







CONSERVATION

### Vital Water Systems to 'Blanket' U.S. by 1972

➤ THE ENTIRE UNITED STATES will be blanketed by 1972 with water quality management systems to control cleanliness and supply of the nation's vital resources, a water expert told a special symposium on land and water resources.

Proper management of the quantity and quality of water is urgently needed throughout the growing nation, said Dr. Keith S. Krause, division of water supply and pollution control, U.S. Department of Health, Education and Welfare.

Water systems are now being planned and coordinated by HEW and other Federal and state agencies for water resources and pollution, he told members of the 57th annual meeting of the American Society of Agronomy held in Columbus, Ohio.

"A stream functions very much like a freight train or truck," Dr. Krause said. "Its waters can carry a variety of things or a single commodity. If the load is too heavy, something breaks down. If only one water user has a monopoly on it, its general usefulness is greatly curtailed. The efficient stream system is one where the waters accommodate a large number of uses, can be unloaded rapidly and made ready for the next user.

In 1900, the population of the United States was 75 million, 39% of whom lived in urban areas and used about 35 gallons of water per person per day. Today about 70% of our 192 million people are urban dwellers, each of whom uses about 150 gallons a day.

By the year 2000 the U.S. population may reach nearly twice what it was even at the last census.

At this point the water systems could break down, unless necessary measures are taken, said Dr. Krause.





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Plans are now underway to set up water quality management systems in various areas such as the Columbia River Basin, the Great Lakes, the Ohio River Basin, the Susquehanna-Chesapeake Bay area, the Delaware Basin, the Hudson River Basin, the Southeast River Basins, the Missouri River Basin and the Arkansas-Red River Basins. • Science News Letter, 88:318 November 13, 1965

# Nature Note

### The Arrow Worms

THE SEAS are alive with ghostly slender figures, three-quarters of an inch long or longer, so transparent they often are overlooked.

These are the darting arrow worms, Sagitta setosa, pencil-thin members of the phylum Chaetognatha. At certain seasons they occur in surface waters in incredible numbers, clouding the water with a greyish tint and supplying ample food for fish, jellyfish, whale sharks and whales.

When an arrow worm lies quietly in the water, its slender body is usually straight and in a horizontal position. But when it is hungry for some of its favorite microscopic sea animals and plants, it turns back a thin rounded hood at the anterior end, exposing a pair of sickle-shaped hooks set with movable spines.

Between the hooks and the slitlike mouth are dozens of short bristles, called chaetae, from which the phylum Chaetognatha takes its name. With these miniature but formidable weapons exposed, the arrow worm darts after its prey in a series of short thrusts and jerks.

The trunk of this creature forms more than half of its body. Along the sides of the trunk and its tail are thin streamlined fins that look like the feather pieces of an arrow, hence its name Sagitta from the Latin word meaning arrow. These fins help the delicate creature maintain balance and move its bodv.

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