

**MINUTES  
CITY OF FORT COLLINS  
AIR QUALITY ADVISORY BOARD**

**Date:** Monday, April 18, 2016  
**Location:** Community Room, 215 N. Mason Street  
**Time:** 5:30–8:00pm

**For Reference**

John Shenot, Chair  
Ross Cunniff, Council Liaison 970-420-7398  
Lucinda Smith, Interim Staff Liaison 970-224-6085

**Board Members Present**

Gregory Miller  
Jim Dennison  
Vara Vissa  
Tom Griggs  
Mark Houdashelt  
Chris Wood

**Board Members Absent**

John Shenot, Chair  
Rich Fisher  
Robert Kirkpatrick

**Staff Present**

Lindsay Ex, Staff Liaison/Environmental Program Manager  
Dianne Tjalkens, Admin/Board Support  
Matt Parker, Crew Chief  
Cassie Archuleta, Environmental Planner  
Mary Pat Aardrup, Environmental Planner

**Councilmembers Present**

None

**Guests**

Ralph Kieffer, citizen

---

**Call to order:** 5:31pm

**Agenda Review:** No changes.

**Public Comments:** None

**Review and Approval of Minutes:**

Tom moved and Greg seconded a motion to approve the March 2016 AQAB minutes as amended.  
Motion passed, 5-0-1. Jim abstained

---

**AGENDA ITEM 1: Election of Officers**

Tom moved and Chris seconded a motion to appoint  
Mark as Chair of the Air Quality Advisory Board for 2016.  
Motion passed unanimously, 6-0-0.

- Jim requests asbestos is added to the AQAB discussion items.
- Member noted Mark's dedication to the board.

Greg moved and Tom seconded a motion to appoint  
Vara as Vice Chair of the Air Quality Advisory Board for 2016.  
Motion passed unanimously, 6-0-0.

## **AGENDA ITEM 1: West Nile Virus (WNV) Program Update**

*Matt Parker, Crew Chief, presented on the disease and current education and communication plans. Matt discussed what the team is doing to educate people about preventing the disease, and asked for feedback from the AQAB.*

Seeking feedback on how the team presents data to the community. The WNV management policy mission is to reduce the risk of human WNV infection while eliminating adverse human health and environmental impacts (not nuisance control). Over 40 mosquito species, only two transmit the virus, and only females. Endemic—arrived in 2003. Housed in avian community year round; can exist without detriment to bird host. Is transmitted to humans and horses through mosquitos. 53 traps checked weekly through contract with Colorado Mosquito Control. Samples analyzed at CSU to determine infection rate in mosquitos. Begin testing water and larvaciding early in season. Apply BTI (bacteria) to kill specific species of larva. Provide educational materials to the public: avoid dusk and dawn when mosquitos are active, wear long sleeves and pants, use repellent, etc. Adulticiding is not in regular budget—absolute last resort. Desire is to break the cycle as early as possible. If must spray, get in early and spray as small an area as possible. Health effects of WNV: ~80% do not show symptoms, ~20% get West Nile Fever, and <1% get neuro-invasive (requiring hospitalization), <0.1% are fatal. Age risk component—over 70 has greatest risk. Variety of repellants are available. Hoping to change behaviors in your people. Targeting underserved populations—getting materials and repellants to homeless. In off-season employ technical advisory committee—CDC, CSU, Larimer County Health Department, member of local no-spray advocacy group, and member of local organic farming community. This year focusing on communicating data more effectively and putting a robust engagement plan in place. Will provide up-to-date mosquito meter at 10 highest use trailheads and single use repellent wipes (picaridin) beginning late June, when risk is elevating. Webpage shows vector index for four zones—vector indicates how many mosquitos and how many tested positive for virus. Considering using radar image instead of vector index to visually show “hot spots” —will be GIS based and scalable. As new information is gathered weekly, it is added to the webpage as PDFs. Will be changing to spreadsheets that users can interact with to see how data changes over time.

### **Comments/Q&A**

- Traps are static or moving?
  - Have increased number over years, but locations are static. Can use data to pick up trends over times.
  - How do you deal with changes to water drainage and do trends impact where new traps are added?
    - Fossil Creek is one of hottest zones, but last year northeast had highest infection rate.
    - Is there disease tracking with former human patients?
      - Human side is not information shared with team, aside from number of human cases. CDC has addresses.
- Times when County sprays within the city?
  - Two years ago this happened in southeast part of town. Last year avoided areas within city limits. Work well with County to share information and distribute outreach materials. Fundamental difference with County approach—City uses 0.75 vector index (VI) for adulticiding; County would prefer 0.5. County has jurisdiction to spray within city limits. If vector index was climbing and city VI indicated over 0.75, City would participate in adulticiding.
- Are there places in CO that do nuisance spraying?

- Loveland and many HOAs do nuisance control. Hear both sides: concern for pollinators, especially bee colonies, and on other side some want spraying to get rid of nuisance mosquitos.
- This issue comes up every year.
  - Council received update memo last year. Staff is available to give more information at Council Work Sessions. Demonstrate that have good plan in place and implementing effectively.
- True that levels of human infection have plateaued in last five years?
  - Was drastically higher when WNV first entered county. Information available on county Dept. of Health webpage. Has decreased significantly. Dependent upon environmental conditions: precipitation level, plus high temperature are necessary for breeding.
- It is estimated that there are five times as many people get infected as are reported, as only 20% of those infections show symptoms. Why can't vector index be correlated with expected number of infections, expected number of fever and fatality.
  - That is question for epidemiologists. Have demonstrated correlation between numbers and increase in vector index.
  - Thirteen years of data—should be able to do correlation.
- Prefer larvaciding because more cost effective or use less pesticide?
  - More targeted. Get to the source. BTI affects only impacts a few species of mosquitos, whereas any insects exposed and susceptible will be killed by spray.
  - So use less pesticide?
    - No. Use more BTI, but impacts are very different.
  - Estimate of kill percent in larvacide program? Survival rate?
    - Don't have good numbers on that. Would require better understanding of population size of a given pond that is treated. Test for presence, treat, and test again in a week. Matt will look for numbers from other places.
- Horses? Risk? What are numbers of infection for equine?
  - Don't have numbers, but infection can impact equine significantly. Horses are secondary impact, not a host. Humans are not hosts either. Have vaccination for horses, but not humans. Agricultural community was one of targets for outreach last year due to water use in agriculture.
  - CSU may have data on horse infections.
- Have information on public impact of marketing materials on four Ds?
  - Putting together pre- and post-surveys to get better idea of awareness and action levels before and after education.

ACTION ITEMS: Matt will see if other communities have numbers on survival rates of larvaciding.

---

## **AGENDA ITEM 2: Air Quality Monitoring Summary**

*Cassie Archuleta, Environmental Planner, presented the Board with a preliminary summary of the air quality monitoring data from 2015, including ozone, particulate matter, oil and gas related monitoring, and visibility measurements. Ms. Archuleta also highlighted how this monitoring network will be evaluated in 2016.*

Monitor criteria pollutants—carbon monoxide, ozone, particulate matter <10 microns, and particulates <2.5 microns. Also have monitoring on visibility, H<sub>2</sub>S, and VOCs. Fort Collins is in a non-attainment area for ozone—measuring above EPA's safe health threshold.

### **Ozone**

Ozone is hard to regulate as not directly emitted—precursors mixed with heat and stagnant conditions create ozone. Have two ozone monitors: CSU west and downtown—have new standard at 70ppb—standard is based on 8 hour average, violation is based on 3 year average of the 4<sup>th</sup> highest daily maximum 8-hour >70ppb. Modelling predicted hot spots which were found to be true when the west side monitor was added. Most recent modelling (2008) shows contributing factors: mobile, upstream oil and gas, point sources, natural sources, international transport. Ozone almost always has background. Can only control numbers above background.

## **PM Pollution**

PM10 is less than 10 microns; PM2.5 has most health impacts—very fine, cannot be seen. PM10 is larger particles, like dust, that settle quickly. PM2.5 can travel very far. PM is difficult to regulate—there are many components. Must find out where coming from to regulate and control. Have not had any PM10 violations since started monitoring. Fires contribute to these measurements. PM2.5 has two standards—24-hour and annual. Have not had violations. Sources modelled include area, mobile, industry, oil and gas, background, etc.

## **Oil and Gas Monitoring**

In 2013 had short term monitoring. Looked for tracers and VOCs—high concentration weren't found around the few wells in Fort Collins. Some VOCs were higher in downtown than around oil and gas sites. CSU did follow up to characterize baseline. CSU used data to do modelling to determine impact from potential future wells.

## **Visibility**

Fort Collins is one of few communities that monitor visibility. Started as result of Denver brown cloud. In community surveys visibility comes up as high value air quality indicator. Standard is to see 32 miles (not regulatory). Takes into account relative humidity.

## **Overall**

Numbers are published on EPA website—put out public alerts; Coloradoan (shows day before) and CoFC website (current) show snapshot data. Mary Pat is working on 5-year community survey. Monitoring network assessment is planned for 2016, and Air Quality Plan update is scheduled for 2017.

## **Comments/Q&A**

- Impacts from building of CSU stadium?
  - Crane has been getting in way of visibility monitoring. Have not seen impacts on PM.
- At what altitude is monitoring done?
  - About 3 meters for ozone and CO, particulate monitors are on roofs, visibility is high to avoid tops of buildings.
- Where place monitor impacts whether pass or fail. Where is best place to put monitors? Does EPA have dictums on where they are placed?
  - Monitors are points in space. EPA has criteria on siting. Downtown monitor was sited a long time ago. West monitor went in that location because modelling showed underrepresenting ozone and hot spots.
  - Are monitors where they should be according to definition?
    - EPA definition is kind of broad. May be time to do network assessment to see if representing everything we want to represent. Would not pull a monitor, but could add another site.
      - Request department get back to board when determine how new monitor would be sited.
    - State has done network assessment and suggested monitoring additional pollutants at downtown site. Will continue conversations.
- City has changed a lot since 2008. Is the City planning to add more ozone monitors?
  - Not at this time. Beginning discussions on monitoring needs, even for precursors. State is developing strategies around categories of sources.
  - Will there be a way to tie in results of these programs with everything else going on?
    - Working on strategies for VMT, which will contribute reductions to local VOCs and NOX. Need to better tell story of how CAP links to air quality.
- Oil and gas contributes largely to ozone but not VOCs?
  - Local O&G does not have much impact, but regional O&G does.
  - What floats in from Weld County would be background for our ozone problem?
    - Background is from outside United States. Models start with assumed values and atmospheric pollutants that are ubiquitous.
- At future meeting, discuss general info on monitors. Board has done transportation impacts manual and dust control manual. How does board decide what it thinks City should act on?
  - Would like to give feedback on process for monitoring network assessment.

- Lindsay will add to unscheduled agenda items.
  - State does assessment on criteria pollutants. Would like to see more special representation of VOCs.
  - No monitoring of methane?
    - Not currently. May also want to monitor NO<sub>2</sub>.
- Interested in learning more about Fort Collins' ability to be in attainment for ozone. Regional issue.
  - One zone, parts of many counties. Ex: Front Range has area where air gets trapped and stagnant. Even with all proposed controls, will be hard to be in attainment.
  - Is it possible that two monitors could be in non-attainment, but the overall area in-attainment?
    - State evaluates sites of monitors, but even when in-attainment still monitored as maintenance area.
- Where is methane monitored?
  - Scattered. It persists in atmosphere for decades so it moves and creates background. Could pull maps.
  - EPA is implementing standards for oil and gas facilities for methane monitoring?
    - The state is. Colorado is already taking steps to address ozone issues, including oil and gas regulations. Rules are more stringent in non-attainment area, but doesn't control everything contributing to ozone. Conversations on how to control ozone on a regional level.
- Micro-scale—What is sensitivity? There are new oil wells along I-25. How does this tie into the City having control over goals we have for CAP?
  - Monitoring is regional. Usually consistent within an air-shed. More, spatially, is always better.
  - Want to understand how oil and gas impacts air quality.
    - There is more data available.
    - Community level—public understanding of the city, neighborhoods, etc.
      - . EPA is looking at regional air sheds, not site-specific emissions.
      - Get H<sub>2</sub>S and odor complaints, asphalt, gas station VOC complaints, etc. State permitting and county enforcement address these issues.

ACTION ITEMS: Cassie can return with methane monitor map, monitoring network assessment, etc.

---

### **AGENDA ITEM 3: Indoor Air Quality**

*Mary Pat Aardrup, Environmental Planner, followed up with the Board after the February discussion on indoor air quality and the City's Healthy Homes program. The board discussed key challenges and opportunities for improving indoor air quality and public health.*

Premise of indoor air quality programs: among top five concerns of EPA, 2–5 times worse than outdoor air, spend most time indoors, comes from activities and materials we bring into our homes, under our own control, 72% of chemical exposure comes from homes. City programs: Healthy Homes, radon, zero-interest loans for mold and radon mitigation and wood stove replacement, lawnmower rebate programs, and air quality and recycling survey.

Indoor Air Quality Association is great resource. Address top issues: asthma, chemicals and VOCs, mold, particulates, poor ventilation, and radon. Mary Pat can send monthly learning opportunities to board members. Healthy Homes has trained over 120 volunteers. Graduating 21 new volunteers on Thursday. At end of April will have assessed 550 homes. Started five years ago in June. Making strong progress. Radon program has high interest. Doing marketing and completed study on radon mitigation rates. 70% of homes tested come back with high levels of radon, only 50% of those mitigate. Trying to increase mitigation rate. Zero interest loan program was at capacity last year—nearly \$30K/year. Lawnmower rebate program has brand new lawnmower library to allow residents to test variety electric mowers. If check out lawnmower get entered into a drawing. May 30 people will win mowers. Also have event to get large discount on electric mowers April 30 at Budweiser Event Center. Lawnmower rebate program rolls out May 1.

Air quality and recycling survey to be distributed in September. Want input from board on what would like to know from community. Mary Pat will send 2011 survey. Will discuss more at June meeting.

Radon research findings: Only 50% of those with radon mitigate. If home was built after 2005, passive system is already installed. To upgrade to active system is only about \$250. Have submitted BFO offer. Have not requested additional FTE this year, but will need in the near future. Would like board to keep indoor air at top of list and help staff move forward.

**BFO Offers:**

- \$10K for program evaluation to determine whether on right track with programs.
- \$40K to create do-it-yourself healthy home assessment.
- \$30K to get materials translated into Spanish.

Lindsay can run a report on all BFO offers related to air quality for the board.

**Comments/Q&A**

- Ratio of people who mitigate higher for people who already have passive system?
  - Don't have those numbers.
  - Would validate the passive system idea. Was designed to save money in the long run.
- Should AQAB recommend staff offer more inducements for mitigation?
  - Offer zero interest loans.
- Incidents of lung cancer caused by radon in Fort Collins?
  - Mary Pat can ask CDPHE.
  - Would be more impactful if had risks included in brochure. Ex: If have X picos of radon, chance of lung cancer increases X%. Fort Collins has been leader in air quality in many ways—requiring passive systems was leading edge in 2005. Landlords probably don't want to spend the money on radon systems because tenants don't ask, don't know, or don't want to pay for the system. What you do in own home is own business, but what you do in a business is a different matter. Can apply different rules to investment properties. Ex: requirement to notify tenant of radon level before signing lease.
    - Sellers have to provide buyers with radon information.
  - Looking at how to encourage people to mitigate. Collecting follow up information on testing.
  - Getting permission from anyone purchasing radon test kit to receive their scores. Get monthly report, send personal letter to those with high levels with additional information on contractors for mitigation, risks, and link to zero interest loan program. Determining how to follow up to see if those actions have had an impact. CDPHE sees Fort Collins as a leader in this area. Presented at international radon conference last year. But this year did not get any funding from CDPHE because they did not get funding from federal government. Usually use those funds to purchase test kits. Could be appropriate for this board to send a letter of concern.
    - Board members agreed to draft letter.
- How do you receive test results?
  - Takes a couple of weeks to get results. If gets hung up in mail, may need to retest.
- 50% who don't mitigate—do they go as far as getting an estimate?
  - Don't have that information.
  - Anecdotally, know people who don't plan to be in homes long enough to want to spend money.
  - Only requirement as seller is to provide information about radon, which is a brochure. Do not have to provide test data/numbers.
    - Some realtors disclose everything adverse.
    - Some buyers feel mitigation system is a red flag.

**ACTION ITEMS:** Board agreed to draft letter in support of radon testing funding. Lindsay will determine if letter should go to federal entity or Council.

---

**AGENDA ITEM 4: Updates and Announcements**

**Transportation Air Quality Impacts Guidance Manual**

- On track. Will hear more next month.

## **CAP**

- Council approved four initiatives. Second reading is tomorrow.

## **Community Recycling Ordinance**

- June 28 Work Session. Meeting with haulers, trying to find consensus on what to bring forward. Determining best time to return to board.
  - Is composting out of the package?
    - Not sure yet. Hoping to provide clarity in May meeting.

## **Downtown Plan**

- Public outreach nearly completed. Writing plan and policies. Will have additional outreach this summer. Will return to AQAB in July.

## **Fugitive Dust**

- Adopted unanimously on first reading, with a few changes. Increased size threshold to 5 acres. Everyone will still have to control dust, but if under 5 acres how will not be prescribed. Tracking all complaints as they come in. Postponed second reading for additional analysis—scheduled for May 3.
  - There may be ~2 sites per year that will have to adhere to the manual. Will have little effect on air quality.

---

## **AGENDA ITEM 5: Futures Actions and Agenda Items**

### **Agenda Planning—May**

- Transportation Manual
- West Elizabeth Enhanced Travel Corridor
- TRIP—trip reduction information program

### **Review of City Council 6 Month Agenda Planning Calendar**

- Not discussed.

---

**Meeting Adjourned:** 8:06pm

**Next Meeting:** May 16