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The Women Who Watched the Waves: The Women's Air Raid Defense Organisation in World War II Hawaii

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ABSTRACT
Following the attack on Pearl Harbor in December 1941, a small group of women in Honolulu formed the WARD, the Women's Air Raid Defense organisation. The WARD by working with the US military and dedicating itself to the aerial defence of the Hawaiian Islands released men for combat duty in the Pacific. Using primary source material held by the War Depository Archives at the University of Hawaii, this note seeks to highlight this largely unknown organisation and examine the contributions of American and Hawaiian women to the military defence of Hawaii – an aspect of American history that has been all-but-forgotten.

Introduction

Early in the morning of 7 December 1941, the Opana mobile radar unit near Kahuku, the northernmost point on the Hawaiian island of Oahu, registered a large aerial contact, which was 'completely out of the ordinary'. The two radar operators stationed there tracked the contact, which was around 130 miles north of Oahu, and telephoned the Information Centre at Fort Shafter to report it. Fort Shafter knew that a flight of Army B-17 bombers was due in that morning from California, and assuming that the contact was these planes, told the two operators to forget about it. The operators acknowledged, and once the contact signal disappeared they shut down the radar unit and awaited breakfast. The radar contact, however, was not the expected B-17s, rather, it was the first wave of Japanese carrier-based aircraft that would go on forty-five minutes later to begin the infamous attack on Pearl Harbor. The SCR 270 radar technology had performed admirably, providing a timely warning of the approach

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of the aerial attackers. Though there had been a functioning aircraft warning system in place in Hawaii since September 1941, the system was in its infancy and was far from functioning efficiently. Problems with it included the major issue of not being able to identify plotted flights as friend or foe by any other method than looking at flight plans made available to the plotters by the various military commands. This was a far from fool-proof system. In addition, on the morning of 7 December 1941, the plotters in the Information Centre had left, as it was their first day off in a month. Had the centre been manned twenty-four hours a day, seven days a week, as was the Dowding System in the UK, it is possible that information on that morning's incoming Japanese might have reached US military commanders with enough time for fighter defences to be scrambled to intercept it. The lack of a consistently functioning, efficient fighter defence system which could process and utilise the data it provided proved fatal.[1] By mid-1942 this situation had been rectified, and the Women's Air Raid Defense (WARD) organisation was working efficiently and successfully as an integral part of the improved aircraft warning system in Hawaii. Though many American women played a significant role in the US war effort, 'few women had the opportunity to participate in military operations that directly affected the defense of U.S. territory'.[2] Omitted from popular telling of the story of the US war in the Pacific, and for the most part hidden from history, is the WARD, and their unusual contribution to the defence of a US territory surrounded by the enemy. They are the subject of this research note.[3]

On Christmas Day 1941, Executive Order 9063 was approved, replacing male Signal Corps personnel at the Oahu Information Centre with locally recruited women. This decision was influenced by the extremely successful work of the UK's Women's Auxiliary Air Force (WAAF) within the Dowding System in place in 1940 during the Battle of Britain. The WARD was specifically designed to release American men for combat duty.[4] Though the WARD was technically a civilian organisation, it served under the Commanding General of the Hawaiian Department of the Unites States Army, and in June 1943 was detached from the Signal Corps to become the WARD unit of the 17 Fighter Command.[5] Following the Executive Order, Una Walker, an influential and long-serving Red Cross volunteer, was asked to provide the names of twenty trustworthy, suitable potential recruits, childless and between the ages of

[1]University of Hawai'i War Depository (hereinafter UHWD), Box 2, File 1.6, 'Radar Notes'.
[2]Chenoweth, Candace A. and A. Kam Napier, *Shuffleboard Pilots,* (Arizona: Arizona Memorial Museum Association, 1991), p. 19.
[3]The Hawaiian Islands were a US territory until granted statehood in 1959.
[4]Ibid.
[5]Ibid., p. 21.

twenty and thirty-four, for this secretive work.[6] This she did, and when the number of women required increased, the option to join the WARD was extended to military wives and women from the US mainland. Security was tight and the women were not told what they would be doing – only that it would be critical secret work for the Army, and though civilians, they would be considered officers so that in the event of capture they might be treated according to international law regarding prisoners of war.

The WARD operated from the Information Center at Fort Shafter, collecting, co-ordinating, interpreting, analysing and disseminating their findings to all the military services. These American women were 'assisting in the creation of a unified air defense of the Hawaiian Islands'.[7] Training at the military requisitioned Iolani Palace in Honolulu, they learned to 'plot' using hypothetical radar reports from one of the six radar stations around Oahu. A radar operator, or an 'Oscar', as they were known, would telephone through a report of a fake radar contact 'picked up' by his station, which the trainee would receive via a headset. She would be standing beside a large table, which was covered with a map of the Hawaiian Islands divided into a grid pattern. Using 'implements like shuffleboard sticks', the WARD plotter – called a 'Rascal' – would then place a small plastic marker on the map-board to indicate the location and status of the radar contact.[8] As the radar operator updated her with real-time information on the movements of the 'bogey' aircraft, the Rascal would move the counter across the map. The information provided, usually at least bearing, altitude, speed and size, was called a 'track'. The raw information provided by radar was not at that time usable for aircraft direction purposes and had to undergo a process called 'filtering'. WARD filterers carried this out by analysing, grouping and making sense of the data for the plotters. A balcony above the table was manned by military personnel, who were able to see below them a real-time report of all aircraft reported by radar in the vicinity of the Hawaiian Islands. If a track could not be identified as a friendly contact, they could scramble US fighter defences to intercept it, visually identify it and if it was determined to be an enemy aircraft, shoot it down. On 1 February 1942, 104 members of the WARD moved into Fort Shafter, codenamed 'Lizard', and took over duty around the clock. Radar stations and WARD units were also established on Maui, Hawaii and Kauai, as part of an 'inter-island network' watching the skies for signs of unwelcome intruders.[9] The WARD women worked hard to conceal what they were

[6]UHWD, Box 2 of 2, WARD, File no. A1992:001 5.16.
[7]Chenoweth and Napier (1991), p. 1.
[8]*Sunsetter's Gazette, Newsletter of the Seventh Fighter Command Association, USAAF-World War II*, February 2003, xxi: 1, p. 1.
[9]UHWD, Box 2, File 1.4, 'WARD Maui Unit'. WARD served on Maui from 30 July 1942) and on Hawai'i (the 'big island') and Kauai from August 1942.

doing from the local population, including their own families, hiding even the location of their work by being dropped off away from the plotting centres.[10]

There were numerous instances where WARD members were involved behind the scenes in the conduct of the war. Some were in minor actions such as that on 5 March 1942. A WARD member, Jean Fraser, received a radar contact from Opana, and plotted the positions of two Japanese flying boats as they approached Oahu from the west. In a 'flurry of excitement', the WARD personnel on duty 'jolted to attention', keeping up with the plot as the Army Air and Signal Corps and Navy officers on the balcony above fired questions at them urgently.[11] The planes, it transpired, were attempting to carry out surveillance of Pearl Harbor, and were looking for US aircraft carriers, which they had been instructed to bomb if spotted. As their positions were plotted, air raid sirens were sounded, and US fighter defences were scrambled. Though nothing much came of this incident, it was proof that the Japanese could still launch raids on Hawaii. It did however, provide evidence that the Japanese could no longer do so with the element of surprise – the early warning system worked efficiently, and the WARD plotted and successfully vectored in fighters on the enemy.

WARD personnel were also engaged in major actions – most notably, the Battle of Midway. This was a naval battle, and the fact that women did not serve with the navy until after it had taken place, means the story of Midway is almost always told with little to no mention of women. Our new knowledge of the existence of the WARD, should alter this. After the attack on Oahu on 5 March, the US military began to prepare for a major confrontation with the Imperial Japanese Navy. This was a very busy time for the WARD, who knew exactly what was at stake. Jean Fraser says,

> … you could tell when these were routine missions, but girls realized that battles were upcoming when the fleet and planes all went out. We felt very much a part of the battles in the Pacific, and the place buzzed when news came back via returnees or from things we read or knew first-hand from our work. Wake Island had been captured in December 1941 and we feared for Midway. We knew if Midway fell, we'd be next.[12]

WARD members were briefed and warned that should the Japanese push into Hawaiian waters, they would be on their own, and were expected to remain at their posts with fire-fighting equipment if necessary. All overnight passes were cancelled, and those who had volunteered for first aid weren't allowed to leave Fort Shafter without special permission. WARD Kathy Cooper remembers that 'if special flights

[10]Ibid.
[11]Chenoweth and Napier (1991), p. 43.
[12]UHWD, Box 2 of 2, WARD, File no. W1992:001, 3.05.

were coming in from Midway, we frequently worked without observing our usual relief time'.[13] The women often went hours without using the bathroom or accessing refreshments, so critically important was their work to the defence of the islands. Once the Battle was underway, WARD members plotted furiously, helping to guide US bombers, often damaged and carrying injured men, back to blacked-out airfields using ultra-high frequency radio, assisting with the battle, helping to conserve and economise resources and manpower, and ultimately saving lives. WARD Lornahope Kuhlman De Clue cites this as her 'most exciting time' in the WARD. For part of the time she worked on the plotting table, and then moved to the radio receiving station to take the radio calls that provided the information to be plotted. "I felt I… was involved in what was the turning point in the battle against the Japanese", she says.[14] Nell White Larsen plotted from a desk above the huge map, keeping a record of the movements as they happened. "The happiest time was being on shift when the news came in that we had won the Battle of Midway. The Air Force officers threw their hats in the air and I never experienced greater rejoicing".[15]

Though the omission of the WARD from almost all academic and popular cultural study of the Pacific War and the American experience is lamentable, it is also understandable. The WARD was, by necessity, a secret organisation, and as with most secret and intelligence entities, access to primary source records on their histories can be very difficult. Such difficulties arise for a number of reasons. Wartime fear of invasion – a very real prospect in Hawaii – often prevented records from being kept in the first place, as they could not be captured and used by the enemy if they did not exist. When records were kept, they could lack detail, for the same reason. Post-war weeding led to the permanent loss of some records, and others still remain sealed and secret.

Where women in intelligence are concerned, the situation can be especially difficult when their work with military and intelligence organisations was, and is, often misunderstood. What appeared to be mundane clerical work was often vital intelligence collection, and what looked like menial communications work was actually the critical dissemination of intelligence. A combination of this misunderstanding, the resulting omission of women from records, and a misleading nomenclature resulted in a fear of admitting that women were doing such work in case it upset the social order. This meant that the WARD, and women like them, were frequently relegated to the outer margins of history - where they remained for decades.

[13]UHWD, Box 2 of 2, WARD, File no. W1992:001 3.04.
[14]UHWD, Box 2 of 2, WARD, File 5.11.
[15]UHWD, Box 2 of 2, WARD, File W1992: 001

THE WOMEN'S AIR RAID DEFENSE ORGANISATION – HAWAII

This research note was written following the author's time spent in Hawaii, conducting research into the Joint Intelligence Centre Pacific Ocean Area. During the course of this research, the author came across several boxes of records in the University of Hawaii's War Records Depository, a local archive documenting life in Hawaii during the Second World War. In April 1943 the Hawaii Territorial Legislature passed a joint resolution designating the University of Hawaii (UH) as the official depository of material related to Hawaii's part in the war. The archive received and contains a mixture of sources, ranging from personal accounts and correspondence to photographs and scrapbooks – many of which are quite personal. While the US National Archives may hold official documents on the WARD, such records can never provide a detailed explanation of who the WARD members were, what they did, their subjective experiences or the implications of their work. Among the sources in the UH War Records Depository are a number of transcripts of interviews carried out with WARD members. These are extremely valuable, and sadly, do not yet appear to have been used in any academic research. Their value is multi-faceted. They offer unique insight into a highly irregular organisation, and into the lives of women working with the military on Hawaii's front lines to defend against enemy action. The narrative of the war in the Pacific is one that is usually lacking in any mention of women. Occasionally, the US women's military services are mentioned briefly, as are the US Army and Navy Nurse Corps, the latter being a point of mild fascination due to a number of nurses being taken as prisoners of war by the Japanese in Guam and the Philippines. In the story of the war in the Pacific, however, women rarely make an appearance. These records show that this omission is not warranted, and the WARD organisation is a rare and interesting example of women being directly involved in famous battles in the Pacific War.

An understanding of the WARD is significant, in that it poses a novel contribution to various fields of historical study. In terms of military intelligence, the usual point of focus of most studies of Midway is the importance of codebreaking, and Joe Rochefort and his team's achievements which are widely and rightly heralded as a major factor in American victory in this battle. The provision of a real-time battle picture, however, is arguably also very important, just as it was critical during the Battle of Britain in the summer of 1940. The British system, on which the WARD was modelled, was able to use intercepted German radio communications but found it was no substitute for real-time information, which could only be provided by radar technology and the Dowding System's personnel then processing and disseminating it. As well as posing an important novel contribution to the narrative of the Battle of Midway and the Pacific War, the experiences and stories of these women also present a new dimension to the study of US women and war. Rosie the Riveter and her sisters all over the US, both civilian and military, are famous for supporting the US war effort, many of them in a typically 'female' fashion, as clerical workers, medical personnel, and most from

behind desks far from the front lines.[16] The WARD, however, served in an area vulnerable to attack, tracking ships and planes as they went into battle, participating peripherally in attacks and supplying commanders with real-time pictures of the military situation that they could use for battle direction purposes and assisting with training exercises for the military invasion forces that would take back the Pacific. Around eight hundred women served with the WARD, some of them doing so in the knowledge that their husbands were part of these forces.[17]

It is also interesting to consider the emotional reactions of WARD women during their work. One of the main causes for concern for military and the government regarding placing women in roles where they were technically involved in battlefield operations was that they might become hysterical or emotionally overwhelmed. The author of this research note has investigated this with the case of the WAAF in the UK, and with the Women's Royal Naval Service and the US Navy women's reserve in her MPhil and PhD theses respectively. In all of these cases, as with the case of the WARD, it appears to be true that women did experience emotional reactions, but that their ability to continue doing their jobs effectively was not impaired by such experiences. Nancy West, for example, continued to operate effectively as a WARD plotter after the death of her husband on the *USS Enterprise*, and Kathleen Hamlin worked efficiently with the WARD and throughout the war in the knowledge that her husband was a Japanese prisoner of war following the sinking of his vessel, the *USS Houston* in 1942. This appears to be a pattern – Fluff Ford, for example, plotted out the flight of her husband as he headed for Midway – he never returned, but she continued to work in the WARD. The personal nature of the WARD interviews offers the possibility of an interesting contribution to the social and cultural history of women and war, including reasons for joining the organisation, emotional reactions to the work and the subjective experiences of women in front-line areas during wartime.

In 1945, Brigadier General Howard Davidson sent a letter to WARD Chief Supervisor Catherine Coonley in which he wrote, 'I have seen many fighter controls, have several under me now, but the one in Honolulu manned by the WARDs is the best I have seen', and 'You and your girls can take great pride in the fact that… you maintained the best Air Raid Defense system in the world.'[18]

[16]The now famous image of 'Rosie the Riveter' was a propaganda poster imploring women to take up work in industry and manufacturing, to aid the US war machine. Honey, Maureen, *Creating Rosie the Riveter: Class, Gender and Propaganda during World War II* (Amherst: The University of Massachusetts Press, 1984).
[17]UHWD, Box 2 of 2, WARD.
[18]UHWD, Box 2 of 2, WARD, File W1992:001 5.6.

Chief Supervisor Coonley had every reason to be proud. The WARD had performed a 'vital function in the Aircraft Warning set-up' in Hawaii and was an 'integral part of Fighter Command' there.[19]

The WARD have done a fascinating and moving job in telling their story in the interview records within the UH's War Records Depository, but more work is justified, not only to bring that story forward, but also give the WARD and its women the recognition of their service that they deserve.

[19]UHWD, Box 2, File 1.3, 'WARD Hawai'i Unit'.