



The Vector Control Program

DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY



What is a Vector?



Vectors are animals that can spread diseases to people



What does the Vector Control Program (VCP) do?

The VCP uses an integrated vector management approach to monitor and control vectors to protect residents and visitors from vector borne diseases. Vector borne diseases include West Nile virus, dengue, plague, hantavirus, Lyme disease, and tularemia. The program also conducts outreach and tests mosquitoes and other vectors for the presence of vector borne disease using an in-house laboratory.



Mosquitoes in San Diego

- About 30 species in San Diego- only 9 spread diseases to people

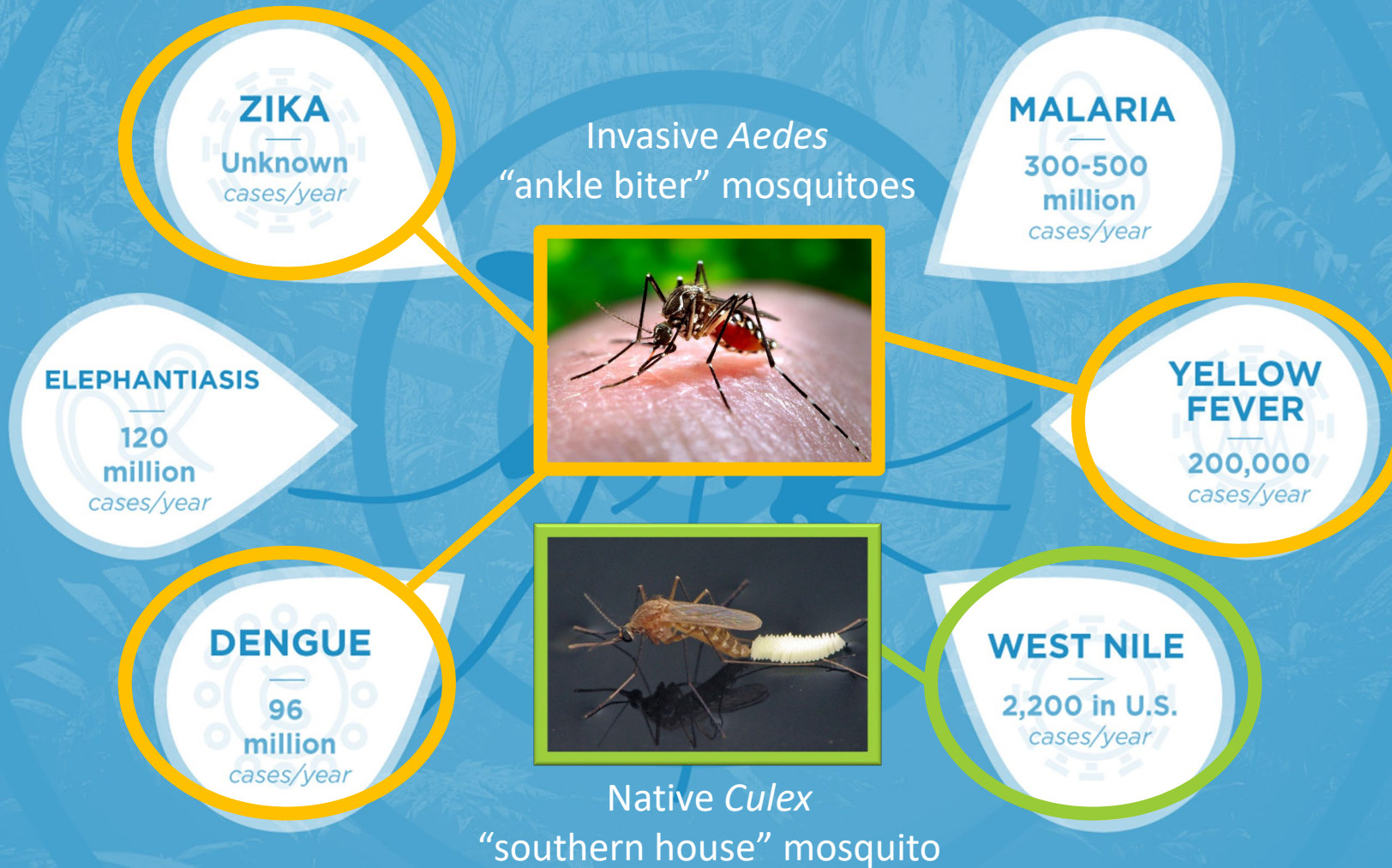


- Culex mosquitoes can spread West Nile virus

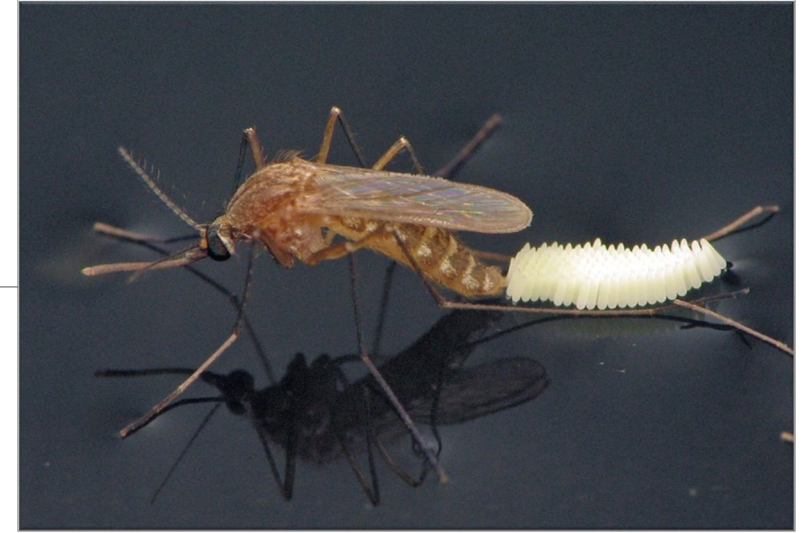


- Invasive Aedes mosquitoes can spread Dengue, Zika, yellow fever, and Chikungunya

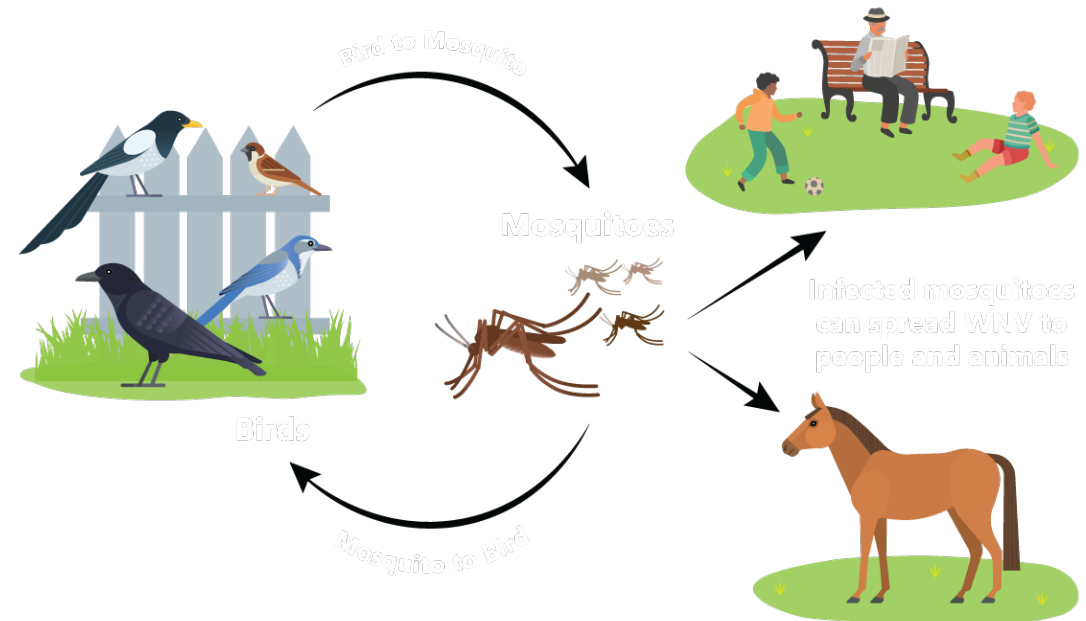
MOSQUITO-BORNE DISEASES



Culex Mosquitoes



- Active at dawn and dusk
- Larger brown mosquito
- Lay eggs in an egg raft on the surface of water
- Like to bite birds
- Can spread West Nile Virus

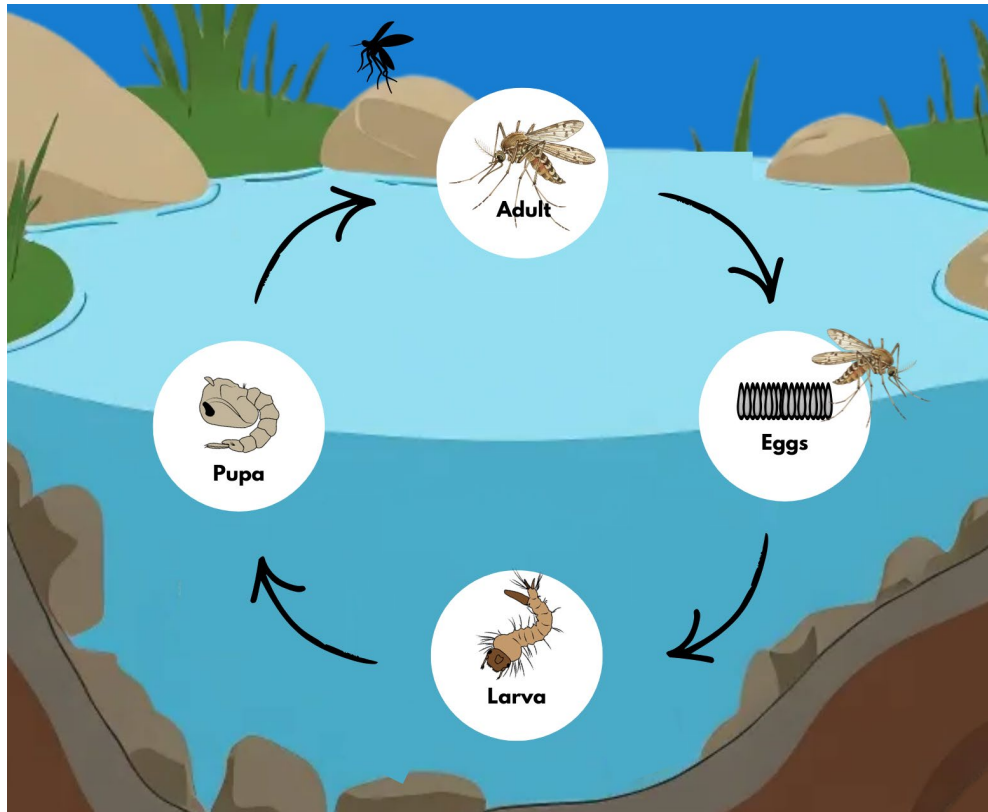


Invasive *Aedes* Mosquitoes

- Small black and white striped
- Aggressive daytime biters
- Prefer to breed in small containers and lay individual eggs
- Can breed indoors and outdoors
- Short flight range
- Can spread diseases including Zika, dengue, and yellow fever



The Mosquito Lifecycle



- Mosquitoes lay their eggs in standing (still or not moving) water



- They need less than 1 week and 1 bottlecap of water to grow from an egg to a biting adult

- Dumping out standing water is the most effective way to prevent mosquitoes!

Common Breeding Sources



Potted plant saucers



Bromeliads or succulents



Fountains or birdbaths



Drains and gutters



Junk



Water toys or kiddie pools



Toys



Tarps or covers



Old tires



Indoor vases

Eliminate Mosquito Habitat

➤ **Can the water be dumped out or drained?**

Dumping out water and preventing it from collecting is the simplest way to prevent mosquito breeding.

➤ **Can mosquitoes be prevented with screen or lids?**

A lid or screen can stop a mosquito from laying eggs in the water.

➤ **Can mosquitofish be added to the water?**

Mosquitofish are a good option for artificial ponds and pools but cannot be used in natural waterways. These fish will eat any mosquito larvae in the water and are available from Vector Control for free.

➤ **Can I use a bacterial larvicide?**

Bacterial larvicides, such as BTI, contain bacteria naturally found in soil that targets the mosquito larvae but is safe for people, pets, plants, and wildlife. They come in dunks, pellets, and pouches depending on what you are treating. Follow the directions on the label to properly apply.

Dump & Drain

- Dump out water in plant saucers weekly, or fill with fine sand or gravel
- Drain water from bromeliads and flush weekly, water at the base, or add a bacterial larvicide
- Rinse out birdbaths weekly
- Cover any openings to rain barrels with mosquito-proof screens or add a larvicide



Cover or Store

- Prevent puddles from accumulating on top of tarps or furniture
- Store backyard items and toys indoors or so water cannot accumulate
- Keep gutters and drains unclogged and free of debris
- Cover yard drains with mosquito proof screen



Add Mosquitofish

- Mosquitofish can be placed in sources like ponds, or non-working (green) pools
- They eat mosquito larvae before they become biting adults
- Available for free from the Vector Control Program
- **Mosquitofish should never be placed in natural habitat such as lakes, streams, rivers, or creeks as they may compete with native species.**



Larvicide

- Larvicides target mosquito larvae in the water and prevent them from growing into biting adults
- Bacterial larvicides are made of different natural bacteria that kill mosquito larvae but don't harm people, pets, plants, or wildlife
- Use larvicide products in rain barrels, ponds, fountains, and any container that can hold water
- Available in many different forms including briquettes, granules, liquids, tablets, and pellets





How to protect yourself

- Wear loose-fitting, long-sleeved shirts and pants in lighter colors
- Keep doors and windows closed or screened, and make sure screens are free of holes
- Use a strong fan to blow mosquitoes away
- Use EPA approved insect repellent on exposed skin and clothing

Repellent

- EPA Approved repellents are scientifically proven to repel mosquitoes
- Look for 20-40% of the active ingredient:
 - DEET
 - Picaridin
 - IR 3535
 - Oil of Lemon Eucalyptus



For more information:

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