

HURRICANE HATTIE

BY

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In November, 1961, a natural disaster occurred in British Honduras when Hurricane Hattie passed between Belize, the capital (population 33,000) and Stann Creek, the second largest town (population 3,400).

H.M.S. *Troubridge* was first on the scene at Belize, 48 hours after the hurricane. She was joined the same day by two American destroyers, U.S.S. *Corry* at Belize and U.S.S. *Bristol* at Stann Creek, both of whom stayed for only two days. On the third and fourth days after the disaster, U.S. Navy helicopters landed essential medical supplies from the carrier U.S.S. *Antietam*, cruising outside the Barrier Reef. The helicopters stayed on and surveyed the whole country, carrying medical teams and distributing food. Later H.M.S. *London-derry* arrived at Stann Creek. The Army build-up within the first fortnight from the 150 men of the Garrison and the 50 men of the Royal Hampshire Regiment brought by H.M.S. *Troubridge* from Jamaica, grew to brigade proportions as personnel were flown in.

The devastation ashore, caused by winds gusting up to 200 knots, had been worsened by the effects of a tide 12 feet above normal. The seaboard of British Honduras here is flat mangrove swampland for up to 40 miles inland. Belize itself, having a mean height above sea level of only 2½ feet, had been ravaged by the surging water roaring through it.

When H.M.S. *Troubridge* arrived the town was still flooded in places and everywhere covered in thick grey mud. Of the buildings which are, in the main, wooden and built on stilts, 90 per cent were seriously damaged, and of these probably 30 per cent were beyond repair. Stone buildings, outwardly intact except for their roofs, were chaos inside, deep in sludge and debris, floors and furnishings smashed.

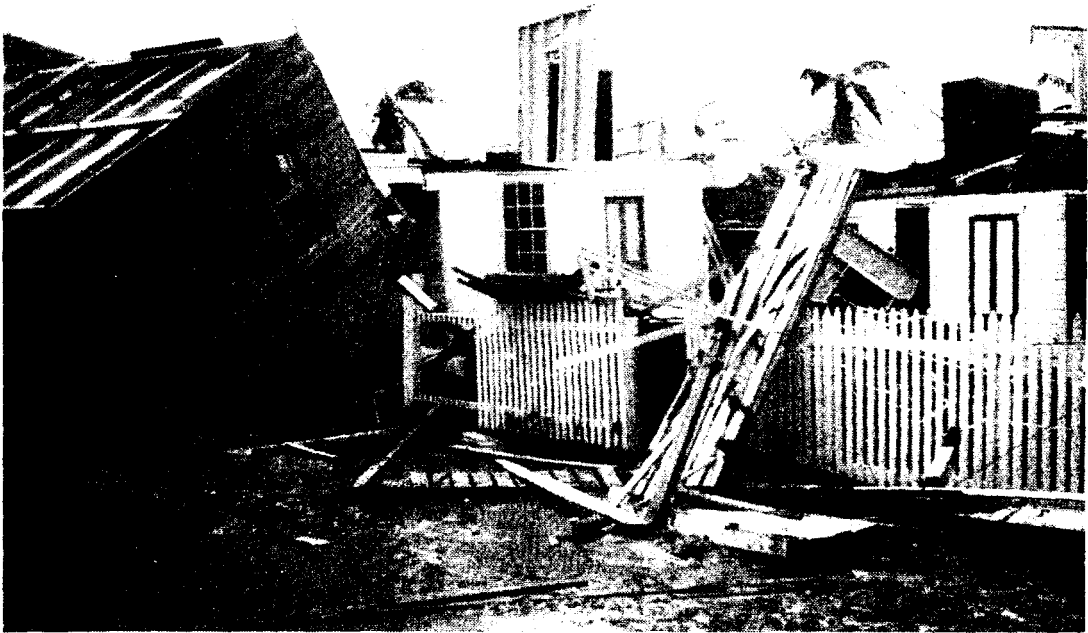
The small number of vehicles which were still serviceable were of little use because the streets were blocked with general debris, roofing materials, fallen trees, transplanted houses, wrecked vehicles and boats.

Casualties, however, were amazingly few ; some 220 deaths compared with 1,000 in the less severe 1931 hurricane.

The majority of the people stood aimlessly around, though in some parts of the town they had started looting, and where they had broken into liquor stores a danger of rioting existed.

On arrival, the ship anchored 1½ miles from the town. Central Headquarters had already been established at the Police Station. A large stone building on the water front, the Bliss Institute, was taken over as the accommodation centre for all Service personnel ashore.

It was found that the first priority was in giving assistance with the internal security, since the Garrison, and the local defence forces, police and customs were all exhausted after 48 hours without sleep. After a further 48 hours the Army had arrived in sufficient numbers to release the Navy to get on with their better suited function of pure relief.



BELIZE, BRITISH HONDURAS

Assistance given by H.M.S. 'Troubridge'

Medical

That no epidemic occurred is due in large part to the speed with which the first few doctors into Belize tackled the task of mass immunization of the population, and the treatment of minor injuries. Emergency inoculation centres were set up and the people willingly came forward in their thousands, eager to accept anything that was being given away free.

Volunteer naval ratings formed the corpse burning party for the first three days after arrival, being relieved by the Army.

Doctors arrived in overwhelming numbers, and in order to co-ordinate their efforts, the Medical Officer, H.M.S. *Troubridge*, was appointed Principal Medical Officer, British Honduras.

Hospitals

The two hospitals, the Public and the Holden Memorial, were both badly damaged. Teams of mainly technical ratings lived in them, cleaning up the buildings. They then restored drainage and sanitary arrangements, burned the dead, installed emergency generators, fixed the power and lighting, repaired an X-ray unit, and made useable the first operating theatre in Belize. They also helped to re-roof the buildings, and even to cook food for the staff and patients. A monitoring team successfully located eight radium pellets lost in the debris.

Water Supplies

Word was quickly spread among the population that the town's five water tanks would not respond to chlorination, and were therefore unsafe for drinking unless the water was boiled. With the pipeline supply to Belize broken, water was likely to be a problem once the five tanks were empty. A water purification plant was set up by the U.S. Army and brought into operation by the Royal Engineers when they arrived ten days later.

Food

Despite severe looting which greatly reduced the food reserves remaining in



THE HELICOPTER LANDING GROUND

the Colony after the hurricane, there was never any shortage. As soon as effective anti-looter measures were provided, the distribution organization was directed by volunteer local Europeans, from all walks of life.

Food and clothing poured into the Colony by air-lift under Army control initially, and later by sea as the Navy opened up the harbour facilities.

A technical party progressed round the town's bakeries getting them operational. The bakeries were cleaned out, ovens and chimneys repaired and slowly dried out, small generators brought in, and machinery and electrics refitted.

Technical

As a result of the flooding all electrical equipment was inoperative. There were no generators running in Belize before the ship's arrival, but by that evening the Police Station and Bliss Institute were lit by two generators which had been found stowed above the flood level.

With flooded and mud-caked machinery little difficulty was found with the Diesel end of the generators, but with all electrical gear, washing out with fresh water and slow drying was a tedious business often ending in a frustrating blue flash.

The Power House was unlikely to be running for a month, and all overhead cables were down. After 10 days, approximately 200 kVA of power was available from emergency Diesel alternators, most of which had been brought in dry from up-country. These were supplying lighting for headquarters, hospitals, food and accommodation centres, main streets, running refrigerators, broadcasting, bakeries and other essential needs. Naval technical staff were responsible for the majority of the work, although Electricity Board linesmen re-erected the poles and rigged the cables.

Naval personnel also brought back into service some 10 trucks, tractors and cars, a 2-ton crane, one small tug, and two launches, besides assisting with a 5-ton crane, operating oxy-acetylene gear and pumping out barges. Equally important they kept vehicles allocated to them running.

Technical assistance with electronic equipment was given at the Broadcasting Station and the Airport.



OUTSIDE THE BLISS INSTITUTE—REPAIRS TO A 62½ KVA DIESEL ALTERNATOR AND AIR COMPRESSOR. QUEUE FOR MEDICAL TREATMENT INOCULATION CENTRE

Port Facilities

The Navy assumed responsibility for opening up the port of Belize. This included supervising local labour clearing warehouses and jetties, salvaging boats, tugs and barges, and buoying the channel into Belize, besides controlling the unloading of ships and the distribution of cargo.

This was one uncompleted responsibility left by H.M.S. *Troubridge* on her departure after 14 days; all other activities having been turned over to the specialist Army personnel, who had by then belatedly started to arrive. Her relief, H.M.S. *Vidal*, also completed a hydrographic re-survey of the area.

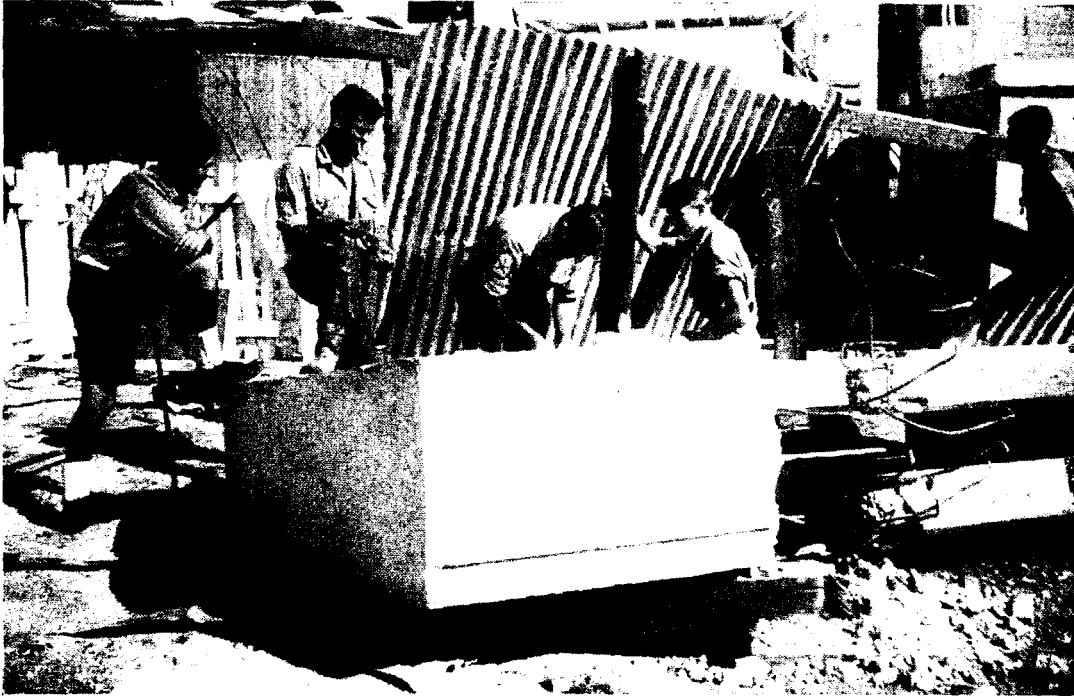
Ship Facilities and Miscellaneous Tasks

H.M.S. *Troubridge* was fuelled shortly after arriving by the U.S. tanker *Nespelen*, and by using her Diesel generators and only flashing a boiler in order to make water, was able to stay in the area for 14 days and still make Key West, Florida. Fresh water consumption was high, since all drinking water for personnel at the Bliss Institute and the Police Station came from on board. Also many Army and civilian people besides naval shore parties, came on board for a couple of hours, to get a taste of civilization, a bath, a square meal, and to make use of the laundry facilities. Diesel fuel and lubricating oils were also landed in quantity.

Despite the occasionally adverse weather conditions, four power boats were kept going, two of them averaging ten hours' running a day.

Repairs such as brazing jobs, stripping vehicles and boat electrical equipment, and servicing W/T receivers, were undertaken on board. Ashore, charged car and W/T batteries were in short supply, many having been damaged by sea water. A large number were taken out to the ship, where they were washed out, filled with fresh acid, and recharged.

A demolition party blew open four safes containing government cyphers and confidential material. The documents recovered were kept in safe custody on board.



SAFE-BLOWING AT GOVERNMENT HOUSE

Mistakes and Lessons Learned during Hurricane Hattie Relief Work

Shock and Public Reaction

Those arriving failed to appreciate that everyone who had experienced the disaster was suffering from acute shock. They were overwhelmed with their loss, in a country which before the hurricane had an appallingly low standard of living, was short of work, and dependent solely on British aid.

Had not the policy of 'no food, unless you work for it', been enforced with military backing, the people of Belize would not have raised a finger to help themselves.

The calibre of men in administration was not high. There was no pre-planning for such an emergency, apart from the effective sheltering arrangements which undoubtedly resulted in the low casualty rate.

The Administration and Relief Control Organization

Government Ministers and political leaders virtually disappeared in the early days. The Governor, the Chief Secretary and the Chief of Police took over at the Police Station. Other people in authority, from Heads of Departments downwards, wandered in at infrequent intervals, with no overall picture, full of the details of one particular crisis. Their chances of finding the person they wanted were slim, and so they foot-slogged around town chasing one another.

Thus little civilian control organization existed. The Governor had no readily available staff, and no co-ordinated information of requirements and progress in each facet of the relief work. Relief assistance arriving in the Colony found no direction, and the top administration was continuously pestered for petty decisions, and bogged down in trivial details.

Ships' officers were equally at fault in not establishing centralized relief work control. However, they used their initiative, thought in terms of emergency requirements, and achieved useful results.

Joint Military Headquarters were also set up at the Police Station. As the Army organization grew with its internal security interest primarily in Belize, it swamped the idea of a Central Headquarters for the government of the whole country. In addition, the lack of reliable information from the rest of the

Colony, resulted in the administration becoming far too concerned in the affairs of Belize alone.

Control was attempted through daily meetings, chaired by the Governor, and attended by some of the Heads of Departments, the Senior Naval Officer, West Indies, the Commander, Caribbean Area, and the military staffs. Regrettably not all the civilians attending were fully informed, nor did they have effective control of their organizations at lower levels.

After ten days the situation improved when Central Headquarters moved to the Fort George Hotel.

Communications

Due to the general shortage of transport, impassable roads, and the total destruction of the telephone system, communications throughout the Colony and the town were poor. The few portable radio sets brought in by the Army were, in the first instance, required for internal security purposes. Thereafter the Army were loath to part with them for civil administration use. British sets proved very inferior and unreliable compared with borrowed U.S.N. equipment. Provision of a number of field telephones, radiating from Central Headquarters, would have been of immense value to relief work within the town.

For the first 48 hours H.M.S. *Troubridge* provided the main communications link with the outside world. During that period she also controlled aircraft using the airport 12 miles inland. With H.M.S. *Londonderry's* arrival, the two ships provided the military link with Stann Creek.

Difficulty resulted from the Army and Navy signal procedures being different.

Navy and Army Liaison

The relations between Army and Navy were generally good. However, the situation was probably made easy by the Army's pre-occupation with internal security, leaving the Navy free to get on and complete its 'fire brigade' relief work before the Army specialists arrived.

Various criticisms can be levelled however. The Army was inflexible by comparison with the Navy. Their staff organization was too stereotyped and demarcation-conscious. Being fortunate in having a ship lying offshore, it is perhaps unfair for the Navy to comment on the ineptitude of the regimental soldier to look after himself without his full support facilities. They had to be reminded to dig latrines, they paid little attention to the cleanliness of the Bliss Institute and would have been without food for 24 hours had it not been supplied from the ship. The Navy also set them an example in clearing away debris and re-opening drains around the Bliss Institute, which constituted a danger to the health of personnel living there. Typical was the attitude of a R.A.M.C. officer, arriving early on, whose first query was for directions to the N.A.A.F.I.

There is a good case for thinking that the Army kept up a show of arms for too long. Troops marching around with rifles and bayonets fixed were resented by the people.

It is important not to take on too many commitments at any one stage, but to maintain an adequate reserve who can take over when others get tired. The notice for steam will dictate the number of personnel remaining on board, and this will probably satisfy the reserve requirement. The Army were particularly good at keeping rested troops in reserve for possible internal security crises.

Another Time?

No two disasters will be alike, but those who took part in this one feel much better prepared to face another. In a general sense and in particular in relation to staff work, this was borne out in the more recent disturbances in British Guiana. One small frigate, 14 officers and 180 ratings, have a considerable

contribution to make in a time of natural disaster. On arrival this will not be appreciated by those ashore. A round-table meeting should be insisted upon as early as possible, between ship's officers and the civilian heads of the relief work sections. This will give briefing in both directions ; ship's officers to find out the requirements, civilians to find out what is available. Before decisions as to the assistance to be given are made, ship's officers should see for themselves the state ashore and report back to their commanding officer.

Throughout the operation a balance must be struck between the effort put into emergency arrangements and the longer term return to the normal state. Civilians will be keen to get on with the latter.

The military commander should stay alongside the top administration. However, military headquarters should be set up in the ship, if it can be got alongside but at all costs kept separate from the Central Headquarters.

One officer should be responsible for investigating the civil relief organization. Staff Officers should be in the Central Headquarters responsible for each facet of relief. The civil administration should be urged to supply equivalent representatives. Between them they should provide the information service to the top administration. They should record requirements and progress, note assistance available, 'liaise' with other departments, and establish communications. Civil Heads of Departments should remain at convenient sites for the control of their concerns, and should be provided with communications with Central Headquarters.

Places which are of concern to the West Indies Squadron are being asked to pre-plan for such emergencies, and to pass useful information on to the ships. This includes stocks of maps, names and addresses of important people, details of medical, technical, communication and transport facilities, and lists of buildings which may require protection.

The smart appearance and bearing of personnel ashore can do much to improve the morale of the local defence forces, and to deter the would-be looter without a show of arms. If, as may often be the case, the Navy is required to assist with internal security, the importance of the correct detailing of sentries and instructions in the safe handling of fire-arms cannot be overstressed.

Recommendations for the revising of the stocks of emergency stores held on the station have been made in the light of Hurricane Hattie experience. A signal for the supply of vehicle batteries, electrical equipment and tyres, to suit the local requirements, given early priority would help greatly in the cases of flood. The value of the outboard-driven, inflatable Zodiac dinghy, carried on board ships of the Squadron was proved.

Finally, Chief of Naval Information must not be forgotten, and it must be remembered that some day actions and expenditures will have to be accounted for, so keep a diary.

In general, the Navy's function ashore will be completed in a few weeks. People ashore must be made to stand on their own feet as quickly as possible, and not allowed to lean on the Navy. It is pleasant to slip away when problems such as pay, labour relations, insurance claims, and local politics begin to rear their ugly heads.
