

Fish Prevent Mosquitoes

Gambusia affinis, called "Mosquito Fish," are indispensable to our Mosquito Control Program in Clark County. They eat mosquito larvae as fast as they hatch from the eggs laid by the mosquito in rafts on the surface of the water. Mosquito fish are furnished without charge for stocking ornamental ponds, unused or "out-of-order" swimming pools and animal waxer troughs. They require no feeding and care is limited to protecting them from garden sprays and from chlorine or other chemicals used to clean the pond. Vector Control also stocks thousands of these fish each year in pools of standing water, waste water disposal lagoons, natural creeks and drainage channels.



Gambusia affinis (female)

FACTS ON MOSQUITO FISH

This fish does not lay eggs, but gives birth to well developed and very active young. It, therefore, requires no special environment, as most other fish do, for depositing and hatching the eggs. It breeds throughout the summer and a new brood is produced at intervals of about one month or six weeks, 100 in a single brood. The young are approximately one-half inch in total length when born. They are ready to begin the work of destroying mosquito larvae at once. Gambusia gains growth rapidly, reaching a maximum size of about two inches. The earliest broods of the season, born in April and May, become sexually mature and produce young when four to five months old.

HOW MOSQUITOES ARE CONTROLLED IN CLARK COUNTY



Objectives of Our Control Program

The objectives are to abate existing mosquito breeding sources and to prevent new ones in order to permit full use and enjoyment of our backyards and our many recreational facilities, to permit mosquito free agricultural and industrial working conditions and to protect public health and comfort.

Responsibility of the Property Owner

The owner of the property on which a mosquito breeding source is located is responsible for the abatement of the nuisance and for the prevention of its recurrence. Vector Control will assist the property owner in working out a satisfactory correction



Breeding Sources Controlled

Chronic breeding sources created by irrigation water, gutters, subdivision drains, roadside ditches, flood channels, ravines and similar places on public right of ways are controlled by the Vector Control by stocking mosquito fish and routine larviciding operations throughout the year as necessary. Vector Control works with city, county, state and federal agencies towards permanent correction of these sources.



Mosquito Borne Disease

West Nile Virus

West Nile virus (WNV) is transmitted to humans and horses by the bite of a female mosquito. WNV first appeared in the United States in the New York City area in 1999. It arrived in Clark County Nevada in July 2004. Mosquitoes become infected with the virus by biting a wild bird that has the virus.

Symptoms of West Nile Virus

The majority of people who are infected with West Nile virus show no symptoms. Some may experience mild sickness, headache, or fever before making a full recovery. WNV can cause serious disease that affects the brain in some individuals, particularly the elderly.

Protecting Yourself and Your Family

- Avoid outdoor activity at dusk and dawn in areas where mosquitoes are active.
- Use approved mosquito repellents containing DEET. Follow the manufacturer's directions for use.

For additional information about mosquito control see Vector Control's website at http://www.clarkcountynv.gov/Depts/public_works/Services/Pages/Vector.aspx

CLARK COUNTY BOARD OF COMMISSIONERS

STEVE SISOLAK, Chairman • LARRY BROWN, Vice Chairman
SUSAN BRAGER • TOM COLLINS • CHRIS GIUNCHIGLIANI
MARY BETH SCOW • LAWRENCE WEEKLY
DONALD G. BURNETTE, County Manager



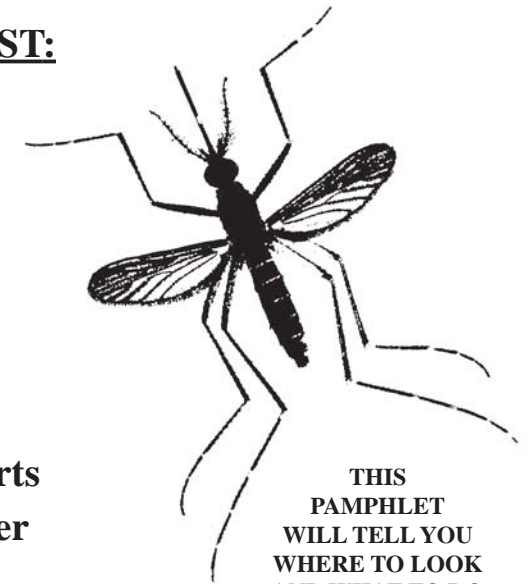
CLARK COUNTY MOSQUITO CONTROL PAMPHLET

CLARK COUNTY PUBLIC WORKS
VECTOR CONTROL SECTION
5809 East Flamingo Road
Las Vegas, Nevada 89122
(702) 455-7543

ARE YOU RAISING MOSQUITOES IN YOUR BACKYARD?

HERE IS A CHECKLIST:

- Ornamental Pond
- Swimming Pool
- Plastic Wading Pool
- Boat
- Swamp Cooler
- Animal Watering
- Rain Gutter
- Containers of All Sorts
- Other Standing Water



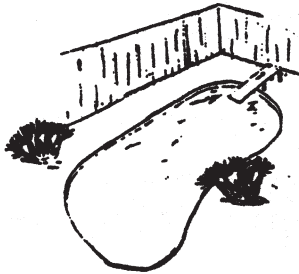
THIS
PAMPHLET
WILL TELL YOU
WHERE TO LOOK
AND WHAT TO DO

Where to Look and What to Do



ORNAMENTAL POND

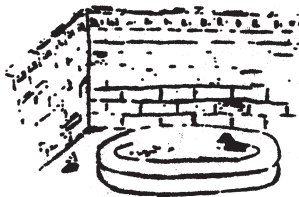
Stock with Mosquito Fish. Add Goldfish for looks if desired. Avoid spraying with garden insect sprays. *Remove* leaves and thin out plants. Keep water level up. Screen inlet of recirculation pump. Chlorine kills fish - transfer fish to glass bowl when cleaning pond. If pond is no longer desired, break holes in bottom and fill with dirt or sand.



CONCRETE OR PLASTIC SWIMMING POOL

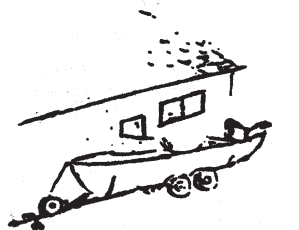
Provide drainage for filter and pump sumps. Chlorine will NOT kill mosquito larvae. If pool cover is used, keep it tightly sealed. *Remove*, rain water from top of pool cover. Stock unused or "out-of-order" pools with mosquito fish.

CALL VECTOR CONTROL FOR HELP IF YOU SUSPECT MOSQUITO BREEDING.



PLASTIC WADING POOLS

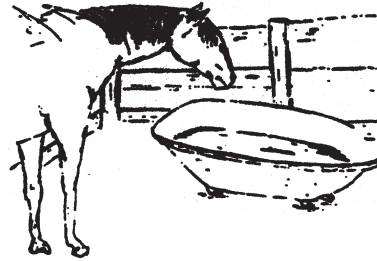
Change water every week.
Store indoors when on vacation.
Store indoors when not in use.



BOATS

Prevent accumulation of bilge water. Store small boats upside down or cover to keep out the rain and water from your sprinklers.

Where to Look and What to Do



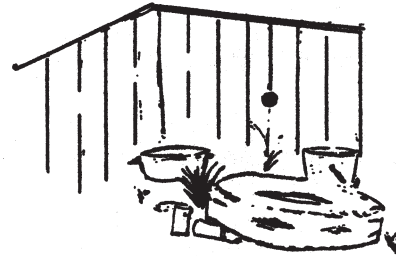
ANIMAL WATER TROUGHS

Stock large troughs with mosquito fish.
Clean small troughs every week.

CONTAINERS OF ALL SORTS

Remove and dispose of all unused containers that will collect rain water or water from your sprinklers.

Tin Cans	Old Tires
Jars	Buckets
Barrels	Tubs, etc.



Home gardeners rooting plant cuttings in vases, buckets, etc. should change water every week.

Usable containers should be stacked up-side-down.

ALSO LOOK FOR OTHER STANDING WATER

Under the House:

Repair leaking plumbing
Prevent seepage from garden irrigation Divert storm water away from foundations.

In Vaults for Water Softening Tank.

In Vaults for House Utility Meters.

At Drain Outlet from Air Conditioner.

Irrigation Tailwater and Ponding in Fields:

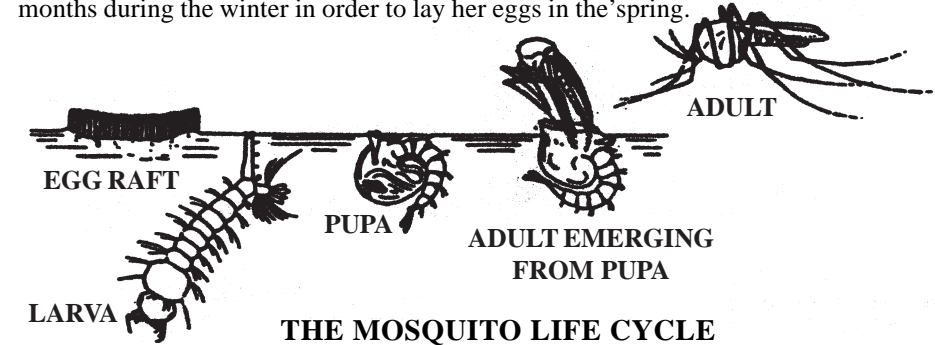
Level fields
Provide adequate drainage
Do not let water stand on fields longer than 3-4 days

**IF YOU SUSPECT MOSQUITO BREEDING AND NEED ASSISTANCE CALL
CLARK COUNTY VECTOR CONTROL AT
(702) 455-7543**

(Pamphlet information Source: Orange County Mosquito Abatement District, California)

Facts About Mosquitoes

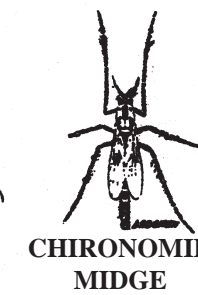
1. All mosquitoes must have water in which to complete their life cycle.
2. Only seven days are required during warm weather.
3. Mosquitoes never develop in grass or shrubbery although the flying adults frequently rest there during daylight hours.
4. Only the female bites to obtain a blood meal. The male mosquito feeds only on plant juices.
5. The female mosquito may live as long as three weeks during the summer and many months during the winter in order to lay her eggs in the spring.



THE MOSQUITO LIFE CYCLE

- EGGS** Some mosquitoes lay eggs in a raft containing 100 to 400 eggs, or singly on the water or damp ground where water will later cover them. The eggs hatch in a day or so into larvae.
- LARVA** The larva or "wiggler" comes to the surface to breathe through a tube called a siphon. It sheds its skin or molts four times during the next several days. It grows rapidly between each molt. On the fourth molt it changes into a pupa.
- PUPA** The pupa or "tumbler" cannot eat. It breathes through tubes on its back. The mosquito grows inside the pupa and in two days or so when it is fully developed, it splits the pupal skin and emerges as an adult to complete the life cycle or metamorphosis of the mosquito.
- ADULT** The newly emerged adult rests on the surface of the water until it is strong enough to fly away for something to eat.

FACTS ABOUT CHIRONOMID MIDGES



Chironomid midges cannot bite and are not harmful. They can be a public nuisance because they develop in great numbers. They gather in swarms and when at rest they cover screen doors, windows and walls. They look much like a mosquito and develop in the same water where mosquitoes develop. On close look, however, the midge:

1. Does not have a biter (proboscis) and
2. The body (abdomen) is longer than the wings.
3. The size of a midge is about that of a mosquito.

Control of nudge larvae is much more difficult than the control of mosquito larvae. The midge larvae live in the bottom mud and are much less vulnerable to our mosquito insecticides as well as to mosquito fish. Satisfactory control currently depends on continuing studies and research on new insecticide formulations and on bottom feeding fish, like carp and bullhead catfish, which may prefer nudge larvae.