A program to eliminate the exotic mosquito capable of transmitting the dengue virus, *Aedes aegypti*, has been under way in Tennant Creek since 22 February 2004. This followed the finding of this mosquito via routine adult mosquito trapping on 17 February 2004. Further surveys by the Medical Entomology Branch (MEB) of the Centre for Disease Control (CDC), Northern Territory Department of Health and Community Services (DHCS) have indicated to date that the dengue mosquito is firmly established in Tennant Creek. Elimination of this mosquito will take a major effort by health and local authorities as well as by the general public in Tennant Creek.

The first phase of the program involved initial surveys by officers of the MEB in cooperation with the local Environmental Health (EH) officer in Tennant Creek, other CDC staff, and staff from the Health Department of Western Australia. The initial aim was to determine the presence and spread of the *Aedes aegypti* mosquitoes, and involved surveying urban and semi-rural areas throughout Tennant Creek and inspecting water-holding receptacles for mosquito larvae. The team also set mosquito traps, including ones better designed for capturing *Aedes aegypti* mosquitoes, to determine what localities were infested. Initial surveys also involved inspection of water...
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receptacles in the nearby towns or localities of Ali Curung, Threeways, and Elliot. A comprehensive public relations and information program was initiated to inform and seek assistance from local residents, councils and authorities.

The second phase of the program involved a door-to-door education campaign on how to eliminate breeding sites and the distribution of insecticide surface spray cans to all Tennant Creek householders with instruction to spray all potential water holding receptacles in their yards and premises. The distribution of the spray and initial treatment of premises was carried out by the elimination team, in conjunction with the Julalikari Council, the Anyinginyi Congress and the Tennant Creek Town Council. The team also carried out a fogging operation of the town with assistance from the Alice Springs Town Council. Transport hubs including the railway, the airport, and bus facilities were also surveyed and treated.

The third phase is now under well under way, and involves reinspecting and treating every premises in Tennant Creek. Other towns further north including Renner Springs and Mataranka have also been surveyed. This program is being undertaken by the elimination team in conjunction with local pest control operators, local councils and authorities, and local businesses. Storm water drains and underground telephone facilities are also being targeted. There has been an excellent public response with only 8 refusals to enter or treat premises. There have also been generous offers of assistance from health staff, local councils, and other volunteers.

As of 28 March, 689 of a total of 1110 properties in Tennant Creek have been revisited and treated by the teams. This includes occupied residential blocks, vacant blocks, vacant houses, and industrial, business and rural blocks. The survey has found 54 different premises breeding Aedes aegypti mosquitoes. The range of receptacles with dengue mosquitoes includes, in decreasing numbers of positive receptacles; bird baths, dog bowls, old tyres, buckets, pot plant drip trays, ice cream containers, sheets of plastic, machinery, an unkempt spa, a vase, a compost bin, a boat, a tarpaulin and an old car body. Of the 58 premises with rainwater tanks, 53 have been successfully treated.

The extent of the infestation indicates that the Aedes aegypti have been in the town from at least December 2003 when the seasonal rains began. It is possible that they may have been brought in, for example from north Queensland, as eggs in a receptacle in the wet season of 2002/2003. Mosquitoes can be brought in as drought resistant eggs stuck to the sides of dry, water holding receptacles, possibly in machinery, pot plant drip trays, or spare vehicle tyres. Once re-flooded, these eggs hatch, and after the aquatic wriggler stage is completed, i.e. in 7-8 days, the adult mosquitoes emerge and fly away, thus spreading new pest and disease threat species in an area.

The DHCS is asking for public cooperation in the surveys and efforts to eliminate the mosquito. Members of the public have been urged to contact the free call hot line on 1-800-008-002 for answers to any inquiries and also to request to have their premises and receptacles inspected and treated to destroy any eggs. The public has additionally been asked to report any unsealed septic tanks or rainwater tanks. Any water collecting receptacles left out in the rain could be breeding sites for the Aedes aegypti. Therefore, the public is being asked to empty all water holding receptacles and then spray them with surface spray, or dispose of all water holding receptacles. The public should also avoid transporting out of Tennant Creek any receptacles that have held water, to prevent the spread of the mosquito to other towns. So far the mosquito has not been detected in any town apart from Tennant Creek.

This campaign towards elimination of Aedes aegypti has required extensive management and continuous teams of CDC staff and other workers/volunteers from Tennant Creek, other NT towns and WA to assist and provide expertise. The CDC MEB and EH staff have lead the program but other CDC staff, taken from other areas such as eg TB nurses, AIDS/STD RNs, Aboriginal Health Workers and educators have contributed to the initial response. Travel into Tennant Creek is expensive (eg commercial airfare for Darwin-Tennant Creek-Darwin is $911) and travel via road is timely (approximately 10 hours one way Darwin to Tennant Creek and 5 hours one way Alice Springs to Tennant Creek). Elimination of
this mosquito in Tennant Creek should be achievable but will require a continued comprehensive program of surveying, educating and intervention in the coming months. Additionally, at this time it is unknown as to the status of *Aedes aegypti* presence in nearby areas such as Mt Isa and Camooweal in Queensland.

The NT has been free of the *Aedes* mosquito vectors of dengue since the late 1950s, despite many instances of importations from overseas in port areas of Darwin. The current infestation has been discussed in a national forum by the National Arbovirus and Malaria Advisory Committee (NAMAC), and the Commonwealth Department of Health and Ageing is cooperating with initial assistance and considering a risk assessment of the infestation for the rest of Australia. If the mosquito can be eliminated from Tennant Creek, it will prevent the species from spreading further north to areas that are much more receptive and vulnerable to dengue outbreaks. If these areas can be kept free of mosquitoes capable of transmitting the dengue virus, the eventual large and life threatening dengue fever outbreaks, such as are occurring in Indonesia and north Queensland, will be prevented.

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**Community Service Announcement**

**Keep Tennant Creek Dengue-free**

*“Your help is needed”*

*Aedes aegypti* mosquitoes, which are capable of transmitting the life-threatening dengue virus, are still entrenched in Tennant Creek with wide-spread breeding sites.

They need to be eliminated.

- Spray your property now as directed.
- Eliminate breeding containers (tins, tyres, jars, tarps) or store them out of the rain.
- Empty and wipe bird baths and dog water bowls at least weekly.

**Act now! Keep Tennant Creek dengue-free**

**More information on Hotline 1800 008 002**

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