

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.

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Cover Photo; Spring river flow at Caldron Linn, excellent Black Fly habitat and treatment location.

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## **2017 Year End Report** Twin Falls County Pest Abatement District

Report Prepared by District Manager Kirk Tubbs

## **Report to Twin Falls County Pest Abatement District Board of Trustees**

<u>How to read this report:</u> 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**

\*The Twin Falls County Pest Abatement District (TFCPAD) was created by public vote in 2008 and started work in spring of 2009

\*This season started with an exceptionally wet winter and spring, major flood events through the region and a warm extended fall. 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 and during the summer three full-time seasonal employees (2 working less than 7 mo. each and one working 45 days) 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 77,230 (2010 Census). 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 sampled; 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, Blaine 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 money for mosquito surveillance through a grant. The state lab also provided confirmative virus testing. This money was used for additional surveillance in surrounding counties as well as additional trapping and testing in TF county.

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, and data and access to their waterways for treatments.

Clearlake's Homeowners Association contracted to have mosquito surveillance and control. This resulted in treatments that benefited Twin Falls County residents in adjacent area as well as the homeowner's association.

Blue Lakes Country Club contracted to have mosquito control conducted. This is directly across from centennial park and provided a direct benefit to the public at the park.

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

\*Tubbs berry Farm collaborated with the district to host a bee education for mosquito control operators workshop. This brought attendees from all over the state and garnered some national attention.

\* In light of all the flooding in Blain County and the related concern about mosquitoes, TFCPAD provided equipment, technical expertise and provided lab identification and WNV testing of mosquitoes from Blain county.



Photo 1. Mosquito control operators from through the state get hands on pollinator protection training.

\*Idaho Power partnered with us to promote their irrigation efficiency program. This is really a win - win. Not only does the irrigator save money on irrigation, less leaks means less habitat for mosquitoes.

\*INEBRE intern; This was our third year we partnered with College of Sothern Idaho who administered the INEBRE (Idea Network of Biomedical Research Excellence) Intern program. Their goal is getting students involved with collaborative research, gain real world experience especial 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. <u>Surveillance</u>

**2.1 Black Fly** (BF) adult surveillance (Also known as Biting Black Flies and Buffalo Gnats.) is conducted using some of 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.



Photo 2. Black Fly adults on horse ear.

<u>Simulium</u> *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.

<u>Simulium</u> *bivittatum* is a very small species of BF that has a similar lifecycle and habitat preferences to Simuliun *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.

**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



Photo 3. Black Fly eggs and larva on a sample rope from TF Canal.

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. Chart 1. Adult Mosquito catch

\*Adult mosquito trapping was conducted on a weekly basis during the season (April 4 to Oct 13). 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 155 trap nights produced a total of 1541 female mosquito that were identified to species as a part of this surveillance. (This number excludes data where traps failed or from surrounding counties.) This trapping provided mosquitoes for West Nile Virus (WNV) testing as well as feedback on treatment results and needs. Testing of



Photo 4. Mosquito trap contents sorted and identification of species.

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.

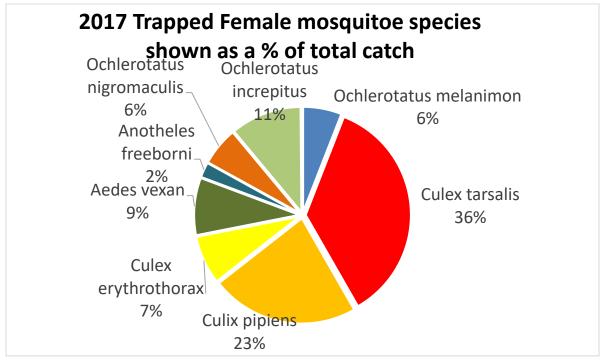


Figure 1. 2017 total by species.

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 <u>Culex</u> *tarsalis* & <u>Culex</u> *pipiens* mosquitoes. We test mosquitoes regularly as part of our surveillance. This year 153 pools of mosquitoes were tested in-house as part of routine surveillance. Each pool contains from 1 to 50 mosquitoes of the 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: Aug 12 Two trap locations held mosquitoes testing positive for WNV, both were near Twin Falls, one near the Snake river, and one near Rock Creek. Aug 18 one trap set in the vicinity of previous positive near Twin falls and the Snake River contained WNV positive mosquitoes, all other trap locations were negative an no additional positives were found.

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 was a perfect storm for lots of floodwater mosquitoes, but we were able to keep numbers low. This is a credit to our team, years of mapping and recording problem areas, and early treatments with slow release bacterial products. By all counts this year could have been much worse for mosquitoes. This summer's warm fall resulted in mosquitoes late into the season. Our peak of mosquites was in Agust rather than in July, but this was not a result of a weather abnormality, rather a reduction in mosquito control being conducted because we were short on man power at this time. 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.

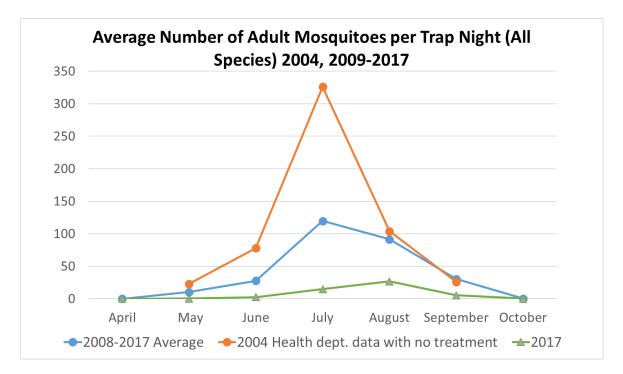


Figure 2: Includes 2004 data from health department during which no control work was conducted; remainder is TFCPAD data.

## 3. <u>Mapping</u>

\*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. This is really a key to good county wide coverage even when we have changes in personnel, it preserves knowledge from one year to the next. The public can also view this map online.

## 4. Source Reduction 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 long-term 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.

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 the spring day 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.

Of particular note this summer was jointly produced commercial with Idaho Power. This commercial focused on agriculture irrigators and promoted efficiency and reducing mosquitoes. This reached people in the entire Magic Valley, not just Twin Falls County

We also increased the number of mosquito traps during the month of July with the main intent of educating the public. By setting traps in new areas, we have found that the traps garner public attention and an increase in visits to the website, and Facebook. Links to both are posted on the traps and the traps are generally quite visible. The person setting them has a chance to visit with residents and it's a great way to have that more of those one on one interactions that are so good for answering questions and educating the public.

# 5. Larval Control

Almost all control efforts were targeted towards the larval stage of both mosquitoes and black flies. At this



Photo 5. Mosquito larva habitat

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 thuringienisiis 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 Bt*i* in a solution applied to moving water. Mosquito larvae were treated with Bt*i* 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 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 in the winter we are able to reduce the numbers of black flies that would otherwise colonize canals, which benefits the entire region. TFCPAD is samples for larvae in the canal systems and treating when appropriate. By monitoring both BF larval stage and river flow rates we are able to time treatments to get the best control. The Snake River at Twin falls depend a lot on what is happening upstream. 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.

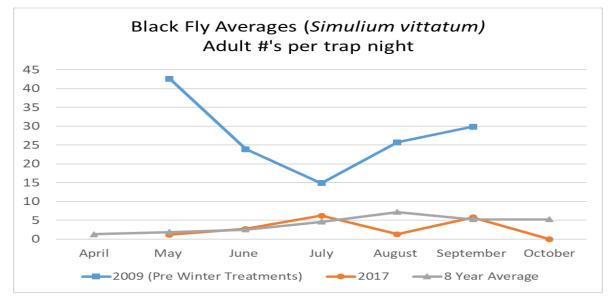


Figure 3 Black Fly Adult Catch rate by trap night.

#### 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 to 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.

Additional mosquito larval control was conducted by the use of Bt*i* and a *Bacillus sphaericus* biological larvacide applied to standing water when mosquito larvae were found present. Bs works in much the same way as Bt*i*, 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 another larva to consume. In areas of high mosquito larva this recycling of the product can make this type of treatments last longer than Bt*i*.

\*Mosquito larval control technology has experienced incredible gains over the last 8 years, resulting in improved product formulations, slow release, and even products that release during a flood event, dry down and wait for the next flood event. These gains in technology have allowed us to treat an increasing number of mosquito sources (over 7,000), and find new sources each year without a similar increase in labor. We are able to pretreat with slow release bacteria products areas that have historically been problem areas, in a year, such as we experienced with abundant floodwater, it made all the difference in keeping numbers of adult mosquitos low.



Photo 6, Applying granular larvicide to marshy and flooded areas.

In some areas 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 from 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 7. Netting bluegill.

# 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 2017 | Quantity Used 2016 | Quantity Used 2015 |  |  |
| Four Star (45 day )         | 83362-3                    | 287 each           | 329 each           | 346 each           |  |  |
| Four Star (90 day)          | 83362-3                    | 1,665 each         | 819 each           | 704 each           |  |  |
| Four Star CRG               | 85685-2                    | 2,340.66 pounds    | 2,308.45 pounds    | 1,555.21 pounds    |  |  |
| 4 Star (180 day)            | 83362-3                    | 2,377 each         | 2,916 each         | 1,920 each         |  |  |
| 4 Star WSP                  | 85685-3                    | none               | 111 pouches        | none               |  |  |
| Agnique (surface Film)      | 53263-28                   | 1.1 galons         | 0                  | 0.08 gallons       |  |  |
| Agnique WSP (surface Film)  | 53263-3                    | 36 pouches         | 134 pouches        | 198 pouches        |  |  |
| CocoBear (larvicide oil)    | 8329-93                    | 5.53 gallons       | 7.35 gallons       | NA                 |  |  |
| Altosid Briquet (180 day)   | 2724-421                   | none               | 1282 each          | 2,045 each         |  |  |
| Altosid WSP                 | 2724-448                   | none               | 96 pouches         | 11 pouches         |  |  |
| Vectolex WSP (BS)           | 73049-20                   | 20 pouches         | 478 pouches        | 54 pouches         |  |  |
| Vectobac CG (Bti)           | 73049-19                   | 51.85 pounds       | 237 pounds         | 121.63 pounds      |  |  |
| Vectomax CG(BTi,BS)         | 73049-429                  | 1,377.25 pounds    | 2,591.51           | 885.07 pounds      |  |  |
| Vectomax WSP                | 73049-20                   | none               | 132 pouches        | NA                 |  |  |
| Naturlar (180 day)          | 8329-84                    | 2,537 each         | 1,207 each         | 634 each           |  |  |
| Naturlar Granular (30 Day)  | 8329-83                    | 567.67 pounds      | 61 pounds          | 113.8 pounds       |  |  |
| Vectobac 12AS(Bti)          | 73049-38                   | 4,785.26 gallons   | 6,727.01gallons    | 6,145.36 gallons   |  |  |
| All Pro MBG ( Granular Bti) | 7699-92                    | 209.7 pounds       | 173.1 pounds       | 283.20 pounds      |  |  |
| ATSB                        | Exempt                     | 108.93 gallons     | 43.625 gallons     | 5 gallons          |  |  |

TFCPAD has 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 conditions in the field.

#### 6. Control of Adult Mosquito Populations

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

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

#### **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. For the past two years we have done a limited amount of rotator trap trapping of adult mosquitoes, basically the trap rotates catch bags on a timer so the we can tell at what time they were caught allowing us to gauge activity. This season we again experienced low catch rates in the county. We went across the river to work in an untreated area that gave us good catch rates. In Fig 4 below, you can see the peak in activity near dusk.

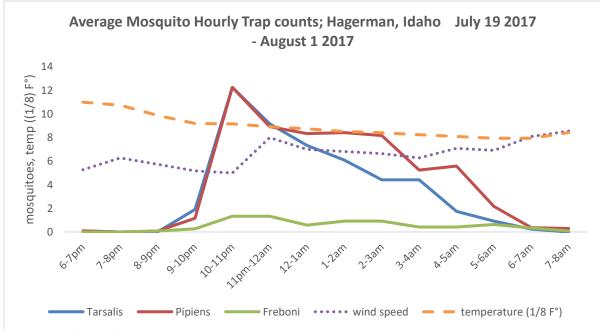


Figure 4. Hourly trap data.

## **Trap trials**

The emerging virus threats such as Zika are being transmitted by day active species of mosquitoes. These invasive exotic mosquito species are becoming quite common in the southern part of the country. It is also possible that their range will continue to expand with seasonal outbreaks from imported mosquitoes in areas that wouldn't normally sustain a year-round population. Our current traps and methods of monitoring adult mosquitoes could easily miss some of these mosquitoes. In order to improve our early detection and treatment. We have trialed a variety of traps this season. All traps worked to some degrees and can play a role in surveillance. Many required a large amount of time to set and check which takes time from other areas of work. Our goal this past summer was to find a trap that worked well in our dry climate, required minimal cost to set and maintain and could be checked at intervals of a month or more. Traps were sent in areas were invasive mosquitoes might arrive (Nurseries, shipping yards, tire facilities) and monitored. The best results from our trial was a gravid trap. Female mosquitoes looking for a place to lay eggs enter and are unable to leave. No exotics were caught. We will expand this trapping effort in the future.

## 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.

Jan 10 Twin Falls Canal company meeting

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Feb 2-4<sup>th</sup> Agri Action show
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- Feb 22-24 North Central Mosquito Meeting
- March 1-3 North American Black Fly Meeting (Presenter)
- April 27 Filer School Science day at Rock Creek park (Presenter and educational booth)
- April 28 Earth day fair at CSI (Educational booth)
- May 9 ,11<sup>th</sup> IMVCA training
- May 17 COW days (Career on Wheels day) (Presenter)
- June 8<sup>th</sup> Honey Bee Awareness for mosquito control operators
- Nov 5-8 Entomological Society Meeting November (Presenter)
- Nov1 North West Mosquito and Vector Control Association Meeting (Presenter)

Nov 15 IMVCA association meeting in Boise

Various Local Government Emergency Planning meeting (LGIP) during the year.

# 8. Public Education and awareness

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

Feb 2-4<sup>th</sup> Agri Action show

- April 27, Education day with Hollister Elementary
- May 20, COW days, Career on Wheels Day

Jun, July & Aug, Public service announcements on local TV and Radio stations.

Nov 29 Guest speaker at 2 Biology classes at CSI.

Information is also available on Facebook, YouTube and website.

8.1 Links to TFCPAD related news stories: (click on link in blue) from KMVT and Times News

VIDEO: County pest abatement works to lower black fly population Posted: Mon 10:35 AM, Aug 28, 2017 / Modified: Mon 12:26 PM, Aug 28, 2017

Twin Falls Pest Abatement works year round to lower black fly population *Posted: Sun 11:12 PM, Aug 27, 2017 / Modified: Mon 11:16 AM, Aug 28, 2017* Black fly season is peaking in the Magic Valley.

West Nile detected in Twin Falls County Posted: Mon 4:10 PM, Aug 07, 2017 Mosquitoes have been found infected with the West Nile Virus in multiple spots in Twin Falls County.

Hot, dry summer and wet spring create perfect conditions for mosquitoes in Idaho Posted: Thu 10:25 PM, Aug 03, 2017 / Modified: Thu 10:33 PM, Aug 03, 2017 With more mosquitoes comes more chance for the West Nile Virus to infect people.

Mosquito test positive for West Nile Virus near Hagerman Posted: Thu 3:36 PM, Jul 27, 2017 | Modified: Fri 4:55 PM, Jul 28, 2017 The Public Health District is urging people to take steps to protect themselves from mosquitoes.

<u>Twin Falls beekeepers receive national award</u> *Posted: Tue 11:22 AM, Jul 25, 2017* Bayer Bee Care Community Leadership Award: Young beekeeper Jake Reisdorf, and Kirk and Heidi Tubbs of Tubbs Berry Farm in partnership with the Twin Falls County Pest Abatement District.

Bluegill: Little fish with a big job to do Posted: Thu 6:15 PM, Jul 13, 2017 / Modified: Fri 5:32 PM, Jul 14, 2017 Slimy, but productive. Dierkes Lake bluegill serve a purpose and teach kids and families like the Coopers about mosquito management.

<u>Magic Valley groups teach safe pest control around bees</u> *Posted: Thu 6:41 PM, Jun 08, 2017* When you spray for mosquitoes, you could accidentally spray bees. Bug groups around the valley teamed up to help educate people to avoid that.

Keep mosquitoes away Posted: Wed 10:44 PM, May 03, 2017 / Modified: Wed 11:13 PM, May 03, 2017 You may feel excited for warmer weather, but it can create an environment for mosquitoes.

Winter flooding could cause spike in local mosquito population Posted: Tue 7:03 PM, Mar 14, 2017

The Twin Falls County Pest Abatement District is gearing up for what could be a busy summer. <u>http://magicvalley.com/business/agriculture/black-flies-livestock-owners-brace-for-</u> <u>more/article\_56d9bbb6-2bcb-5f1e-bfda-864a9d4a0006.html</u> CINDY SNYDER For the Times-News Aug 28, 2017



Photo 8 Flooding along Snake River at Cedar Draw due to high River Flow.

## 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

| 1/23/2017 | 6/12/2017 | 11/20/2017 |
|-----------|-----------|------------|
| 2/27/2017 | 8/3/2017  | 12/21/2017 |
| 5/8/2017  | 9/18/2017 |            |

# 9.2 BUDGET FOR TWIN FALLS COUNTY PEST ABATEMENT DISTRICT

#### 10/23/2017

#### Twin Falls County Pest Abatement District YTD Revenues & Expenses to 2016 Budget vs. Actual & 2017 Budget

| <b>Budget Categories</b>         | Budget Items                   | 2016 Actual | 2016 Budget | 2017 Total Budget |
|----------------------------------|--------------------------------|-------------|-------------|-------------------|
| Revenues                         | 1-01 Taxes                     | 630,999     | 604,614     | 552,293           |
| Revenues                         | 1-02 Grants                    | 8,000       | 2,000       | 1250<br>          |
| Revenues                         | 1-02 Foregone                  | -           | 7,321       | 17,601            |
| Revenues                         | 1-04 Carryover Money Other     | 811,793     | 801,182     | 573,773           |
| Revenues                         | 1-03 & 1-05 Other Income       | 47,700      | 11,850      | 3,250             |
| Total Revenues                   |                                | 1,498,492   | 1,426,967   | 1,146,917         |
| Expenses                         |                                |             |             |                   |
| "A" Budget(Salaries & Wages)     |                                | 107,544     | 127,820     | 123,303           |
| "B" Budget                       |                                |             |             |                   |
| Benefits & Taxes Total           |                                | 41,595      | 63,824      | 43,007            |
| Building Expenses Total          |                                | 24,507      | 26,460      | 25,130            |
| Other Insurance Total            |                                | 2,065       | 3,200       | 3,200             |
| Vehicles Total                   |                                | 28,978      | 46,300      | 37,900            |
| Travel Total                     |                                | 3,180       | 6,000       | 5,650             |
| Training Total                   |                                | 1,199       | 2,520       | 2,520             |
| IT and Communications Total      |                                | 5,057       | 6,780       | 6,480             |
| Emergency & Carry Over           | 10-01 Emergency Abatement Fund | 600,000     | 600,000     | <u> </u>          |
| Emergency & Carry Over           | 10-02 Previous Year Carry Over | 211,793     | 171,272     | 573,773           |
| Community Outreach Total         |                                | 7,802       | 14,650      | 10,850            |
| Integrated Pest Management Total |                                | 364,605     | 346,291     | 303,654           |
| Adminstration Total              |                                | 6,555       | 11,850      | 11,450            |
| Total "B" Expenses               |                                | 1,297,336   | 1,299,147   | 1,023,614         |
| Total Expenses                   |                                | 1,404,880   | 1,426,967   | 1,146,917         |
| Net Revenues over expenses       |                                | \$ 93,612   | \$-         | \$-               |

| 223.7 | ual Carryover<br>rom 2015 | Net R | evenues 2016 | Carry | y over to 2017 |
|-------|---------------------------|-------|--------------|-------|----------------|
| \$    | 811,793                   | \$    | 93,612       | \$    | 905,405        |

## 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.



Photo 9. 2017 Team Left to Right Aaron Ursenbach, Kirk Tubbs Christina Contreras, Amanda Smith, Andria Perez, Joseph Hawks Not pictured, Jonah Ruff