

# AGENDA ITEM SUMMARY

## FORT COLLINS CITY COUNCIL

ITEM NUMBER: 37

DATE: July 1, 2008

STAFF: Wendy Williams  
Tess Heffernan

### SUBJECT

Resolution 2008-062 Repealing Resolution 2004-082 and Adopting a New West Nile Virus Management Policy.

### RECOMMENDATION

Staff recommends adoption of the Resolution.

### FINANCIAL IMPACT

The West Nile virus management program is currently funded at \$235,228 for 2008 and \$239,932 for 2009. Many of the recommendations detailed within this Agenda Item Summary have little or no financial impact. The estimate for implementation of the remaining recommendations is as follows:

	2008 one time	2009 one time	2010 / ongoing
Additional public education	\$ 11,000	\$ 11,000	\$ 11,000
Quality Control	\$ 8,000 - 10,600	\$8,000 - 10,600	\$8,000 - 10,600
Testing of samples (status quo)	NA-CDC contribution	\$ 21,000 - 42,000	\$ 21,000 - 42,000
One time technical research	\$ 3,000	NA	NA
Budget for adulticiding (if/when needed)	---	---	\$ 49,500 (ongoing budget)
Budget for reverse 9-1-1 (if/when needed)	---	---	\$ 18,500 (ongoing budget)

### EXECUTIVE SUMMARY

The overall goal of the West Nile Virus Management Policy is to reduce the risk of human West Nile virus infection while limiting adverse human health and environmental impacts. In December 2007 the City Manager formed a West Nile Virus Technical Advisory Committee for the purpose of reviewing and making recommendations about the City's policy and practices related to West Nile virus mitigation. The Committee has finalized its review and made a number of recommendations. City Council discussed the Committee's findings at work sessions on April 22, 2008 and June 10, 2008 and directed staff to bring forward a resolution formally adopting a West Nile Virus Management Policy.

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**BACKGROUND**

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West Nile virus was first detected in Colorado in late summer of 2002 and an initial outbreak of infection occurred in the Fort Collins area in 2003. The City's policy for responding to West Nile virus evolved through a series of operational experiences and reviews with City Council, beginning in 2003. The City employs a broad based, prevention-focused management program that includes public information and education, adult and larval mosquito population monitoring, and direct larval control (also known as larviciding). Additionally, the City has implemented adult mosquito control by spraying (also known as adulticiding) as an emergency response to increasing human health risks in some years.

It is generally accepted that West Nile virus will be present in the Fort Collins area for the foreseeable future. Following the 2007 season, the City Manager decided to form a Technical Advisory Committee for the purpose of reviewing and making recommendations about the City's current policy and response plans. The Committee has met regularly since January 2008 discussing the various program components, reviewing research and consulting with outside experts.

**Program Recommendations**

The Committee's findings and recommendations were discussed by City Council at work sessions on April 22, 2008 and June 10, 2008. Many thoughtful recommendations were made by the Committee during the course of the last six months. After careful deliberation, the City Manager and staff consider the following to be those of highest priority:

1. Adopt a written West Nile Virus Management Policy. Currently the City has a detailed operational plan explaining how the threat of West Nile virus is managed, and a 2004 resolution establishing guidelines for undertaking measures to help control the West Nile virus. The proposed West Nile Virus Management Policy includes a stated goal and outlines key elements for the City Manager to implement, including public education, larviciding, mosquito management and use of adulticides.

Two policy options for Council consideration are discussed in detail later in this document.

2. Enhance public education and outreach in order to better inform citizens about the threat of West Nile virus and how they can protect themselves. Work is underway to increase the effectiveness of West Nile virus messaging and reach a broader audience through print ads, radio spots, the internet, etc. By adding a seasonal public relations field technician, the City could more effectively reach citizens at a variety of outdoor venues, providing samples of approved repellents and distributing materials on West Nile virus.

The City's contractor, Colorado Mosquito Control, has committed to upgrading their website to include more information on mosquito test results and locations, and to ensuring the information is kept current, especially during times of higher risk.

3. Provide a mechanism for oversight into the process so that all operations, including adulticiding, are not the responsibility of a single contractor. The desire for independent oversight was identified by both the Technical Advisory Committee and City Council. Staff recommends that some or all of three components be implemented:

- a. Add a seasonal City employee charged with conducting Quality Control of larviciding and adulticiding operations. This trained individual would assess the efficacy of larvicide treatments and adult mosquito surveillance (trapping) independent of the contractor and report the results directly to the City. If adulticiding occurs, he/she also would set traps to determine the reduction of *Culex* mosquito densities and check to ensure that treatments are done at the proper time and under the proper conditions.
  - b. Retain a separate contractor for adulticiding services, should they be needed. There are only two other local companies licensed by the State of Colorado to conduct adulticide operations. Both companies have been contacted and each has stated that they do not have the capability to meet Fort Collins' adulticiding needs. Staff will continue to investigate the possibility of working with other companies in the region or state, and seek further advice from the Technical Advisory Committee. While it is feasible that changes could be made this season, the more likely outcome is that options would need to be developed this year and implemented in 2009.
  - c. Continue the practice of having an independent party test mosquito samples to determine infection rates and verify identifications of the mosquitoes in the pools. The Centers for Disease Control (CDC) has donated these services to the City since 2003, however this will end at the end of 2008. City staff will continue to actively explore options for 2009 and beyond. One promising proposal is being developed by the Colorado State University Department of Microbiology, Immunology & Pathology. Depending on the cost of continued testing, the City may have to consider reducing the number of sites. Staff hopes to consult further with the Technical Advisory Committee to evaluate options.
4. Conduct one-time research to better determine the source of infected adult mosquitoes. A technical researcher can determine if there is a benefit to extending the buffer zone around some areas of the city, and whether or not backyard larval habitats are a significant source of infected mosquitoes. This, in turn, would help guide decisions about other potential larviciding practices (e.g. use of helicopters for larviciding, different products, etc.)
  5. Amend the Code definition of "public nuisance" to include stagnant water creating potential larval habitats for disease carrying mosquitoes. Though voluntary compliance is currently very high, this would provide the means to mitigate a problem property should an owner not respond to requests to do so. The primary emphasis would be to educate the public and proactively mitigate problem sites.

Code enforcement staff anticipate that the number of cases generated by this provision would be less than 20 over the course of a summer, and that they would be able to handle this increase with existing code compliance staff as currently budgeted.
  6. Conduct a survey to assess current public awareness of West Nile virus and opinions about the use of adulticides. The survey questions and methodology would require professional review to ensure objectivity. One low-cost and effective option is to include questions about West Nile virus on the next City-wide citizen survey, scheduled for late 2008 or early 2009.

7. The City Manager should appoint an ongoing Technical Advisory Committee to annually review the prior season and make recommendations to improve the efficacy of the program. Existing Committee members have expressed interest in participating in this effort.
8. Document the current design of the surveillance program and trapping grid, including the number of trap sites, types of traps used and number of trap nights per week. This provides data that contributes to decisions regarding the level of risk. This recommendation was discussed by the Committee early in the year and Colorado Mosquito Control staff have since compiled this information.
9. Change the current policy on adulticiding to include additional review by a West Nile virus advisory panel, and include funding for adulticiding in the ongoing City budget in future years. This recommendation (also referred to as "Option C" in the June 10, 2008 work session materials) is discussed in more detail in the following section.

Many of these recommendations can be implemented at little or no cost. Others require additional funding, as outlined in the table below. The current funding for the West Nile virus management program comes from a combination of the General Fund, Storm Water Fund, and Natural Areas Fund. The Natural Areas fund has agreed to contribute the \$11,000 recommended for additional public education (item 2), the Storm Water Fund has agreed to contribute \$10,000 towards the cost of laboratory testing (item 3c), and the remaining costs would need to be covered by the Community Opportunities funds in the General Fund. The ongoing costs for adulticide operations would be considered for the 2010-2011 budget using the Budgeting for Outcomes process.

<i>Cost of recommendations</i>			
<b>Recommendation</b>	<b>2008 one time</b>	<b>2009 one time</b>	<b>2010 / ongoing</b>
2. Additional public education	\$ 11,000	\$ 11,000	\$ 11,000
3a. Quality Control	\$ 8,000 - 10,600	\$ 8,000 - 10,600	\$ 8,000 - 10,600
3c. Testing of samples (status quo)	None - CDC contribution	\$21,000 - 42,000	\$21,000 - 42,000
4. One time technical research	\$ 3,000	NA	NA
3c. Budget for adulticiding (if/when needed)	---	---	\$ 49,500 (ongoing)
3d. Budget for reverse 9-1-1 (if/when needed)	---	---	\$ 18,500 (ongoing)

<i>Current budget and funding sources</i>		
<b>Fund Source</b>	<b>2008</b>	<b>2009</b>
General Fund	\$ 135,834	\$138,561
Storm Water Fund	9,997	10,197
Natural Areas Fund	89,397	91,174
<b>Total</b>	<b>\$ 235,228</b>	<b>\$ 239,932</b>

### **Use of Adulticides and Policy Options**

Despite efforts to mitigate the threat of West Nile virus through public education, mosquito trapping and testing, and larval control, the City has deemed it necessary to apply adulticides in some years in order to avert a public health emergency. Much of the analysis of the Technical Advisory Committee focused on weighing the risks of West Nile virus against the risks of the pesticides used in adulticiding. The Committee reviewed a number of studies (some recently published), consulted with outside experts and brought their individual expertise and experience to the table.

The Director of the Larimer County Department of Health and Environment is the local authority in evaluating public health risks. As the season progresses, the Director uses a number of data sources to assess the developing threat and consults with a variety of people and organizations, including staff from the CDC, Larimer County and Colorado State University. Data sources include:

- The number and location of infected mosquitoes.
- The number of human cases.
- Blood donor data from the State blood bank.
- The Vector Index, a measure of the density of infected mosquitoes in the community.
- Historic data on epidemic years, non-epidemic years and in-between years.
- Weather, including how it influences monitoring and impacts the Vector Index.

If the Director deems it necessary, he/she recommends to the City Manager that the City implement adulticiding operations. The decision of whether or not the City will apply adulticides resides with the City Manager.

If the City Manager decides to proceed, City adulticide operations are based on the following protocols:

- Adulticiding is targeted to areas where trapping and testing data indicate high levels of infected *Culex* mosquitoes.
- The City uses truck-based adulticide applications, not aerial applications.
- Public notice of adulticiding operations is provided through a number of channels, including subscription notification services and reverse 9-1-1.
- The City does not spray near individuals who are registered with the State of Colorado as being chemically sensitive. There are currently 10 local residents on the State Pesticide Sensitive Registry.
- The City does not allow individual members of the public to “opt out” of the spraying program. People were permitted to opt out in 2003, but this practice was later discontinued because it reduces the efficacy of adult mosquito control.

### **Adopting the West Nile Virus Management Policy**

Two separate versions of the West Nile Virus Management Policy and corresponding resolution are being presented for Council consideration. Each version includes a broad-based policy with the goal of reducing the risk of human West Nile virus infection while limiting adverse human health and environmental impacts. The two versions differ in their approach to adulticiding.

At the June 10, 2008 work session Council was presented with four options for adulticiding, labeled Option A, B, C and D. Council directed staff to bring Options B and C forward for further consideration. Option B states that adulticiding is considered only as an emergency response to demonstrated increases in West Nile virus risk, and the recommendation comes from the Director of the Larimer County Department of Health and Environment. It also clarifies that the final decision of whether or not to adulticide remains with the City Manager. Option C is the same as Option B with one difference: Option C adds a review by a City Manager-appointed three person advisory panel.

Attachment 1 discusses the role of the proposed West Nile virus advisory panel (Option C) in more detail. While Option C is not the first choice of every member of the Technical Advisory Committee, all agreed that Option C would be an acceptable alternative, with the caveat that the funds needed for adulticiding should be included in the ongoing budget in future years.

Council, staff and citizens have invested a great deal of time studying and discussing the City's response to the threat of West Nile virus. A memorandum summarizing several follow-up items from the June 10, 2008 work session on this topic, and responses to Council questions, is included as Attachment 2.

In closing, staff would like to again recognize and thank the members of the Technical Advisory Committee for the many hours of study and discussion they have devoted to this analysis. Our community has benefited greatly from their expertise, and we are grateful for their many contributions to this important issue.

### **ATTACHMENTS**

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1. Proposed West Nile Virus Advisory Panel
2. June 13, 2008 Work Session Follow Up Memorandum and Responses

## Proposed West Nile Virus Advisory Panel

### Rationale

Since 2003 the City has contracted with a vendor to supply services to mitigate the risk of West Nile virus (WNV). During that time the County Health Department has recommended adulticiding four times to reduce the WNV risk. The decision of whether or not the City will apply adulticides is the responsibility of the City Manager.

Any recommendation by the County to adulticide is preceded by a detailed analysis of a number of factors; the recommendation is usually communicated to the City via e-mail. There is a desire to make this process more transparent and include review by citizen representatives.

A three-person WNV Advisory Panel, appointed by the City Manager, would be tasked with staying abreast of unfolding information about mosquito activity, WNV infection rates, and the many issues that come into play as the season progresses. This effort is coupled with expanded public outreach activities on the part of City and County staff. In the event that the County is likely to recommend that the City adulticide, a series of updates will be scheduled by City staff to ensure all relevant information is promptly distributed. The City Manager and the WNV Advisory Panel would then be prepared to respond to the County's recommendation.

The intent of the Advisory Panel is not to debate the merits of adulticiding or its potential human health effects during an outbreak, but rather to stay aware of the situation, air any questions or concerns, and act as an information conduit between the City Manager and members' respective Boards or organizations.

### Advisors makeup and role

1. The Panel would be made up of one representative each from
  - Air Quality Advisory Board
  - Natural Resources Advisory Board
  - Larimer County Medical Society
2. Advisors are people with technical expertise who can give timely advice to the City Manager when needed, especially in the event adulticiding is recommended by the County.
3. Advisors are expected to stay well-informed and abreast of the most recent data available.
4. Advisors act as liaisons to their respective Board or organization.
5. Advisors are not decision makers, nor do they have veto power; decisions lie with the City Manager.

## **Process**

1. Advisory Panel members will be included on distribution list for informational e-mails from the Health Department and City staff group. They are also expected to access relevant online data sites, e.g. Colorado Mosquito Control.
2. One meeting will be held early in season with the City Manager; the Panel and City Manager will discuss and agree on communication protocols.
3. As the season progresses, advisors will stay in touch with City Manager and share perspectives.
4. Should adulticiding be recommended by Health Department, advisors will immediately inform the City Manager of any concerns and/or suggestions.





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## MEMORANDUM

**Date:** June 13, 2008  
**To:** Mayor and City Council Members  
**Through:** Darin A. Atteberry, City Manager *DA*  
**From:** Wendy Williams, Assistant City Manager *WJW*  
 Tess Heffernan, Policy and Project Manager *JH*  
**RE:** **West Nile Virus Management Policy Review Work Session Follow Up**

All City Council members were present for the discussion. Staff members included Wendy Williams, Tess Heffernan and Mike Calhoun. Four members of the Technical Advisory Committee were also present: Eric Levine, Dr. Greg McMaster, Dr. Chet Moore and Dr. Adrienne LeBailly.

The discussion covered a range of topics primarily related to the issue of adulticiding. On July 1, 2008 Council will consider a resolution adopting a West Nile Virus Management Policy. Two policies will be prepared for consideration: one that specifies that an advisory committee be formed to assist the City Manager should adulticiding be recommended (Option C), and a second policy that maintains the current process (Option B). Both versions will clarify that the decision to adulticide rests with the City Manager.

The following items or questions will be addressed prior to the July 1, 2008 meeting:

1. What, if any, impact does the City's decision to adulticide have on the overall "environmental footprint" in our community? Staff will survey homeowners associations, pest control companies, private golf courses, etc. and also determine if research exists from other communities.
2. Are there other illnesses and causes of death that the City could intervene with or prevent with this same amount of money and effort?
3. Bring forth a recommendation for incorporating independent oversight into the process, so that all operations – including adulticiding – are not the responsibility of a single contractor.
4. Provide data on the percentage of mosquitoes killed as a result of adulticiding in the years that the City has sprayed: 2003, 2004 and 2007. Also provide an estimate of the actual numbers of mosquitoes that remain after adulticiding.
5. Provide a recommendation on which recommendations of the Technical Advisory Committee should be implemented at this point, and where applicable, how those recommendations can be funded.
6. Provide information on the funding source(s) for the study or related studies described in Attachment 9.

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2. Are there other illnesses and causes of death that the City could intervene with or prevent with this same amount of money and effort?
3. Bring forth a recommendation for incorporating independent oversight into the process, so that all operations – including adulticiding – are not the responsibility of a single contractor.
4. Provide data on the percentage of mosquitoes killed as a result of adulticiding in the years that the City has sprayed: 2003, 2004 and 2007. Also provide an estimate of the actual numbers of mosquitoes that remain after adulticiding.
5. Provide a recommendation on which recommendations of the Technical Advisory Committee should be implemented at this point, and where applicable, how those recommendations can be funded.
6. Provide information on the funding source(s) for the study or related studies described in Attachment 9.

## Responses to June 13, 2008 Work Session Follow Up Memorandum

1. What, if any, impact does the City's decision to adulticide have on the overall "environmental footprint" in our community?

Staff is currently making inquiries with licensed pest control contractors, homeowners associations (HOAs) and other entities to answer this question. A summary of those findings will be provided on or before the July 1, 2008 City Council meeting. (Initial comment from one property manager is that the City's actions have a definite impact on whether or not some HOA boards decide to use adulticides. That property management company cited two HOAs in east Fort Collins that were preparing to adulticide in 2007 and cancelled those plans upon learning that the City was moving forward with adulticide operations.)

2. Are there other illnesses and causes of death that the City could intervene with or prevent with this same amount of money and effort?

There are currently no known public health needs that the City could impact in a similar fashion with this amount of money and effort. The City has chosen to make a significant impact in several areas in the recent past – as a leader in local anti-smoking legislation and enforcement, for example – and there is no question about the beneficial effects of City-owned water, wastewater and electric utilities. These assets are still uncommon or totally absent from many parts of the world.

In addition to their more widely-known benefits, sewage treatment facilities have largely eliminated *Culex pipiens* habitats from urban settings. (There are still places in the rural United States where raw sewage runs in open ditches and *Culex* grow by the tens of millions.) Water treatment has—except for some recent lapses in the systems—eliminated many of the common water-borne diseases. And because every house has piped water, people do not store water in buckets, drums or cisterns, eliminating a mosquito habitat that is common in many other parts of the world.

It is widely believed that the most effective way to make further headway against West Nile virus (or St. Louis or western equine encephalitis viruses, which are still present along the Front Range) is to invest in a well-planned and well-conducted mosquito/virus surveillance and control program similar to the City's current program.

3. Bring forward a recommendation for incorporating independent oversight into the process, so that all operations – including adulticiding – are not the responsibility of a single contractor.

A recommendation is included in the Agenda Item Summary.

4. Provide data on the percentage of mosquitoes killed as a result of adulticiding in the years that the City has sprayed: 2003, 2004 and 2007. Also provide an estimate of the actual numbers of mosquitoes that remain after adulticiding, if available.

Information on the **2003** season was provided by Colorado Mosquito Control and the Centers for Disease Control. The reduction in *Culex* mosquitoes ranged from 76% to 78%.

Average Number of *Culex* Mosquitoes per trap in spray areas

	<u>Pre Spray</u>	<u>Post Spray</u>
First event*	72.8	17.6
Second event	17.6	4.6

\*An event is two nights of spraying in a single area, three days apart. Some areas were sprayed multiple times (more than one event.)

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The following excerpt comes from the 2004 Annual Report - City of Ft. Collins Mosquito Control Program: "... there is a definite pattern of approximately 70% reduction in the two West Nile Virus vectors, *Culex tarsalis* and *Culex pipiens*, after each spray event. At the same time, untreated mosquito populations either increased or remained the same."

Average Number of *Culex* Mosquitoes per trap in spray areas

	<u>Pre Spray</u>	<u>Post Spray</u>
First event*	35.0	10.6
Second event	49.3	14.4
Third event	58.0	17.0
Fourth event	54.8	5.0

\*An event is two nights of spraying in a single area, three days apart. Some areas were sprayed multiple times (more than one event.)

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The following excerpts are from the 2007 Annual Report - Larimer County Cooperative Mosquito Control Program-City of Ft. Collins.

- First event: "The cumulative data for all surveillance traps in the City of Fort Collins indicated a 55.4% overall decline in mosquito populations and 33.5% decline for *Culex* species."
- Second event: "Based on pre- and post- surveillance trapping data, there was an overall decline of 89.6% in mosquitoes and an 88.7% decline in *Culex* mosquito populations."

Average Number of *Culex* Mosquitoes per trap in spray areas

	<u>Pre Spray</u>	<u>Post Spray</u>
First event*	157.2	86
Second event	37.25	4.39

\*An event is two nights of spraying in a single area, three days apart. Some areas were sprayed multiple times (more than one event.)

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During the June 10, 2008 work session the question was raised about how the number of mosquitoes relates to the transmission of West Nile virus. It was noted that the main route of human infection with West Nile virus is through the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds. The primary reason to adulticide is to kill existing infected mosquitoes, and thus break the cycle of transmission between birds and mosquitoes.

As soon as adult mosquitoes are sprayed, more/additional mosquitoes are hatching; however, the new mosquitoes that hatch are not yet infected. The birds that cause mosquitoes to become infected carry the virus for only 3-5 days. The adulticiding interrupts the cycle of transmission, even though it may not cause as much of a decrease in the actual numbers of mosquitoes as one might expect.

5. Provide a recommendation on which recommendations of the Technical Advisory Committee should be implemented at this point, and where applicable, how those recommendations can be funded.

The City Manager and staff's priority recommendations are included in the Agenda Item Summary.

6. Provide information on the funding source(s) for the study or related studies described in Attachment 9.

Funding sources:

- a) A Human-Health Risk Assessment for West Nile Virus and Insecticides Used in Mosquito Management - Robert K.D. Peterson, Paula A. Macedo, and Ryan S. Davis  
Agricultural and Biological Risk Assessment, Department of Land Resources and Environmental Sciences, Montana State University, Bozeman, Montana, USA

This study was funded by a grant from the U.S. Armed Forces Pest Management Board's Deployed War Fighter Protection Research Program and by the Montana Agricultural Experiment Station, Montana State University. The authors declare they have no competing financial interests.

- b) A Two-Dimensional Probabilistic Acute Human-Health Risk Assessment of Insecticide Exposure After Adult Mosquito Management - Jerome J. Schleier III , Paula A. Macedo , Ryan S. Davis , Leslie M. Shama , Robert K. D. Peterson

This study was funded by a grant from the US Armed Forces Pest Management Board's Deployed War Fighter Protection Research Program and by the Montana Agricultural Experiment Station, Montana State University, Bozeman, MT, USA.

- c) All other data based on EPA's Pesticide Re-registration Eligibility Decision for Permethrin (December 2007) and Re-registration Eligibility Decision for Piperonyl Butoxide (2006)

**RESOLUTION 2008-062  
OF THE COUNCIL OF THE CITY OF FORT COLLINS  
REPEALING RESOLUTION 2004-082 AND  
ADOPTING A NEW WEST NILE VIRUS MANAGEMENT POLICY**

WHEREAS, West Nile virus poses a significant health risk to the citizens of Fort Collins and was first detected in the Fort Collins area in 2003; and

WHEREAS, West Nile virus is a mosquito-borne disease primarily prevented through the management of mosquito populations; and

WHEREAS, beginning in 2003, the City Manager has worked with the City Council over time to evaluate and develop an approach for managing West Nile virus exposures in Fort Collins; and

WHEREAS, in 2004, the City Council adopted Resolution 2004-082, establishing guidelines for undertaking measures to help control West Nile virus, and directing City staff to develop a program for adulticiding of mosquitoes in appropriate circumstances; and

WHEREAS, in the intervening years, the City has continued to investigate and analyze alternatives and logistics for managing West Nile virus in Fort Collins; and

WHEREAS, it is generally accepted that West Nile virus will continue to be present in the Fort Collins area in the foreseeable future; and

WHEREAS, after the 2007 mosquito season, the City Manager took action to form a Technical Advisory Committee (the "Committee") for the purpose of reviewing and making recommendations about the City's West Nile virus management policy and response plans; and

WHEREAS, the Committee has been meeting weekly since January 2008, to discuss various program components, review research and consult with outside experts; and

WHEREAS, utilizing the considerable technical expertise of the members of the Committee, the Committee reviewed a number of resources, including studies, some recently published, weighing the risks of West Nile virus against the risks of the pesticides used in spraying to eliminate adult mosquitoes, and consulted with outside experts in that regard; and

WHEREAS, at the Council's April 22, 2008, work session, the Committee's initial recommendations to the City Manager on program components related to public information and education, mosquito surveillance, trapping and testing, and larval control were presented to the Council; and

**Option B**

WHEREAS, at the Council's June 10, 2008, work session, the Committee's analysis and recommendations regarding the use of adulticides were presented to the Council; and

WHEREAS, based on its review, the Committee recommended that the City employ a program response to manage the threat of West Nile virus through a series of actions, each of which is driven by a number of factors, with all decisions as to how best to deal with the threat of West Nile virus ultimately being subject to the discretion of the City Manager; and

WHEREAS, the Larimer County Department of Health and Environment (the "Health Department") has provided ongoing assistance to the City in evaluating West Nile virus risks and recommending the course of action for the City to take in managing those risks; and

WHEREAS, the Committee and City Manager have recommended that the Health Department be consulted for a recommendation regarding whether the relevant factors indicate that adulticiding should proceed; and

WHEREAS, the City Council is, through the adoption of this Resolution, approving a new City of Fort Collins West Nile Virus Management Policy, based on the recommendations of the Committee and the City Manager and repealing Resolution 2004-082.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the City Council hereby adopts the West Nile Virus Management Policy that is attached hereto as Exhibit A and incorporated herein by this reference to govern and guide the management of West Nile virus in Fort Collins.

Section 2. That Resolution 2004-082 is hereby repealed in its entirety.

Passed and adopted at a regular meeting of the Council of the City of Fort Collins this 1st day of July A.D. 2008.

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Mayor

ATTEST:

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City Clerk



**EXHIBIT A to Resolution 2008-062**

**West Nile Virus Management Policy**

July 1, 2008

The City of Fort Collins recognizes West Nile virus to be a public health issue. This West Nile Virus Management Policy has been developed to reduce the incidence of city residents contracting West Nile virus (a mosquito-borne virus). The overall goal of this policy is to reduce the risk of human West Nile virus infection while limiting adverse human health and environmental impacts.

The City recognizes the State of Colorado Department of Health and the Larimer County Department of Health and Environment as the authorities on local public health issues. The City's primary role in managing the threat of West Nile virus is to inform and educate Fort Collins citizens, participate in regional public education and outreach efforts, and administer a prevention-oriented mosquito management program.

The City's West Nile virus management program focuses on the following:

1. Providing a wide range of public education and outreach
2. Ensuring extensive on-going mosquito population data collection and monitoring, including extensive testing of samples for West Nile infection.
3. Executing an aggressive larval control program focused on *Culex* mosquitoes. This program includes detailed mapping of larval habitat and ongoing monitoring and larvicide applications.
4. Periodic evaluation of the program for continued efficacy.

The City applies adulticides only as an emergency response to a demonstrated increase in West Nile virus risk. A recommendation to adulticide comes from the Larimer County Department of Health and Environment. The decision to adulticide lies with the City Manager.

The City's West Nile virus management program is implemented by the City Manager using the practices, specifications and administrative systems determined by the City Manager to be appropriate.

The City may use a contractor to carry out the majority of the program. When using a contractor, the City defines a comprehensive scope of services to be provided and selects a qualified contractor using an open bid and evaluation process.

RESOLUTION 2008-062  
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REPEALING RESOLUTION 2004-082 AND  
ADOPTING A NEW WEST NILE VIRUS MANAGEMENT POLICY

WHEREAS, West Nile virus poses a significant health risk to the citizens of Fort Collins and was first detected in the Fort Collins area in 2003; and

WHEREAS, West Nile virus is a mosquito-borne disease primarily prevented through the management of mosquito populations; and

WHEREAS, beginning in 2003, the City Manager has worked with the City Council over time to evaluate and develop an approach for managing West Nile virus exposures in Fort Collins; and

WHEREAS, in 2004, the City Council adopted Resolution 2004-082, establishing guidelines for undertaking measures to help control West Nile virus, and directing City staff to develop a program for adulticiding of mosquitoes in appropriate circumstances; and

WHEREAS, in the intervening years, the City has continued to investigate and analyze alternatives and logistics for managing West Nile virus in Fort Collins; and

WHEREAS, it is generally accepted that West Nile virus will continue to be present in the Fort Collins area in the foreseeable future; and

WHEREAS, after the 2007 mosquito season, the City Manager took action to form a Technical Advisory Committee (the "Committee") for the purpose of reviewing and making recommendations about the City's West Nile virus management policy and response plans; and

WHEREAS, the Committee has been meeting weekly since January 2008, to discuss various program components, review research and consult with outside experts; and

WHEREAS, utilizing the considerable technical expertise of the members of the Committee, the Committee reviewed a number of resources, including studies, some recently published, weighing the risks of West Nile virus against the risks of the pesticides used in spraying to eliminate adult mosquitoes, and consulted with outside experts in that regard; and

WHEREAS, at the Council's April 22, 2008, work session, the Committee's initial recommendations to the City Manager on program components related to public information and education, mosquito surveillance, trapping and testing, and larval control were presented to the Council; and

## Option C

WHEREAS, at the Council's June 10, 2008, work session, the Committee's analysis and recommendations regarding the use of adulticides were presented to the Council; and

WHEREAS, based on its review, the Committee recommended that the City employ a program response to manage the threat of West Nile virus through a series of actions, each of which is driven by a number of factors, with all decisions as to how best to deal with the threat of West Nile Virus ultimately being subject to the discretion of the City Manager; and

WHEREAS, the Larimer County Department of Health and Environment (the "Health Department") has provided assistance to the City in the past in evaluating West Nile virus risks and recommending the course of action for the City to take in managing those risks; and

WHEREAS, the Committee and City Manager have recommended that the Health Department be consulted for a recommendation regarding whether the relevant factors indicate that adulticiding should proceed; and

WHEREAS, the Committee and City Manager have further recommended that the City Manager form a West Nile Virus Advisory Panel to review the recommendation of the Health Department and provide to the City Manager independent comments regarding the recommendations; and

WHEREAS, the City Council is, through the adoption of this Resolution, approving a new City of Fort Collins West Nile Virus Management Policy, based on the recommendations of the Committee and the City Manager and repealing Resolution 2004-082.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the City Council hereby adopts the West Nile Virus Management Policy that is attached hereto as Exhibit A and incorporated herein by this reference to govern and guide the management of West Nile virus in Fort Collins.

Section 2. That the City Manager is hereby directed to appoint a three-person West Nile Virus Advisory Panel ("WNV Advisory Panel") to be comprised of one representative from the Air Quality Advisory Board, one from the Natural Resources Advisory Board and one from the Larimer County Medical Society. Such representatives shall be selected by the City Manager based upon technical expertise and willingness and ability to diligently attend to West Nile virus management program developments in support of the City Manager's implementation of that program.

Section 3. In addition to its primary responsibility to advise the City Manager regarding the recommendations received from the Health Department, it is the Council's intent and expectation that WNV Advisory Panel members will each act as a liaison to his or her respective Board or Society.

**Option C**

Section 4. That Resolution 2004-082 is hereby repealed in its entirety.

Passed and adopted at a regular meeting of the Council of the City of Fort Collins this 1st day of July A.D. 2008.

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Mayor

ATTEST:

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City Clerk

**EXHIBIT A to Resolution 2008-062**

**West Nile Virus Management Policy**

July 1, 2008

The City of Fort Collins recognizes West Nile virus to be a public health issue. This West Nile Virus Management Policy has been developed to reduce the incidence of city residents contracting West Nile virus (a mosquito-borne virus). The overall goal of this policy is to reduce the risk of human West Nile virus infection while limiting adverse human health and environmental impacts.

The City recognizes the State of Colorado Department of Health and the Larimer County Department of Health and Environment as the authorities on local public health issues. The City's primary role in managing the threat of West Nile virus is to inform and educate Fort Collins citizens, participate in regional public education and outreach efforts, and administer a prevention-oriented mosquito management program.

The City's West Nile virus management program focuses on the following:

1. Providing a wide range of public education and outreach
2. Ensuring extensive on-going mosquito population data collection and monitoring, including extensive testing of samples for West Nile infection.
3. Executing an aggressive larval control program focused on *Culex* mosquitoes. This program includes detailed mapping of larval habitat and ongoing monitoring and larvicide applications.
4. Periodic evaluation of the program for continued efficacy.

The City applies adulticides only as an emergency response to a demonstrated increase in West Nile virus risk. A recommendation to adulticide comes from the Larimer County Department of Health and Environment and is reviewed by a City-appointed West Nile Virus Advisory Panel, which provides separate comments to the City Manager. The decision to adulticide lies with the City Manager.

The City's West Nile virus management program is implemented by the City Manager using the practices, specifications and administrative systems determined by the City Manager to be appropriate.

The City may use a contractor to carry out the majority of the program. When using a contractor, the City defines a comprehensive scope of services to be provided and selects a qualified contractor using an open bid and evaluation process.