

SESS. II.—1887.
NEW ZEALAND.

DEFENCES OF THE COLONY

(REPORT ON), BY MAJOR-GENERAL SCHAW, C.B., R.E.

Presented to both Houses of the General Assembly by Command of His Excellency

No. 1.

The Hon. DEFENCE MINISTER to Major-General SCHAW.

SIR,—

Defence Department, Wellington, 5th November, 1887.

I have the honour to state, for your information, that the Government of New Zealand are desirous of receiving from you a report respecting the numbers, description, and localisation of troops required to be maintained by the colony for defence against external aggression.

The Government also desire to have a report from you as to the organization and administration of such forces.

They further wish to obtain the benefit of your opinion as to what is necessary for completing the defences which have already been determined upon at the four principal ports, viz., Auckland, Wellington, Lyttelton, and Dunedin.

In view of the present absolute necessity for retrenchment, the Government would like also to have a report as to the lowest absolute number of men that would be required to keep the forts in order.

Major-General Schaw, C.B., R.E., Wellington.

I have, &c.,

THOS. FERGUS.

No. 2.

Major-General SCHAW to the Hon. DEFENCE MINISTER.

SIR,—

Wellington, 8th November, 1887.

In compliance with your wishes expressed in your communication of the 5th instant, I have given my most earnest attention to the subjects referred to in that letter, and, as I understand that you wish to obtain my views generally as early as possible, I have the honour to enclose a memorandum giving in outline what appear to me the present needs of the colony in the matter of defence.

Since I arrived in New Zealand in March last I have had opportunities of visiting most of the works of defence constructed or in progress at the principal harbours, and, with the aid of the plans and the very full information supplied to me by Major-General Sir George Whitmore and his staff, I have been able to form an opinion as to the number of troops now required, and as to a suitable organization for them.

This opinion is embodied in the enclosed memorandum.

The comparatively hasty inspections of the works of defence which I have hitherto made have not enabled me to state with absolute confidence what is necessary for completing them; but, judging from what I have seen, and from the plans and estimates shown to me, I have reason to believe that, if the designs of the works remaining to be executed are slightly modified, it will not be found necessary to exceed these estimates.

The modifications to which I allude will be explained in a separate report, dealing with the details of the works of defence.

The permanent force I have recommended is absolutely needed for the due care and proper use of the guns and war material provided or ordered; but, until the whole of the material ordered has been supplied and the guns mounted, a portion of the permanent force may still be profitably employed in building the defence works—a corresponding saving being made in the cost of the works.

A further saving in the Volunteer portion of the defence force may be effected temporarily by allowing capitulation to only two-thirds of the numbers given in the annexed estimate. This will suffice for the ensuing year, and possibly the full numbers required may not at once be obtainable at the points where they are needed, more especially at Wellington, where I observe the Volunteers are not so numerous as at the three other ports.

I cannot refrain from congratulating the colony on the good progress which has been made in providing the needful fortifications and war material, and on the opportunity which is now being

embraced of so organizing its defence forces as to make full use of the material defences provided. It is specially satisfactory to note that all the new guns which have been received in the colony up to date are already mounted, instead of being left uselessly in store. In this essential particular of mounted modern guns New Zealand holds the first place amongst the Australasian Colonies.

I have, &c.,

H. SCHAW,

Major-General.

The Hon. the Defence Minister, Wellington.

Enclosure in No. 2.

MEMORANDUM on the DEFENCES of NEW ZEALAND, by MAJOR-GENERAL SCHAW, C.B., R.E.

Altered circumstances of colony.

THE military requirements of New Zealand are now of a very different nature from those which obtained during the earlier stages of the history of the colony. The struggles with the Maori tribes, which taxed so severely the energies and resources of the colony in its commencement, have now happily ceased. The military organization which was necessary during this period of internal warfare has no longer any reason for existence under the improved conditions which have gradually but surely grown up, and the maintenance of good order throughout these Islands has become practically a matter for the civil magistrate and the police.

This being the case, it is evidently advisable to reconsider the military situation, and to reorganize the defence system of the colony in accordance with its altered circumstances.

Briefly, these altered circumstances are as follows: Peace within its own borders;—prosperity vastly increased upon the whole, notwithstanding the depression which New Zealand, like the rest of the civilised world, is feeling at the present time;—the country opened up by roads, railways, and telegraphs; and a considerable trade established both in the colony and with other parts of the world, chiefly through the aid of a magnificent fleet of steamers and sailing-vessels;—the population and wealth concentrated mainly on the shores of the principal harbours—Auckland, Wellington, Lyttelton (for Christchurch), Port Chalmers (for Dunedin).

Present danger of external aggression.

Concomitantly, however, with this material progress, a new danger has inevitably appeared, to guard against which those responsible for the safety and well-being of the colony have felt it necessary to make preparations.

The cupidity of foreign nations, and their possible hostility to the British Empire, render New Zealand liable at very short notice to an attack by hostile vessels, with the double object of obtaining money, coals, and stores of all kinds by force, and of inflicting injury and humiliation on a portion of the British Empire.

It is well known that a fully-equipped naval force was prepared and on the eve of starting on its tour of spoliation and destruction throughout the ports of Australia and New Zealand a few years ago, when war with a powerful European nation was imminent, and when the ports in these waters were undefended.

Measures for defence already commenced.

Since that time, recognising the serious danger to which they are exposed, the Australasian Colonies have all earnestly taken up the question of defence against external aggression, both by naval means and also by the local defence of their principal harbours. New Zealand has not been behindhand in these necessary precautions, and when the whole scheme of defence now in hand is completed it will be so very dangerous for an enemy's vessels to attack any of the principal harbours of the colony, or to levy contributions on the towns connected with those harbours by threat of bombardment, that it may be confidently asserted that no such attempt would be made.

Their completion urgently important.

The completion of the defences so well begun is, however, of urgent importance, lest the large sum already spent should prove useless, like an insurance policy which has been allowed to lapse, so that, when the catastrophe occurs, previous expenditure has been thrown away.

Defence of smaller ports.

When once the four principal harbours and towns are made safe, there will be no temptation for an enemy's squadron to make any serious attempt on New Zealand. The prize to be obtained, or the injury which could be inflicted, at any of the minor towns would be too insignificant to make it worth an enemy's while to come into these waters for such a purpose. To give, however, some means of self-defence to these smaller towns, that they may not be at the mercy of any cruiser that might send a boat's crew ashore to demand a subsidy, is but reasonable, and this may well be supplied by issuing arms and ammunition to a small body of Volunteer riflemen at each of these coast towns, supplemented, it may be, in some cases, by a few field guns sufficient to cope with the naval guns carried by steam-launches. Any threat of bombardment in such cases must be met by defiance, the women and children being removed to a place of safety. The fire brigades, assisted by the householders, will be able, at little real risk, to prevent any serious damage to property by such a barbarous mode of warfare, if it be adopted.

It has long been recognised in England, as in other countries with an extended seaboard and numerous seaport towns, that no nation can afford to provide all such towns with effective defences against a strong naval attack. The national defences must in all cases be concentrated at the vital points.

Probably the patriotic feelings of the inhabitants of these minor seaport towns will lead them to organize honorary Volunteer corps for self-defence. If this be done, the revenue derived from the taxation of the whole colony will not have to meet any further charge on account of these local defences beyond the issue of arms and the cost of annual inspection. Rifle clubs would not alone suffice, as in civilised warfare armed men having no military organization under the Government would not be considered as soldiers, but would be dealt with like the "franc-tireurs" in the last war between France and Germany, and would be shot if taken prisoners.

Consequence of the altered military situation.

Having thus briefly summarised the military situation as it now exists, it will be evident that to maintain military forces in the interior of the country is now useless, and a needless expense to the colony. What is required to meet the present danger is a sufficient garrison at each of the four principal harbours to man the defences at those places.

The garrisons should consist in each case of a small body of permanent troops to keep the guns, Defence forces torpedoes, mines, and other warlike stores in effective order at all times; to perfect themselves in their use by constant practice, and to assist also in training the main body of defenders, who would be Volunteers residing in the immediate vicinity of the harbours to be defended. In addition to these Volunteers, some organization is needed for expanding and replenishing the garrisons in case of war; and, further, the small bodies of Volunteers before referred to are needed at each of the minor ports for their protection against insult. now required.

It has been urged that an enemy might land a large body of troops at some convenient minor harbour, not far distant from one of the principal ports, and so attack that port by land, and turn the sea defences, and, consequently, that a sufficient land force should always be kept up to resist such an invasion. Improbability of invasion.

Without denying that such an attack would be possible, it may nevertheless be pointed out that an expedition on the scale contemplated would be a great undertaking, considering the long sea voyage from the nearest base which an enemy could use, and that it could not be carried out without such preparations as would give timely warning of the intention, and corresponding time for counter preparations. Moreover, before an enemy could undertake such an operation, he must have command of the sea to insure the security of his communications. Against this latter essential condition being fulfilled, we must assume that the naval resources of the Empire would give security, when the colonial addition to the fleet in these waters, now in contemplation, has been provided.

It is, however, unquestionably of great importance that every encouragement should be given to the young men of New Zealand to practice rifle-shooting, the most essential, and by far the most difficult, part of the training of the infantry soldier. With a large body of young men so trained, past experience shows that in times of emergency the military forces of New Zealand might be rapidly increased to any extent that might be required. The formation of rifle clubs throughout the colony should therefore be encouraged by the supply of rifles and ammunition, and by prizes for shooting, which latter should be mainly for squad-firing rather than for individual shooting, as the former is of far greater military value than the latter. Rifle clubs.

The existing military organization of New Zealand has grown up by degrees under the stress of former military necessities. It is unsuited to the present needs of the colony, and the absolute necessity for retrenchment of expenditure in all departments of the Government, which has been unanimously expressed, makes it imperative that the required military reorganization should be at once undertaken with the double object of making the defence effective, and of reducing expenditure to the lowest possible point. Present military organization.

The military forces of the colony now consist of a Permanent Militia and a Volunteer Force.

The Permanent Militia numbers—

Artillery	...	...	...	...	165
Engineers	...	...	...	...	21
Torpedomen	...	...	...	...	50
Rifles	...	...	...	...	107
Total	...	...	...	...	343, including officers.

The Volunteers are divided under the following heads:—

Cavalry and mounted infantry	...	...	...	...	866
Artillery (garrison, field, and naval)	...	...	...	...	1,997
Engineers	...	...	...	...	165
Infantry	...	...	...	...	5,305
Infantry (honorary)	...	...	...	...	70
Cadets	...	...	...	...	3,038
Total	...	...	...	...	11,441

A large proportion of these Volunteers are country corps, far removed from the harbours to be defended, and who therefore are not now required, except under the remote contingency of an invasion above referred to. Under the present financial condition of the colony it is out of the question that these corps should be maintained. Country corps.

After studying carefully the system of defence which has been decided upon at each of the four principal harbours, and having had the advantage of consulting with the Officer Commanding the Forces and his staff, I have come to the conclusion that the existing permanent force cannot advantageously be reduced in number at present. When all the guns and other war material now ordered shall have been mounted and placed in position, as will now very shortly be the case, a permanent force, consisting of 252 non-commissioned officers and men; will be required to keep them in good order and to form the nucleus of the defence force. I should propose to unite them in one body, called the "Coast Brigade," and embracing within its ranks a due proportion of artillerymen, torpedomen, submarine miners, signalmen, testers, electricians, engineers, and other artificers, and that they should be divided into four detachments, localised at the four points in about the following proportions, exclusive of officers:— Number of permanent force required. The Coast Brigade.

	Artillery.	Torpedo.	Total.
Auckland	68	19	87
Wellington	58	21	79
Lyttelton	32	6	38
Dunedin	40	8	48
Totals	198	54	252

This is practically the naval organization, *i.e.*, it is the organization adopted on board Her Majesty's war ships, where there are seamen gunners, seamen torpedoists, submarine miners, electric light and signal men, &c., all under one and the same command; and the late combined naval and military operations at Milford Haven* showed the great advantage which it possesses in insuring harmony of action between the different elements of defence—the guns, the electric lights, the mines, the torpedo-boats, and the guard-boats. The organization is also economical in officers and convenient for administration. The men to form this Coast Brigade may be obtained chiefly by transfers from the existing Permanent Militia. I should advise a simple blue uniform for all the brigade, with red badges distinguishing men trained to special duties in the Permanent corps, and white badges in the Volunteer corps. As far as possible all the men should be trained to serve afloat as well as on shore.

Rifle Militia.

It is not proposed to do away with the rifle Militia, which consists mainly of men who formerly did good service in the Armed Constabulary, but to reduce it, by transfers to the Coast Brigade, or by not filling vacancies as they occur, to 80 non-commissioned officers and men. This body is still useful in many ways, but it will be for future consideration whether it shall be permanently kept up.

Volunteer Coast Brigade.

Affiliated to the permanent Coast Brigade, there should be a Volunteer Coast Brigade corps to work with the permanent brigade, and assist them in their several duties. Like the permanent corps, the Volunteer Coast Brigade would consist in due proportion of artillerymen, submarine miners, and torpedo- and boat-men, and would be drawn from Volunteers residing at the different ports in the following proportions (including officers):—

	Artillery.	Torpedo.	Total.
Auckland	270	45	315
Wellington	230	45	275
Lyttelton	124	11	135
Dunedin	160	17	177
Totals	784	118	902

Volunteer field force.

In addition to these there should be a field force at each of the ports, consisting of a battalion of infantry, a troop of mounted infantry, and a battery of position artillery, to guard against landing parties, who might otherwise attempt to storm the batteries, destroy the submarine mine defences, or march into the towns. A part of these might be country corps having easy access by railway to the ports to be defended.

The total strength of the field force required for each place, including all three arms, would be about—

Auckland	698
Wellington	610
Lyttelton	610
Dunedin	610
Total	2,520

Honorary Volunteers at minor ports.

In addition to the above about 560 Volunteer infantry, and artillery would be needed for the minor ports, *viz.*, Nelson, Westport, Greymouth, Bluff, Oamaru, Timaru, Napier, Gisborne, New Plymouth, and Wanganui. These, it is hoped, will be honorary corps.

The whole defence force now recommended would therefore be as follows:—

	<i>Permanent (exclusive of Officers).</i>			
Total strength of defence forces.	Coast Brigade ... ..	...	...	252
	Rifles ... ..	...	...	80
				332
	<i>Volunteers (including Officers).</i>			
	Coast Brigade ... ..	...	...	902
	Field Force ... ..	...	...	2,520
	Honorary Volunteers ... ..	...	...	560
				3,982
	Total ... ..	...	...	4,314

Consequent reduction in Volunteers. Cadets.

The adoption of this revised establishment would result in the reduction of about 4,980 paid Volunteers, in addition to the cadets.

As regards the cadets, the cost to the country is about £1,500 per annum for capitation, in addition to the cost for ammunition. They cannot be regarded as efficient soldiers to contend in battle with grown men, and consequently it appears to me that this charge should not fall on the vote for Defence. It may no doubt be advantageous to the community, from the point of view of educational training, that lads should be drilled at school, but it is mainly an educational question; and, beyond the loan of arms and the issue of ammunition to masters of schools when desired, no payment in the shape of capitation should fall on the Defence vote for the services of these boys, who could not be employed in the defence of the country.

Increased capitation for Volunteer Coast Brigade.

The reduction of 4,980 paid Volunteers, with all the expenses connected with them, implies a very material saving in annual expenditure. It must be observed, however, that the Coast Brigade Volunteers will be called upon to give more of their time for training than ordinary Volunteers. Their special duties in the service of the heavy guns, submarine mines, and torpedoes require careful

* The operations consisted in an attack by the Channel Fleet on the defended port of Milford Haven, with the object of testing the system of defence. The result showed that the defence by submarine mines was most formidable. Although the attack was admirably conducted, yet one of the five ironclads, the torpedo depot ship, all the gun-boats (4), 5 of the 12 torpedo-boats, and 39 steam-launches, cutters, &c., were put out of action, and the mine-field still remained effective, although considerably injured. The whole of the defence flotilla was, however, destroyed; and, had the attacking squadron been able to continue the attack, they would have succeeded in forcing the defences. On the other hand, it was considered that, if the defence force had been better organized, the attack would have been completely foiled.

instruction and frequent practice, and, although it is believed that the service will be popular, it is possible that patriotism and *esprit de corps* may eventually have to be supplemented by increased capitulation to keep up the numbers and efficiency of this part of the forces.

It should be arranged, if possible, that the Volunteer Coast Brigade men should engage to serve for three years, thus insuring that a sufficient body of trained men shall always be available, and that the labour and cost of training men shall not be lost by their leaving the service when partly trained, or shortly after they have completed their course of instruction.

The duties of infantry soldiers are not so difficult as those of the more technical branches, and there is no reason to doubt that the Volunteers of the field force may be made efficient under existing regulations. Possibly some additional time may be needed for training the small part of the force whose duty it would be to serve the field guns.

On the Coast Brigade would fall the chief responsibility for the defence of the four principal harbours, and so essential is it that they should be thoroughly trained and practised in their duties, and that all their appliances should be in good working order, that I would recommend that the permanent part of the force should normally be employed solely in their special duties, and that all guards, orderly duties, &c., should be taken by the permanent rifles; and, even further, I would recommend that the officers of the Coast Brigade should be given an allowance in lieu of servants, so that none of the men should be taken off their proper duties.

In considering the estimates for the current year, I have noticed that there is a store establishment at Auckland, which may be very much reduced; the bulk of the military stores may be kept at Wellington.

A number of other items evidently admit of reduction to meet the revised organization I have proposed.

This organization with its probable cost is given in the annexed approximate estimate, from which it will be seen that the normal annual expenditure may safely be reduced from its present amount, £99,748, to about £72,332, showing a saving of about £27,416.

I would observe that it is very important that the four officers in command of the Coast Brigade at the principal ports should be thoroughly instructed technically, and I would recommend that eventually they should be Imperial officers, selected either from the artillery, engineers, or the navy, and in any case trained both in artillery, submarine mining, and torpedo service.

Probably it would be necessary to give higher salaries to secure the services of really competent and thoroughly-trained men; but on their knowledge and energy will depend the safety of the ports.

The staff that I have estimated for is, in my opinion, the least that could carry on efficiently the duties of the head-quarters office at present; but when the works of defence are completed the officer superintending the designs and construction of the works will no longer be required; and the services of a special officer to instruct in the use of the Whitehead torpedoes may also be dispensed with when a certain number of the Coast Brigade have been trained in this duty.

No saving can, however, be counted on corresponding with these reductions, as the Imperial officers recommended eventually to be employed must doubtless be paid higher salaries than those estimated for.

The education of all ranks of both the Permanent and Volunteer Forces is of the greatest importance. The standard of requirements will be highest for the officers of the permanent Brigade; but all the officers and non-commissioned officers of all branches of the defence forces should be thoroughly instructed in their special duties, and in the general knowledge of military matters, which is essential to the efficiency of all soldiers. The soundness of their knowledge should be rigorously tested by examination on the lines already laid down in the regulations.

The Staff Officer of Education will conduct and superintend the education and examination, assisted by the staff of instructors; and to give due weight to the examinations and confidence in their results they should be conducted by a Board having for its president the Commander of the Forces, the Staff Officer for Education being a member of the Board and its Secretary.

This staff officer will need at first to train his assistants, and to establish an uniform system of instruction, which should include not only the details of drill required for simple military movements, and the use of the several weapons, but also tactics, the usages of war, and elementary field fortification. For the field force a practical knowledge of these simple elements will suffice; but the Coast Brigade, having to deal with an enemy afloat, will require instruction of a different nature.

They must be acquainted with the usages of war, and with marching drill, but their special training must have reference to the coast artillery, the submarine mines, and the torpedoes, which they will have to serve. This instruction must be given by the Officers Commanding the Coast Brigade, assisted by the Instructor in Submarine Mining and Torpedo Service, and by the non-commissioned officer instructors. Probably it will lead to economy and efficiency if, in the first instance, all the non-commissioned officers and men of the Permanent Coast Brigade are trained at Wellington before being sent to their stations. The instruction and the examinations to insure proficiency in these duties must both be practical rather than theoretical. A man may have book knowledge, and be able to write answers to questions, without being practically efficient in his duties.

To insure uniformity in instruction and practice, however, and to assist both instructors and learners, the manuals published by authority in England should in all cases be used, and a sufficient supply of them should be obtained.

The existing regulations of the Volunteers and Permanent Militia will need revision if the system I have recommended be adopted.

I have already adverted to the great advantage which would result from the appointment of vacancies occur of thoroughly-trained Imperial officers to fill the appointments of the four majors commanding the Coast Brigade at the four ports, and I would extend this gradually also to the Commander of the Forces and his two staff officers. By this means, if the appointments be for five

years only, the knowledge and efficiency of the technical corps will always be kept up to date, and these appointments will be open to officers born in this colony, who, under existing regulations, have obtained commissions in the Imperial army.

Urgent need
for Artillery
instructors.

Similarly, it will be important to obtain from time to time the services of well-trained non-commissioned officers of the Royal Artillery and Royal Engineer Submarine Miners to assist in the training of the Coast Brigade. At the present moment the most urgent need is for four trained non-commissioned officers of Artillery to take charge of the new guns and stores at each port, and to assist in training the Coast Brigade Artillery.

Precautions
against surprise.

With the view of avoiding surprise, and of obtaining as early notice as possible of the approach of an enemy, and also for the protection of the mine-fields, and to avoid danger to friendly vessels in war-time, it will be necessary to adopt and enforce certain regulations, and to make certain arrangements, without which the defence system would be dangerous to friends, and would lose a great part of its value as a protection to the ports.

After consulting with Captain Johnson, Nautical Adviser to the Marine Department, and Lieutenant Douglas, R.N., I should recommend the adoption of the following system:—

Signalling from
points on coast.

1. Those points on the coast where an enemy would probably be first sighted should be placed in telegraphic communication with head-quarters, and signalmen should there be on the watch to give notice of suspicious vessels passing. There are some twenty of these points, of which about half are now in telegraphic communication with the general telegraph system, and most of the others could readily be connected. These points are as follows, those now connected with the telegraph system being denoted by the letter T:—

North Island.—Cape Maria Van Dieman, Cape Egmont (T), Pencarrow Lighthouse, Cape Palliser, Portland Island Lighthouse, East Cape, Tiritiri Lighthouse (T), Bay of Islands (T), Moko-hino Lighthouse.

South Island.—Cape Farewell Lighthouse (T), Cape Foulwind Lighthouse, Puysegur Point Lighthouse, Bluff Signal-station, Waipapapa Point, Nugget Point Lighthouse (T), Cape Saunders Lighthouse (T), Akaroa Head Lighthouse (T), Taiaroa Head Lighthouse (T), Godley Head Lighthouse (T), Cape Campbell Lighthouse.

2. At each of the four principal ports there should always be a pilot on duty to conduct vessels through the “friendly channel,” and no vessel should be allowed to come in or go out without a pilot, and under no circumstances between sunset and sunrise, under penalty of being fired on or blown up.

While waiting for a pilot, vessels should anchor at Wellington, inside Steeple Rock, within a radius of four cables from the rock. At Auckland they should anchor under Rangitoto Reef. At Lyttelton they should anchor, or lay to, according to the weather, outside a line drawn between the extremities of Godley and Toloa Heads. At Port Chalmers they should lay to outside the bar, or if at their own risk they prefer to cross the bar, they must anchor as soon as they cross it, outside of a line between Howlett Point and the first red buoy.

Guard vessels.

3. Guard-vessels will be required at each of the four ports to control the traffic and protect the mine-fields. The submarine-mining vessels must be supplemented in war-time by small local steamers of from 30 to 100 tons, temporarily commissioned, armed with a machine-gun, and fitted with a musket-proof breastwork of iron or steel. These guard-vessels would be commanded by Coast Brigade officers (Permanent or Volunteers), with a crew of fifteen to twenty Coast Brigade men, one engineer, and one stoker. One guard-vessel, with a pilot on board, would be required by day. All must be on duty at night.

The officer commanding the day guard-vessel should board every ship arriving at the port; and, if he has satisfied himself as to her friendly character, he should put a pilot on board and signal to the commanding officer on shore that she is permitted to enter, or he would lead her in himself. Should two or more ships arrive together, it would only be necessary to lead in, or put a pilot on board of one, directing the others to follow accurately in her wake.

In addition to the submarine-mining steamers at each station, it would be necessary to have at least two hired steamers at Wellington, two at Auckland, one at Lyttelton, and one at Port Chalmers. These might be supplemented largely, it is presumed, in war-time, by local steamers, if necessary.

Scout vessels.

4. It would be of advantage to Wellington and Auckland if a swift steamer could be employed as a scout to cruise off the port and to run in and give notice of the approach of an enemy; but, unless these steamers are so swift as to be secure against capture, they might be injurious to the defence by affording an enemy an opportunity of information he could not otherwise gain.

Signals.

5. A system of signals must be established to give notice of the approach of an enemy, and also to notify at night when all the guard-vessels have retired within the defences, and the guns and mines are free to act.

6. When war regulations are in force, it should be notified at each of the four ports by hoisting a red flag at the signal stations and lighthouses by day, and at night by extinguishing the leading lights. At Lyttelton, where there are no leading lights, a red light should be shown in the fixed lighthouse at Godley Head. The information should be also more widely diffused by hoisting red flags during the day at all the points named in paragraph 1, and at night by showing a red light at Mokohino, Farewell Spit, Akaroa Head, Cape Saunders, and Puysegur Point.

7. Full notice of war regulations should be published at once in the ordinary way as “Notices to Mariners,” in order that vessels arriving from distant ports might be aware of them in case of war.

8. The guard-boats and torpedo-boats should all be under the orders of the officer commanding the Coast Brigade at each port.

Necessity of
frequent prac-
tice.

In conclusion, I would advert to the paramount importance of frequent practice in the use of each of the elements of coast defence, both separately and in combination, and that the practices should take place both by day and by night, so that the men and officers may be accustomed to

work the guns, mines, electric lights, guard-vessels, and torpedo-boats together, under all conditions of weather and light.

The Volunteer instructional camps should have for their object the accustoming of the officers and men to the performance of the actual duties they would have to execute at the ports they are charged to defend under the varying conditions of possible attacks. Volunteer en-
campments.

I would also advise that in all cases the officers of the Volunteer Forces should act under the orders of the officers of the Permanent Forces, as the latter must be more thoroughly trained and acquainted with their duties.

H. SCHAW,
Major-General.

APPROXIMATE ESTIMATE AND DETAILED STATEMENT OF DEFENCE FORCES PROPOSED.

STAFF AND PERMANENT FORCES.

	£	s.	d.	£	s.	d.
<i>Staff—</i>						
Commander, Colonial Forces	700	0	0			
Under-Secretary, Defence	400	0	0			
Staff Officer for Discipline*	400	0	0			
Staff Officer for Education*	400	0	0			
Instructor in Submarine Mining† ...	250	0	0			
Chief Engineer	219	0	0			
Whitehead Torpedo Instructor (temporary)	200	0	0			
Staff Officer for Construction (temporary)...	500	0	0			
				3,069	0	0
<i>Coast Brigade—</i>						
8 Officers—						
4 majors at £300	1,200	0	0			
4 subalterns at £250	1,000	0	0			
14 Warrant Officers—						
4 master gunners at 9s. a day	657	0	0			
10 sergeant-majors and instructors at 8s. 6d. a day	1,551	5	0			
237 Non-commissioned Officers and Men—						
8 sergeants at 7s. 6d. a day	1,095	0	0			
16 corporals at 7s. a day	2,044	0	0			
16 second-class corporals at 6s. 6d. a day ...	1,898	0	0			
20 artificers and testers at 6s. 6d. a day ...	2,372	10	0			
45 privates, first class, at 6s. a day	4,927	10	0			
132 privates, second class, at 5s. a day	12,045	0	0			
				28,790	5	0
<i>Rifles—</i>						
3 Officers—						
1 captain	300	0	0			
2 subalterns at £250	500	0	0			
1 Warrant Officer—						
1 sergeant-major at 7s. a day	127	15	0			
79 Non-commissioned Officers and Men—						
2 sergeants at 6s. a day	219	0	0			
4 corporals at 5s. a day	365	0	0			
73 privates at 4s. 6d. a day	5,995	2	6			
				7,506	17	6
<i>Other Charges—</i>						
Travelling expenses	200	0	0			
Fuel and light	100	0	0			
Purchase of arms, &c.	500	0	0			
Contingencies	4,000	0	0			
Allowances to officers in lieu of servants, 11 at £75	825	0	0			
				5,625	0	0
Total, staff and permanent forces				£44,991	2	6

* The duties of Inspector of Artillery and of Warlike Stores must also be performed by these officers.

† Eventually also Instructor in Torpedo Service.

VOLUNTEERS.

HEAD OFFICE, COMMANDING OFFICERS, INSTRUCTORS, AND ALLOWANCES.

	£	s.	d.	£	s.	d.
<i>Head Office</i> —						
2 clerks—1 at £200, 1 at £183...	383	0	0	383	0	0
<i>Auckland</i> —						
1 officer commanding	300	0	0			
Forage and travelling allowance	75	0	0			
1 drill instructor	128	2	0			
1 musketry instructor	128	2	0			
				631	4	0
<i>Wellington</i> —						
1 officer commanding	300	0	0			
1 drill instructor (rifles)	128	2	0			
1 musketry instructor	128	2	0			
1 instructor field artillery, North and South Island	128	2	0			
Forage and travelling allowance	75	0	0			
1 cavalry instructor, North and South Island	128	2	0			
Forage ...	55	0	0			
				942	8	0
<i>Canterbury</i> —						
1 officer commanding	300	0	0			
1 drill instructor	128	2	0			
1 musketry instructor	128	2	0			
Forage and travelling allowance	75	0	0			
Office allowance	20	0	0			
				651	4	0
<i>Dunedin</i> —						
Officer commanding	300	0	0			
1 drill instructor	128	2	0			
1 musketry instructor	128	2	0			
Forage and travelling allowance	75	0	0			
Office allowance	20	0	0			
				651	4	0
<i>Capitation</i> —						
902 men, Coast Brigade, at £3	2,706	0	0			
200 mounted infantry at £3	600	0	0			
252 field artillery at £3	756	0	0			
2,068 rifles at £3	6,204	0	0			
4 bands of 25 men each at £3	300	0	0			
Allowance to ditto at £20 each	80	0	0			
				10,646	0	0
<i>Other Charges</i> —						
Prizes for rifle-shooting	600	0	0			
Repairs, &c., boats	450	0	0			
Rent, &c., rifle-ranges	1,000	0	0			
Subscriptions in aid of drill- and boat-sheds	600	0	0			
Volunteer encampments	1,000	0	0			
Purchase of arms, &c.	5,000	0	0			
Contingencies	1,500	0	0			
				10,150	0	0
Total, Volunteer Force				£24,055	0	0

SUMMARY.

	£	s.	d.	£	s.	d.
<i>Permanent Forces</i> —						
Staff, Permanent Forces	3,069	0	0			
Coast Brigade	28,790	5	0			
Rifles	7,506	17	6			
Other charges	4,800	0	0			
Allowance in lieu of servants	825	0	0			
				44,991	2	6
<i>Volunteers</i> —						
Head Office	383	0	0			
Auckland	631	4	0			
Wellington	942	8	0			
Canterbury	651	4	0			
Dunedin	651	4	0			
Capitation	10,646	0	0			
Other charges	10,150	0	0			
				24,055	0	0
Stores and magazines				3,286	0	0
Total				£72,332	2	6

NOTE.—During the ensuing year, and until the completion of the defence works, about 80 men of the permanent force may, for economical reasons, be employed on the works, and the value of their labour, about £8,000 per annum, would be chargeable to the vote for works. Temporary reductions during 1888–89.

Pending also the completion of the works, it will not be necessary to make up the defence forces to their full strength, and the following reduction in the foregoing establishment may be in force during the year 1888–89:—

<i>Reduction in Permanent Forces—</i>		£	s.	d.	£	s.	d.
2 subalterns at £250	...	500	0	0			
2 serjeant-majors at 8s. 6d. a day	...	310	5	0			
8 corporals at 7s. a day	...	1,022	0	0			
8 second-class corporals at 6s. 6d. a day	...	949	0	0			
4 artificers at 6s. 6d. a day	...	474	10	0			
4 privates, first class, at 6s. a day	...	438	0	0			
26 privates, second class, at 5s. a day	...	2,372	10	0			
					6,066	5	0
<i>Rifles</i>							
20 privates at 4s. 6d. a day	...				1,642	10	0
<i>Reduction in Volunteers—</i>							
One-third of capitation	...				4,450	0	0
Total temporary reduction of establishment	...				<u>£12,158</u>	<u>15</u>	<u>0</u>
Total reduction	...	£8,000	0	0,	charged to vote for defence works.		
		12,158	15	0,	temporary.		
Total	...	<u>£20,158</u>	<u>15</u>	<u>0</u>			

The normal cost of the establishment, £72,332 2s. 6d., would thus be reduced during the year 1888–89 to £52,173 7s. 6d.

[Approximate Cost of Paper.—Preparation, not given; printing (1,550 copies), 46 11s. 6d.]

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