

THE ARRL BOARD OF DIRECTORS – HISTORICAL COMMITTEE

THE ARRL HERITAGE MUSEUM

Presents

THE HISTORIAN'S VIEW

**Chapter three
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Extending the Limits-the Expeditions

Today DXpeditions provide the ambitious radio amateur with “new” countries to add to their logs for awards. However, in the still early days of the art, the late 1920s and the 1930's, amateur radio provided an essential service to expeditions in unexplored areas of the world-*communications*. As, by this time most of the earth's land mass had been explored these adventurers concentrated on the Arctic and Antarctic. They excited the world with continuous news of success, failure, distress and operations. This service, provided by amateur radio operators, was helpful in providing not only live renditions of the progress of the expeditions but also essentially coordinated logistics, schedules and operations with the sponsors. These reliably transcribed experiences strengthened public confidence in amateur radio, drove the technology of equipment, and challenged the skills and abilities of operators.

The excitement of the transatlantic tests and the opening of the world of DX were succeeded by the amateur's pride of participation in these intrepid endeavors to explore

the unknown polar territories and other unknown areas of the world. As participants or monitors amateurs were engrossed with these expeditions which relied so much on their and their brethrens' abilities for success. The league's Communications Department actively followed the expeditions and reported of them consistently in their section of the QST magazine issues of the era.

Although the research is available and the author willing, thorough narration of each expedition would overwhelm our space allotment in this journal. Accordingly, with the intent of encouraging further inquiry, and presenting them for current recognition, we offer sketches of those polar expeditions which most involved amateurs and impacted the contemporary amateur world at the moment.



The Antarctic

The first explorer to utilize wireless was Australian Sir Douglas Mawson whose 1911-1914 expedition to the Antarctic was intended solely to gather scientific information. The main

base on the continent, at Cape Denis on Commonwealth Bay, was able to establish and maintain contact with the base on Macquarie Island, 1200 miles away which in turn was in contact with Hobart, Tasmania 850 miles away and the outside world. All of this on long wave lengths. It was through this link that the Mawson expedition heard that Roald Amundsen's Norwegian expedition was the first to reach the South Pole in December, 1911 and that the British Terra Nova expedition led by Robert F. Scott had reached the Pole one month later only to perish on the return trek. Primarily because of financial constraints the vessels which accompanied these expeditions were not fitted with wireless and contemporary equipment was not practical for transport by sled.

Throughout the inter-war period many other expeditions were mounted by Australia, New Zealand, America, Norway, Germany and even Romania. They employed all manner of transport -ski/dog sled; motorized vehicles; fixed wing aircraft and dirigibles to reach and cross the pole and conduct their research. Some made it and some did not. But, the increasing use of wireless escalated as technology produced more practical equipment for use in the ships, at the bases and in the aircraft and accordingly the world became more



aware of the efforts of these pioneers.

Ultimately Richard Evelyn Byrd in the periods 1928 -1930 and 1933-1935 conducted the expeditions which established the base known to amateurs as Little America with

enormous radio capabilities manifest by increasingly modern radio equipment and antennas which signaled KC4USA worldwide.

The location of the South Pole was on a land mass, the Antarctic continent. The opposite North Pole was not as easily definable.



Explorers sought a continent or land mass which was thought to underlie the North Pole an area of some million square miles. As their efforts determined, the top of the world was

actually a sea of ice with peripheral land masses ...Alaska, Canada, Greenland, Scandinavia , and Russia. Explorers of different nationalities embarked from all compass directions to map the region, to conduct scientific investigations, and to determine navigable passages at the top of the world. They approached firstly by sea and later by air. Again, as their effort increased so did the usage of wireless. From the 1900's through the 1930's some forty recognized expeditions were mounted by the bordering nations and America, and others which became increasing dependent on wireless for safety and operations. The experiences of each of these expeditions are of interest but for amateurs two successive adventures north stand out prominently-the MacMillan Arctic Expedition of 1923 which for the first time provided amateurs with an organized opportunity to participate on medium wave lengths and the MacMillan, McDonald, Byrd Expedition of 1925 which utilized airplanes and shortwave radios for the first time.

Aboard the 88 foot schooner *Bowdin* the seven men of the MacMillan Expedition sailed from Maine, in June of 1923 to a winter frozen in the ice near Etah, Greenland with a modern radio station aboard. This expedition spent some nine months of winter nights frozen in the dark reaches of the North about 540 miles northeast of the geographic pole. This was the furthest point north from which radio signals had ever been transmitted. The mission was to observe the Aurora Borealis for the terrestrial magnetism laboratory of the Carnegie Institution, and observe their effects and those of atmospheric disturbances on radio transmissions for the Bureau of Standards Radio Laboratory.

Dr. Donald B. MacMillan having experienced eight previous trips north recognized how two- way wireless would enable the group to accomplish its mission as well as inform the world, through the network of amateur radio, of their progress. His two previous journeys

had been equipped with conventional long wave transmitters which were unable to penetrate the screen of aurora borealis. MacMillan turned to the League for assistance and it was enthusiastically provided. Hiram Percy Maxim and the Board agreed to furnish support; and recruit and provide an expert operator. Donald H. Mix 1TS of Bristol, Connecticut was chosen and his name thereby inscribed in the history book of amateur lore.

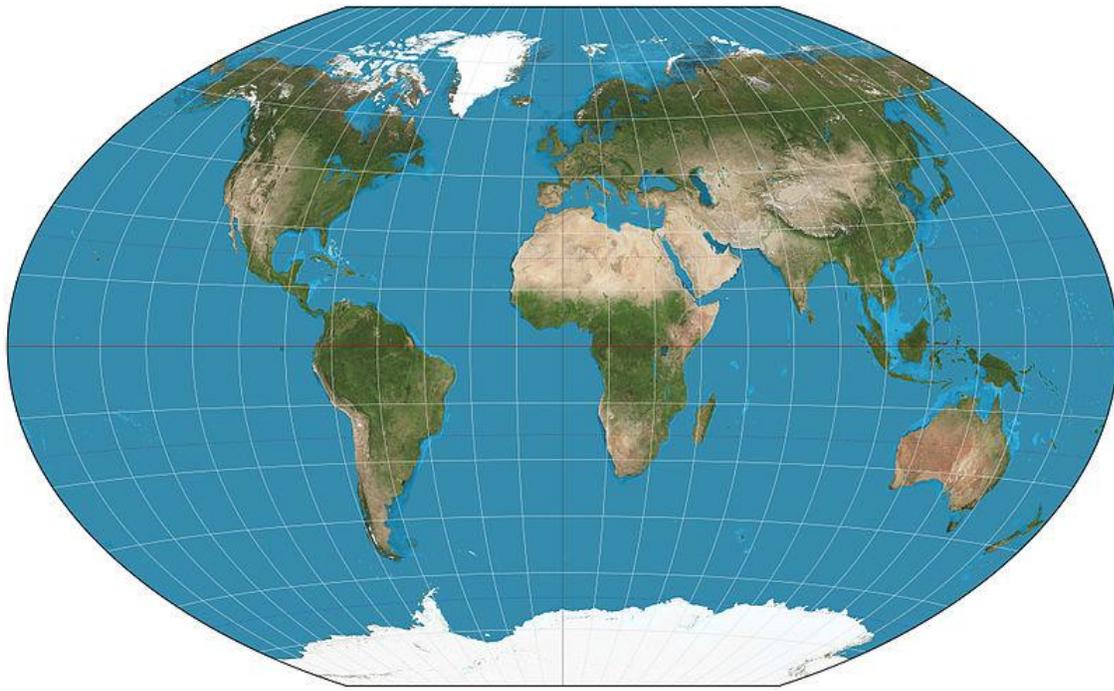
The radio equipment was specially designed for the application by League Board member M.B. West and constructed by amateurs at his firm, Zenith. The transmitter emitted on 185, 220 and 300 meters, medium wave frequencies, with a total input power to two Western Electric "G" tubes of 100 watts. The station was assigned the call letters WNP "Wireless North Pole" which became famous as it began to be heard from a entirely new world of radio. WNP was heard in late July off Labrador, was not copied for a while and then in late August worked 1ANA of Chatham, Massachusetts beginning successive successful transmissions of weekly 500 word press releases and listings of stations worked and heard. The latter finding their way to the League and publication in QST by relay.

For the crew the radios relieved the sense of isolation and provided a source of contact and entertainment from the outside world while ice bound in the cold and in the dark.

MacMillan's subsequent attempt at the North Pole centered around wireless. The objectives supported by the Navy and the National Geographic Society were to determine the full capabilities of radio north of the Auroral belt and to explore the northern reaches by air to discover new land masses if they existed. In the summer of 1925 the *Bowdin* captained by MacMillan led the *Peary*, a minesweeper enlisted as transport, captained by

Zenith president Eugene F. McDonald to a bay again near Etah in Northern Greenland. Three amphibious aircraft were assembled on site and directed by Richard E. Byrd. Severely limited by weather and mechanical problems the aircraft only accomplished some seven missions within their limited range, and did not actually fly over the pole. The outstanding expedition accomplishment was in the sphere of radio. Utilizing short waves the expedition was in consistent contact with the outside world throughout the journey to the delight of amateurs who were able to work them. The phenomenal success proved to the Navy that short waves were definitely superior to the long and ultra long waves on which the fleets had been relying.

The Poles and the World



Radio supported scientific exploration was not confined to the Polar Regions. There were other searchers that traversed remote areas of the planet. The following is a listing of the

notable scientific expeditions of the period whose activities were reported by the League's Communications Department in the pages of QST magazine and elsewhere. The intent is to reveal the broad scope and diversity of the amateur involvement.

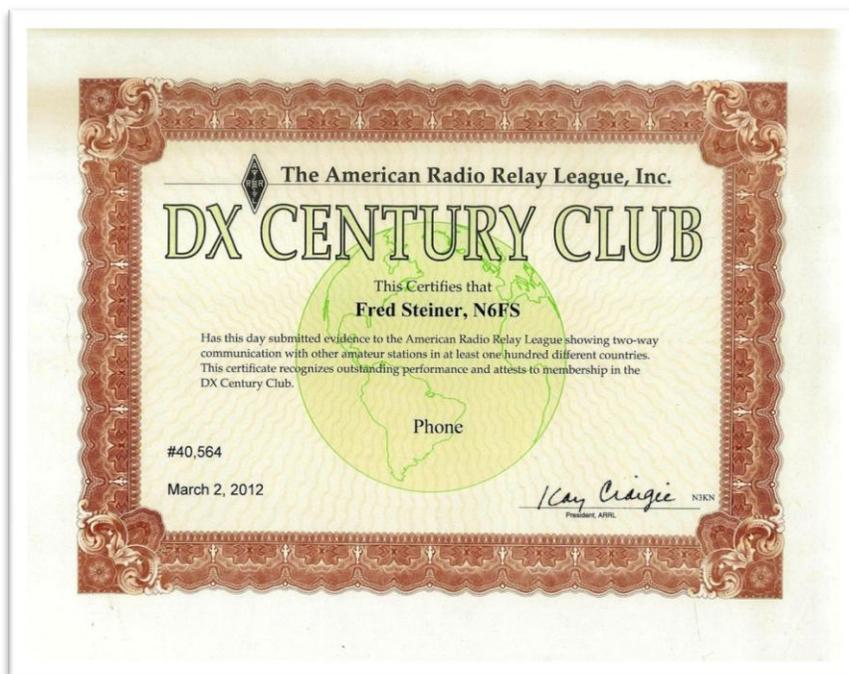
NOTABLE RADIO EQUIPPED EXPEDITIONS

1920-1930

<u>DATE</u>	<u>NAME</u>	<u>REGION</u>	<u>METHOD</u>	<u>CALL</u>
1924-1925	C.G.S. <i>ARCTIC</i>	NEWFOUNDLAND	VESSEL	VDM
1925	NORWEGIAN ROSS SEA WHALING	ANTARCTIC	VESSEL	AQE
1925	MACMILLAN/BYRD	ARCTIC	VESSEL	WNP, WAP
1926	DETROIT ARCTIC	ARCTIC	AIR	7BU, 7UU
1926	BYRD ARCTIC	ARCTIC	VESSEL AIR	KEGH, KNN
1926-1936	AMERICAN MUSEUM GREENLAND	ARCTIC	VESSEL	VOQ
1926	SAVOY GEOGRAPHIC	SAHARA DESERT	VEHICLE	ANK
1926	ROOSEVELT MEMORIAL	BRAZIL	VESSEL	GMD, 2GYA
1926	FORBES-LEITH PERSIAN	MIDDLE EAST	LAND	FLP
1927	PUTNAM BAFFIN ISLAND	ARCTIC	VESSEL	VOQ
1927	MARSHALL FIELD	ALASKA	LAND	WMBE
1927	C.G.S.'S <i>STANLEY & LATCH</i>	ARCTIC	VESSEL	VDE
1928	AMERICAN BRAZILIAN	BRAZIL	RIVER	PUT
1928	BORDEN-FIELD MUSEUM	ARCTIC	VESSEL	KGEG
1928	STOLL-MCCRACKEN	ARCTIC	VESSEL	VOQ
1929	ITALIAN ARCTIC	NOVA ZEMBLA ISLE	VESSEL	LDIV
1929	ALL AMERICAN LYRIC MALAYSIAN	BORNEO	LAND	PMZ
1929	OXFORD UNIVERSITY EXPLORATION	BRITISH GUIANA	RIVER	VP5OUX
1929	METRO-GOLDWYN MAYER- <i>TRADER HORN</i>	EAST AFRICA	LAND	W6OJ, FK5CR
1930	INTERNATIONAL PACIFIC HIGHWAY	MEXICO	VEHICLE	IPH
1930	WILKENS-ELLSWORTH SUBMARINE	ANTARCTICA	VESSEL	WSEA
1930	SECOND ROUMANIAN ARCTIC	GREENLAND	LAND	XORC
1931	HAARDT TRANS-ASIA	ASIA	VEHICLE	FPCF
1931	SIKORSKY PAN AMERICAN	BRAZIL	AIR	PY--
1932	LAMB EXPEDITION	TIBET	LAND	AC4UU

1933	RISER LARSEN EXPEDITION	ANTARCTICA	VESSEL	IMZ
1933	UNIVERSITY OF MICHIGAN	GREENLAND	LAND	NX1XL
1934	ROUND THE WORLD FLIGHT	WORLD	AIR	KHMZA
1935	DR. DANA COMAN SCIENTIFIC	SOUTH SEAS	VESSEL	WOFV
1935	HAMMOND RESEARCH	VENEZUELA	VESSEL	XW4PDA
1936	AMERICAN MUSEUM OF NATURAL HISTORY	NEW GUINEA	VESSEL-AIR	W2IVN
1936	ANDES-AMAZON	PERU-CHILE	LAND	HCAAE
1937	TERRY HOLDEN BRITISH GUIANA	BRITISH GUIANA	RIVER	VP3THE

Surely amateur radio capability had progressed from neighborhood message relays to worldwide vital support of some of mankind's more intrepid endeavors.



The September, 1937 issue of QST announced a new DX award to be made to any operator who provided evidence of having contacted 100 countries-The DX Century Club award. Countries acceptable were listed in the previous issue of January 1937. Eligible contacts were to be made by the applicant:

**Operating from the same country.
With *amateurs* with amateur calls issued by the country claimed.
Within the amateur bands.
With *land* stations only.
At *any time* prior to and after the initiation of the award.**

Any of the expeditions when on land and when operating within the amateur bands, with amateur calls were acceptable entities. The licensees accepted were announced in QST with W8CAA, Frank Lucas heading the first listing with 112 countries confirmed in the November 1937 issue along with W1BUX 105, W1TW 104, W6CXW 101, and G6WY 100, just two months after the announcement. The official countries list for the award had been published in the “I.A.R.U. News” section of the prior January, 1937 issue of QST. This list, apparently based upon a contemporary atlas, tabulated some 246 existing countries in the world and indicated call letter prefix designations for only 180 countries-these alone were considered eligible entities for the award.

The DXCC award spurred the interest in DX and the phenomena which have become known as the DXpedition,-adventures mounted mostly to amateur radio populate a rare country. It is difficult to identify an inter-war period expedition that fully conforms with this definition as the primary mission of all was more or less exploratory or scientific in nature. This was an activity that appears to have thrived in the fifties but not in this era or the war period that followed. So, determination of which trek should be considered as the first true DXpedition and to where remains for future pages along with the saga of the great early amateur radio assisted airships, the *Norge*, *Italia* and *Shenandoah*.

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