

## Ham 125 - Jaars with ray

Dr. Marc & Rosemary Durham, Theway Labs, Bixby, OK © 230711/ 241225

We often affirm, 'ham radio, when nothing else works.' So how do you use radio to communicate when in remote regions and in jungle-like areas?

Wycliffe Bible Translators through its translation and academic group SIL International committed to get the written Word to every culture in their heart language, what their mother taught them. JAARS (formerly Jungle Aviation and Radio Service) is the technical arm of Wycliffe, providing aviation, communications, and computer support.

We have supported the organizations and known many of the historic people for decades, since the 1970's, including Cam Townsend and Rachel Saint. We have been to JAARS at Waxhaw, NC, on several occasions, even getting one of my pilot check-rides and learning how to really fly our Cessna 206 at JAARS from Don Smith, one of their legendary jungle aviators.

So, when needing to get expert insight into communications in difficult circumstances, it is natural to turn to real world experience. I sent a note to JAARS, explaining the objective.

In a few days a phone call came from Ray Rising, K4LWJ, whose incredible story unfolds in *Guerilla Hostage, 810 Days in Captivity*, by Denise Siino. Although out of print, very good used copies are available on Amazon.

Get it, read it, share it. But make sure to get it back.

One of the talented, hands-on missionaries with radio work in Columbia and Ecuador, Ray shared his experiences as we chatted about mutual friends. Although a number of the missionaries were hams (amateur radio operators), SIL operated on government authorized bands adjacent to the ham bands, which allowed non-licensed people to use the commercial-type radios.

Lomalinda was the jungle translation center, a 7-hour venture from the capital of Bogota, Colombia. Go back to 1970. There was no phone company. The personal computer has not been invented. The Internet has not been invented. It is twenty-years before Iridium will launch satellite phones. Snail mail letters, handwritten, were common, but weeks long between send and reply. Satellite television was unheard of. How do you have dependable communications?

Bogota and larger cities had television stations and a few commercial radio stations operated, but this was sparse.

Across the border on a mountain near Quito, Ecuador, HCJB the Voice of the Andes, operated an incredibly powerful 500,000-Watt shortwave station, which carried multi-cultural Christian programming and mail call shows. For a Louisiana teen-ager, HCJB was the strongest shortwave station on the air, beating out Voice of America, New Zealand, and Habana.

Ray related they established a 2-meter VHF repeater link over the 150 miles of jungle, rivers, and mountains between the 150 people at the translation center in the jungle and the headquarters. That is an incredibly long haul. How was it accomplished? Start by looking for a very tall mountain between them, which can see both directions. Using high gain Yagi antennas, dependable communications were well established.

There is always a back story. One of the engineers with Exxon took the repeater on as a project, including funding.

From there, Ray and his team developed a local telephone system connected to the radio. Simply picking up a phone and dialing, allowed connection to Bogota. That was only inside the fence. For local communications they used Handi-talkies, which linked back to the local base and spouses on the center could monitor.

Transportation was by light aircraft such as the Helio Courier and later Cessna 206. But aviation depends on communications and there were no navigation aids across the jungle. No maps covered much of the area. As Don related, the pilots would intentionally fly too far upriver, so they would turn the correct way downriver to find the landing strip.

Later, a non-directional-beacon (NDB) radio was set-up at Lomalinda for the pilots. During the days of NDB, I often used it to track a commercial AM radio station for a navigation aid. But how does SIL make this happen? Again, the Exxon engineer came through from design and installation to funding.

To communicate with the pilots, Ray and his team set up HF radios operating on 40-meters, near 6 MHz. A 20-Watt PEP radio was installed in the plane, with a station on the ground. One of the people, often a wife, would provide flight-following. The pilot would check in every 15 nautical miles. By tracking his position reports, they could keep up with his conditions.

After Ray's capture, and guerrilla takeover of the area, beautiful hill 'Lomalinda' became another ghost town. Today JAARS is supporting ethnic radio in the jungles to communicate to the 17 language groups in the area. One station is 4810 kHz, a 1-kilowatt (kW) single-side-band (SSB) transmitter. Another station operates on 4940 kHz.

That is how radio communications work, when nothing else does. A General Class ham can do all these things. Thanks to Ray Rising, K4LWJ, for sharing an amazing history. What can people do, when willing?

Life is good. Enjoy!

