# Environmental Health Annual Report 2013











Certified
Pool
Operator
Course



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#### LIST OF ACRONYMS

BOCC **Board of County Commissioners** 

CCC **Child Care Center** 

Code of Colorado Regulations CCR C&D Construction and Demolition CDC Centers for Disease Control

CDPHE Colorado Department of Public Health and Environment

CIH Certified Industrial Hygienist

COO Change of Ownership Certified Pool Operator CPO

Colorado Professionals in Onsite Wastewater **CPOW** 

Consumer Product Safety Commission **CPSC** 

CRS Colorado Revised Statutes DHD Digital Health Department DIMP Diisopropylmethylphosphonate DIS Disease Intervention Specialist Dense Non-Aqueous Phase Liquid DNAPL

**EBL Elevated Blood Lead** EΗ **Environmental Health** 

**EHPC Environmental Health Policy Coordinator** 

EHS **Environmental Health Specialist EPA Environmental Protection Agency** 

EPR **Emergency Preparedness and Response** 

Food-borne Illness FBI

FDA Food and Drug Administration

Flammable Gas Overlay FGO

Geographic Information Systems GIS HCR Household Chemical Roundup Household Hazardous Waste HHW HIA **Health Impact Assessment** 

ICS Integrated Cover System, Incident Command System

IDL Illegal Drug Laboratory

IGA Intergovernmental Agreement

ΙH Industrial Hygiene

Individual Sewage and Disposal Systems **ISDS** 

Municipal Solid Waste MSW

Operation, Maintenance and Monitoring OM&M **OWTS** Onsite Wastewater Treatment System

parts per billion dqq PHN Public Health Nurse POD Point of Distribution

RCRA Resource Conservation and Recovery Act

RFE Retail Food Establishment RMA Rocky Mountain Arsenal

TCHD Tri-County Health Department

**VGB** Virginia Graeme Baker

WNV West Nile Virus

#### INTRODUCTION

The Environmental Health (EH) Division of Tri-County Health Department (TCHD) has prepared this 2013 Annual Report for the purpose of describing the environmental and public health related activities in which the division was involved throughout the year. The EH programs at TCHD focus on preventing communicable diseases and environmental conditions that could be harmful to public health. Programs and services vary widely and range from food safety and restaurant inspections, to health and safety, to land, air and water quality.

The Annual Report is comprised of individual program reports. Each program report provides a program description, an explanation of the funding mechanism(s), and program highlights from 2013. In terms of funding, the General Fund identified throughout refers to both state and county per capita funds received by TCHD. Reported data includes the previous 5 years (2009-2013). Each report was prepared by the program lead(s) responsible for that particular program. Program leads are listed as follows:

•	Body Art
•	Child Care

Disease Prevention

Food Protection

Geographic Information Systems

Household Hazardous Waste

• Industrial Hygiene

Land Use

Lowry Landfill

• Methamphetamine Labs

Wastewater

Recreation and Public Places

Rocky Mountain Arsenal

Solid Waste

Spills and Incident Response

Vector Surveillance

Water Quality

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#### **BODY ART**

# **Program Description**

TCHD began inspecting body art facilities in 2002. This was in response to the adoption of the *Colorado Rules and Regulations Governing Body Art, 6 CCR 1010-22* on July 18, 2001, which became effective on August 30, 2001. Body art facilities are establishments where the act of piercing, tattooing, or scarification of the skin is conducted. See Tables 1 and 2 below for the number of body art facilities and inspections by year.

TCHD's inspection program involves one routine, un-announced inspection of each body art facility each year. Additional visits may be conducted on a complaint basis or if there are excessive violations that do not get corrected on the follow-up inspections. The inspections are performed by Environmental Health Specialists (EHS) who are specially trained to conduct body art inspections.

The primary goal of the EHS during the inspection is to assess compliance with state regulations. Further, the EHS is trained to educate the artists and other personnel on Hepatitis B vaccinations, blood-borne pathogens and universal precautions. This program has great value in that the *Rules and Regulations Governing Body Art in the State of Colorado* do not require licensing of body art facilities; therefore the inspection is the only time that many of the body artists receive education on the risks of blood-borne pathogens.

# **Funding**

The program is funded through inspection fees that each facility is required to pay annually. The fee is based on an average of program costs over the prior three years.

- The Body Art Team successfully trained two new team members to conduct routine inspections and also trained a seasoned inspector to conduct new establishment opening inspections.
- TCHD inspectors investigated a complaint of a possible non-tuberculosis mycobacterial (NTM) skin infection, potentially associated with a national outbreak, at one of the regulated body art establishments. This investigation turned out to be inconclusive, but resulted in several major violations being identified including improper hand washing and possible cross contamination.
- The Body Art Team developed a PowerPoint presentation that will be used to educate artists on the requirements of the regulations.

Table 1. Number of Body Art Facilities per County, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	18	23	23	22	20
Arapahoe	18	17	19	25	26
Douglas	6	7	7	7	7
Total	42	47	49	54	53

Source: TCHD Internal Program Data

Table 2. Number of Body Art Facility Inspections per County, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	37	35	62	40	33
Arapahoe	26	31	37	41	40
Douglas	17	4	13	21	10
Total	80	70	112	102	83

#### **CHILD CARE**

# **Program Description**

The Child Care Program encompasses most Colorado Department of Human Services (CDHS) licensed child care facilities in the TCHD area, including drop-in centers, pre-schools, before and after school programs, group homes, and all-day child care centers (excludes private home based operations). TCHD is responsible for conducting sanitation inspections for over 700 child care facilities for compliance with the *Colorado Rules and Regulations Governing Health and Sanitation of Child Care Facilities, 6 CCR 1010-7.* Facilities which engage in extensive food preparation must also comply with the *Colorado Retail Food Establishment Rules and Regulations, 6 CCR 1010-2.* 

Each facility that TCHD inspects is required by the CDHS, which is the state's licensing authority, to have a health and safety inspection at least every two years as a condition of their Human Services license. Tables 1 and 2 on the next page show the number of child care facilities that exist per county over the last five years as well as the number of inspections. Annual on-site inspections are conducted for all child care facilities which engage in any or all of the following: extensive food preparation, diaper changing, or are on a drinking water well. Starting in July 2013, annual mail-in self-inspections for the remaining lower risk facilities were changed to on-site biennial inspections (inspections every two years).

All EHS's conduct inspections of existing child care facilities. For facilities that receive an annual on-site inspection, TCHD's Public Health Nurses review the immunization records of children under five years of age to ensure records are on file at the facility and up-to-date. Additionally, there is a child care team composed of two EHS's from each office that is trained in conducting opening inspections and plan reviews for child care facilities.

# **Funding**

The program is funded by annual inspection fees. A tiered fee structure for on-site child care inspections was developed based on the number of children a facility is licensed to care for. The program also received two grants through which training and education were provided to child care center staff and to TCHD staff as well.

## 2013 Highlights

• In the past, TCHD conducted inspections of Before and After School Programs, Preschool Programs, Group Homes, and other similar facilities through a yearly mail-in self-evaluation process. Starting July 1, 2013, these mail-in type facilities were converted to biennial onsite inspections, meaning an on-site inspection will be conducted every two years. The reason for this change is that many of these facilities have not been physically inspected by TCHD in over a decade. Additionally, TCHD emphasizes education during the inspection process, so this affords the opportunity for these facilities to ask questions and interact personally with the EHS, leading to a higher quality inspection and exchange of information. Inspections of full day childcare centers are still inspected annually.

- The EH Division collaborated with Disease Intervention Specialists in the Epidemiology, Planning and Communication (EPC) Division on a variety of outbreaks in 2013. There were a total of 11 childcare outbreaks in Adams, Arapahoe, and Douglas counties. Of these 11 outbreaks, 4 outbreaks occurred in Arapahoe County, 2 occurred in Adams County, and 5 occurred in Douglas County.
- In a joint effort between the EH, Nursing and Nutrition Divisions, a \$15,000 grant from
  the Colorado Immunization Program at the Colorado Department of Public Health and
  Environment was received. These funds were utilized to provide public health specific
  trainings to child care centers throughout our three counties in an effort to improve
  immunization rates, childhood nutrition and health inspection outcomes. Three separate
  trainings were held in early 2013 with over 100 people attending.

Table 1. Total Number of CDHS Licensed Child Care Facilities (all types – except inhome) per county, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	202	207	207	207	211
Arapahoe	352	360	350	359	362
Douglas	177	180	186	191	191
Total	731	747	743	757	764

Source: TCHD Internal Program Data

Table 2. Number of Child Care Facility Inspections per County, 2009-2013.

County	2009	2010	2011	2012	2013*
Adams	345	298	291	286	190
Arapahoe	622	461	518	506	424
Douglas	274	228	243	254	180
Total	1,241	987	1,052	1,046	794

<sup>\*</sup>July 1, 2013: TCHD changed from mail-in type inspections to biennial inspections. As a result, facilities were moved to a different inspection cycle and not all were inspected in 2013.

#### **DISEASE PREVENTION**

# **Program Description**

The purpose of the Disease Prevention Program is to control disease transmission and outbreaks through the investigation of confirmed and suspected reportable illnesses. Suspect food-borne illness (FBI) complaints are investigated by the EH Division to determine the causative agent, source of illness, whether an outbreak exists or not, and to control further spread of disease. EH provides education on disease transmission modes and general control measures. FBI complaints are received from the public who report illness after eating food either at a particular retail food establishment, at home or other event. Their illness may or may not be related to the food in question or the establishment they are complaining about. FBI complaints sometimes identify an outbreak but most complaints are often individual illnesses in which the source of their illness could not be determined. If there is an outbreak, EH assists the Disease Intervention Specialists (DIS) in the Epidemiology, Planning and Communication (EPC) Division with the environmental investigation, collecting laboratory specimens, and interviewing the public. EH staff also participates on the Disease Intervention Field Team and provides EPC DIS with surge capacity when needed.

# **Funding**

Funding for the Disease Program comes from the general fund.

# 2013 Highlights

The EH Division responded to many outbreaks in 2013. Table 1 below shows a breakdown of reported outbreaks by office in 2013 as compared to previous years. Table 2 on the following page shows the number of FBI complaints received in 2013 as compared to previous years.

Table 1. Reported Outbreaks with EH Response by Office, 2009-2013.

Office Location	2009	2010	2011	2012	2013	2013 Type
Aurora	5	5	7	7	8	2 RFE, 0 CCC, 4 LTCF, 2 Other
Castle Rock	10	7	4	8	6	0 RFE, 5 CCC, 1 LTCF, 0 Other
Commerce City	7	5	6	5	4	0 RFE, 2 CCC, 1 LTCF, 1 Other
Admin	8	12	8	1	9	1 RFE, 4 CCC, 2 LTCF, 2 Other
Total Outbreaks w/ EH Response	30	29	25	21	27	
Total Outbreaks Reported	53	47	52	72	61	

Source: TCHD Internal Program Data; (RFE = Retail Food Establishment, CCC = Child Care Facilities, LTCF = Long-Term Care Facility)

- Of the 27 outbreaks EH responded to:
  - ➤ 3 were associated with retail food establishments: 1 norovirus, 1 suspect norovirus or norovirus-like illness, 1 suspect toxin.
  - ➤ 11 were associated with child care facilities: 1 norovirus, 1 suspect norovirus or norovirus-like illness, 1 shigellosis, 8 viral gastroenteritis.
  - ➤ 8 were associated with long term care facilities: 3 norovirus, 1 suspect norovirus or norovirus-like illness, 2 viral gastroenteritis, 2 unknown.
  - > 5 were associated with "other" types of facilities: 1 suspect norovirus (other/hospital), 1 cryptosporidium (petting zoo), 1 chemical inhalation (detention center), 1 salmonellosis & staph enterotoxin (home), 1 unknown (other/hospital).

Table 2. Reported Food-borne Illness Complaints, 2009-2013.

Office Location	2009	2010	2011	2012	2013
Aurora	40	42	26	46	37
Castle Rock	29	40	25	43	33
Commerce City	44	36	26	37	39
Admin	32	28	44	27	26
Total Number of FBI Complaints	145	146	121	153	135

Source: TCHD Internal Program Data

In addition, the following activities took place in 2013:

- Selected EH staff participated on the Disease Intervention Strike Team. EH Strike Team
  members investigated reportable enteric diseases such as salmonellosis and
  campylobacteriosis. They also assisted the Disease Intervention Specialists with surge
  capacity during large outbreaks.
- In conjunction with EPC DIS, EH responded to animal bites associated with possible rabies exposure. EH also worked with DIS to update the rabies response guidance document, create an animal bite tracking mechanism in the Decade software system, and provided training to staff.

#### **FOOD PROTECTION**

# **Program Description**

The Food Protection Program is the single largest program in the EH Division. The program covers many aspects of food protection including inspections of Retail Food Establishments (RFE), temporary food events, and mobile food vendors as well as conducting plan reviews, food safety training, and the issuing of civil penalties. These activities comprise a significant portion of time for staff involved in the program, which consists of approximately 24 full time equivalents.

The primary reason for emphasis on food protection is the fact that food can be a major vehicle for disease transmission. Poor food handling practices and inadequate temperature control pose a significant threat to public health. The Centers for Disease Control (CDC) estimates that each year 1 in 6 Americans (or 48 million people) becomes ill, 128,000 are hospitalized, and 3,000 die of foodborne related diseases with Norovirus being the most common illness<sup>1</sup>. Additionally, it is estimated that in a typical day, 50% of all adults dine out<sup>2</sup>. In the TCHD area, this equates to nearly 310 million meals per year<sup>3</sup> consumed in over 4600 RFE's in Adams, Arapahoe and Douglas Counties for which TCHD conducted just over 10,000 inspections in 2013.

# **Funding**

The program is partially funded, approximately 45%, by revenues received from retail food establishment license fees and various other plan review and inspection fees which are set by the Colorado State Legislature. The remainder of the program is funded from the general fund.

# 2013 Highlights

• The EH Division enrolled in the Food and Drug Administration's Voluntary National Program Standards. The Program Standards provide a framework for continuous improvement, based on meaningful public health performance measurements. These performance measures focus on reducing the occurrence of factors that contribute to foodborne illness within retail food and food service establishments. The Program Standards consist of nine standards; together these nine standards provide a comprehensive set of performance measures representing every facet of the retail food regulatory program. EH has initiated an assessment of its Retail Food Program looking for ways to improve the services provided to consumers and the regulated community and at the same time help reduce the occurrence of illnesses from food produced at the retail level.

# Retail Food Establishments (RFE)

Compliance with the Colorado Retail Food Establishment Rules and Regulations, 6 CCR 1010-2 for all licensed restaurants, retail markets, school cafeterias, mobile food units,

http://www.cdc.gov/foodborneburden/, Accessed June 3, 2014

<sup>&</sup>lt;sup>2</sup> Source: Colorado Restaurant Association

<sup>&</sup>lt;sup>3</sup> Extrapolated from MeatPoultry.com survey, September 15, 2011

temporary food booths, and other operations providing food to the public is the centerpiece of the Food Protection Program and includes the following activities:

### Educational Activities

Education is an important component to the Food Protection Program. EH staff continually educates operators about safe food handling and all aspects of the regulations on routine and follow-up inspections. TCHD also offers a more formal 2-hour on-site training class for operators. EHS's presented this "FoodSafe" food safety training to 522 employees of 32 RFE's.

#### Enforcement Activities

As authorized by Colorado Revised Statutes (CRS) 25-4-1609, 1610, and 1611, TCHD's Enforcement Specialist issued 329 official enforcement documents, conducted 25 enforcement reviews, and assessed 5 civil penalties for repeated violations of the *Colorado Retail Food Establishment Rules and Regulations, 6 CCR 1010-2*. Three food-borne outbreak-related enforcement reviews were also conducted and 89 civil penalties assessed of RFE's for delinquent renewals of annual licenses.

# Temporary Food Events

A Temporary Event Food Establishment is a food establishment that operates at a fixed location for a period of time of not more than 14 consecutive days in conjunction with a single event or celebration with limited food service and preparation. Eighty-four inspections of temporary food event vendors were completed in 2013.

# Participation in Organizations

EHS's increased their knowledge base, made valuable contacts, and increased TCHD's influence throughout the state by their participation and leadership in the Colorado Food Program Managers Committee, Colorado Plan Review Committee, and the Colorado Farmers Market Working Group.

Table 1. Total Number of Licensed Retail Food Establishments per County, 2009-2013

	2009	2010	2011	2012	2013
Adams	1,509	1,383	1,382	1,375	1,453
Arapahoe	2,056	1,977	2,097	2,128	2,148
Douglas	893	844	878	894	941
Total	4,458	4,204	4,357	4,397	4,542

Table 2. Total Number of RFE Inspections\* per County, 2009-2013.

	2009	2010	2011	2012	2013
Adams	3,441	3,341	3,969	2,972	2,785
Arapahoe	4,514	5,039	6,352	4,894	5,511
Douglas	1,720	1,960	2,219	1,720	1,829
Total	9,686	10,340	12,540	9,586	10,125

Source: TCHD Internal Program Data

Table 3. Total number of Plan Reviews, Opening Inspections, and RFE Changes of Ownership, 2009-2013.

	2009	2010	2011	2012	2013
Plan Reviews	226	203	246	220	270
Opening Inspections	615	558	554	550	551
RFE Changes of Ownership	324	327	277	319	292

<sup>\*</sup>Inspections consist of a variety of categories including, routine, follow-up, first operational, inservice training, and those related to outbreaks.

#### **GEOGRAPHIC INFORMATION SYSTEMS**

# **Program Description**

The Geographic Information Systems (GIS) Program at TCHD supports mapping and spatial analysis projects for all divisions in the agency. GIS is defined as a system of data, software, hardware and people that analyze, manage, and display spatial data. It can be used for public health investigations, resource management, and development planning. Examples of typical GIS projects that have been completed at TCHD include mapping of food, child care, body art, and pool establishments; studying the distribution of Women, Infants, and Children (WIC) clients relative to WIC clinics; conducting suitability analysis for mass prophylaxis distribution; and mapping of positive pertussis cases in the Tri-County area.

In addition to mapping and spatial analysis, the GIS Program maintains a robust web mapping tool known as the Sniffer. The Sniffer allows TCHD employees to interactively create maps with TCHD data and addresses. The GIS Program also maintains a GIS specific intranet <a href="https://www.TCHDGIS.org">www.TCHDGIS.org</a>. This Website allows TCHD employees to view, download and print commonly used maps. Employees can also identify data resources and request GIS projects.

The GIS Program consists of one GIS Coordinator and seven member team that meets bimonthly. Team members are responsible for representing their divisions and relaying project requests to the GIS Coordinator. Some team members have the opportunity to work on GIS projects with assistance from the GIS Coordinator. GIS training sessions are provided to team members on a monthly basis. The GIS Coordinator also draws on the experience of others at the agency for data analysis or mapping projects with specific needs. This may include working with the Public Health Engineer, Planning and Evaluation Manager, and Epidemiologists.

# **Funding**

Funding the GIS Program comes from the general fund.

- The GIS Team continues to meet on a regular basis to identify GIS projects, GIS infrastructure needs, and training opportunities.
- The GIS Coordinator has built several web mapping projects utilizing ArcGIS Online which is an online Web mapping tool development platform. TCHD Divisions have been using this mapping tool in lieu of paper-based maps. The GIS coordinator works CDPHE GIS department to discuss ArcGIS Online best uses and share maps and data.
- Based on an analysis of EH inspector workload, office service area boundaries and inspector service areas have been adjusted to reflect a more equitable distribution of public encounters.
- Reportable Disease Web Mapping Project: Data and information related to reportable
  diseases were converted to spatial data and uploaded to a web mapping tool that is
  viewable only by select TCHD staff with a password. The data was further de-identified
  and spatial adjusted to comply by HIPPAA regulations. This tool is used to identify 'hot
  spots' and disease clusters within our counties to help inform public health efforts.

 The GIS Coordinator completed 30 internal and 2 external mapping and spatial data analysis projects. Two examples of major accomplishments include Point of Distribution (POD) suitability analysis and the historic landfill database.

Table 1. Total Number of GIS Projects, 2013

Division	2013
Environmental Health	11
Epidemiology, Planning and Communication	5
Nutrition	4
Emergency Preparedness	4
Nursing	3
Administration/Agency	3
External	2
Total	32

#### **HOUSEHOLD HAZARDOUS WASTE**

# **Program Description**

The Household Hazardous Waste (HHW) Program focuses on the operation of Household Chemical Roundup (HCR) events to collect HHW from residents of Adams and Douglas Counties. HHW that might otherwise end up in storm drains, rivers, landfills, sanitary sewers, ISDS and other parts of the environment are collected at one-day roundup events and are then disposed of in a safe and environmentally sound manner. Typical HHW that is collected include: paint products, motor oil, antifreeze, house and garden chemicals, acids, bases, mercury, and other household chemicals. The program also acts as a resource to the general public throughout the year, providing information on ways to reduce, re-use, recycle, and dispose of HHW. TCHD currently does not operate an HHW program in Arapahoe County. Communities within Arapahoe County have either their own collection events, such as the Cities of Aurora and Englewood or citizens can call Curbside Inc., a private company that can properly dispose of HHW by appointment for a specified fee.

# **Funding**

Primary funding is obtained through agreements between TCHD and various county and local agencies. Donations account for the remainder of funding and are regularly received from municipalities, water and sanitation districts, special districts, and industry within Adams and Douglas Counties. General funds are not used to pay for any portion of HCR events.

- The program operated 5 one-day HCR events to collect HHW from residents of Adams and Douglas Counties.
- An estimated combined total of 491,989 lbs. of HHW was collected for proper disposal in Adams and Douglas Counties. This was an increase of 21% as compared to 2012 when an estimated 406,807 lbs. of HHW was collected for disposal.
- In Adams County, a total of 760 vehicles participated in 2 HCR events, collecting waste from an estimated 874 households. Over 60 tons of hazardous materials were collected, including 2,135 gallons of hazardous liquids (oil, antifreeze, flammable liquids, and reactive chemicals), 4,310 pounds of pesticides, 15 pounds of mercury-containing devices, and over 26 tons of paint and paint products. An additional 181 tires, 174 gas cylinders and propane tanks, and 2,592 pounds of batteries were also recycled.
- Electronic waste or "e-waste" was collected at both of the Adams County Roundup events. Just over 38,000 pounds of e-waste were collected which included computer monitors, TV's, printers and other household electronic equipment.
- In Douglas County, a total of 2,676 vehicles participated in 3 HCR events, collecting
  waste from an estimated 3,077 households. Over 185 tons of hazardous materials
  were collected, including 5,585 gallons of liquids (oil, antifreeze, flammable liquids, and
  reactive chemicals), 32,1180 pounds of pesticides, 40 pounds of mercury-containing
  devices and mercury-contaminated waste, and almost 108 tons of paint and paint
  products. An additional 508 tires, 650 gas cylinders and propane tanks, and 8,931 lbs.
  of automotive batteries were also recycled.

• TCHD supports and participates in the Colorado Medication Take-Back Program which is a network of secure boxes for the collection of unused and unwanted household medications. Tri-County hosts 2 locations out of the 11 convenient locations in the Denver Metro Area and Summit County. One site is located at our office at 4857 S. Broadway in Englewood and the second location is located at our office at 4201 E. 72 Avenue in Commerce City. In 2013 our 2 locations collected 535 lbs. of non-controlled medication for proper disposal. State wide the program collected 9,639 lbs. of medication for proper disposal.

Table 1. Participation and Waste Collection Totals for Adams and Douglas County HCR Events, 2009-2013.

# **Adams County\***

	2009	2010	2011	2012	2013
Number of Households (Participation)	957	1,020	936	966	874
Total Waste Collected (Lbs.)	67,833	90,460	105,623	123,719	121,236

Source: TCHD Internal Program Data \*2 events are held in Adams County

# **Douglas County\*\***

	2009	2010	2011	2012	2013
Number of Households (Participation)	2,185	2,845	2,604	2,566	3,077
Total Waste Collected (Lbs.)	168,937	292,856	251,452	283,088	370,753

Source: TCHD Internal Program Data
\*\* 3 events are held in Douglas County

#### INDUSTRIAL HYGIENE

# **Program Description**

The Industrial Hygiene (IH) Program staff responds to requests for services from the public dealing with IH issues in either the residential or occupational setting. This program has no regulatory authority. At present, the vast majority of work performed in this program is initiated by a complaint call from an individual community member in one of our three counties.

Typical residential issues include mold, combustion gases from fuel burning appliances, asbestos, radon, community noise, carbon monoxide, and children with elevated blood lead levels. IH related complaints from workplaces deal with these issues as well as others specific to the occupational setting, such as indoor air quality, chemical exposures, noise exposures, personal protection equipment, ergonomics, radiation, and compliance with Occupational Safety and Health Administration regulations.

The IH Program consists of a five-person team, led by a Certified Industrial Hygienist (CIH). In 2013, the team responded to a total of 463 complaint calls. See Table 1 on the following page for a breakdown of the number of complaints by type. The depth of the IH Team's response to a complaint is dictated by the complainant's request, the complainant's budget, and the type of complaint. TCHD's response could range from providing verbal information and recommendations over the phone, to providing written educational information in the form of brochures and pamphlets, to performing on-site inspections and sampling for health hazards complete with a written report containing conclusions and recommendations.

TCHD is one of a few local public health agencies in Colorado with an Industrial Hygiene Program. The skills of TCHD's CIH serve double duty as this individual leads the agency's Employee Health and Safety Team as well. The mission statement of the Employee Health and Safety Team is to provide an accident and injury free workplace that is healthy and safe for employees and clients by:

- Providing health and safety education and training to all new staff upon employment and to current staff on a quarterly basis
- Conducting health and safety inspections at the TCHD offices
- Conducting accident investigations
- Assessing, developing, and recommending health and safety programs

# **Funding**

Hourly fees are charged based on the four complainant categories as follows:

- Residential
- County agencies
- Government agencies other than county agencies
- Private businesses

Laboratory analysis and sample shipment fees are passed through to the complainant as well. The remainder of the funding for this program comes from the general fund.

- The Industrial Hygiene (IH) Team partnered with the Center for Construction Research and Training to promote the Occupational Safety and Health Administration's (OSHA's) Fall Prevention in Construction Campaign by manning a booth at 2 Women, Infants and Children (WIC) sponsored Produce Fairs. We provided hand-outs and showed video clips on falls, and talked to fair attendees regarding their personal experiences with construction falls.
- The IH Team evaluated the 2013 lead data (see Table 2 below), which showed that of the 93 first reports of blood lead levels (BLL) 5.0 ≥ 9.9 μg/dL, only 14 were confirmed to be elevated. Very few in this large category appear elevated; consequently the team decided that in 2014 we will expand the number of home assessments to include the homes of children with confirmatory BLL 5.0 ≥ 9.9 μg/dL. In 2013 we conducted lead assessments of children's homes if they had a confirmatory BLL ≥ 10 μg/dL. The CDPHE is currently recommending home lead assessments for children whose confirmatory BLL is ≥15 ug/dL; consequently TCHD will continue to exceed the CDPHE recommendations.
- The team quantitatively fit tested the TCHD Vector Team for respiratory protection against viruses and bacteria, which may be encountered while conducting disease control investigations involving these agents.
- For Lead Poisoning Prevention week in October, 2013, the IH Team worked with the TCHD Lead Team to create shadow boxes, which contain actual items that may contain lead, such as ceramic plates, plastic toys, brass keys, etc. These shadow boxes are currently displayed in various WIC clinics throughout the agency and are also used during the monthly Nutrition Division staff presentations to refugees. In addition, we created Lead Sources laminated posters for WIC division staff to post at their workstations, so they are visible to their clients. Finally, we provided WIC staff with rulers and baby bibs with lead poisoning prevention messages to hand out to their clients.
- The IH Team worked with the EPC division to create an Access database to track first and confirmatory reports of lead and TCHD's follow-up response, which may include any of the following: send a letter to the parent with Lead Fact Sheet, call the parent to interview regarding lead sources, and conduct a home investigation to attempt to find the lead source.
- The TCHD Lead Team supervised a Masters in Public Health intern, Alex Coyle, who
  conducted a physician survey on lead as his capstone project. One of Alex's
  recommendations from the project was to create a Lead Poisoning Prevention page
  specifically for healthcare providers on the new TCHD website. Content for this page
  was developed.

Table 1. Number of IH Complaint Calls by Type, 2009-2013.

Complaint Type	2009	2010	2011	2012	2013
Mold	453	471	583	374	314
Indoor Air Quality	74	69	96	68	27
Ergonomics	54	54	32	24	30
Radon	27	18	29	22	18
Noise	8	8	8	8	4
Asbestos	31	30	27	37	17
Chemicals	12	24	18	21	29
Other	82	66	83	82	54
Total	741	686	844	636	463

Source: TCHD Internal Program Data

Table 2. Number of First Reports of Elevated Blood Lead Results in Children ≤6 yrs. old, 2013

Blood Lead Level	Number of First Reports Received	Number of Confirmatory Reports Received
>=15	15	5
10.0-14.9	15	2
5.0-9.9	93	14
<5	1	n/a
Total	124	21

#### **LAND USE**

# **Program Description**

The Land Use Program at TCHD works with local governments and other entities to routinely incorporate public health considerations into local planning and development activities. Authority for the Program derives from several sources: C.R.S. 25-1-506 (3), which lists the powers and duties of district health agencies; C.R.S. 30-28-136(i)(g), which requires counties to seek recommendations from the appropriate health department on wastewater and water quality prior to approving subdivisions; C.R.S. 30-20-104(d), which requires cities and counties to consider comments from local health departments on applications for certificates of designations for solid waste disposal sites and facilities; and local ordinances, such as Adams County's Flammable Gas Overlay ordinance, which requires TCHD's involvement in evaluating explosive gas issues associated with applications for development on or near former landfills.

The Land Use Unit (LUU) draws on the expertise of several specialists in the EH and the EPC divisions including the Land Use Program Coordinator, Public Health Engineer and the Water Quality Specialist. The program provides the opportunity for cross training to participating staff to broaden the knowledge and resources for addressing health issues through the land use process. The LUU also solicits additional staff expertise as needed.

The LUU is concerned with land use planning across the spectrum, from development proposals for specific properties to comprehensive planning efforts for city/countywide development, transportation, and parks and open space. We provide input on regulatory requirements and also offer recommendations for actions that are not mandated but that protect public health or promote health and healthy behaviors. The ways that LUU members work with jurisdictions to help guide sound land use practices include responding to development referrals from our counties, municipalities and towns; participating in long range local or regional planning activities; serving on regional resource groups including the Denver Regional Council of Governments (DRCOG), CDPHE's Strategic Initiative, and regional water/wastewater authorities and providing education to elected and appointed officials and the general public on how land use decisions affect public health.

In 2013, TCHD expanded program offerings with two new initiatives. TCHD received funds to develop a Health Impact Assessment (HIA) Program that will help build capacity for conducting HIA in the Denver Region. HIA is a process that brings potential public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside the traditional public health arenas like land use and development. TCHD will conduct two HIAs by 2015 as a part of the HIA Program and will be coordinating regional trainings and convening groups to help build capacity among local public health departments, local governments and learning institutions for conducting HIAs. TCHD is working with a number of key partners in this effort including University of Colorado at Denver's Masters of Urban and Regional Planning Program and community-based non-profits like Community Enterprise.

# **Funding**

The program receives the majority of its funding from the general fund. An additional funding source is development review fees that we receive from our counties or development applicants. In 2013, the Land Use Program diversified the program's funding sources through funding from DRCOG to assist with the development of the Boomer Bond initiative and from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and the Pew Charitable Trust, and Kaiser Permanente Colorado to build a regional HIA program.

- The Land Use Program led a cross-divisional team who completed an assessment tool and began the creation of a comprehensive toolkit for the DRCOG's Boomer Bond Initiative. The Boomer Bond Initiative is the first special project of the Metro Vision Implementation Task Force. The goal of the initiative is to help local governments understand the impacts of an aging population and arm them with strategies and tools that can support healthy, independent aging in their communities. TCHD's contract with DRCOG and the second deliverable of a comprehensive toolkit is anticipated to be completed in 2014.
- The Land Use Program Coordinator partnered with EPC staff to successfully conduct four workshops to obtain input from local governments and older adult advocates on the revised Boomer Bond Assessment Tool. The Assessment Tool is intended to be used by local government staff and community partners to identify areas of improvement for building a healthy aging in their communities. The Assessment Tool covers the following broad topics: mobility and access, housing, community living and support services.
- The LUU received 218 development review referrals from 16 local jurisdictions. This
  demonstrates a significant increase over the last two years starting with 158 cases in
  2011 and 183 cases in 2012. Referrals vary annually with development activity.
- The Land Use Program held a two-day training on conducting HIA with local land use and transportation decisions. Sixteen local government agencies, two state agencies and several non-profits were represented at the training.
- The LUU continues to work with the three counties to ensure that environmental health considerations are incorporated into oil and gas drilling activity. Through the land use case review process, LUU Team members identified an important component to drilling operations related to the handling of wastewater at large drilling sites. LUU Team members worked with county planning representatives and oil and gas industry representatives to establish a process for review and permitting of wastewater for oil and gas drilling sites to ensure the safe management of wastewater.
- The LUU continued to support the LiveWell Commerce City and the LiveWell South Adams County grants that by participating on the Regional Partners Teams. These grants are community based grants addressing Healthy Eating, Active Living (HEAL) issues. Additionally, the Land Use Program Coordinator was appointed to the LiveWell South Adams County Steering Committee in 2013.

- The LUU participated in the Thornton Station Area Master Plan process as a member of the Technical Assistance Committee. The LUU has provided guidance throughout the development of the plan that is anticipated to be completed in 2014.
- The LUU supported Commerce City's Historic Preservation Plan process as a member of the Technical Assistance Committee.
- The LUU continued to build capacity to promote health through land use activities by cross-training an EH Specialist II in the Land Use Program.
- LUU continued to participate in the Former Lowry Bombing Range Restoration Advisory Board.

Table 1. Number of land use development plan referrals to TCHD, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	94	73	58	86	75
Arapahoe	44	40	40	55	83
Douglas	59	57	60	42	60
Total	197	170	158	183	218

#### **LOWRY LANDFILL**

# **Program Description**

The Lowry Landfill Superfund Site (Lowry) is located in Arapahoe County at the intersection of Quincy Road and Gun Club Road. The Lowry Landfill operated from 1965 to 1980 and consists of an estimated 138 million gallons of liquid hazardous waste that was legally disposed and mixed with municipal solid waste in approximately 60 unlined pits on 480 acres of land. The primary contaminants of concern are volatile organic compounds such as vinyl chloride, 1,2-dichloroethane, and 1,1-dichloroethylene which have contaminated the groundwater, surface water, soils, and sediments at the site. The site was designated by the United States Environmental Protection Agency (EPA) as a Superfund Site in 1984 with the Record of Decision finalized in 1994. TCHD provides oversight related to the implementation of a protective, effective, and timely clean-up strategy for the site in order to protect human health and the environment from site contamination.

# **Funding**

The Lowry Landfill Superfund Site Oversight Program, which is a part of the Solid and Hazardous Waste Program, is 100% funded by a contract agreement between TCHD and the Lowry Trust.

- TCHD staff sampled 2 private, non-community groundwater wells north of Lowry for 1,4-dioxane, a chemical of concern. Results indicated no detection of the contaminant. This was the ninth year the off-site sampling has occurred.
- As a part of an ongoing well protection program, TCHD staff conducted reviews of new and existing groundwater well permits in the area surrounding the site with the State Engineer's Office
- TCHD staff participated in ground water technical meetings with CDPHE, EPA and site representatives to review the current voluntary action to manage and maintain the North Boundary Barrier Wall Containment Zone in conjunction with mass removal of 1,4dioxane immediately north of the Containment Zone.
- TCHD staff actively participated on the Lowry Landfill Steering Committee by chairing and facilitating 3 meetings.
- TCHD continued to work with the Arapahoe County Planning Department and the City
  of Aurora City Council Members to provide routine updates with respect to Lowry.
- Reviewed the following Lowry Landfill documents, plans, and reports:
  - The Semi Annual Remedial Action and Operations and Maintenance Status Report(s) May and September 2013
  - 2. Monthly Periodic Compliance Reports for Industrial Wastewater Discharge permit No. 2360-4

- 3. Response to EPA's Evaluation of Groundwater Monitoring Plan Procedures and Statistical Analysis Methods used to Determine Compliance with Groundwater Performance Standards (November 14, 2013)
- 4. WSD Five Year Review Report; Third Review for Lowry Landfill Superfund Site, Arapahoe County, Colorado Responses (March, 2013)
- 5. Response Action Work Plan B-326-UD and B-313 Areas, Lowry Landfill Superfund Site Operation & Maintenance (April 4, 2013)

#### METHAMPHETAMINE LABS

# **Program Description**

The Methamphetamine (meth) Lab Program is a clean-up oversight program for properties in the TCHD area that fall within the definition of an illegal drug laboratory as defined by TCHD Regulation Illegal Drug Laboratory (IDL)-06. These properties typically are reported to TCHD from various law enforcement agencies, local building departments, real estate agents, or property owners.

The oversight procedures are conducted according to TCHD Regulation IDL-06 and the *Colorado Regulations Pertaining to the Cleanup of Methamphetamine Laboratories, 6 CCR 1014-3.* Oversight of these properties is conducted by trained staff members within the EH Division and consists of the following activities:

- Sending initial notices of contamination to the property owner and local building department
- Reviewing paperwork including the preliminary assessment and final report from the Industrial Hygienist
- Reviewing the health and safety plan and work plan from the cleanup contractor
- Conducting verification sampling at the property
- Issuing certificates of compliance once remediation is complete

The trend for meth labs during 2013 seems to be more self-reporting by realtors, banks and potential home-buyers and is moving away from actual meth lab-related seizures by law enforcement. TCHD is not necessarily informed of all properties cleaned up in our three counties. However, if the homeowner requests a Certificate of Compliance letter from TCHD, then all clean-up procedures including confirmation sampling outlined in the TCHD and State Regulations must be followed.

# **Funding**

The program is a fee-based program in which the property owner is charged a set fee that is updated annually based on the direct and actual costs to execute the program. Additionally, laboratory sampling and shipping fees are charged to the property owner.

- Twenty eight new meth labs were reported to TCHD, which was almost three times as many as in 2012. This increase in reported meth labs is most likely attributed to more consumer and realtor awareness of the dangers and liability of selling meth contaminated properties. Conversely, 14 meth labs were cleared by TCHD in 2013 as compared to 10 in 2012. Cleared is defined as a lab that has gone through some level of oversight by TCHD. See Tables 1 and 2 below for a breakdown by county of these numbers.
- TCHD's solid waste specialist participated in the CDPHE stakeholder process to update and revise the State Meth Regulations and the development of a training and certification program for Consultants and Contractors beginning in 2013.

Table 1. Number of meth labs reported to TCHD, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	4	5	12	8	12
Arapahoe	3	0	4	1	16
Douglas	1	0	1	1	6
Total	8	5	17	10	28

Source: TCHD Internal Program Data

Table 2. Number of meth labs cleared by TCHD, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	5	3	9	7	6
Arapahoe	9	2	1	2	8
Douglas	2	0	0	1	0
Total	16	5	10	10	14

#### RECREATION AND PUBLIC PLACES

# **Program Description**

Public bathing waters have long been recognized as an efficient medium for the transmission of communicable diseases. Control of disease causing organisms is achieved by proper public water sanitization and chemical balance. In addition, users of pools and beaches are subject to a variety of accidents, such as slips and falls, drowning, dive and slide accidents, burns, electrocutions, and entrapment. Risk of these injuries is minimized through proper design and operation of the pools and beaches.

TCHD minimizes disease transmission associated with pools and beaches through enforcement of the *State Board of Health Regulations Pertaining to Swimming Pools and Mineral Baths, 5 CCR 1003-5* during the routine, semi-annual inspections at each public and semi-public facility, active review of public and semi-public swimming pool, spa, and interactive water feature plans and specifications for new and remodeled facilities in our jurisdiction, as well as reviewing and commenting on the development of the national standards proposed in the Model Aquatic Health Code under the auspices of the CDC. TCHD also plays an active role in the education of pool operators through the outreach conducted during routine pool inspections, as well as through the offering of yearly courses for the National Swimming Pool Foundation's Certified Pool Operator (CPO) course to members of the public and internal staff.

# **Funding**

This program is funded through inspection and CPO class fees.

- For the fourth consecutive year, TCHD contracted with the Consumer Product Safety Commission (CPSC) to conduct inspections of public pool facilities to evaluate compliance with the Virginia Graeme Baker Pool and Spa Safety Act (VGB). This Federal law was enacted in 2008 to prevent entrapment and possible drowning of swimmers by pool suction fittings. Fifty pool facilities were inspected for compliance and inspection reports were forwarded to the CPSC for follow-up and enforcement if needed. Since contracting with CPSC in 2010, TCHD has conducted a total of 200 VGB inspections. TCHD anticipates continued work with CPSC in 2014 and potentially 2015 to complete the inspections for the remaining recreational water facilities in TCHD's jurisdiction.
- Five plan reviews were conducted for new and remodeled public and semi-public pools and spas in our jurisdiction. Two new facilities were approved to open and operate.
- One CPO course was taught to a total of 24 people. Twelve people were from the general public and twelve were TCHD staff.
- A total of 620 inspections were conducted at 261 pool/spa/interactive water facilities.

Table 1. Number of CPO Class Attendees and Plan Reviews, 2009-2013.

County	2009	2010	2011	2012	2013
CPO Class Attendees*	38	28	34	23	24
Plan Reviews	20	5	15	9	5

Source: TCHD Internal Program Data \*Includes general public and TCHD staff

Table 2. Total Number of Pool/Spa/Interactive Water Feature Facilities per County, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	78	79	79	82	82
Arapahoe	121	126	130	131	130
Douglas	47	49	48	50	49
Total	246	254	257	263	261

Source: TCHD Internal Program Data

Table 3. Number of Pool/Spa/Interactive Water Feature Inspections per County, 2009-2013.

County	2009	2010	2011	2012	2013
Adams	195	189	208	203	203
Arapahoe	293	295	300	306	306
Douglas	111	116	125	119	111
Total	599	600	633	628	620

#### **ROCKY MOUNTAIN ARSENAL**

# **Program Description**

The Rocky Mountain Arsenal (RMA) is located in Commerce City and was used by the United States Army (Army) to manufacture chemical weapons such as mustard gas, white phosphorus, and napalm to be used as deterrents during World War II. From 1946 to 1982, the RMA was leased by private companies to produce agricultural pesticides on the site. As a result of operations and waste disposal practices utilized at the time, significant levels of contamination including organochlorine pesticides, heavy metals, agent-degradation products, manufacturing by-products, and chlorinated and aromatic solvents were identified during remedial investigations conducted in the 1980s and 1990s. Subsequently, RMA was added to the EPA's National Priorities List as a Superfund site in 1987. After more than a decade of work, about 80 percent of Arsenal land had been removed from the EPA's Superfund List and all the contaminated soil excavation projects outlined in the Arsenal's Record of Decision (ROD) have been successfully completed. Groundwater treatment will continue after the cleanup is complete. Today, most of the land has transitioned into one of the largest urban national wildlife refuges in the United States. The Army will retain approximately 1,000 acres of the original 27-square miles to maintain its on-site landfills, consolidation areas, and groundwater treatment systems.

TCHD provides continuing oversight activities of the RMA remedy on behalf of Adams County. The oversight activities are designed to assure Adams County and residents that the Army is conducting the RMA remedy in conformance with the Certificate of Designation issued by Adams County to the Army on September 29, 1997. The TCHD RMA Program is responsible for conducting post-closure inspections of the landfill covers and other ongoing post-remedy projects.

TCHD also conducts private well sampling off-post to ensure that RMA related groundwater contamination does not impact private residents. In addition, TCHD responds to complaints and requests for information from the public and provides consultation regarding off-post groundwater contamination northwest of RMA.

# <u>Funding</u>

The Army is responsible for site remediation and completely funds the TCHD RMA Oversight Program.

- TCHD continued to monitor the operation of the various groundwater intercept and treatment systems to ensure that they are meeting their objectives of reducing contaminant mass and controlling the migration of contaminant plumes across the RMA boundary.
- TCHD's RMA staff conducted 24 inspections of the Resource Conservation and Recovery Act (RCRA)-equivalent covers of the Integrated Cover System Basin F, and the caps of the two landfills. The inspections focused on vegetation and erosion

- problems and will continue until an operational and functional status has been determined.
- Since the completion of the Hazardous Waste Landfill cover marked the start of post closure activities, the reporting to Adams County has been revised from a semi-annual to annual basis. The RMA Team prepared and distributed the 3<sup>rd</sup> Annual Report to Adams County and made a formal presentation to the Adams County Commissioners in April, 2013.
- The RMA Team continues to provide comments on various project reports. In 2013, TCHD reviewed a total of 1 site-wide plan and 29 project-specific documents. Formal comments were submitted by TCHD to the Army on many of these documents.
- TCHD developed a Candidate Sampling List (CSL), a principle component of the private well groundwater monitoring program, for the sampling of diisopropylmethylphosphonate (DIMP) in off-post private wells. DIMP is a contaminant that was first identified in the groundwater adjacent to RMA as early as 1974. Based on work with the State Engineer's Office, staff identified private wells for potential use in expanding the off-post sampling network. These proposed private wells were reviewed by the Water Team at RMA. The analytical results generally show a continued decrease in the contamination plume. Table 1 shows the 2013 results. The DIMP standard for Colorado is set at 8 parts per billion (ppb).
- In 2013, the Army and Regulatory Agencies continued to sample and analyze for 1,4-dioxane in all of the wells on the CSL as a result of EPA's recognition of this compound as an emerging contaminant and promulgation by the State of Colorado of a cleanup standard for groundwater and surface water. The 2013 sampling results indicated low concentrations of 1,4-dioxane in the TCHD Offpost Study Area and only a few groundwater and surface water samples that exceeded the current State standard of 0.35 ppb.

Table 1. DIMP Sampling Results, 2013.

DIMP Results	> 8.0* ppb	> 0.50**, < 8.0 ppb	< 0.50 ppb	Total
Private Well Samples	-	-	-	-
Alluvial Aquifer Wells	0	9	8	17
Arapahoe Aquifer Wells	0	3	2	5
Denver Aquifer Wells	0	0	0	0
Total Private Well Samples	0	12	10	22
Surface Water Samples	0	2	0	2
Dewatering Well Samples	0	0	0	0
Monitoring Well Samples	0	0	2	2
Total Samples	0	14	12	26

Source: TCHD Internal 2013 Program Data \*8.0 = DIMP Groundwater Standard

<sup>\*\*0.50 =</sup> Detection level for DIMP

#### **SOLID WASTE**

# **Program Description**

The Solid Waste Program includes any permitted solid waste facility that is subject to inspection under the *Colorado Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1.* This includes municipal solid waste (MSW) landfills, construction and demolition (C&D) debris and inert material landfills, asbestos waste disposal sites, transfer stations, and recycling facilities.

The TCHD Solid Waste Specialist is responsible for conducting inspections at designated solid waste disposal sites. In addition, the Solid Waste Specialist is responsible for technical review of reports, complaint response, and review of any other pertinent correspondence from the various facilities, and also compiles oversight reports for specific landfill construction projects. Within the TCHD jurisdiction, there are currently 10 active solid waste landfills of various types, 7 transfer stations, 1 incinerator and 1 hazardous waste landfill (construction oversight only).

Solid waste sites may generate methane as a result of the degradation of wastes that were disposed of prior to enactment of current regulations. Under the right atmospheric conditions (5-15% by volume in air), methane can pose an explosive hazard to those working or living near one of these sites. TCHD is involved in methane related issues and investigations in several ways. In Adams County, TCHD has a specific role in the County's Flammable Gas Overlay (FGO). The FGO is comprised of areas within Adams County that are former landfill sites where methane gas generation has been documented as well as the surrounding area to within 1,000 feet. TCHD's responsibility is to review the plans for and the results of the flammable gas control systems and investigations and to supply safety information related to construction on or within 1000 feet of any solid waste disposal site. The FGO is codified in Section 3-34 of the Adams County Zone District Regulations.

# <u>Funding</u>

The Solid Waste Program is partially funded with agreements between TCHD and various governing bodies (Adams County, Douglas County, and Commerce City) for specific landfill oversight tasks. The remainder of the program is generally funded.

- Forty-seven routine solid waste inspections and 10 construction site visits were conducted for a total of 57 inspections completed. This total number of inspections is slightly down from 60 inspections in 2012. Two landfills commenced construction activities in 2013.
- TCHD's Solid Waste Specialist worked closely with Adams County Office of Emergency Management during the September 2013 Flood event to discuss management of debris related to the flooding.

Table 1. Number of Solid Waste Inspections by Type, 2009-2013.

	2009	2010	2011	2012	2013
MSW	14	15	15	16	16
Transfer Stations	11	13	13	14	12
Landfill Construction	23	22	11	10	10
Other*	17	18	17	20	19
Total	65	68	56	60	57

Source: TCHD Internal Program Data \* "Other" includes C&D debris, industrial waste, non-putrescible, and permitted monofill landfill sites.

#### SPILLS AND INCIDENT RESPONSE

# **Program Description**

The primary function for TCHD regarding hazardous waste spills or response to a hazardous materials incident is to protect public health and the environment. Our role on scene is to act as a liaison between the responsible party and the reporting/regulatory agencies, as necessary. We also provide technical assistance to any or all first and second responders while on scene, during, or after the incident. In addition, members of the EH Response Team are responsible for answering all calls and requests for services received after-hours and either responding or forwarding to the appropriate person or agency. While TCHD receives calls 24/7, Table 1 on the following page presents a breakdown of the numbers and types of calls received after-hours only. These calls are tracked so that EH can continually assess its after-hours response efforts.

# **Funding**

Funding for the program is entirely of general funds.

- Response Team members continue to represent TCHD at Local Emergency Planning Committee meetings for Adams County, Douglas County, Arapahoe County, and the City of Aurora.
- Response Team members represented TCHD on the Adams/Jeffco Hazmat Board and Executive Board of the Arapahoe/Douglas County Hazardous Materials Response Team as well as attended Front Range Regional Hazardous Materials Workgroup meetings.
- Response Team members answered 88 after hours calls, some of which required a
  physical response by TCHD, from the public and various agencies or dispatch centers.
  This was 24 more calls than in 2012. See Table 1 on the next page for a breakdown of
  these calls by type.
- Response Team members participated in various trainings and exercises including the Environmental Crimes Task Force Meetings and Incident Command System training. Several team members also participate on the TCHD Public Health Incident Management Team (PHIMT) in an ongoing basis. The PHIMT, led by the TCHD Office of Emergency Preparedness and Response, has been an area of heavy focus for TCHD and several EH staff have taken lead roles on this team.

Table 1. After Hours Calls by Type, 2009-2013.

Call Type	2009	2010	2011	2012	2013
Animal Related	10	33	13	10	16
RFE Complaints	16	14	5	8	9
Vector Related	14	7	2	1	5
Disease Related	20	30	7	6	12
RFE Fires	15	14	13	6	6
Chemical Spills	6	10	1	3	3
Sewage Incidents	6	12	5	5	4
Nursing Related	11	10	1	2	1
Vital Records	6	10	2	0	1
Food Recalls	0	0	0	0	0
Test Page/HAN	2	0	0	0	12
Housing/Building	18	27	10	9	9
Water/Drinking Water	3	1	0	0	6
Other	10	27	17	14	4
Total	137	195	76	64	88

#### **VECTOR SURVEILLANCE**

# **Program Description**

State statutes mandate the investigation and abatement of sources of epidemic and communicable diseases by the health department. The presence of vector-borne diseases, such as Arboviral Encephalitis, Tularemia, Hantavirus, and Plague are endemic in the TCHD jurisdiction. Surveillance of prairie dog colonies and mosquito breeding sites is maintained to determine the potential for vector-borne disease. Urban vector control may include control of flies, cockroaches, fleas, lice, and other insect pests in food service establishments, schools, penal institutions, and child care facilities.

An encephalitis monitoring program for detecting the presence of Western Equine Encephalitis (WEE), West Nile virus (WNV), and St. Louis Encephalitis (SLE) in mosquitoes is accomplished through the use of Centers for Disease Control (CDC) light traps and gravid traps. Mosquitoes are captured and identified to verify if the mosquito species responsible for spreading encephalitis is present.

A mosquito larva surveillance program is conducted to determine the presence of mosquito larva in standing water. Bodies of water that contain larva are controlled through the use of mechanical methods or larvaciding. Local municipalities contract with private mosquito control operators for adulticiding and additional larvaciding services, while TCHD provides consultation on these activities.

# **Funding**

The program is partially funded by CDC grants passed through CDPHE. The remainder of the funding comes from the general fund. The program was impacted by budget cuts in 2012 and has not recovered, so the same numbers of mosquito traps were set this year as 2012, accounting for a reduced number of mosquitoes trapped in all three counties.

- Submitted 113 mosquito pools for WNV testing. The environmental specimens submitted consisted of 17 positive mosquito pools.
- Participated in collecting bird feathers for enhanced surveillance for avian influenza and West Nile virus in dead wild birds in Colorado for a study for the Centers for Disease Control in Fort Collins, Colorado.
- Participated in submitting mosquito samples for a nation-wide mosquito population genetics project for the United States Department of Agriculture – Agricultural Research Service.
- Submitted 7 animal specimens for plague testing and no specimens tested positive.
- Submitted 6 animal specimens for tularemia testing and no specimens tested positive.
- No hantavirus site assessments were conducted.

Table 1. Number of Trap Nights\* and Mosquitoes Captured, 2009-2013.

	2009	2010	2011	2012	2013
Trap nights	605	624	520	189	209
Mosquitoes captured	89,423	72,101	118,634	29,450	19,473

Source: TCHD Internal 2013 Program Data

Table 2. Number of Mosquitoes Captured per County, 2010-2013.

	2010		2011		2012		2013	
County	Culex* Mosq	Total Mosq	Culex Mosq	Total Mosq	Culex Mosq	Total Mosq	Culex Mosq	Total Mosq
Adams	7,392	18,482	8,782	55,558	2,419	6,193	1,849	6,086
Arapahoe	2,324	46,379	1,227	58,190	279	23,246	1,067	13,372
Douglas	551	7,240	82	4,886	2	11	0	15
Total	10,267	72,101	10,091	118,634	2,700	29,450	2,916	19,473

<sup>\*</sup> A trap night is defined as one trap set per night. TCHD operated 15 traps in 2013.

<sup>\*</sup>Culex mosquitoes are significant because they are the main vectors for mosquito borne encephalitis viruses (WNV, WEE, SLE)

#### **WASTEWATER**

# **Program Description**

The Wastewater Program addresses Individual Sewage Disposal Systems (ISDS), public wastewater systems, sewage spills and incidents, general wastewater and storm water activities, and biosolids inspections. In accordance with CRS 25-10-104, TCHD has promulgated *Regulation No. I-11* (I-11), of which governs all aspects of onsite wastewater.

TCHD issues permits for new, repair, expanded systems and use. Except for Use Permits, the permitting process requires TCHD to review the application and make a site visit to determine compliance with I-11. Following issuance of the permit, TCHD performs an inspection of the completed system to verify compliance with I-11. TCHD also investigates complaints of malfunctioning ISDS's, conducts enforcement as necessary, and issues licenses to system contractors and cleaners. When necessary, may TCHD take enforcement action against licensed contractors and cleaners for failure to comply with I-11.

TCHD has developed model management programs for new subdivisions served by ISDS. As a result of this effort, several developments have implemented ISDS Management Programs. TCHD reviews all new subdivisions that are to be served by ISDS to determine the feasibility of ISDS and makes appropriate recommendations to the planning agencies. In addition, TCHD reviews Site Applications for sewage treatment works (systems that treat more than 2,000 gallons per day).

TCHD follows up on sewage spills that are reported to the Department. TCHD coordinates with the utility and the CDPHE and makes appropriate recommendations to the utility and/or business owner to address the public health impacts.

# **Funding**

TCHD receives fees for ISDS permits and can charge additional fees for extra inspections. TCHD receives fees for system contractors and cleaners licenses. The specific fees are capped in statute. The remainder of the funding comes from TCHD's general fund.

- TCHD played a key role in the Stakeholder Process with the CDPHE to revise the ISDS Regulation. In 2013, this process resulted in a new On-Site Wastewater Treatment Systems (OWTS) Regulation #43, which became effective June 30, 2013.
- TCHD actively participated in seminars through the Colorado Professionals in Onsite Wastewater (CPOW) and the Colorado Environmental Health Association (CEHA) to educate and train professionals in how to use Regulation #43.
- TCHD began the process of developing a new Regulation O-14, to bring TCHD's Regulation into conformance with CDPHE Regulation #43.
- Issued 122 new and renewal systems contractor licenses and 29 systems cleaners' licenses.

 Twenty biosolids field inspections were completed under an agreement with the CDPHE Water Quality Control Division.

Table 1. Number of ISDS Permits Issued, 2009-2013.

Permit Type	2009	2010	2011	2012	2013
New Permits	104	128	75	110	223
Repair/Expansion Permits	40	76	85	116	135
Loan Inspections*	11	18	12	N/A	N/A
Use Permits**	N/A	N/A	184	609	795

<sup>\*</sup> Prior to 2012, loan inspections were requested by financial institutions to assure the individual sewage disposal system on a specific site appears to be in operational condition prior to financing a transaction. Effective 7/1/2011, Use Permits superseded loan inspections.

<sup>\*\*</sup> Use Permits were required starting 7/1/2011.

#### WATER QUALITY

# **Program Description**

The Water Quality Program addresses all aspects of water supplies including but not limited to drinking water, recreational water, private well water, reclaimed water, and stormwater. Protection of the drinking water, surface water, and groundwater protects residents, visitors, and businesses.

TCHD again contracted with CDPHE to perform sanitary surveys at non-community groundwater public water systems. To prepare operators for successful inspections, TCHD staff use a non-community water system inspection, recordkeeping, and compliance toolkit. The toolkit, provided by TCHD staff to the operator during water system inspections, provides a method to store and locate all necessary records and includes templates for various required written plans. The toolkit is used to ease compliance with the Colorado Primary Drinking Water Regulations and to assist staff during an inspection.

During 2013, the Water Quality Specialist participated in meetings of the key watershed groups in the TCHD area including: Barr-Milton Watershed Association, Chatfield Watershed Authority, Cherry Creek Basin Water Quality Authority, Douglas County Water Resource Authority, Colorado Water Quality Monitoring Council, and Urban Waters Partners. The Water Quality Specialist also participated in the workgroup to create a graywater regulation and stakeholder groups for the Chatfield Watershed Plan and updates to the Colorado Primary Drinking Water Regulations.

# <u>Funding</u>

Currently, the program is funded primarily by the general fund. The plan review consulting fees as well as professional fees for trainings provide another source of limited funding. The non-community water system inspections are funded by a contract with CDPHE, and the Private Well Initiative is funded by a grant.

# **2013 Highlights**

• A major undertaking for the program in 2013 was the continuation of the Private Well Initiative. This is a national initiative through CDC to identify locations and potential contaminants of private wells. In 2013, TCHD worked with CDPHE to gather existing water quality datasets for private wells held and managed by local health departments throughout the state. TCHD collaborated with the United States Geological Survey (USGS) to identify water quality modeling tools and USGS private well water quality data specific to Colorado. This information was shared as part of the Private Well Initiative. Additionally, TCHD developed a messaging and branding campaign that encourages private well owners to test their well water annually. As a result of the Private Well Initiative, data is being shared through the Colorado Environmental Public Health Tracking website. Although the PWI funding ended in 2013, the messaging will continue through a reminder postcard, a brochure for customers, and website messages.

- TCHD received 210 citizen complaints and questions regarding water quality. This was a stable number as there were 221 in 2012. See Table 1 below for the total number of inquiries received per year. Many of the inquiries from the public pertain to property transactions and water quality in the home, general water quality and treatment options for specific health concerns, and specific concerns related to private wells. In 2013, the public showed an increased interest in understanding their water quality results related to baseline water quality testing required prior to oil and gas drilling. Through the Land Use Program, TCHD provides guidance and recommends water sampling for potential contaminants prior to the commencement of nearby oil and gas drilling activities. Inquiries regarding water testing requirements for VA loans remained steady.
- Performed 21 water system inspections. TCHD inspectors identified 80 deficiencies; all
  inspected water systems were in full compliance by the end of the year with the
  exception of those needing to perform construction activities.
- TCHD was appointed to the Advisory Council of One World One Water, a group based on the Metropolitan State University of Denver campus who aims to educate the public and students on water issues and opportunities to collaborate towards solutions. As part of this group, TCHD is working to increase availability of professional trainings for those in the water field.

Table 1. Number of Water Quality Inquiries from the Public (Adams, Arapahoe and Douglas Counties\*) 2009-2013.

	2009	2010	2011	2012	2013
Total Number of Inquiries	186	204	352	221	210

Source: TCHD Internal Program Data

\*Inquiries not tracked by county

#### CONCLUSION

Overall, the EH Division had a very busy and successful year as demonstrated by each program's highlighted activities. The EH Management Team would like to commend the staff of the EH Division on a job well done and we look forward to an exciting and productive 2014. Highlighted below are several of the major achievements:

- TCHD continued to play a key role in the Stakeholder Process initiated by the CDPHE to revise the ISDS Statute and Regulation. On March 12, 2013, the Colorado Water Quality Control Commission (WQCC) held a rulemaking hearing to consider the proposed Onsite Wastewater Treatment System (OWTS) Regulation #43 and on July 1, 2013 Regulation #43 became effective. In the fall of 2013, TCHD initiated an update to TCHD Regulation I-11 to conform to Regulation #43. It's anticipated that the new TCHD Regulation O-14 will become effective in July of 2014.
- Tri-County Health Department was awarded a Health Impact Assessment (HIA) Program grant through the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, and Kaiser Permanente Colorado to conduct two new HIAs and to develop an HIA Program that will build capacity for future development of HIAs in the Denver metro region. HIA is a process that brings potential public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside the traditional public health arenas like land use and development. In coordination with Adams County Planning and Development, TCHD initiated an HIA focused on the Federal Boulevard Framework Plan and began the screening and scoping phases of the HIA process. A 2<sup>nd</sup> HIA is being planned for 2014/2015. Additionally, TCHD will partner with the University of Colorado Denver's (UCD) Master in Urban and Regional Planning (MURP) to develop curriculum and syllabus for two University of Colorado Denver classes that will be used to educate future land use and transportation planners and assist with data collection for the two HIAs.
- Under contract with the Consumer Product Safety Commission (CPSC), EH conducted inspections of 50 pool facilities for compliance with the Virginia Graeme Baker (VGB) Pool and Spa Safety Act. This Federal law was enacted in 2008 to prevent entrapment and possible drowning of swimmers by pool suction fittings. TCHD's inspection reports were forwarded to the CPSC for follow-up and enforcement if needed. Over the last 3 years, TCHD has inspected 150 pool facilities for compliance with VGB.
- The EH Division completed data conversion from Digital Health Department (DHD) to Decade Envision Connect, a new comprehensive computer database system for EH data management of licenses/permits, inspections, complaints, and financial transactions. The Computer Team, a specialized team representing a variety of EH staff and EH Programs, completed numerous trainings for EH staff and the system went live in July of 2013.

Looking forward to 2014, the EH Division is further developing in the following program areas:

 The Retail Food Program will continue working on the Food and Drug Administration's (FDA) Voluntary Program Standards. These program standards are designed to help state and local food regulatory programs enhance the services they provide to the public and increase uniformity. TCHD will begin working on Voluntary Standards 2 and 8. Voluntary Standard 2 applies to the essential elements of a training program for regulatory staff while Standard 8 applies to the program resources (budget, staff, equipment, etc.) necessary to support an inspection and surveillance system that is designed to reduce risk factors and other factors known to contribute to foodborne illness.

- TCHD will pursue a fifth year of contracting with the Consumer Product Safety
  Commission to conduct inspections of 50 pool facilities for compliance with the VGB
  Pool and Spa Safety Act. This would bring the total number of VGB inspections to 200,
  thereby helping to protect the health and safety of the public with respect to these public
  pools and spas within the TCHD jurisdiction.
- With the approval of the new State OWTS Regulation #43 as noted above, TCHD will finalize TCHD Regulation O-14 and seek approval from the TCHD BOH and the Colorado Department of Public Health and Environment. Staff training on the new regulation will be a key component and will take some significant time and effort.
- TCHD's Land Use Program will continue work on 2 grant projects:
  - The Boomer Bond Initiative (\$75,000 for six months) to assist the Denver Regional Council of Governments (DRCOG) to provide assistance to local governments with the development of strategies and tools to support healthy, independent aging in their communities. TCHD anticipates finalizing this grant project in 2014.
  - Health Impact Assessment (HIA) Program Grant \$250,000 over 2 years to focus on incorporating HIA information into land use and transportation planning decisions and the development of regional HIA knowledge and capacity. TCHD anticipates concluding the Federal Boulevard HIA as noted above and initiating a 2<sup>nd</sup> HIA as part of the grant requirements.
- EH will continue working very closely with Decade Software Company to further fine tune and optimize Envision Connect for Tri-County Health Department. The EH Division anticipates adding new programs into Decade and eventually working towards utilizing Envision Connect Remote, a component of the software that allows staff to work more remotely in the field.