

# FORREST'S WORM



Forrest Villarubia, a WWII Veteran and National WWII Museum volunteer, shares his stories with students and other volunteers. Here he is with young people from the Museum's STEM Innovation Summer Camp.

One of The National WWII Museum's veteran volunteers, Forrest Villarubia, tells a story about when he was in the Philippines during the war. As a Marine, he was trained to fix and build telephone lines after the invasion of the Philippines. While Forrest saw combat in the Battle of the Philippines, it wasn't the only excitement he had in the war.

When Forrest arrived in the Philippines, he was told not to swim in or to drink water from the streams and rivers. After a very long time of taking small baths from water carried in his helmet, Forrest really wanted a bath. Secretly, he went down to the river and jumped in up to his neck. Forrest was careful not to swallow any water. Even though the water was muddy, it cooled him off and felt much better than wiping off with water in his helmet.

Several weeks later Forrest found out why he wasn't supposed to go in the river. Now in Guam, he was walking from the mess tent after lunch, and he started coughing and choking. Eventually Forrest coughed up a big white worm about 10 inches long. He showed it to the medic, and everyone in his unit had to take some really nasty medicine in case they had worms too.

Forrest probably had a roundworm like *Ascaris*. People get these worms from accidentally consuming eggs in soil or water. The eggs move through the digestive tract and hatch in the intestines. There they are larvae, and burrow through the intestinal wall and move through the body, often to the lungs. They grow to between six and 10 inches long and can get to be as thick as a pencil. People with them may have nutritional problems or trouble breathing. Often the worms lodge high

in the throat and may be coughed or vomited up.

Many other diseases can come from drinking or bathing in contaminated water. During World War II, access to safe water was limited. Water was needed for not only for drinking, bathing, and cooking, but also for cooling engines and fighting fires. The military did its best to repair or build infrastructure as they moved along campaigns in the Pacific and European theaters, but it was very difficult.

Soldiers commonly boiled water before drinking or using it for washing. Sometimes they had chlorine tablets they could use. Both techniques can kill living organisms in water, like *Ascaris* eggs or dangerous bacteria. However, neutralizing dangerous chemicals, removing salt, or adjusting the pH of water is more difficult to treat. Today all over the world—and even in the United States—similar problems with water quality continue to exist. As a result, people still need to find quick and inexpensive ways to test and treat water safely.



Villagers in the Philippines, traveling by boat. (*The National WWII Museum, 2008.354.641*)

**How is water treated in your city or town to make sure it is safe?**

**Have you ever heard of water being unsafe to drink, even in the United States?**