



WILD GOOSE ASSOCIATION

NEWSLETTER

March 1978

PRESIDENTS'S MESSAGE

Dear Members: I would like to take this opportunity to reflect upon you the achievements and disappointments of 1977.

The convention held in Seattle, Washington State was quite clearly the highlight of WGA activities during 1977. It was not without mixed feelings that we planned our annual meeting so far from home for so many of us, but once again the migratory spirit won through and we had an excellent turnout. Working with Fish Expo and the Sea Grant Program we were able to achieve another goal of bringing WGA technologists in close contact with the user community. We are indebted to Red Frederick, our Convention Chairman, Dan Panshin our liaison with the Sea Grant Program and Fish Expo, Tom McCarty for the Technical Program and many other co-workers for making the convention a success.

Your Board of Directors has met regularly during the year and accomplished a great deal. In addition to a rising volume of routine administrative business, the Constitution and By-Laws have been updated and streamlined under the dedicated and talented hands of Vern Johnson and Leo Fehlner. You have approved amendments to our Constitution, one of which provides for appointing directors to allow for user representation by persons that may not be generally known by general WGA membership. This mechanism will enable your board to select individuals to serve who would be unlikely to get elected by the normal voting procedure.

You will have received, and I hope read, the 1977 Radionavigation Journal put together by the outwardly appearing unflustered team of Bill Roland and Bahar Uttam. This annual document is looked upon as an authoritative source of Loran (and Omega) navigation information, our thanks to all including our advertisers who make this a self-supporting and important activity.

We have had our disappointments too. An internal Coast Guard directive concerning Coast Guard individuals serving in controlling positions in non-Government organizations had to be recognized by your board. I therefore regretfully accepted resignations from the board Capt. Jim Culbertson and David Haislip; Capt. Roland's term of three years having run out did not stand for office again. The contributions of these directors has been outstanding and on behalf of the membership I wish to acknowledge their service to the WGA which will continue, but in the capacity of members rather than directors.

Before looking to 1978, one other item in which I have had a personal interest has not done too well, the Loran-C specification for a transmitted and received signal format. We received a letter from the Department of Transportation saying that the publication of the specification in the Federal Register (this is the goal we have been trying to achieve) is to be delayed until the Spring of 1978. We are not satisfied with the priority of this work by the DOT and will continue to press and offer our services to make the publication an accomplished fact.

To 1978. We have selected New Orleans for the site of our convention to coincide with the commissioning of the Loran-C Gulf Chain. Our Chairman is Vern Johnson and he has already recruited a volunteer committee to assist. As soon as we have dates we will let you know so that early arrangements can be made.

The CCIR Study Group 8 of ITU meets in Geneva in January to discuss frequency allocations for navigation in the 70 to 130 kHz frequency band. Let me remind you that through the efforts of the WGA and Institute of Navigation the "Question" was approved by the State Department for forwarding to the ITU. We will probably be called upon during the year to supplement technical inputs to the Study Group, an important task if Loran-C is to enjoy a spectrum free from interfering communication stations.

To run an active 400 member organization requires a considerable amount of administration; membership lists, correspondence, record keeping, preparation and publication, awards and many other tasks. To do an effective job requires considerable time from volunteer organization. Full time paid assistance is out of the question for a small organization such as ours. To overcome this problem of health we are exploring with The Institute of Navigation the possibility of some form of cooperation. We will be reporting to you of our progress and the arrangements that could be made.

And there are the ongoing activities of the Loran-C specifications, the works of the various committees and our regular board meetings, the dates of which are:

February 15th	1978
April 11th	1978
June 13th	1978
August 8th	1978
October	Convention to be decided

normally held in Room 6200, U.S. Coast Guard Headquarters, 400 Seventh Street, S.W., Washington, D.C. 20590. Drop in if you are in the area.

Let me wish you the best in health and happiness in the months ahead.

John M. Beukers
President
1977-1978

CALL ON PAPERS

The Wild Goose Association Seventh Annual Technical Symposium will be held in conjunction with the Annual Convention at the Le Pavillon Hotel, New Orleans, Louisiana, 18-20 October 1978. The overall theme of the Convention will be: "Loran-C Comes to the Gulf of Mexico".

The theme of the Technical Sessions will be "Loran-C Update-1978" and will report on important current aspects of Loran-C Programs, Standards, Technologies, Applications and Problems.

You are invited to submit abstracts on subjects related to topics of current interest to prospective as well as established members of the Loran-C community.

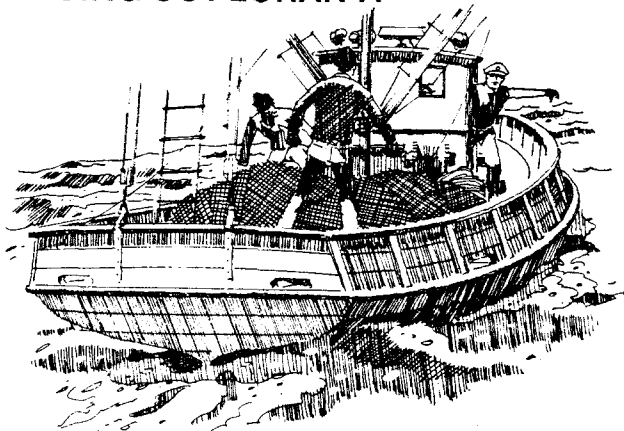
Three (3) copies of one page abstracts should be sent to the following address by 1 April 1978:

Mr. James P. Van Etten
Technical Papers Chairman
Itt Avionics Division
390 Washington Avenue
Nutley, N.J. 07110

Notification of acceptance may be expected by 1 May 1978 and papers in final form will be due by 10 September 1978.

EXCERPTS FROM USCG LORAN C BULLETIN

THE TIME-TABLE FOR PHASING OUT LORAN-A



In May, 1974, when the Secretary of Transportation announced that LORAN-C would become the government-provided radionavigation system for U.S. coastal waters, he also set forth the schedule for terminating LORAN-A service.

The 1974 announcement provided for at least five years notice before any U.S. LORAN-A chain providing signals primarily for civilian use would be terminated.

The planned termination dates for the U.S. LORAN-A chains are:

Aleutian Islands	July 1, 1979
Gulf of Alaska	July 1, 1979
Hawaiian Islands	July 1, 1979
West Coast	July 1, 1979
Caribbean	July 1, 1980
East Coast	July 1, 1980
Gulf of Mexico	July 1, 1980

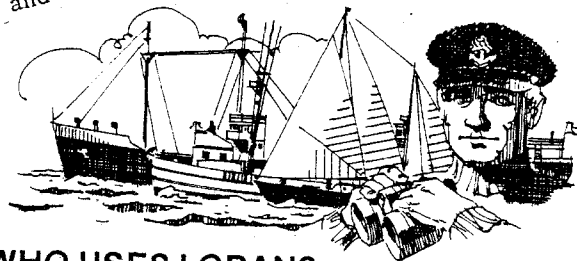
A long time LORAN-A partyboat operator who recently switched to LORAN-C explains: "LORAN-C is simple; you turn the machine on and set the numbers once, and that's it. It's the nearest thing I know to finding street signs in the ocean."

WHERE TO FIND ADDITIONAL INFORMATION

The U.S. Coast Guard Area & District Offices and your local Sea Grant Advisors can provide additional information on LORAN. For more detailed information, for specific advice or publications described in this LORAN-C BULLETIN, to relay your ideas for future issues of the BULLETIN, and for any information on LORAN, the place to write is: LORAN-C INFORMATION PROJECT, U.S. COAST GUARD (G-WAN/73), WASHINGTON, D.C. 20590.

A Cape May, New Jersey, commercial fisherman says: "LORAN-A wasn't accurate enough. . . LORAN-C is excellent. We can anchor directly over a particular spot, and return there again and again."

An Atlantic City, New Jersey clamboat owner reports: "We switched from long time LORAN-A use to LORAN-C; it's very easy to operate; there's no change from day to night; it's very accurate and the repeatability is fantastic."



WHO USES LORAN? MORE THAN 50,000 CIVILIAN MARINERS, THAT'S WHO

A Gloucester fisherman claims: "We do a lot of bottom fishing . . . we use LORAN-C to find our position, follow a line and fish at night. The repeatability saves us money."

WHERE LORAN-C IS RIGHT NOW— AND WHERE IT WILL BE

LORAN-C coverage now exists in the coastal waters of Alaska (except off the north coast), U.S. and Canadian West Coasts, and in some areas off the U.S. East Coast. The plan for expanding and reconfiguring the East Coast coverage is a complex, three-phase schedule.

In the summer, 1978, a new Northeast U.S. Chain (9960) will begin providing coverage off the East Coast from the Canadian border to North Carolina. By the fall of 1978, a new Southeast U.S. Chain (7980) will be operational, and providing coverage for the Gulf of Mexico and the waters of Southeastern Florida.

The coverage now provided by the existing East Coast LORAN-C Chain (9930) will continue until summer, 1979. Upon termination of the existing East Coast LORAN-C Chain (9930), the Southeast U.S. Chain (7980) will be expanded to provide coverage for the coastal waters off Northern Florida, Georgia and South Carolina.

The new Great Lakes Chain (9930) will become operational in spring, 1980, providing LORAN-C coverage for all of the Great Lakes waters.

This will complete the U.S. Coast Guard LORAN-C expansion plans for U.S. coastal waters and the Great Lakes.

HOW TO GET ANSWERS TO THOSE TRICKY TECHNICAL AND OPERATIONAL PROBLEMS RELATING TO LORAN-C IN YOUR AREA

For detailed information on the U.S. West Coast, Canadian West Coast, Gulf of Alaska, North Pacific, Northwest Pacific, and Central Pacific LORAN-C chains, contact:

CDR Cyrus E. Potts
c/o Commander (Ptml)
Pacific Area, U.S. Coast Guard
630 Sansome Street
San Francisco, Ca. 94126
(415) 556-8627

For detailed information on the East Coast (existing), Southeast U.S. (Gulf of Mexico), Northeast U.S. and Great Lakes LORAN-C chains, contact:

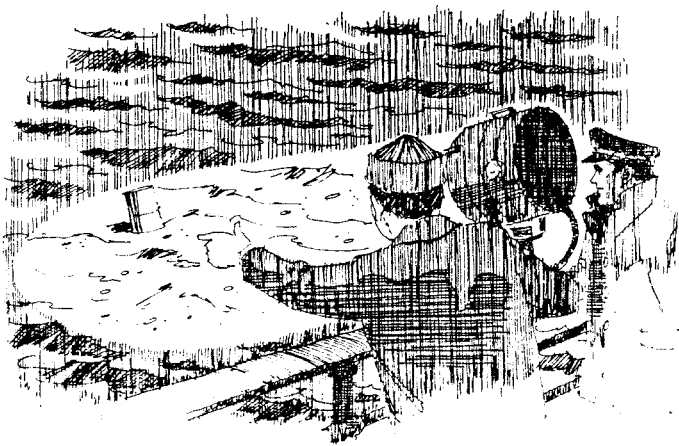
CDR Francis W. Mooney
c/o Commander (Atml)
Atlantic Area, U.S. Coast Guard
Bldg. 125, Room 204
Governors Island, N.Y. 10004
(212) 264-1272

Note: The phone numbers listed above are also FTS numbers after deleting the area code.

R/V CAPE HENLOPEN REPORTS ON ITS 1½ YEARS' EXPERIENCE WITH TWO LORAN-C RECEIVERS

Sea Grant Agent Art Hanby reports the R/V Cape Henlopen, a 120-foot coastal research vessel, has been using two LORAN-C receivers since April, 1976. The Cape Henlopen has performed a variety of coastal zone research activities and LORAN-C has been a necessary aid to each cruise.

One of the earliest and simplest LORAN-C experiments was the launch and recovery of a common, unlighted fishing buoy containing no radar reflector, flag or transponder. The buoy was launched at midnight and retrieved at mid-



night the next night. The Cape Henlopen approached the LORAN-C coordinates logged when the buoy was deployed. As the coordinates were crossed, the buoy was sighted within 50 feet of the port bow.

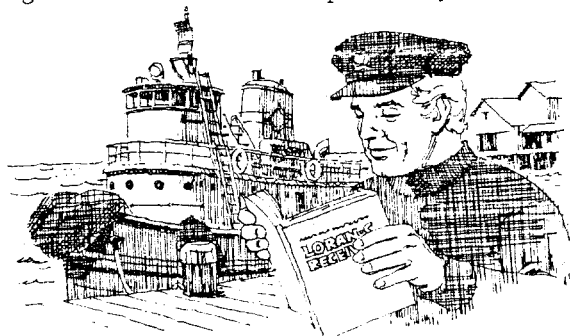
The most publicized cruise of the Cape Henlopen was in April, 1977. Using LORAN-C coordinates from previous studies on other research vessels, the Cape Henlopen located the Monitor (the famous Civil War vessel) on the second pass over the site. The LORAN-C coordinates obtained compared excellently with the previous coordinates . . . the differences between the respective coordinates were less than the length of the Monitor.

WHAT YOU SHOULD KNOW ABOUT LORAN-C RECEIVERS

Do you know what a LORAN-C receiver does, how it differs from other receivers, what a "manual" vs. "automatic" receiver can or cannot do, what characteristics are common to all receivers . . . and what features are unique to only a few? The soon-to-be-published Marine Advisory Program Bulletin: What You Should Know About LORAN-C Receivers, provides this information and much more.

The booklet describes how to install a LORAN-C receiver properly, offers practical tips, provides information on peripheral equipment, and contains easy-to-understand definitions on some of the more common LORAN terminology. It includes a consumer checklist on LORAN-C receivers, features to look for in a LORAN-C receiver, and a chart outlining advantages and disadvantages of various types of receivers.

What You Should Know About LORAN-C Receivers is written by Daniel A. Panshin, Extension Oceanographer, Oregon State University, and published as part of the Sea Grant College Program. It is intended primarily for small



business operators, such as commercial fishermen, charterboat and partyboat skippers, tugboat operators, and other boatmen.

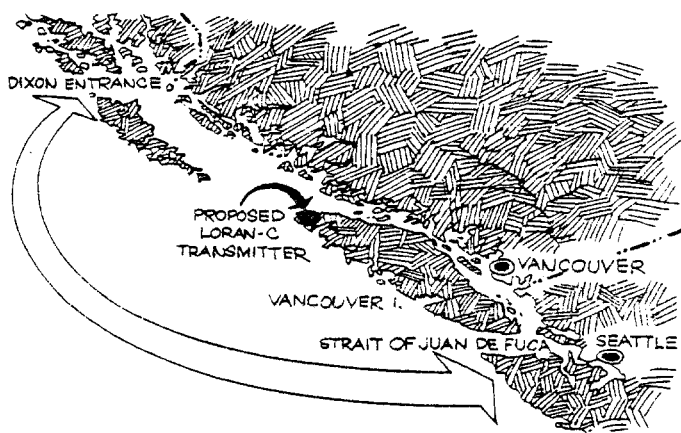
Single copies-no charge, from:
Bulletin Mailing Service, Oregon State Univ., Corvallis, Oregon 97331
QUANTITY 17c each, from:
Mr. James Leadon, Extension Communications, Oregon State Univ., Corvallis, Or. 97331

AN IDEA TO BOOST LORAN-C COVERAGE IN THE STRAITS OF JUAN DE FUCA

Commercial mariners operating in the Straits of Juan de Fuca, and off the Dixon entrance, are being troubled by weak LORAN-C signals.

It has been suggested that a possible solution to the problem would be the installation of a LORAN-C transmitter on the tip of Vancouver Island. The station would greatly boost LORAN-C signals across the weak area to provide better coverage.

This idea will be subject to available U.S. budgetary funds. Canadian approval must also be sought and agreed upon before any action can be taken.



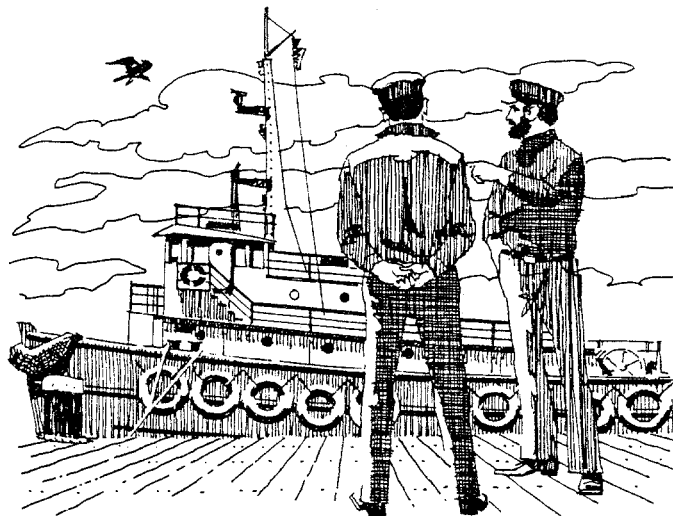
RESCHEDULED TERMINATION DATES FOR LORAN-A

Hawaii and Aleutian Islands	July 1, 1979
Gulf of Alaska, U.S. West Coast	December 31, 1979
Atlantic Coast, Gulf of Mexico, Caribbean Sea	December 31, 1980

THE LORAN-C ANTENNA: "WHERE DO I PUT IT?"

With many boats bristling with antennas, adding another one to receive LORAN-C poses a very important question: "Where do I put it?" The general rule is to keep the entire length of the antenna in the clear, spaced from other antennas and above horizontal wires and stays. Height is not as important as being in the clear. It may be necessary to rearrange several of the other antennas to provide a proper location.

Depending on the method of grounding the set, antenna coupler and other equipment, the ground lead could become part of the antenna, picking up interference from the boat, but not the LORAN signal. It could even cause damage to the receiver if the ground is shared with a radio transmitter. The antenna whip should be the one specified.



Some manufacturers use the capacitance of the antenna as part of a tuned circuit. Changing the length of the antenna can alter the band pass, resulting in poor sensitivity or incorrect cycle selection. Even lengthening the antenna to increase sensitivity in couplers which have a broad-band input can cause problems. Cycle selection would be affected when near LORAN-C signal levels. The manufacturers' recommendations should be followed to obtain the best performance.

LORAN-C GIVES GREATER COVERAGE; HELP GIVE GREATER COVERAGE TO LORAN-C INFORMATION

Public Service Announcements (PSAs) are available, and have been sent to more than 800 coastal radio stations. If you know of a radio station in your area that might use the PSAs, we want to be sure it receives them. Please provide the Coast Guard with the station's call letters and address.

The "LORAN-C Facts and Figures" brochure, the "LORAN-C Handbook" and other interesting publications are available on request:
The LORAN-C INFORMATION PROJECT, U.S. COAST GUARD (G-WAN/73), WASHINGTON, D.C. 20590.

Item - From Capt. Ladley USCG Loran-C Coordinator -

The Loran station at Jupiter, Florida has been double rated at 9930 and 7980 to work with the Southeast U.S. chain that comes on the air this summer. -- CHART CORRECTIONS were published in December for various Southern California waters. Corrections were provided to NOAA by the USCG. -- ANTENNAS have been installed at Raymondville, Texas and Malone, Florida. Each are 700 feet in height. -- NEW MONITOR STATIONS have been installed at Plumbrook, Ohio and Sandy Hook, N.J. Both will input into control station at Seneca, N.Y. for the new Northeastern chain which will become operational on 1 July 1978. -- PROCUREMENT cycle will be initiated in March for the USCG Solid-State Transmitter buy. --TEST. The USCG started test of a modified two pulse communication network at Cape Race on 14 February. The modifications are designed to improve the system currently being used in Alaska. The system allows remote phone adjustments, blink and watch stander alert. The tests will be monitored by the Electronic Engineering Center at Wildwood, N.J., as well as the stations at Caribou, Maine and Nantucket, Mass.

Item - The Radionavigation Journal Committee has started planning for the 1978 issue of the Journal. They would be very grateful if potential advertisers would contact Bahar Uttam, 12 Hodson Lane, Reading MA 01867 (Telephone 617-944-6778) and let him know their advertising space requirements. A second request is made by the Committee to WGA members regarding papers published or to be published in the year of June '77 - June '78 to be included in the Journal. Any comments regarding contents of the Journal would be welcome.

Item - Thanks to Bill Schorr.

The following table is a listing of the subject frequencies and field strengths which represent those QRM to Loran-C which will probably predominate in the Coastal Confluence Zone. The Alaska area has not been fully covered and data is given only for Kodiak and Juneau. The paragraphs below serve to qualify the data given and to give relevant general comments on the subject which hopefully will enhance proper use of the data.

The FS measurements were in general taken during arbitrarily selected hours of daylight. Hence, if an LF communication station transmits only at night, it was probably not observed. Furthermore, the transmission schedules of several LF frequencies are random and of low duty cycle (mostly not transmitting). For example, the NNS (Annapolis) 88 kHz transmissions were on 2% of total hours in the third quarter of 1977. It is important to recognize that not all frequencies that may be bothersome in certain areas were observed at the data collection sites. It should also be understood that the measurements by necessity include both skywave and groundwave.

Measurements were taken in 1976-1977 during monitor site surveys, installations, and certifications done on the East and West coasts of North America by CGHQ and EECEN personnel.

<u>Location/Date</u>		<u>Frequency (kHz)</u>	<u>Field Strength dB/1μV/m</u>	<u>Frequency (kHz)</u>	<u>Field Strength dB/1μV/m</u>
1.	Cape Elizabeth, ME 43-34N/70-12W 12 JUL 77	71.2	43.5	118.2	30.6
		73.6	74.0	122.5	66.0
		83.5	31.4	128.2	52.2
		85.4	49.6	131.4	39.7
		113.0	43.5	133.2	58.1
		114.1	36.1	143.5	56.8
		116.8	36.0		
2.	Sandy Hook, NJ 40-27N/74-00W JUL 77	73.7	65.4	125.9	33.9
		85.5	44.2	128.1	66.5
		87.8	86.1	131.5	48.0
		113.2	59.5	134.8	77.7
		115.3	48.0	139.8	72.4
		117.2	46.2	148.5	57.3
		122.4	54.4		
3.	Wildwood, NJ 38-57N/74-52W 15 OCT 76	51.5	82.9	113.1	52.3
		60.0	52.3	122.3	52.0
		64.3	49.1	128.1	40.6
		70.4	31.5	131.4	37.7
		71.2	40.8	133.2	48.5
		71.4	35.7	139.3	78.9
		73.6	68.0	140.2	79.9
		77.5	32.5	143.5	36.3
		84.5	33.1	148.6	48.3
		85.4	40.0		
4.	NAS Mayport, FL 30-23N/81-25W 5 SEP 77	73.6	51.6		
		85.4	38.9		
		113.2	46.1		
		119.8	42.4		
		122.5	40.7		
		139.8	57.7		
5.	Eglin AFB, FL 30-35N/86-37W 29 AUG 77	60.0	50.4		
		68.2	37.5		
		73.6	39.5		
		75.9	35.0		
		113.9	32.3		
		121.5	30.8		
		129.0	30.7		
		139.8	45.2		

	<u>Location/Date</u>	<u>Frequency</u>	<u>Field Strength</u>	<u>Frequency</u>	<u>Field Strength</u>
		(kHz)	dB/1 μ V/m	(kHz)	dB/1 μ V/m
6.	USCGAS New Orleans, LA 29-41N/90-02W 25 AUG 77	46	84.6	122.1	35.3
		61.1	54.8	129.8	35.5
		68.9	44.6	137.7	39.5
		73.8	39.8	140.0	43.9
		76.6	40.0	145.4	44.6
		83.3	35.7	153.1	50.0
		114.5	37.4		
7.	Plumbrook, OH 41-22N/82-40W 19 JUL 77	69.0	54.0	113.1	51.0
		73.6	35.0	122.2	56.0
		76.4	79.0	134.6	58.0
		84.8	46.0	139.5	64.0
		87.7	55.0		
8.	Point Pinos, CA 36-38N/121-56W 13 JAN 77	76.3	49.1		
		119.9	75.0		
		148.3	43.5		
		192.0	60.0		
9.	North Bend, OR 43-25N/124-14W 11 JAN 77	60.0	59.0	123.0	38.4
		67.1	42.1	129.2	34.0
		76.3	75.6	133.2	49.1
		110.8	51.1	162.6	58.5
10.	Comox, BC 49-42N/124-52W 7 MAR 77 (Note: CWI at 70.7 and 116.0 kHz required notching at the monitor but no FS data is available for these freqs.)	70.7	30.0		
		76.3	30.4		
		110.8	75.0		
		116.0	30.0		
		119.9	55.0		
		123.0	80.8		
		128.4	43.0		
		133.3	83.9		
		152.8	54.0		
11.	Juneau, AK 58-18N/134-25W 1. DEC 76	60.0	44.0	119.8	34.3
		63.0	43.0	122.9	36.1
		75.0	29.3	125.0	32.2
		76.2	49.0	128.3	36.9
		80.0	31.5	133.1	40.2
		110.8	33.7	151	54.0
12.	Kodiak, AK 57-44N/152-30W 2 MAR 77	63.1	66.1		
		76.3	62.3		
		119.9	60.4		

Item - Leo Fehlner would like to receive any nominations you may have for award recipients from the Wild Goose Association. If you know someone that you believe deserves such recognition would you please send the name and the reasons why you think them deserving, to Leo Fehlner, John Hopkins University, Applied Physics Lab, John Hopkins Road, Laurel, MD 20810.

Item - Land use of Loran - Considerable activity is going on these days to exploit the land use of Loran. Details are not available to your editor however, we hear that in addition to New York other states are demonstrating or planning to demonstrate Loran operation. Kentucky for instance has or is going to demonstrate in conjunction with the military assistance helicopter group out of Fort Campbell for hospital to hospital operation and for accident plotting. We also hear that Tennessee, Indiana, Ohio are also involved in Loran. This coming summer expect the FAA to run tests in the Eastern corridor for the purposes of certification of Loran for helicopter use.

Item - In view of the inland activity on Loran it seems a shame that the mid-continent chain is not going to be approved this year in spite of the cost benefit studies that have been done. TSC we hear is now doing another one. It appears that if we are ever going to get a mid-continent chain the pressure is going to have to come from the civil sector. As it stands now the Dakota's are the only states that have no coverage, but there are other states which have low signal coverage. It behooves those of us in the WGA to apply the appropriate pressure wherever we can get this chain approved. OMB is a good place to start as well as within the local state government circles. The navigational satellite has not been approved as yet for operational usage and opinions vary from 1985 to 1995 as to when it could become operational, approvals and funding permitting. Loran is here now and with this kind of upgrading it could be an important national asset for many years.

Item - Dues. If the number of the extreme upper right hand corner of your address label does not read 8 or higher you are in arrears. Please send your \$7.50 to WGA, 4 Townsend Road, Acton, MA 01720. Note: If you have sent your 78 dues in and your address label does not indicate so it means it has not been entered in the computer and you can ignore this notice.



Membership Application

Wild Goose Association

Lloyd D. Higginbotham
4 Townsend Rd.
Acton, Mass. 01720

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

U. S. CITIZEN ☐ OTHER _____

INITIAL FEE AND FIRST YEARS DUES - \$10.00

CHECKS OR MONEY ORDERS ONLY (Make check payable to WGA)

Help make this year's convention a success. Please cut out the application blank and pass it on to a friend. Lets see if we can't increase our membership, especially in the South and West.

Item - Proposed rule for vessels of 1600 gross tons or more issued in the Federal Register, Vol. 42, No. 119, CGD 77-168, Nov. 14, 1977 is a change that now proposes that these vessels have either a Loran-C receiver, a satellite based hybrid receiver (i.e., satellite/doppler, satellite/inertial or satellite/Omega) that is warranted by the manufacturer as meeting requirements specified by the proposed rule. The WGA has offered its services to the USCG to assist in defining and establishing a test environment for Loran-C receivers so that their performance can be determined on a common basis. We are awaiting a USCG reply.

Item - The Ontario Hydro Research Quarterly (3rd Quarter, 1965) in an article entitled, "Power Line Carrier Radiation from High Voltage Lines" shows that carrier frequencies superimposed on power lines radiate signals that vary from 30-50 dB above 1 microvolt per meter per watt out to distances of 20 miles from the line. Bill Mohin reports that as many as 66 signals in a line are so transmitted. The frequency run between 30 and 200 kc. It is implied that Loran does not suffer from a power line problem, but a carrier frequency interference problem. Speaking of interference Bill says that 3-5 kc either side of the Loran band should be cleared. Many receivers will not operate properly with interfering signals in this band, especially when the 88 kc Navy comm system is radiating. - leave
R.L.F.

Item - Advertising. The board of directors has advised me that I am permitted to include advertising to help cover the cost of the newsletter. Our mailing list includes approximately 450 addresses. If you are interested we ask that they (450 copies) be one page (both sides permissible) 8½" x 11" and folded in the center. A fifty dollar contribution for this distribution should accompany the advertisements. Send to L. D. Higginbotham, 4 Townsend Rd., Acton, MA 01720.

P.S. We will continue to announce new products as news items to the membership. Any one who wishes to announce a new product please send a 6 to 10 line write-up.


Lloyd D. Higginbotham
Editor