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Mosquitoes already are becoming active on the Long Beach (Wash.) Peninsula, where ample wetlands and standing water provide plenty of breeding places for one of humanity's most loathed creatures.

Mosquitoes will soon be back on our minds (and all exposed skin)

There are strategies to reduce their numbers

By KATHLEEN SAYCE
For EO Media Group

Insects are by far the largest of animal groups on the planet, with a staggering diversity of life forms and lifestyles. We tend to reserve a special loathing for insects that feed on blood. Mosquitoes are probably at the top of that list, perhaps because they descend on their prey in clouds, or bite sleeping bodies, making a distinctive high-pitched sound that involuntarily triggers a faster heart beat and higher blood pressure.

That feeding cloud of mosquitoes is composed of females, sometimes with males hanging around the edges. Successful feeders will depart with a full stomach of blood, take a day to digest it, then within a few more days lay eggs in suitable wet habitats. A week later, they repeat the cycle. The blood provides proteins to make the eggs, which mosquitoes cannot get from their other food source, flower nectar. In many species, females live five or six months, and overwinter in a sort of dormancy. The blood-borne diseases are picked up by females as they feed on infected hosts, and then spread to those hosts that they later feed on. The most dangerous mosquito, most likely to carry a disease, is the older female who has lived a few months and fed many times on a variety of animals and humans in areas where suitable diseases are found.

Lots of species

When not foraging for a meal of blood, both males and females behave more like flies — which mosquitoes are close relatives to — the word mosquito means “little fly.” They congregate in their preferred habitats, drinking nectar for food, and just hanging out. Where do they hang? It depends on the species. We have more than 40 species of mosquitoes in the Washington, and 14 species in Pacific County.

Some like salt marshes, and others freshwater marshes. Some like ponds with dense vegetation on the edges, others seek clean open water. Some like water-filled holes in trees. Others prefer manure-rich standing water, including sewage ponds and cattle yards. Still others seek out tiny containers, gutters, water in tires, or water-filled hoofprints in mud. Some look for sunny water sources, others for shade. Many live in lowland areas, but some prefer higher elevations, living in snowmelt ponds. As for time of day, that also varies. Some fly at dawn and dusk, others after dark, others in full daylight, some only in shade.

As for blood sources, all mosquitoes do not prefer the same choices. Some only feed on amphibian or reptile blood — in our area, this includes salamanders and frogs, garter snakes and the occasional lizard. Others prefer bird blood. Many prefer large mammals, and those are the ones that we interact with



Courtesy James Gathany, CDC, via Wikimedia Commons

Culex sp larvae or mosquito larvae.

most often. Some are generalists, mixing up meals between elk, deer, horses, cattle and people. Those that feed most often on large mammals and move between species are more likely to carry diseases.

Mosquito-carried diseases

In the 19th century, malaria was endemic in the Pacific Northwest. Anopheles mosquitoes carry malaria, and were already here, disease-free, when humans carrying malaria arrived as settlers; and so for some decades, malaria was a chronic disease east of the Coast Range from Olympia south to the bottom of the Willamette Valley. This shows a typical pattern of disease transmission: Infected animals or humans enter a previously disease-free area, and mosquitoes that carry that disease are already present, and begin moving the disease to new hosts.

The list of mosquito-carried diseases that have been found in North America is impressive: Western and Eastern Equine Encephalitis, St Louis Encephalitis, Japanese B Encephalitis, California Encephalitis, Venezuelan Encephalitis, West Nile Virus, Dengue virus, Malaria, Avian Malaria, Yellow Fever. There are also several localized diseases of specific areas. The actual disease organism may be a virus or protozoan; Plasmodium species, which are protozoans, are often disease-causing organisms, including multiple forms of malaria.

Control strategies

While many have railed that mosquitoes fill no useful purpose, the fact is, they are here. Widespread use of DDT in the 20th century demonstrated that attempting to wipe out mosquito populations with chemicals has disastrous unintended consequences on local ecosystems. Reducing their numbers, rather than waging all out war, is a better strategy.

• First, know which species live in your community. It's very likely that there are several species, not one. Know the species, and you will know the larval habitat that species prefers. This is very important — without knowing what species you have, you may well spend your time and money in the wrong activities in the wrong places. Communities with mosquito control programs have staff that spend their time collecting larval and adult mosquitoes and identifying which spe-

cies live where; once they know the species, then they can work on the next step, below.

• Second, reduce available larval habitat, or improve predation on larvae in those habitats. This is a good strategy for salt and freshwater pond and marsh mosquitoes. Reduce and eliminate small sources of water too. These include old tires, bird baths, buckets and toys filled with water, gutters with standing water. Mosquitoes can go from freshly laid eggs to adults in less than a week, so if you have bird baths, change the water at least twice a week. In ponds and ditches, Bti, a bacterial disease that kills larvae, helps with some species. Gambusia, a tiny guppy, eats mosquito larvae in freshwater ponds and lakes. There are other strategies too, these are just starting points to reduce larvae numbers.

• Third, protect your home so that mosquitoes do not live indoors with you. Screened doors and windows are the first line of defense. Some species like to live around and in buildings. Keep your screens in good shape, and they will help keep mosquitoes out of homes. Bed nets are also good, especially where night flying, malaria-carrying species are common. Currently this is not a local problem, but is very important where Anopheles mosquitoes and Plasmodium malarial species both live.

• Fourth, cover your skin when outside. Mosquito hats (with fine netting from the brim to the shoulders), long sleeves, long pants, and good repellents all help. One summer Frank and I measured shore pine trees at Leadbetter Point in late June. Local populations of a native freshwater marsh mosquito were at their annual peak. We wore mesh hats, long sleeves and pants, used DEET repellent. Frank cored trees; I counted cores. The mosquito clouds were so dense that it was difficult to see the growth rings to count them, or my notes as I wrote down figures. We had to reapply DEET every 30 minutes to our hands, because after 25 minutes, the mosquitoes stopped hovering an inch or two above the skin, and started landing to feed. About day three, preparing for that day's work took sheer nerve!

As the weather warms up, after this unseasonably warm winter, expect hungry female mosquitoes to fly soon. Be ready for a long mosquito season.

Marbled murrelets to stay covered

Court upholds protection for threatened seabird

By JEFF BARNARD
The Associated Press

A federal appeals court has rejected a lawsuit by the timber industry seeking to strip Endangered Species Act protection from a threatened seabird that nests in old-growth forests.

Environmentalists say the ruling Friday by the U.S. Court of Appeals in Washington, D.C., should mark the end of a 15-year legal battle over logging trees used by marbled murrelets along the coasts of Oregon, Washington and northern California.

The American Forest Resources Council had argued



AP Photo/The Seattle Times, Steve Ringman

Two marbled murrelets swim off Lopez Island near Seattle, Wash.

that the U.S. Fish and Wildlife Service acted arbitrarily and capriciously in designating the U.S. population of marbled murrelets distinct from birds in Canada, despite a line in the law saying political boundaries are a valid reason. The appeals court found the decision did not depart from standard practice, and it let stand a district court ruling.

“The big picture is that we are disappointed in our continued inability to get the judicial branch of our government to

exert some control over the administrative branches' overzealous interpretation in favor of the marbled murrelet,” said Ann Forest Burns, vice president of the American Forest Resource Council in Portland. “It's not about the bird. It's about logging. It's the bird du jour.”

Kristen Boyles, an attorney for the environmental group Earthjustice, said she felt the reason the timber industry has been willing to fight so hard to remove protections for the marbled murrelet is that it is not as

charismatic as the northern spotted owl, which was the prime focus of lawsuits that cut logging by 90 percent on national forests in the Northwest.

The marbled murrelet is a robin-sized bird that feeds and lives on the ocean, but it flies as much as 50 miles inland to lay a single egg in a mossy depression on a large tree branch. While much of the battle over logging in the Northwest has gone on over habitat for spotted owls and salmon on national forests, the marbled murrelet was the reason the Oregon Department of Forestry withdrew two dozen timber sales on the Elliott State Forest outside Coos Bay last year.

Under a federal court order, the marbled murrelet was listed as a threatened species in 1992 in Oregon, Washington and California because of the loss of nesting habitat to commercial logging, the loss of fish to eat to gillnetting and oil spills.



AP Photo/Manuel Balce Ceneta, File

The Homeland Security Department headquarters in northwest Washington is pictured Feb. 24. Bitterly admitting defeat, House Republicans on Tuesday abandoned their attempts to use the Homeland Security Department's spending bill to force concessions from President Barack Obama on immigration, and sent him legislation to fund the agency through the end of the budget year with no strings attached.

No strings attached

Congress sends Homeland bill to Obama without conditions

WASHINGTON (AP) — Bitterly admitting defeat, the Republican-controlled Congress sent legislation to President Barack Obama on Tuesday that funds the Department of Homeland Security without any of the immigration-related concessions they demanded for months.

Obama promised to sign the bill as soon as he received it, while criticizing Congress for taking “far too long” to pass it.

“Sanity is prevailing,” said Rep. Peter King, R-N.Y., a former chairman of the Homeland Security Committee, before the House voted 257-167 in favor of the \$40 billion spending bill. All 182 Democrats present voted for the bill, while it received only 75 Republican “yes” votes.

“I am glad that House Republicans finally came to their senses,” said Rep. Loretta Sanchez of California, a top Democrat on the Homeland Security Committee.

The outcome averted a partial agency shutdown which would have begun Friday at midnight. It was a major victory for Obama and the Democrats, and a wholesale retreat for Republicans, who have spent months railing against an “unconstitutional overreach” by Obama in extending deportation stays and work permits to millions of immigrants in this country illegally.

In the end, Republicans who'd tried to use the DHS spending bill to undo Obama's actions had little to show but weeks of gridlock and chaotic spectacle on Capitol Hill in the wake of assuming full control of Congress in the November midterm elections. The turmoil brought the Homeland Security Department to within hours of a partial shutdown last Friday before Congress passed a one-week extension, and raised questions about Republicans' ability to govern responsibly.

On Tuesday morning, addressing an uncharacteristically subdued gathering of House Republicans, Speaker John Boehner indicated he was out of options.

“I am as outraged and frustrated as you at the lawless and unconstitutional actions of this president,” Boehner told his caucus. “I believe this decision — considering where we are — is the right one for this team, and the right one for this country.”

“Our Republican colleagues in the Senate never found a way to win this fight,” he said, noting that the matter is now in the courts. A federal judge last month put Obama's directives on hold, a ruling the White House is appealing.

Conservative lawmakers who humiliated Boehner last week by voting down a three-week spending bill he proposed did not speak up in the private meeting to dissent or ask questions, people present said.

Afterward, they said they were disappointed but had no more moves to make.

“I don't know that there is one,” said Rep. Steve King, R-Iowa. “This is the signal of capitulation.”

In a statement, Homeland Secretary Jeh Johnson thanked Democrats and Republicans who voted for the bill and, “in particular, those in Congress who showed the leadership necessary to get the job done.”

In his own statement, Obama praised Homeland Security employees as “law enforcement professionals and brave patriots who do a remarkable job, and deserve our gratitude and respect. Today, after far too long, Congress finally voted to fully fund their mission.”

The measure passed Tuesday funds the Homeland Security Department through the Sept. 30 end of the budget year. It pays for numerous priorities including Transportation Security agents, the Coast Guard, the Secret Service, a host of immigration-related functions and grants to local governments.

There have been suggestions that Boehner would face an insurrection by tea party-backed conservatives if he brought a “clean” DHS bill to the floor. But Boehner's opponents seemed resigned, and there was little sign of a brewing coup.

Indeed, several Republicans said Tuesday that the outcome was inevitable. Many had campaigned for re-election last fall on promises to stop Obama on immigration, and cheered when Boehner promised to fight the president's moves “tooth and nail.” Yet several acknowledged they never had a viable plan to do so, given Obama's veto pen and Senate Democrats' opposition.

The GOP strategy was especially risky given the Homeland Security Department's anti-terrorism responsibilities, which gave Democrats an opening to accuse Republicans of putting national security at risk.

“We all knew how this was going to end,” said Rep. Charlie Dent, R-Pa. “If somebody wants to make an argument against those of us who are doing our duty and governing responsibly, they can feel free to have the argument. We are prepared to defend ourselves and I believe the Speaker will come out of this just fine.”