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PAN AMERICAN  
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XXVII Meeting



Washington, D.C.  
September-October 1975

Provisional Agenda Item 30

CD23/19 (Eng.)

Corrigendum

25 September 1975

ORIGINAL: ENGLISH

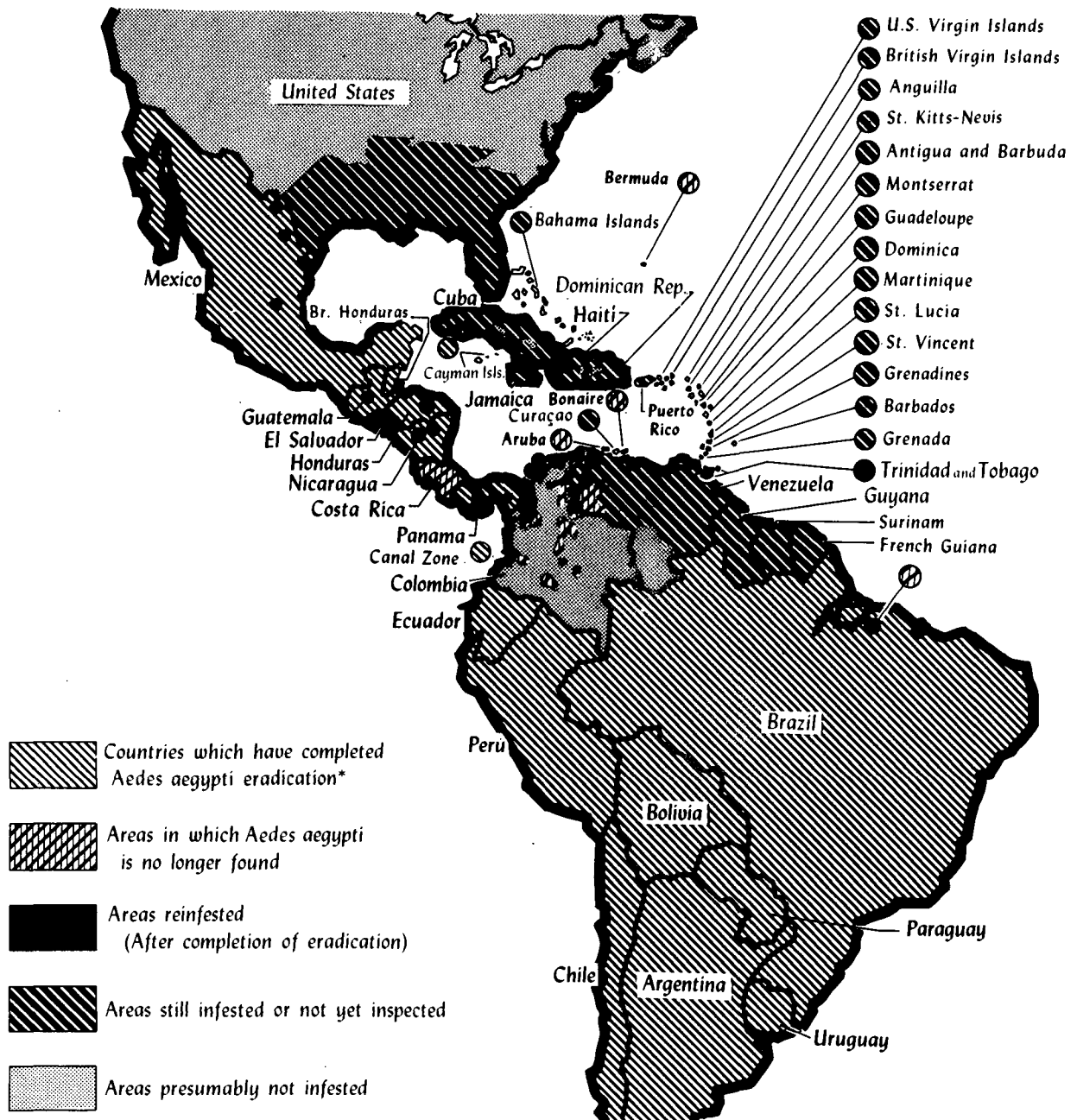
REPORT ON THE STATUS OF AEDES AEGYPTI ERADICATION IN THE AMERICAS

Corrigendum

Please substitute the attached map for that appearing on page 9  
of Document CD23/19.

Annex

Status of the *Aedes aegypti* eradication campaign in the Americas, June 1975



\*Eradication carried out according to the standards established by the Pan American Health Organization

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Washington, D.C.  
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CD23/19 (Eng.)

19 August 1975

ORIGINAL: SPANISH

REPORT ON THE STATUS OF AEDES AEGYPTI ERADICATION IN THE AMERICAS

In recent years Aedes aegypti eradication in the Americas has encountered serious obstacles due in large measure to the lack of interest of certain countries in achieving the goal established at the I Meeting of the Directing Council in 1947 in Buenos Aires, as well as to the recent decrease in the production of insecticides and the sharp escalation in the price of those products. The fact that for several years running urban yellow fever has not occurred in the Hemisphere is, it would appear, reducing the fear of this disease that in the past assailed and caused serious damage to the population of the Americas.

While it is true that, because of the vast area of the Hemisphere in which the vector has been eradicated, it is possible to think in terms of the control of the urban form of yellow fever, it must be emphasized that the problem is not yet solved and that the danger persists. In view of the indifference of some countries and the difficulty of others in undertaking effective vector eradication programs, the potential risk is increasing. Cases of jungle yellow fever continue to occur in the enzootic areas. It should be noted that, in the first half of 1975, serious epidemic outbreaks occurred in three departments in Bolivia and, according to official reports, caused 144 cases and 76 deaths among the susceptible farming population who are exposed to risk in their agricultural activities since they are not protected by vaccination. This shows that the problem has not been solved and that the existence of extensive enzootic yellow fever areas in the Hemisphere will continue to repeatedly expose the countries that are still infested with Aedes aegypti to urban epidemics of the disease.

There is another factor that has helped to favor the eradication of the above-mentioned vector, which also transmits other diseases. As is well known, in recent years dengue fever has been the principal problem for the urban population of certain countries and territories in the Caribbean area and in the northern part of South America that are still infested. In 1971-1972 an epidemic of dengue caused by type II virus occurred in Colombia, affecting the principal urban centers on the Atlantic seaboard and causing

approximately 450,000 cases. Although it is not possible to say whether or when the hemorrhagic form of dengue will occur in the Hemisphere, there is no doubt that at present only the countries free of Aedes aegypti can provide their inhabitants with adequate protection against diseases transmitted by this vector.

It may be stated, generally speaking, that almost all the countries and territories of the Caribbean area are at present conducting active eradication campaigns.

The table and map attached show the status of Aedes aegypti eradication in the Americas as of June 1975. Of a total area of 11.8 million km<sup>2</sup> initially infected by the vector in the Americas, 8.2 million km<sup>2</sup> are free of it and eradication is being maintained there. The remaining 3.6 million km<sup>2</sup> represent areas that are still infested; in 1.9 million km<sup>2</sup> (53%) there are active campaigns.

The following countries and territories are free of Aedes aegypti: Argentina, Belize, Bermuda, Bolivia, Chile, Ecuador, Cayman Islands, Paraguay, Peru, Uruguay and the Panama Canal Zone. Brazil, Costa Rica and the islands of Saba, Bonaire, St. Eustatius and Aruba have achieved negative status (infestation index X = 0) The three last mentioned islands continue to be negative after reinfestations from Curaçao were promptly controlled. In Mexico extensive areas are free of the vector, although a part of its territory is highly reinfested.

The status of the countries that are still infested is as follows:

1. NORTH AMERICA

United States of America. An extensive area, comprising 10 states in the southeast of the country, Puerto Rico, and the Virgin Islands, is infested.

The Government began an eradication campaign in 1964 but it only covered part of the infested areas. The results obtained up to late 1968 were very limited, and several areas continued to be infested. For that reason the campaign was suspended in 1969 and so far the Government has not decided to resume it.

Mexico. The country achieved eradication of the vector in 1961 and was declared free of it in 1963. Despite the fact that it maintains an eradication surveillance service, it has not been sufficient since 1965 to eliminate the constant reinfestations in the area of the border with the United States of America caused by Aedes aegypti coming from that country. At present the reinfested area in the States of Coahuila, Tamaulipas and Nuevo León is rather extensive, and the Government has not obtained sufficient resources to enable it to deal with the problem satisfactorily. The remainder of the country continues to be free of the vector, and active surveillance is maintained there.

In mid-1974 in the city of Victoria the local strain of Aedes aegypti was found to be resistant to DDT. With the assistance of PASB, a special study was made of the situation and the pertinent technical recommendations were drawn up.

## 2. CENTRAL AMERICA

El Salvador. After being free of the vector for more than eight years, a reinfestation was discovered in 1965 and threatened the city of San Salvador and other cities in the country. Subsequent investigations showed that the country was almost completely reinfested.

The eradication campaign, which was resumed in 1965, has so far achieved very limited results because of financial limitations, and coverage has been confined to San Salvador and Ilopango (international airport).

Guatemala. The vector was eradicated in 1958 and the country declared free of it in 1959. In late 1972 the eradication surveillance service discovered another reinfestation focus in the same city (in the border area with El Salvador) in which reinfestation had been eliminated in 1967. Subsequently, 24 other localities were found to be reinfested, all in areas corresponding to the infested areas of El Salvador and Honduras. An active campaign to eliminate those reinfestations is being pursued.

Honduras. The country completed eradication in 1959 and was declared free of the vector in the same year. In 1968 the surveillance service discovered a reinfestation in the northern region of the country in the cities of San Pedro Sula and Puerto Cortés. Campaign activities were reorganized but lack of funds prevented prompt and appropriate measures. In 1972 activities were suspended because of lack of funds. During the above-mentioned period, the vector spread throughout various regions of the country including the entire Sula Valley, the western region and part of the central south region.

Beginning in 1973 the Government decided to resume campaign activities and give priority to the northwestern, southern and Sula Valley regions. Since then, until the early months of this year, 1,097 localities throughout the country had been inspected, and 347 of them (31.6%) found positive. The positive localities were treated and verified and their number has now been reduced to 60, which indicates substantial progress.

Difficulties caused by lack of funds and insecticides are being overcome this year.

Nicaragua. Because of the discovery of a reinfestation focus in late 1973, a broad program was launched in 1974 including the inspection of 65 localities throughout the country. Eight of them were found to be reinfested; all were treated, six were rendered negative, and the other two are

in the process of verification and treatment. The Organization helped to reorganize activities and provided assistance in the epidemiological investigation of a reported outbreak of jungle yellow fever, which fortunately proved to be negative. At the beginning of this year a reinfestation was discovered in the city of Managua. It was found to be limited to a small number of city blocks; the area was immediately limited and treated, and the inspection has been extended to the rest of the city.

Panama. The country completed eradication of the vector in 1955 but in 1969 the city of Colón and three neighboring localities were found to be reinfested. In April 1970 the above-mentioned reinfestation was eliminated, and until June 1972 an exhaustive entomological survey was conducted throughout the country, with negative results. In October 1972 the surveillance service again found that Aedes aegypti had been introduced into the capital of the country in used tires imported from a country that is still infested.

The campaign was reorganized in late 1972, but was confronted with serious administrative-operational and disciplinary problems. Inspection of several cities in the country, including Colón, showed that they were still negative. The reinfestation is confined to the city of Panama, where at the end of the first half of this year the reinfested sections of the city had infestation rates of 0.2-0.08 per cent. A recent report announced the discovery of a reinfestation in the city of David, probably coming from the city of Panama along the Pan American Highway. The necessary resources for the control of reinfestation were immediately deployed. By means of the ultra-low volume spraying of malathion as a supplementary method it is hoped to reduce the infestation until the goal of eradication is reached.

### 3. SOUTH AMERICA

Colombia. The reinfestations discovered in 1969 in the cities of Barranquilla and Cartagena were not promptly eliminated because of lack of resources. The vector became widely dispersed throughout almost all of the northern seaboard of the country, La Guajira, and a few localities in the Department of Norte de Santander. In 1972 the eradication campaign was reorganized, but the resources available made it possible to treat only the principal cities infested. These activities were continued in 1973 and covered 50 per cent of all the houses in the area considered infested. In 1974 and the first half of 1975 the campaign did not make any substantial progress, primarily because of financial problems and lack of insecticides.

An epidemic outbreak of jungle yellow fever, which occurred in the Region of the middle Magdalena in July, caused justified alarm because of the risk of the urbanization of yellow fever in certain nearby infested localities connected with the area in which the cases occurred. In view of this situation, immediate steps were taken to apply the measures recommended for controlling the outbreak and preventing an urban epidemic. Government support was obtained in acquiring the necessary resources for reorganizing the Aedes aegypti eradication program.

Guyana. The campaign continued with the attack measures corresponding to stage I of the Eradication Plan, which covers the city of Georgetown, areas of the east and west of the Demerara River, and part of the eastern region. The initial infestation rate, which was 17-59 per cent, has fallen to 0.3 per cent. The Government has already begun preparatory activities, including environmental sanitation measures (elimination of breeding places), in the area to be covered by stage II of the Eradication Plan.

Venezuela. The country is still highly infested, and the Government is conducting a very small campaign in the western region of the country, with limited results.

French Guiana. Despite a campaign that covers the infested areas, there was a sharp increase in the infestation rate in the second half of 1974, primarily in the city of Cayenne.

Surinam. The campaign was continued in the city of Paramaribo and the coastal area, but the treatment cycles were irregular. The results obtained were not favorable, and the infestation rate is stationary at over 5 per cent. This is due to the special problem of the development of foci of Aedes aegypti in the gutters of houses (40 per cent of all houses). In 1973 the status of the program was reviewed, and it was suggested to the Government that the strategy be changed and attack measures be taken to solve the problem in the short term. The plan presented has been approved and is being implemented.

#### 4. INSULAR AMERICA (CARIBBEAN)

Barbados. The campaign has continued to make progress and 42 out of the 61 localities in the country have been rendered negative. The infestation rate in the 19 localities still infested is 0.1 per cent.

Cuba. The progress of the campaign, which was reorganized in 1971, has been very limited. In September 1973 a general evaluation was made, the principal causes impeding the progress of the campaign were identified and the work program was reoriented. Difficulties in acquiring equipment and insecticides hampered the progress of the campaign in 1974.

Bahamas. During the present year eradication activities were continued but were confined to the city of Nassau (the capital).

Haiti. Haiti continued to be infested and there are no campaign activities.

Jamaica. The Government has decided to launch a nationwide campaign, the preparatory phase of which was completed in the first half of 1975. The prospects for eradication appear to be favorable, since the country has sufficient human and financial resources.

Dominican Republic. The country continues to be infested and there are no campaign activities.

Trinidad and Tobago. On the island of Tobago the surveillance service continues to be active. The island of Trinidad is continuing its attack operations to eliminate reinfestation foci in the area surrounding Port-of-Spain. The infestation rate is low.

France. The campaigns in Guadeloupe and Martinique continue to be active but with limited results.

Kingdom of the Netherlands. The islands of Aruba, Bonaire, Saba and St. Eustatius are negative and in the consolidation phase. Occasional infestations coming from Curaçao are being promptly controlled.

The Netherlands part of St. Martin, which continues to be infested, is in the attack phase. The infestation rate is 3 per cent, with a downward trend.

Curaçao is in the preparatory phase, and resources have already been appropriated for the attack phase.

United Kingdom. The Cayman islands are negative.

The campaign in St. Lucia is in a very advanced stage, and there is only one positive locality. The infestation rate is 0.1 per cent.

In Montserrat, the infestation rate fell from 22.5 to 0.8 per cent and activities are progressing satisfactorily. In St. Vincent the campaign was suspended because of lack of insecticides and funds, but efforts are being made to reorganize it as soon as local resources are available. In Dominica, the campaign has been limited since the beginning of the year to control activities in Roseau because of financial problems. The campaign in Grenada made satisfactory progress up to 1973 and the infestation rate fell from 27 to 1.4 per cent. In 1974 and the first half of 1975, activities have been affected by serious financial and socio-political problems. It is hoped to reorganize the campaign in the second half of 1975.

In Antigua financial problems caused deterioration of activities. The infestation rate, which was 2.3 per cent at the end of 1974, has risen to date to 13.8 per cent.

In Anguilla activities have been held up by lack of insecticides. It is hoped to resume them in the second half of 1975, as soon as the necessary resources are available.

In the Virgin Islands operations on Tortola, J. Van Dyck and Virgin Gorda have been suspended because of the same problem.



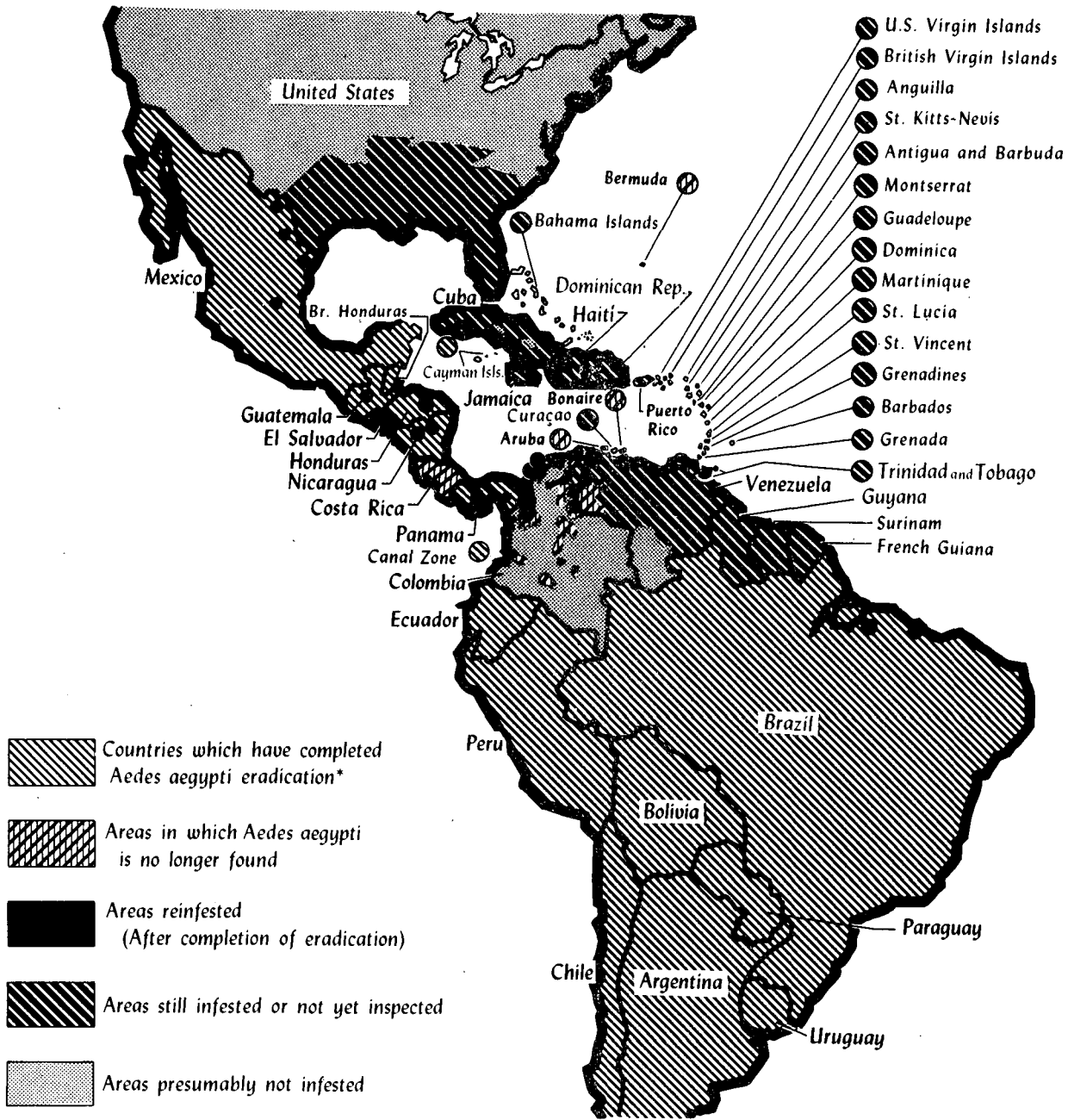
St. Kitts and Nevis continue to be reinfested but efforts are being made to reorganize the campaign. With regards to the Turks and Caicos Islands, the Government has made provision for the necessary funds for organizing the campaign, whose preparatory phase will be initiated in the next semester.

Beginning with its next meeting, which will be held in early 1976, the Advisory Committee on Dengue will assume responsibility for providing advice on yellow fever and Aedes aegypti eradication. In accordance with these enlarged responsibilities, the Committee will evaluate new methods of Aedes aegypti eradication and submit pertinent recommendations to the Governing Bodies of the Organization for consideration.

STATUS OF AEDES AEGYPTI ERADICATION IN THE AMERICAS, JANUARY 1975

Country or other political unit	Area in km <sup>2</sup>		Percentage total area	Stage of campaign	Activities
	Total	Area initially infested			
Argentina . . . . .	4,024,458	1,000,000	24.8	Eradication completed	Vigilance
Barbados . . . . .	430	171	39.8	Infested	Attack phase
Bolivia . . . . .	1,098,581	100,000	9.1	Eradication completed	None
Brazil . . . . .	8,511,965	5,328,822	63.0	Reinfested	Consolidation phase and vigilance
Chile . . . . .	756,945	100,000	13.2	Eradication completed	Vigilance
Colombia . . . . .	1,138,338	280,000	24.6	Infested	Attack phase
Costa Rica . . . . .	50,700	20,000	39.4	Negative	Consolidation phase
Cuba . . . . .	114,524	100,000	87.3	Infested	Attack phase
Dominican Republic . . .	48,734	42,020	86.2	Infested	None
Ecuador . . . . .	283,561	69,454	24.5	Eradication completed	Vigilance
El Salvador . . . . .	21,393	18,675	87.3	Reinfested	Attack phase (limited)
Guatemala . . . . .	108,889	36,423	33.4	Reinfested	Attack phase
Guyana . . . . .	214,969	4,662	2.2	Infested	Attack phase
Haiti . . . . .	27,750	27,750	100.0	Infested	None
Honduras . . . . .	112,088	69,929	62.4	Reinfested	Campaign interrupted
Jamaica . . . . .	11,424	11,424	100.0	Infested	Attack phase (limited)
Mexico . . . . .	1,972,546	1,000,000	50.7	Reinfested	Attack and vigilance
Nicaragua . . . . .	130,000	65,263	50.2	Reinfested	Attack and vigilance
Panama . . . . .	75,650	56,246	74.3	Reinfested	Attack phase
Paraguay . . . . .	406,752	200,000	49.2	Eradication completed	Vigilance
Peru . . . . .	1,285,215	638,000	49.6	Eradication completed	Vigilance
Trinidad and Tobago . . .	5,128	3,108	60.6	Infested	Attack phase
United States of America	9,359,781	1,536,819	16.4	Infested	Campaign interrupted
Uruguay . . . . .	186,926	186,926	100.0	Eradication completed	Vigilance
Venezuela . . . . .	912,050	710,000	77.8	Infested	Attack phase (limited)
Antigua (Barbuda & Redonda)	442	280	63.3	Infested	Attack phase
Aruba . . . . .	190	174	91.6	Negative	Consolidation phase
Bahamas . . . . .	11,405	11,405	100.0	Infested	Attack phase (limited)
Belize . . . . .	22,965	22,965	100.0	Eradication completed	Vigilance
Bermuda . . . . .	53	53	100.0	Eradication completed	Vigilance
Bonaire . . . . .	281	246	87.5	Negative	Consolidation phase
Canal Zone . . . . .	1,432	1,432	100.0	Eradication completed	Vigilance
Cayman Islands . . . . .	259	259	100.0	Negative	Consolidation phase
Curaçao . . . . .	472	448	94.9	Infested	Preparatory phase
Dominica . . . . .	789	789	100.0	Infested	Attack phase
French Guiana . . . . .	91,000	91,000	100.0	Infested	Attack phase
Grenada-Grenadines (Carriacou, Petite Martinique, and Union)	344	344	100.0	Infested	Attack phase
Guadeloupe (and part of St. Martin) . . . . .	1,779	1,619	91.0	Infested	Attack phase
Martinique . . . . .	1,102	1,000	90.7	Infested	Attack phase
Montserrat . . . . .	103	103	100.0	Infested	Attack phase
Puerto Rico . . . . .	8,896	8,896	100.0	Infested	Campaign interrupted
Saba, St. Eustatius (and part of St. Martin) . . .	89	89	100.0	Infested	Attack phase
St. Kitts, Nevis, Anguilla	396	396	100.0	Infested	Campaign being planned and attack phase
St. Lucia . . . . .	616	259	42.0	Infested	Attack phase
St. Vincent . . . . .	388	332	85.6	Infested	Attack phase
Surinam . . . . .	142,822	48,000	33.6	Infested	Attack phase
Turks and Caicos Islands	430	430	100.0	Infested	None
Virgin Islands (U.K.) . .	153	153	100.0	Infested	Attack phase
Virgin Islands (U.S.A.) .	344	344	100.0	Infested	Campaign interrupted

Status of the *Aedes aegypti* eradication campaign in the Americas, December 1974



\*Eradication carried out according to the standards established by the Pan American Health Organization