

Mosquito control is a constant fight

Crew focuses on killing larvae

By KATHY ANEY
East Oregonian

Responding to the sound of chopper blades, the five men looked toward the sun and the silhouette of small helicopter heading their way.

The order of the day, as it is almost every summer day for them, was mosquito control.

Four of the men — Andrew Ross, Dalton Hughes, Mark Wilkerson and Rylie Smith — work as mosquito control technicians for the West Umatilla Mosquito Control District, based in Hermiston. The other, Dan Long, is an employee of South County Helicopter.

The helicopter landed next to a cone-shaped bucket to be hooked to the chopper's belly by a trio of cables. In the bed of a nearby pickup truck, bags of VectoBac sat ready for loading into the bucket.

The helicopter would spray nearby water bodies to kill developing mosquito larvae. Wearing dust masks, they hauled 10 of the bags to the bucket and dumped them in. Pilot Cliff Hoeft took off and flew a short way to the Power City Wildlife Area, where he made a pass, releasing his load of granular larvicide. Before day's end, Hoeft would treat water bodies in multiple locations, including Cold Springs, Stanfield/Echo Meadows and the Irrigon Wildlife Area.

Combating mosquitoes by air is only one method. More often, the attack is by ground. These men spend many of their workdays trudging through swampy areas in hip waders or riding four-wheelers to spray with the aid of backpack hoppers. It's hot, humid work.

"We get up at 5 a.m. and get to work early to beat the heat," Ross said.

Thwarting West Nile virus is one of the WUMCD's aims, said Ross, the crew's field supervisor. The crew detected the mosquito-borne virus in three samples collected along the south bank of the Cold Springs Reservoir earlier this summer.

The weapon of choice at the moment is a granular formulation of a bacteria called *Bacillus thuringiensis*, or Bti.

"It's a naturally occurring bacteria found in the soil," Ross said. "The mosquitoes ingest it and it crystallizes in their gut."

The mosquitoes stop eating and eventually die. Some could say such attempts to crack down on the millions of mosquitoes in the area is like trying to empty the ocean a bucket at a time. Ross has heard this before but says targeting the worst areas keeps them at bay. He recalls conversations with old-timers from the area who remember mosquitoes making their lives miserable in years past.

"They talk about going to a football game and being covered by them," Ross said.

Randy Gerard, manager of the mosquito control district, said the district has identified 13 different species over the years. He said surveillance is a huge part of what the district does.

"No spraying of any kind is done without surveillance," Gerard said. "There are roughly 600 sites that I know of."

Workers trap adult mosquitoes to identify species and gauge how well they are doing. They test for West Nile. Most of their focus, however, is on the larvae. With less hatching, there's less chance of disease spreading.

"The whole goal is to control mosquitoes from hatching out of the water," Gerard said. "It's a constant fight."

Contact Kathy Aney at kaney@eastoregonian.com or 541-966-0810.

MOSQUITO: Species have been around over 100 million years

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Snakes kill 50,000. Humans murder around 425,000.

The mosquito stood alone in its lethality.

"About 725,000 deaths a year can be attributed to mosquitoes worldwide," McKeon said.

The mosquitoes transmitting all those viruses and diseases aren't found only in distant Africa or South America, McKeon said. They already live right here in the United States.

"There are 3,500 different species of mosquitoes," McKeon said. "They span all seven continents. There are mosquitoes that live in Antarctica. They are everywhere."

She ticked off the names of the three main types of mosquitoes on the planet — *Culex*, *Aedes* and *Anopheles* — and said all reside here. The *Culex* is brown and bland — the unshowy, girl-next-door mosquito. *Aedes* mosquitoes, such as the Asian tiger mosquito, are black with white stripes. The *Anopheles*, the type that transmits malaria, is black and sleek with knee-high white stockings.

So why isn't the U.S. swamped by deadly mosquito-borne diseases?

"What's really holding back the diseases is that pathogens need a certain temperature to transmit," McKeon said.

She said mosquitoes can go full-throttle in places where the temperature is 84 degrees and higher year-



A helicopter is used to disperse the larvicide VectoBac G over wetlands in the Power City Wildlife Area to control mosquito populations on Thursday north of Hermiston. The helicopter is contracted by the West Umatilla Mosquito Control District.

round like the tropics. As long as we continue to have seasons, mosquitoes will die off and new uninfected batches will emerge, she said. But if we become like the tropics, then there will be no die-off.

"Lets flash forward 60 years from now," McKeon said. "If our climate estimates go as predicted. By 2080, it'll be 84 degrees almost year-round (in much of the U.S.) This will be the new tropics. Oregon will have pockets."

Oddly, malaria has visited us before. McKeon flashed on the screen a photo of the Centers for Disease Control in Atlanta.

"This was not built to be the CDC," she said. "It was built (in 1942) to be the Office of Malaria Control."

The office was placed in Atlanta rather than Washington, D.C., because the South had the most malaria problems. The National Malaria Eradication Program sprayed, drained mosquito breeding sites and used other methods to eliminate malaria from the country by 1949.

It will likely return as global temperatures rise.

Ticks are already spreading farther north and McKeon attributes that to longer, warmer springs that lengthen summer, giving ticks an increased chance of survival going into winter. Rocky Mountain spotted fever, which is transmitted by certain ticks, was diagnosed this summer in Morrow County.

McKeon isn't all gloom

and doom. She hopes mankind will find a way to combat climate change. There are ways to control mosquitoes and the arsenal is growing.

One promising method is the sterile insect technique. The idea is to release irradiated male mosquitoes. After mating with them, the



A ground crew at the West Umatilla Mosquito Control District fills a aerial application bucket system with the larvicide VectoBac G on Thursday in Hermiston.

females lay sterile eggs. It takes a lot of energy for mosquitoes to mate and they have to wait a month to build up enough energy for another attempt. The population slowly decreases.

McKeon doesn't believe mosquitoes should be totally obliterated from the face of the earth, even if it was possible.

"Do we really want to eradicate them?" she asked. "They are an integral part of several ecological food chains. What about the birds and fish that feed on them?"

We would be taking away a major source of protein for them."

But the point is moot. "Mosquitoes have always been around," McKeon said. "Mosquitoes are older than we are. They've been around over 100 million years. The numbers are rising. We haven't controlled them and we haven't figured out how to live in harmony with them just yet."

Contact Kathy Aney at kaney@eastoregonian.com or 541-966-0810.



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