



Twin Falls
County Pest
Abatement
District

2016

Annual
Report

Mission Statement: To protect the health and socio-economic well being of the citizens of Twin Falls County from harmful vectors and pests, employing environmentally sound abatement practices.

Table of Contents

Introduction 3

Geographic Area 3

1 Collaborative Agreements 4

2 Surveillance 4

 2.1 Black Fly Adult 4

 2.2 Black Fly larval 5

 2.3 Mosquito Surveillance 5

 2.4 West Nile Virus Testing 6

3 Mapping 8

4 Source Reduction 8

5 Larval Control 9

 5.1 Black Fly 9

 5.2 Mosquito 11

 5.3 Bluegill 12

 5.4 Pesticide Use Totals 12

6 Control of Adult Mosquito Populations 13

 6.1 Adult mosquito research 13

 6.2 Peak Mosquito activity 14

 6.3 Adult oviposit trap 14

7 Certification 14

8 Public Educations 15

 8.1 links to news stories 15

9 Other Business 16

 9.1 Board Meeting Dates 16

 9.2 Budget 17

 9.3 Emergency Abatement Fund Policy 18

Contact Information:
Mail: PO Box AC
Twin Falls Idaho, 83303-0094

Office location:
507 Grandview Drive South, SuiteA

Office 208-733-2338
tfcpad@qwestoffice.net
www.tfcpad.org

Board of Trustees:

John Snelling, President

Tony Brand, Secretary

Melody Bowyer, Treasurer

Sherry Olsen- Frank C.P.A., E.C.S.

Charles Lenkner, D.V.M.

Ex-Officio Members:

Erik J. Wenninger, Ph.D. University of
Idaho

Logan Hudson, South Central Public
Health District

Cover Photo: Students looking for
mosquito larva at Rock Creek park as
part of an education day involving
local schools and various water
related agencies.

Report Prepared by District Manager Kirk Tubbs

Report to Twin Falls County Pest Abatement District Board of Trustees

*How to read this report: Much background information is contained in this report and is similar from year to year, new or updated information is marked with an * in order to streamline reading for repeat readers of this report.*

Introduction

*This was the eighth season of operation for Twin Falls County Pest Abatement District (TFCPAD). This season started with an early spring, mostly dry summer with no major flood events. Fall was almost a different season. It was a warm extended fall during which almost 6 inches of rain was received during September and October, causing some minor flooding. We maintained our primary focus of using an Integrated Pest Management approach to control larva of Black Flies and Mosquitoes. The staff consisted of one full-time manager, a full time technician who also specializes in maintain the Graphic Information System (GIS) and during the summer two full-time seasonal employees and a summer intern from CSI. A part-time office administrator helps out with board meetings.

Geographic Area

The TFCPAD primarily conducts work inside Twin Falls County. The county contains approximately 1,232,000 acres. Twin Falls County has a population of 82,375 (2015 Census estimate). Work is targeted to the areas that will produce the best results for the time and money spent.

Surveillance and subsequent treatment areas for Black Fly control consisted of most moving waters in Twin Falls County: The Twin Falls Canal system which contains 110 miles of major canals and over 1,000 miles of laterals, the Salmon Falls Canal System which has over 300 miles of main and lateral canals, and the Roseworth Canal System which contains over 10 miles of main and lateral canals. In addition, portions of coulee drainage streams, Rock Creek, Deep Creek, Cedar Draw, Dry Creek, Salmon Falls Creek, and the Snake River received some treatment. The Milner Irrigation Canal System was also treated; this system originates in Twin Falls County, runs through Cassia County, then returns into Twin Falls County and contains over 25 miles of canal.

Mosquito Control work was conducted mainly in the more populous areas of the county. Priority in treatments was given to residential areas, locations where historically West Nile Virus was found, and recreational or high public use areas. Mosquito monitoring conducted during the season further helped to focus our work where it was most needed. In general, the Snake River was the dividing line for treatments, but a few areas in adjacent counties were treated when we treated along the Snake River due to their direct impact on Twin Falls County. Clearlake's Homeowners Association and the area near Centennial Park are some examples.

In addition to our work inside Twin Falls County, some limited surveillance work was conducted in Jerome, Gooding, Cassia, Lincoln and Minidoka County. This also provided some mosquito samples which were tested for West Nile Virus (WNV).

1. Collaborative Agreements

We have welcomed partnerships and the sharing of information and resources in order to fulfill our mission. All parties worked with previously continued in provide assistance. Some of the more significant collaborators are noted.

*Idaho Department of Health and Welfare provided WNV testing supplies as well as funds for mosquito surveillance through a grant. The state lab also provided confirmative virus testing.

The Twin Falls Canal Company, Salmon Falls Canal Company, and Milner Irrigation District, North Side Canal, Idaho Power and USGS provided canal information, water flow rates, data and access to their waterways for treatments.

*Clearlake's Homeowners Association and Blue Lakes Country Club contracted to have mosquito surveillance and control. This resulted in treatments that benefited Twin Falls County residents in adjacent area as well as the contracting party.

71 Cattleman's Association members partnered with us to treat water sources in areas of concern for sage grouse. We provided product and training, and they provided the manpower to treat these remote locations with the goal of reducing WNV incidence in sage grouse. Members of this organization operate in both Twin Falls and Owyhee Counties

*INEBRE intern; This was our second year partnering with College of Sothern Idaho which administered the INEBRE (Idea Network of Biomedical Research Excellence) Intern program. Their goal is getting students involved with collaborative research especially in the biology and public health fields. The Intern received pay through the grant program, field and lab experience from us and we got some extra help. It was a great deal all the way around, and we are planning on this for next year.

2. Surveillance

2.1 Black Fly (BF) adult surveillance (Also known as Biting Black Flies and Buffalo Gnats.) is conducted using the same traps and methods that are used for adult mosquito's surveillance. The traps are not intended to remove or catch all the BF, rather they provide a measurable comparison from year to year and from site to site.

*Primary reasons for treatment of BF populations are to reduce the economic impact to livestock and reduce the potential for transmitting viral Vesicular Stomatitis virus (VSV). No VSV was detected in Idaho this year. All western states involved in last years out break and quarantine were released from it this year.

*The 2015 VSV outbreak in the United States occurred from April 29, 2015 to March 4, 2016. A total of eight hundred twenty-three (823) VSV-affected premises (New Jersey serotype) were confirmed or suspected in eight (8) U.S. states; Arizona (36 premises in 3 counties), Colorado (441 premises in 36 counties), Nebraska (38 premises in 10 counties), New Mexico (52 premises in 13 counties), South

Dakota (50 premises in 7 counties), Texas (4 premises in 4 counties), Utah (56 premises in 8 counties), and Wyoming (146 premises in 10 counties).

Simulium vittatum is the predominate species found throughout the county. It generally does not bite humans; it prefers to feed on livestock and is a concern because of its potential for disease transmission and its negative effect on livestock behavior. When people notice Black Flies swarming in their face, it is generally this species.



Photo 1. Black Fly adults,
Simulium bivittatum at top.
Simulium vittatum at
bottom

Simulium bivittatum is a very small species of BF that has a similar lifecycle and habitat preferences to Simulium vittatum, but bites people as well as animals. They are smaller and harder to see, and are general more numerous in the west end of the county. Locals often refer to them as no-see-ums.

*Simulium Vittatum generally make up most of our adult Black Fly catch. However, this year a few trap locations produced

unusually high numbers of S. bivittatums. We looked back at all of our data to see if we were seeing a shift in species as one was able to exploit the habitat left unoccupied by controlling the other. No correlation was found. It was determined that because bivittatums are smaller, late instar larva can easily be confused with early stage Vittatums and escape treatment. Larval stage is an important factor on deciding when to treat. More training will be done next summer to better time applications to control both species Black Flies.

2.2 Black Fly larval surveillance in canals primarily took place with yellow sample ropes hung in the waterways. A six-inch section of the rope was marked off and larvae found on that section were monitored. Other waterways were also monitored by pulling up vegetation and looking at it and rocks for larva presence. In fluctuating river and stream flows, the BF Larva move around a great deal in the stream searching out optimum attachment sites, rendering the rope surveys not as effective. Some waterways are surveyed year round. Surveillance was done in order to find BF Larva, to gauge larval stage and growth so treatment could be conducted where needed and at optimum larval stage.

2.3 Mosquito surveillance for larva was conducted by dipping for larva in standing water sources such as ponds and water retention areas. Work primarily focused around the more populated parts of the county; however, any standing water encountered was sampled whenever possible.

***Adult mosquito** trapping was conducted on a weekly basis during the season (April 11 to Oct 4). Traps used a light and CO₂ produced by dry ice or a CO₂ cylinder to attract the mosquitoes. Traps were set in the evening and retrieved the following day. A total of 197 trap nights produced a total of 3,129 female mosquitoes that were identified to species as a part of this surveillance. (This number excludes data where traps failed or where efforts were being duplicated as well as traps from surrounding counties.) This trapping provided mosquitoes for West Nile Virus (WNV) testing as well as feedback on treatment results

and needs. Testing of mosquitoes this year was conducted in-house with confirmation testing of results being done by the state health lab. Using data from previous years, we conducted surveillance in three ways:

Targeted surveillance of high-priority areas.

Random sampling to locate new areas in need of treatment.

Abundance trapping to provide a look at populations over time.

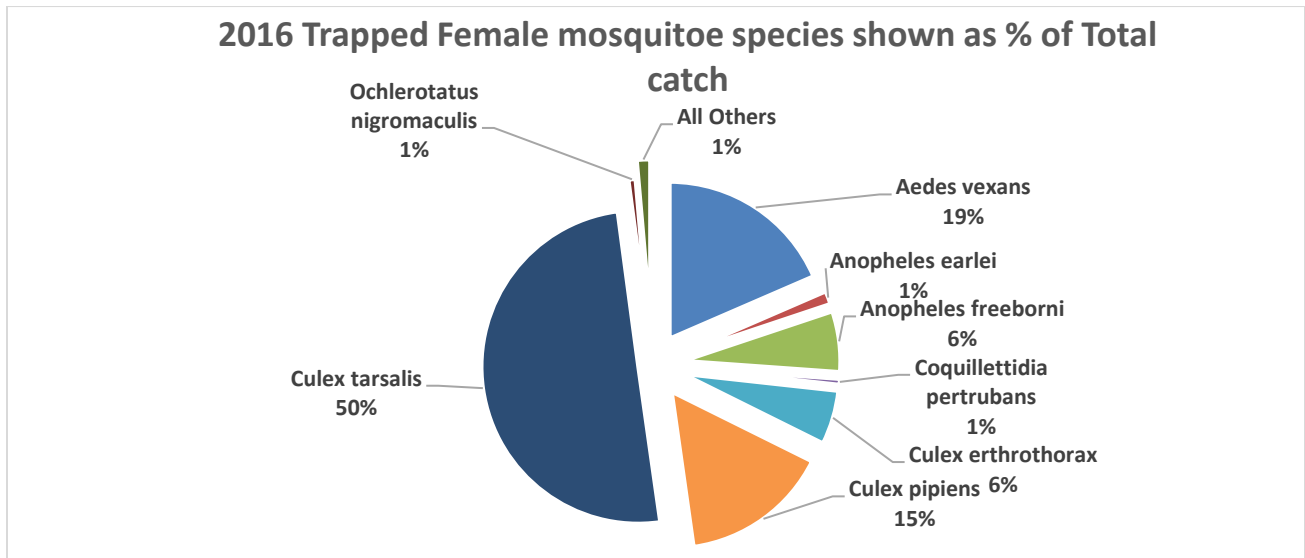


Figure 1. 2016 total by species.

Using data from previous years and state guidelines we have established a Twin Falls County specific operations guide and treatment thresholds and procedures. These guidelines were followed regarding trap counts of certain mosquito species and when a high number were caught, traps were reset to help determine if the population was rising or falling and to evaluate the effectiveness of our treatment efforts. The goal was to find potential problem areas quickly so that we could maintain key mosquito species population numbers below the threshold where disease is easily transmitted. These guidelines are reviewed and updated with the new data as needed.

2.4 West Nile Virus Testing

*West Nile Virus is considered endemic in Idaho. Our goal is to reduce the likelihood of virus transmission by limiting its primary vector in Twin Falls County: the *Culex tarsalis* & *Culex pipiens* mosquitoes. We test mosquitoes regularly as part of our surveillance. This year 146 pools of mosquitoes were tested in-house as part of routine surveillance. Each pool contains from 1 to 50 mosquitoes of a Culex species from one location that are tested together. TFCPAD uses a rapid immunochromatographic system for screening samples (referred to as a RAMP test). It provides quick and accurate testing of samples. In some cases, samples fall within a range where additional testing is required; when needed, the state lab provided confirmative PCR testing.

*Results of RAMP test: One positive mosquito pool was found on August 3 along the Snake River near Twin Falls. One positive mosquito pool was found Aug 15 South of Filer and one positive pool NE of Twin Falls near the river on August 30. All follow-up testing was negative.

Mosquito species identification also lets us know what type of habitat to look for, and if we were dealing with a potential vector of disease or just a nuisance mosquito. Vectors of disease generally bite, lay eggs and then feed again. These repeat feedings transmit the disease. Nuisance species bite, lay eggs and die and are not likely to spread disease. Most nuisance species are in flood water areas and most disease vectors come from more permanent standing water. Trap results can be used in planning when and where to work to reduce potential disease vectors before they become a problem.

* Figure 1. shows the population distribution of trapped female mosquitos in TFC. *Culex tarsalis* and *Culex pipiens* are the two species likley to carry WNV. *Culex* are most often found in ponds and various containers. *Culex pipiens* most often come from storm drains and small containers of water in areas where people live. A dry summer favors Culex species mosquitoes. Adults overwinter as pregnant females, emerging in the spring ready to lay eggs in small ponds or containers. Flooding events favor other species whose eggs lie dormant in the soil waiting for the right flood conditions to hatch. This Year data was consistent with a dry year resulting in over 50% of the total mosquitoes being *Culex*. Late in our season we experenced almost 6 inches of rain during September and October along with a warm fall, this created some great mosquito hatches of the nuicance variety and more habitate for *Culex* leading to a much longer mosquito treatment season.

Dry summer's also tend to concentrate birds who may have WNV at the limited watersources allowing for a higher infection rate of mosquitoes. This summer's warm fall resulted in mosquitoes late into the season. Figure 2 shows all mosquito species caught combined. In general if we keep this average below 50 per trap night at the peak we have very little public complaint and reduced WNV transmision.

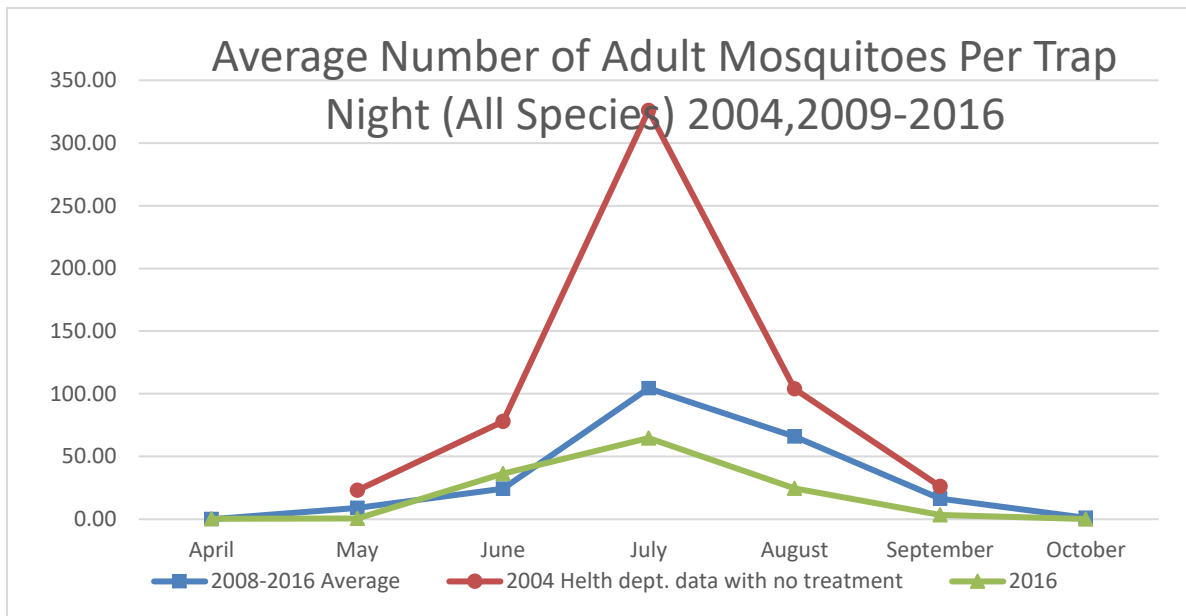
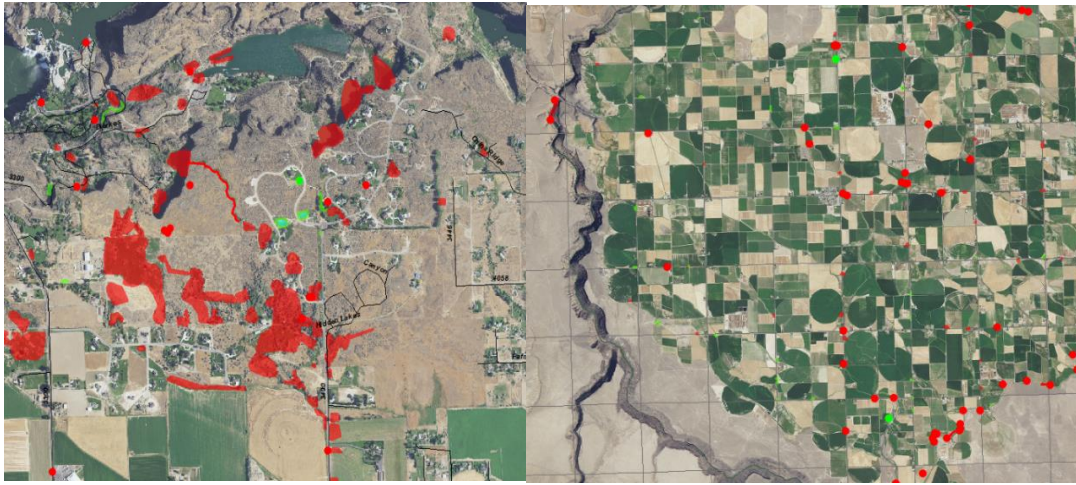


Figure 2: Includes 2004 data from health department during which no control work was conducted; remainder is TFCPAD data.

3. Mapping

*Graphic Information System (GIS) units were used to provide accurate records of treatment locations, to measure treatment areas, and to record this information for future use. The GIS units allow for field recording of data, field review of previous work and mapping of all treatments. The GIS tracks how long products are effective for and changes color when it's approaching time to inspect it again. GIS maps showing treatment locations are now available on our Website for the public access.



Map 1. Screen shot from GIS map to give an idea of how mosquito production sites are mapped and tracked. On the left is a closer shot of the area south of Shoshone Falls, it is zoomed in to show the actual areas that were treated for mosquito larva. The map on the right is a zoomed out shot showing treatment sites in Castleford area.

4. Source Reduction

Educational efforts to reduce potential pest habitat has been an important part of our public education campaign. This can be one on one education with homeowners, speaking to groups or working with schools. The biggest impact we are having in source reduction is through educational effort. We cannot find and treat every potential breeding site, but when landowners know what to look for they help immensely by draining or flushing standing water. The species of concern for WNV are short range flyers which is why preventing mosquito production in backyards is so important.



Photo 2 Boat full of mosquito larva.

TFCPAD helped promote a Tire Amnesty day and conducted public education as part of this day. Southern Idaho Solid Waste offers two tire amnesty days per year across the region. TFCPAD promotes and provides for coverage in the media as removal of discarded tires greatly reduces

container habitat for certain species of mosquitoes. No direct cost for tire disposal is incurred by TFCPAD.

Educational Public Service Announcements were produced and aired during the summer months on local radio and TV stations to educate people about backyard mosquitoes. Eliminating mosquito habitat when possible is the best way to eliminate mosquitoes.

5. Larval Control

Almost all control efforts were targeted towards the larval stage of both mosquitoes and black flies. At this stage of the lifecycle they are confined to a smaller nursery and treatment is safe and effective. Studies suggest that larviciding 1,000 acres is the equivalent of adult control on 72,000 Acres. (Larvicide Logic educational publication, Valent USA 2013) With Black Flies, there is no efficient way to control adults without treating large geographic areas. A mile of river with good Black Fly habitat can produce over 1 billion black flies per day; hence it is best to treat the source.

Our primary larvicide is Bti (*Bacillus thuringiensis v. israelensis*) which is a product of a natural soil bacteria. When refined it produces multiple protein crystals that when consumed, react with the alkaline gut of a mosquito or black fly resulting in larval death. There is no secondary toxicity, or recycling of the product. It has little to no effect on non target species and does not persist in the environment. Black Fly Larvae were treated using Bti in a solution applied to moving water. Mosquito larvae were treated with Bti spread over still water. Larval stage, quantity and water temperature were monitored to determine treatment intervals and application rates.

5.1 Black Fly

Black fly reproduction continues even during the winter. Larvae grow slowly, but have a special adaption triggered by the cold that allows them to emerge as adults and immediately lay eggs without

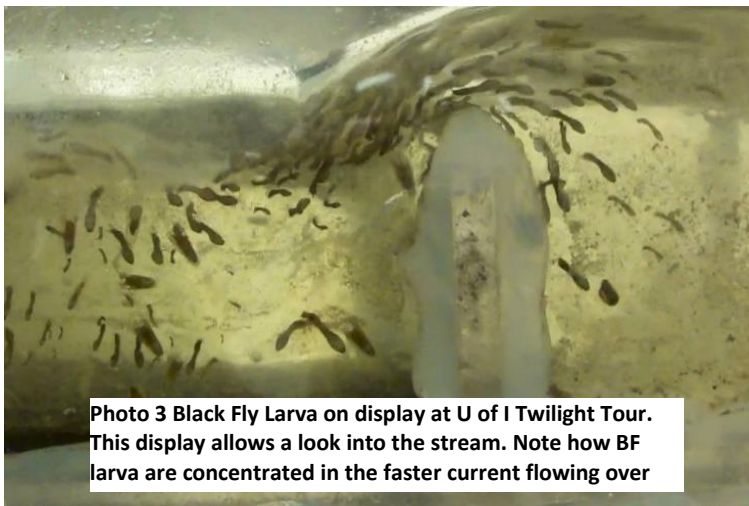


Photo 3 Black Fly Larva on display at U of I Twilight Tour. This display allows a look into the stream. Note how BF larva are concentrated in the faster current flowing over

feeding or mating during warmer winter days. Although black fly numbers can increase in overwintering habitats, the winter also provides an opportunity to get an early start on black fly management for the following season. During the winter, canals are dry and the overwintering habitat is limited, so winter treatments can greatly reduce populations. Overwintering larvae that emerge as adults during the spring disperse and colonize canals. By reducing the number of black flies that first emerge during the spring we expect to reduce the overall population for the year.

During years with typical water flow rates, the winter is one of the most cost-effective times to treat. See figure 4 for the dramatic change in populations following the start of winter treatments.

Flight range for Black Flies is 10-20 miles. A treatment program targeting black flies in Twin Falls County that included winter treatments gave excellent results. However, the ability of black flies to disperse long distances complicates management efforts since adults can immigrate to our area from untreated breeding sites outside the County. Despite our best efforts, we will have higher numbers of black flies late summer and fall due to immigration from untreated areas outside of the county. Black fly control is best accomplished on a regional level by targeting the larvae in canals and rivers before they hatch.

*The Snake River is one of the largest overwintering habitats in our area, and by treating the river we are able to reduce the numbers of black flies that would otherwise colonize canals, which benefits the entire region. As we have in the past, TFCPAD is still sampling for larvae in the canal systems and treating when appropriate. Over 1,000 individual applications of Bti were conducted for black fly control in 2016. By monitoring both BF larval stage and river flow rates we are able to time treatments to get the best results. Flow rates in the Snake River at Twin falls depend a lot on what is happening upstream. Figure 3 shows the snake river storage system. In addition to irrigation flow releases, some water is released for flood control and salmon recovery. This all impacts costs to treat as well as Black Fly production in the region. Over all flows this season were below average and less over all product was

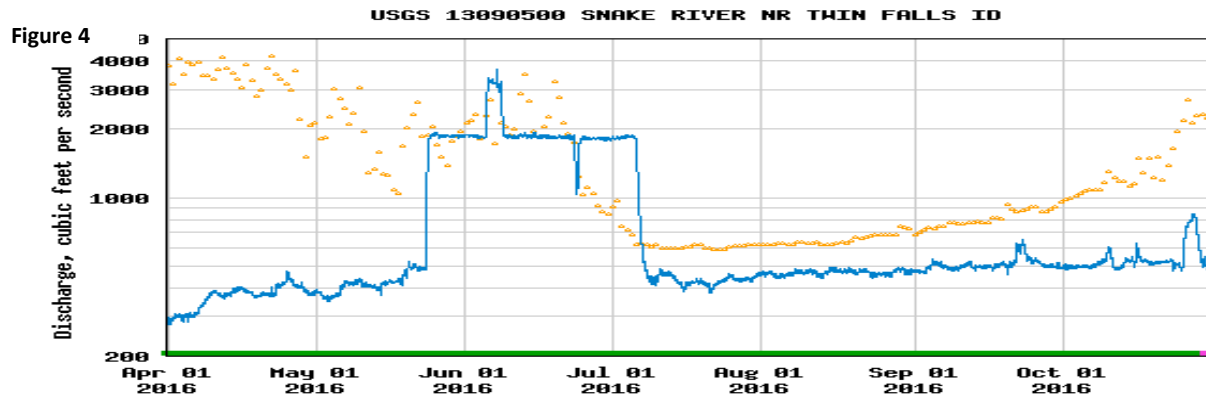
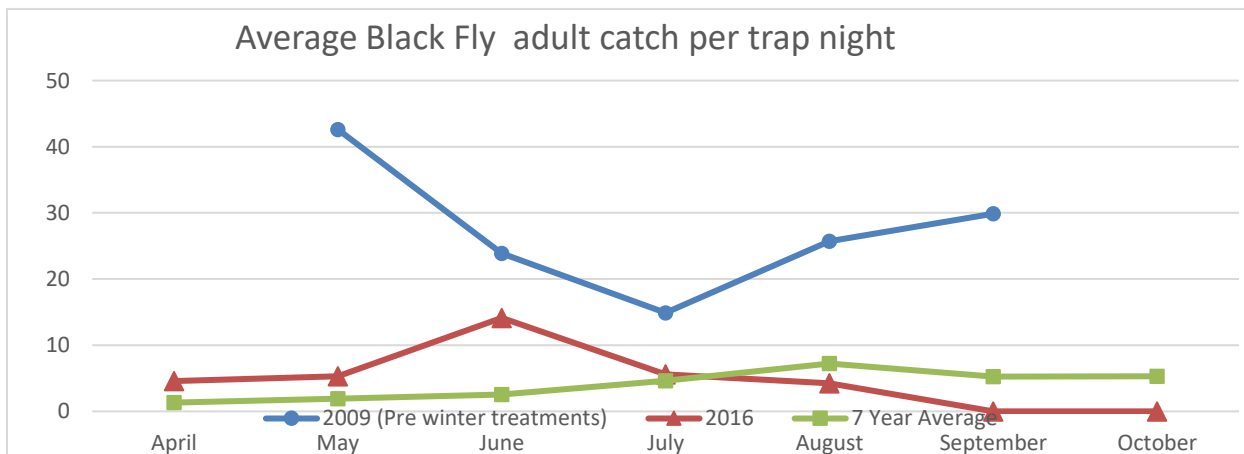


Figure 5 USGS Stream Flow data for Snake river near Twin Falls.

used. Figure 4 shows Black Fly adult catch. The spike in June is directly related to increased river flows during this time. More habitate, more Black Flies. This happens not just in TF County, but across the region.

5.2 Mosquito

Mosquito larvae were controlled in several ways. Early in the season catch basins, storm drains, and some water retention ponds were treated using one of several slow release products. Altosid, Naturlar, and Four Star products were all used. Products lasted form 45-180 days depending on the type of location treated. The slow release formula allows these early season treatments to last during the summer. These treatments are designed to work so that even when the water dries up the product remains ready for the next time the catch basin fills with water. This treatment is ideal for storm drains where we do not have the man power to check and treat each one at intervals during the summer. Over 1,000 storm drains were treated in Twin Falls County by TFCPAD. In addition, product is supplied to the local municipalities as use for the retreatment of drains when they are cleaned during the summer. All products used in treatments are listed on the TFCPAD website tfcpad.org.

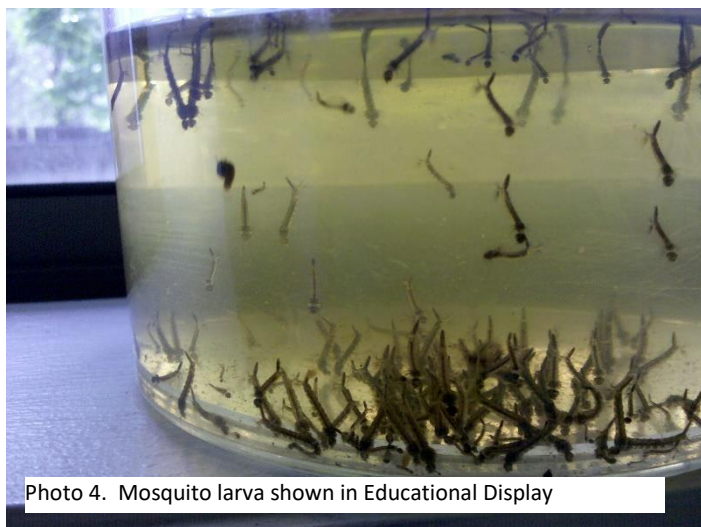


Photo 4. Mosquito larva shown in Educational Display

Additional mosquito larval control was conducted by the use of *Bti* and a *Bacillus sphaericus* biological larvicide applied to standing water when mosquito larvae were found present. *Bs* works in much the same way as *Bti*, it is a natural soil bacteria that is consumed by the larvae. The difference is that it is a live bacterial that when consumed it multiplies inside the mosquito gut eventually killing the mosquito. The mosquito gut ruptures and releases the bacteria for other larva to

consume. In areas of high mosquito larva this recycling of the product can make this type of treatments last longer than *Bti*. The drawback to this is that it costs more than what *Bti* does and does not work on all species of mosquitoes. A combo product that pairs the two bacteria in order to get 30 days of control has worked well for us; these products come on a loose corn cob granule (CG) and inside a water soluble pouch (WSP). Various methods are used to broadcast this into standing water. More slow release products are coming on the market and are a part of our program. They allow us to treat more area in the same amount of time.

In some cases we use a surface film to treat for mosquitoes. The surface film is a monomolecular film that coats the surface of the water reducing surface tension, preventing pupa mosquitoes from emerging from the water. It can also plug a mosquito larva's breathing tube and suffocate it. The film is designed to break down rapidly, it is only used where we find pupa.

5.3 Bluegill

*Stocking of Bluegill for mosquito larval control was continued this year. Bluegill were collected in Dierkes Lake. Many of the locations that received fish are seasonal ponds and will need fish every year. The fish have proven to be a valuable part of our Integrated Pest Management approach. As we stock more waters and have more locations to use as sources for fish this part of our program will expand. A number of volunteers helped with fish capture. Based on the public response, this is the public's favorite part of our program. Our ongoing monitoring has shown that while Bluegill do not remove all the mosquito larvae, they remove a percentage of larvae making our other treatments more effective.



Photo 5 sorting and measuring Blue Gill. Look close, little ones work best!

5.4 Pesticide use totals*

Total quantity is total product applied, not just the active ingredient. Product information can be found on district website.

TFPAD PESTICIDE USE TOTALS				
Product	EPA Reg. #	Quantity Used 2016	Quantity Used 2015	Quantity Used 2014
Four Star (45 day)	83362-3	329 each	346 each	11 each
Four Star (90 day)	83362-3	819 each	704 each	748 each
Four Star CRG	85685-2	2,308.45 pounds	1,555.21 pounds	1409.35 pounds
4 Star (180 day)	83362-3	2,916 each	1,920 each	2,412 each
4 Star WSP	85685-3	111 pouches	none	none
Agnique (surface Film)	53263-28	0	0.08 gallons	4.23 gallons
Agnique WSP (surface Film)	53263-3	134 pouches	198 pouches	78 pouches
CocoBear (larvicide oil)	8329-93	7.35 gallons	NA	NA
Altosid Briquet (180 day)	2724-421	1282 each	2,045 each	2,420.00 each
Altosid WSP	2724-448	96 pouches	11 pouches	78 pouches
Vectolex WSP (BS)	73049-20	478 pouches	54 pouches	57 pouches
Vectobac CG (Bti)	73049-19	237 pounds	121.63 pounds	225.2 pounds
Vectomax CG(BTi,BS)	73049-429	2,591.51	885.07 pounds	4,024.96 pounds
Vectomax WSP	73049-20	132 pouches	NA	NA
Naturlar (180 day)	8329-84	1,207 each	634 each	205 each
Naturlar Granular (30 Day)	8329-83	61 pounds	113.8 pounds	0 pounds
Vectobac 12AS(Bti)	73049-38	6,727.01	6,145.36 gallons	6,542.71 gallons
All Pro MBG (Granular Bti)	7699-92	173.1 pounds	283.20 pounds	81.63 pound
ATSB	Exempt	43.625 gallons	5 gallons	NA

*TFCPAD has a little over 7,000 sites that are inspected and treated as need during the season. Each year new sites are added and some are removed as habitat is modified or eliminated. This number increased rapidly over the first years of our operation, but has now leveled off mostly due to the limits of time and number of employees. Total product use can also vary greatly due to rain events and temperature. Product mix changes to prevent resistance, as new products are developed and based on conditions in the field. We are using more products that slow release and give us longer intervals between treatments.

6. Control of Adult Mosquito Populations

Our most effective control of adult mosquitoes is accomplished by controlling the larva.

Attractive Targeted Sugar Bait. ATSB was designed to be sprayed on vegetation at adult mosquito resting sites to kill adults. Last year we conducted two trial to gage its impact to honeybees and effectiveness on mosquitoes. We found it not attractive to honey bees. As a control tool, we found that results were variable with different mosquito species, and product duration wasn't as long as claimed. However, we did find it to be a great short-duration tool with quick results in most cases especially effective as a buffer between migrating adult mosquitoes and the public. This year we used more of this bait with good results for up to two weeks. It has been a welcome new tool in controlling adult mosquitoes.



Photo 6 ATSB application

Control of adult mosquitoes through fogging was not conducted. We have 2 emergency aerial contracts in place in the event aerial application is needed.

***6.1 Adult mosquito control research**

Attractive targeted Sugar Bait (ATSB) Bait station

A follow up trial to the ATSB trials was conducted this year involving bait stations rather than the Spray on bait. The trial was to evaluate the design attractiveness to honey bees. This may lead to a new mosquito control tool.

*6.2 Peak Mosquito Activity

In the event that adult mosquito control becomes needed, we have started doing work to determine peak activity times for key species. This is done by using a rotator trap that has several collection bags that allows us to determine in what time period mosquitoes are caught. In 2015 we got this set up late in the season and were looking forward to a two seasons of data this year. Trap counts were so low that we have little to no data and statistically what data we have is not enough to be relevant. We will continue to collect this data in the future. While we have only data from a limited time frame it gives great insight into mosquito activity. In Figure 4 you can see our main WNV vector has to peak activity times during the night 9-11p.m. and again from 3-

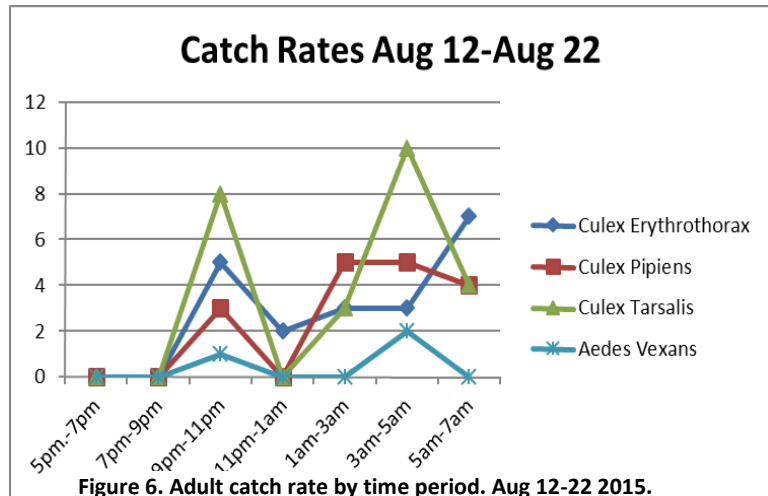


Figure 6. Adult catch rate by time period. Aug 12-22 2015.

5a.m. Based on this adult mosquito spraying would be most effective at those times and least effective at 11p.m. to 1 a.m. when there was almost no adult activity.

*6.3 Adult Mosquito Oviposit traps

Adult female mosquitoes seek water sources to lay eggs in. containers are especial attractive. We trialed a new commercially available oviposit trap. These were deployed and tested in two ways. One for capturing mosquitoes to help look for invasive exotic mosquito species. No exotics were caught, but this is a good way to sample around shipping terminals or nursery's where mosquitos may have come in with the last shipment. The second part of the test was to trial their ability to kill adult mosquitos in the urban environment. It is often difficult for us to find small larval sources, this would allow mosquitos to come to us. These traps were baited with water and a small amount of pesticide that killed the adult and prevented new mosquitos from hatching out. Overall mosquito numbers were low, but we did catch a few and these traps did lend themselves well to catching Culex. The biggest struggle was keeping them full of water during our hot dry summer!

7. Certification

*Professional Applicator Licenses were maintained by all of our applicators. In-house training was conducted on defensive driving, water safety, ATV, CPR and First Aid, equipment calibration and use, emergency procedures for spills and insect identification. The water safety portion of our training provides each employee practice in self rescues in a swift water environment. The following is a list of trainings and important meetings attended.

TFC Local Government Emergency Planning meeting

Jan Twin Falls Canal Company meeting

May 17, 19 Idaho Mosquito and Vector Control Association spring training in Pocatello and Nampa (presenter)

American Mosquito Control Association Annual Meeting, February 7 – February 11, 2016 at Savannah, GA.

February 24-26, 2016 Annual North American Black Fly Association (NABFA) Meeting Laughlin, Nevada / Bullhead City, Arizona

Dec 8 Environmental Care Association Education Day

Oct 10-11 Ut Mosquito and Vector Control association meeting. (presenter)

8. Public Education and awareness

*As discussed in the source reduction section, public education is very important. We will never find and treat all mosquito sources without the public's help. Many problems can be eliminated with just a little bit of knowledge. Much of our educational work is one on one talking to the public while we are in the field. This year we worked with several schools, hosted tours and added social media in the form of Facebook and a YouTube channel as a way to get information out.

The following is a list of important educational events attended by TFCPAD :

Feb 19-21 Home and Garden Show 2016

May 18 COW day. (Careers on Wheels Day)

May 24. Spoke to Rotary group in Filer

June 8. Hosted DEQ permit writer on a tour of our Program.

May 21, Education day at Rock Creek Park

Jun,-Sep, Public service announcements on local TV and Radio stations.

Nov 9,10 Guest speaker at 3 Biology classes at CSI.

Nov 17 Guest Speaker at Twin Falls Lions Club

8.1 Links to TFCPAD related news stories: (click on link in blue)

[West Nile Virus detected in Twin Falls County](#)

Posted: Wed 4:00 PM, Aug 03, 2016 | Modified: Thu 2:27 PM, Aug 04, 2016

The Twin Falls County Pest Abatement District confirmed Wednesday that some mosquitoes tested positive for West Nile Virus.

Twin Falls County Pest Abatement catches fish to help control mosquito population

Posted: Wed 1:33 PM, Jul 13, 2016 | Modified: Wed 7:00 PM, Jul 13, 2016

You’ve probably have tried using bug spray to battle mosquitoes but who knew a fish could do the job?

Mosquito testing in Twin Falls County

Posted: Fri 5:26 PM, Jul 01, 2016 | Modified: Mon 8:52 AM, Jul 04, 2016

With the recent reports of mosquito testing positive with the West Nile virus in both Payette and Canyon counties, we decided to check in with our pest abatement district to see how mosquito treatment is going in our area.

Get rid of tires for free and help reduce mosquito population

Posted: Tue 4:09 PM, Apr 12, 2016 | Modified: Wed 9:11 AM, Apr 13, 2016

While most of us welcome the warm weather with open arms, warmer temperatures mean mosquitoes are quickly making their comeback.

Pest Abatement District ready to treat mosquito breeding areas

Posted: Wed 5:19 PM, Feb 10, 2016

While health officials and lawmakers in Washington D.C. grapple with how to best address the Zika outbreak, employees at the Twin Falls County Pest Abatement District are preparing to treat mosquito breeding areas throughout the county.

Pest Abatement District says goodbye to founding members

http://magicvalley.com/business/agriculture/pest-abatement-district-says-goodbye-to-founding-members/article_73a9dc26-8849-5192-967a-898bf95f2e99.html

West Nile Virus found in Twin Falls mosquitoes

http://magicvalley.com/west-nile-virus-found-in-twin-falls-mosquitoes/article_95df2838-3b9c-59a6-b07c-211ca80f41a3.html

Southern Idaho Solid Waste Offers Tire Amnesty Day

http://magicvalley.com/west-nile-virus-found-in-twin-falls-mosquitoes/article_95df2838-3b9c-59a6-b07c-211ca80f41a3.html

9. Other Business

9.1 Board meeting Dates

All Board meetings were announced and open to the public. The following is a list of Meeting date

1/7/2016	6/16/2016	10/24/2016
3/7/2016	8/3/2016	11/14/2016
4/19/2016	9/12/2016	12/19/2016

9.2 BUDGET FOR TWIN FALLS COUNTY PEST ABATEMENT DISTRICT

*Twin Falls County Pest Abatement District YTD Revenues & Expenses to 2017 Budget.

Budget was approved at a public hearing Wednesday, August 3, 2016, at 7:00 PM at the TFCPAD Office.

Budget Summary: Repayment to the County of Twin Falls for expenses incurred by the interim pest abatement district prior to the formation of the permanent district was completed in 2013. Additionally, the target of approximately one year's tax collection was reached in 2014. With these two long term financial obligations completed, the board approved a second full time employee for the district. Spring 2014 While this is a long term financial commitment that may impact expenditures in other areas, the decision was taken to secure operational sustainability. 2016 saw increased health care costs associated with the affordable health care act.

12/29/2016

Twin Falls County Pest Abatement District YTD Revenues & Expenses to 2015 Budget vs. Actual & 2016 Budget

Budget Categories	Budget Items	2016 Actual	2016 Budget	2017 Budget
Revenues	1-01 Taxes	608,676	586,991	604,614
Revenues	1-02 Grants	-	2,000	2,000
Revenues	1-02 Foregone	-	7,485	7,321
Revenues	1-04 Carryover Money Other	791,579	723,345	801,182
Revenues	1-03 & 1-05 Other Income	5,321	3,250	11,850
Total Revenues		1,405,576	1,323,071	1,426,967
Expenses				
"A" Budget(Salaries & Wages)		111,954	119,743	127,820
"B" Budget				
Benefits & Taxes Total		43,114	49,536	63,824
Building Expenses Total		27,031	26,610	26,460
Other Insurance Total		3,098	4,000	3,200
Vehicles Total		9,019	19,300	46,300
Travel Total		2,575	6,000	6,000
Training Total		1,694	2,520	2,520
IT and Communications Total		5,115	9,780	6,780
Emergency & Carry Over	10-01 Emergency Abatement Fund	673,472	572,433	600,000
Emergency & Carry Over	10-02 Previous Year Carry Over	118,106	150,912	171,272
Community Outreach Total		10,146	14,850	14,650
Integrated Pest Management Total		372,739	335,537	346,291
Administration Total		7,300	11,850	11,850
Total "B" Expenses		1,273,409	1,203,328	1,299,147
Total Expenses		1,385,363	1,323,071	1,426,967
Net Revenues over expenses		\$ 20,213	\$ -	\$ -

Actual Carryover from 2015	Net Revenues 2016	Carry over to 2017
\$ 791,579	\$ 20,213	\$ 811,792

9.3 Emergency Abatement Fund Policy

Twin Falls County Pest Abatement District
Emergency Abatement Fund Policy Position
January 7, 2016

The Twin Falls County Pest Abatement District is charged with protecting the health and welfare of the citizens of the county from pests and vectors which carry disease or which might have a negative impact on social and economic well-being of the citizens. The primary focus of the district's activity is to proactively abate mosquitoes and black flies in the county before they reach numbers which could cause harm.

The district must, however, also be prepared to react to threats which are currently not an issue. To those ends, the district has worked to accumulate monies into an Emergency Abatement Fund. When the District was formed, there were no monies allocated to fund emergency abatement. The financial target for the Emergency Fund is approximately one fiscal year worth of tax collections. This amount should allow a reasonable and non-excessive response to an emergency. At the time of the district's formation it was decided that money should be set aside each year from a line item on the budget and that any unspent operating money should also be added to the fund, until such time that the budget target was reached.

Due to State of Idaho statutes for taxing districts, in order to make the Emergency Fund money available for use, the money in the Emergency Fund must be shown on the annual budget. The result of this is that the annual budget for the Abatement District rose steadily and significantly each year through 2015. It was anticipated that when the fund target was reached the district budget will be approximately two (2) times the annual tax revenue collection.

Through organized budgeting and spending discipline the Emergency Fund target was reached and for fiscal 2015 it was decided by the board to use the money that had been going into the fund for a second full time district employee. This decision will reduce the risk of institutional knowledge loss and provide better continuity of activities from one season to the next. Fiscally the goal now will be to efficiently abate and educate within the district to the extent possible with the tax monies annually collected and to essentially stop any underspend compared with current and future budgets.



TFCPAD Board Members Left to right. Charles Lenkner, Logan Hudson, Kirk Tubbs (Manager) Tony Brand, (recognition of 8 years' service) John Snelling (recognition of 8 years' service) Sherry Olsen-Frank, Eric j. Wenninger (recognition of 8 years' service) Melody Bowyer, Corry Doggett.