillery Battalion HQ & Battery									
Battalion Headquarters	8	5	0	0	0	0	0	10	0
HQ Battery HQ	1	1	0	0	0	0	0	2	0
Signal Platoon	6	53	0	0	2	1	0	34	12
Survey Platoon	1	8	0	0	2	0	0	3	2
Anti-Gas Squad	0	4	0	0	0	0	0	4	3
Trains Platoon	6	102	0	0	0	0	6	74	58
Mountain Gun Battery (75mm)									
Battery Headquarters	4	8	0	0	0	0	0	9	0
Signal Platoon	1	24	0	0	2	0	0	13	5
Two Gun Platoons, each	3	23	0	2	0	0	0	16	8
Machine Gun Platoon	1	18	3	0	0	0	0	7	6
Trains Platoon	1	18	0	0	0	0	2	14	4

Field & Mountain Artillery Units (Type M), 1940

elsewhere in the country. The Oslo group comprised five medium batteries (each two or three machine guns on high-angle mounts and three 75mm Kongsberg guns) and a light battery (twelve machine guns). Four slightly larger batteries (each divided into two 65-man platoons each with two 75mm guns, and two or three MG sections each with two or three machine guns) were deployed to Horten, Kjeller, Kongsberg, and Raufoss. Finally, there were three medium batteries, one in Rjukan (twelve machine guns and six 40mm Bofors), one in Herøya (eight machine guns and four 40mm Bofors), and one in Narvik (four 40mm Bofors). The largest of these was known as the "Rjukan Motorized AA Battery" and consisted of two 40-man platoons and a 15-man headquarters.

At the time of the German invasion, only three batteries of the Norwegian artillery had been mobilized, two of them in Finnmark in the extreme north. The rest of the artillery was still in an inactive status and lost much of their equipment before they could form.



A Norwegian field gun in the opening days of the campaign.

It was with this force of six infantry brigades, three cavalry regiments, five "heavy" artillery battalions, and sixteen Landvern battalions that the Norwegians hoped to defend their country. Aside from the 6th Division area in northern Norway where most of the danger to Norway's neutrality seemed to be concentrated because of the Russo-Finnish War, the Norwegian Army had mobilized some 7,000 men before the invasion disposed in the four following districts:

Ostlandet:

one infantry battalion (II/5) in Trandum
 one artillery battalion (II/1) in Frederikstad
 one Landvern company in Horten

mobilized
 28 Mar 40
 15 Mar 40
 15 Mar 40

one Landvern company in Oslofjord fortresses	15 Mar 40
one battery of I/2nd Art Regt in Gardemoen	2 Apr 40
Sorlandet:	
one infantry battalion (I/3) in Gimlemoen	28 Mar 40
one infantry battalion (I/2) in Madla	29 Mar 40
one bicycle company of DR 1 in Gimlemoen	28 Mar 40
one battery of Mountain Artillery (1/2) in Evje	28 Mar 40
one company in Haugesund	27 Mar 40
Pioneer Company 3 in Madla	10 Feb 40
Vestlandet:	
one infantry battalion (I/9) in Ulven	28 Mar 40
Trondelag:	
elements/Dragoon Regiment 3 in Rindleiret	9 Apr 40
one infantry battalion (II/13) in Steinkjersannan	9 Apr 40

In addition, the following units were on active duty in the 6th Division area in northern Norway:

one infantry battalion from Trondelag (I/12)	15 Jan 40
Varanger Infantry Battalion	25 Jan 40
one infantry battalion (II/14)	20 Mar 40
Permanent Garrison Company, East Finnmark	active unit
two motorized batteries	20 Jan 40
one infantry battalion (II/15)	25 Jan 40

Thus, the Norwegian Army had about 11,000 men on active duty when the Germans invaded, these being spread around the country in company and battalion-sized formations with all higher HQs (except 6th Brigade HQ) on a peacetime basis.

Against this force the Germans threw four 15,000-man divisions landed on the first day, 9 April 1940, followed by two more divisions on 14 April, and a seventh division on 20 April. The numbers speak eloquently enough, but the Norwegian Army was operating under several other, self-imposed, constraints. It has already been mentioned that the infantry had neither submachine guns nor hand grenades. It should also be noted, however, that there was not a single anti-tank weapon of any description in the entire country, nor were there any land mines. The Army did not possess any armored vehicles of any type and only a few radios, relying instead on messengers, optical devices and telephones.

Given the disparity in forces and means it is not surprising that the

Germans had cleared most of central and southern Norway within two weeks. Allied assistance arrived, somewhat tardily and rather disorganized, but in sufficient numbers to hold the northern portion of the country. The fall of France, however, forced a recall of the Allied troops and the remainder of Norway fell to the Germans. In all likelihood, there was nothing a nation of Norway's size and limited population and wealth could have done to prevent a German take-over. That should not obscure the fact, however, that the defense measures that were undertaken were inadequate. The cost to Germany of invading a country that had made so little effort to prepare itself for defense presented an almost irresistible temptation. Germany under Hitler, of course, was hardly a model of self-restraint in matters of territorial expansion.

The responsibility for ensuring that enemies never made it to Norwegian shores rested, of course, with the Navy. On Norway's independence in 1905 it inherited coastal fortifications that had recently been partially modernized by the Swedes. Some old muzzle-loading weapons remained, but the larger number was made up of newer guns, notably 15cm Armstrong M97, M99 and M02 and a smaller number of 210mm Armstrong M00. The old muzzle-loading weapons were phased out, but little new equipment was purchased until the 1930s when some additional weapons were purchased from Bofors for use in Oslofjord.

Except for the unmanned tunnel battery in Oslofjord the guns were mounted above ground and protected by metal shields. They were generally sited to fire across or down the length of fjords towards the sea, thus minimizing the disadvantages of their rather short ranges. Due to limited elevation the 12cm Armstrongs and Nordenfeldts and the 21cm Armstrongs and St. Chamonds could only range to 10 km, the 15cm Armstrongs to 12-14 km, and even the new Bofors 15cm guns could only reach 19 km. The howitzers were no better, of course, with the 24cm St. Chamond reaching only 9 km and the new 30.5cm Bofors howitzer 19 km.

The coastal defenses were manned on a partial basis during peacetime. For the most part, this meant manning the available guns on a skeleton-crew basis, although some of the older weapons and the

Coast Defense Sector Trondelag (Trondheim)

Agdenes Fortress

Brettingen Battery: 113 men manning two 21cm Armstrong M00 and three 15cm Armstrong L/48 M97 guns, along with three machine guns and one 110cm searchlight. Unmanned weapons: two 65mm Hotchkiss guns, six machine guns and one 110cm searchlight.

Hysnes Battery: 97 men manning two 21cm Armstrong M97 and two 15cm Armstrong L/48 M97 guns, along with three machine guns and one 110cm searchlight. Unmanned weapons: three 65mm Hotchkiss guns, six machine guns and one 110cm searchlight.

Hambåra Battery: unmanned position with two 15cm Armstrong L/48 M97 guns, along with three machine guns and one 110cm searchlight.

Total Coast Defenses: 341 men on active duty, out of mobilization strength of 1,477.

Coast Defense Sector Bergen (Bergen)

Inner Defenses

Kvaren Battery: 232 men manning three 24cm St. Chamond L/13 howitzers and three 21cm St. Chamond guns, along with two 75mm AA guns and two 110cm searchlights. Unmanned weapons: three 57mm anti-boat guns and three 45cm torpedo tubes.

Hellen Battery: 93 men manning three 21cm St. Chamond guns, along with two 75mm AA guns and three machine guns.

Sandvikfjell Battery: unmanned position with three 24cm St. Chamond L/13 howitzers.

Outer Works:

Håøy (49 men with four 75mm guns), Herdla (47 men with two 65mm guns), Faerøy (34 men with two 65mm guns), Lerø (34 men with six 65mm guns), Fageraas (two 75mm AA guns and one machine gun)

Total Coast Defenses: 642 men on active duty, out of mobilization strength of 1,959.

Coast Defense Sector Kristiansand (Kristiansand)

Kristiansand Fortress

Odderøya Battery: two 21cm Armstrong guns.

Odderøya Howitzer Battery: four 24cm St. Chamond L/16 howitzers.

Odderøya West Battery: two 15cm L/48 Armstrong M02 guns.

Odderøya Central Battery: two 15cm L/48 Armstrong M02 guns.

Odderøya East Battery: two 15cm L/48 Armstrong M02 guns.

other: three 110cm searchlights, two unmanned 65mm guns

Gleodden Battery: three 15cm L/48 Armstrong M97 guns.

Total Coast Defenses: 440 men on active duty, out of mobilization strength of 1,430.

Coast Defense Sector Oslofjord

Oscarborg Fortress

Oscarborg Main Battery: three 28cm L/40 Krupp guns, plus unmanned two 57mm guns, one searchlight and three machine guns.

Kopås Battery: three 15cm L/48 Armstrong guns, plus two 57mm guns, two 40mm AA guns, three machine guns and one searchlight.

Håøya Howitzer Battery: unmanned position with four 28cm Whitworth howitzers.

Håøya Upper Battery No.1: unmanned position with two 12cm L/44 Armstrong guns.

Håøya Upper Battery No.2: unmanned position with eight 12cm obsolete L/36 guns.

Neset Battery: four 57mm guns

Torpedo Battery: three 45cm torpedo tubes.

Coast Defense Training & Depot Battalion: 430 recruits.

Coast Defense Officer School: 50 officers in training

one platoon/3rd Company/Landvern Battalion/6th Infantry Regt

Total Fortress: 290 men on active duty (not including training & school units), out of mobilization strength of 951.

Outer Oslofjord Defenses

Måkerøy Battery: 89 men manning two 30.5cm L/30 M.16 Bofors howitzers. Also unmanned were three machine guns and two searchlights.

Håøya-Tønsberg Battery: 110 men manning two 21cm Armstrong M00 guns, three machine guns, a 90cm searchlight and a radio. Unmanned were two 12cm Armstrong L/44 guns, four 65mm Hotchkiss guns, three machine guns and a 75cm searchlight.

Rauøy Battery: 250 men manning two positions ("north" and "south") each with two 15cm L/50 Bofors guns. The battery also manned two 40mm AA guns, six machine guns and one 150cm and two 110cm searchlights. Not manned were two 65mm guns, three machine guns and one searchlight.

Balærne Battery: 220 men manning three 15cm L/50 Bofors guns, six machine guns, a 90cm searchlight and a 150cm searchlight. Unmanned was the "tunnel" position with four old 12cm L/44 Nordenfeldt guns and a searchlight.

Torås Battery: an incomplete position still under construction with two 15cm L/50 guns not yet ready for firing.

2nd Company/Landvern Battalion/4th Infantry Regt.

Total Outer Defenses: 779 men on active duty, out of a mobilization strength of 1,357.

Grand Total Coast Defenses: 2,542 men on active duty, out of mobilization strength of 7,174.

NORWEGIAN COAST DEFENSES, 10 APRIL 1940

close-defense guns were left completely unmanned. With the partial mobilization in the Spring of 1940 the coast defenses had been brought up to slightly over a third of their wartime mobilization strength by the time the Germans invaded. Due to the rapidity with which they fell, none were brought up to their full strength.

The Oscarborg main battery performed well, crippling the cruiser Blücher so that it could be sunk by torpedo batteries, while a few of the other batteries inflicted some damage on German ships. For the most part, however, the coastal forts did little to stop the invading Germans.