



# Twin Falls County

## Pest Abatement District Annual Report

# 2010

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

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## **2010 Year End Report**

## **Twin Falls County Pest Abatement District**

Report Prepared by District Manager Kirk Tubbs

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

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

This was the second summer season of operation for TFCPAD which led to some operational changes as compared to last summer. The staff consisted of one full time Manager, Kirk Tubbs. Two full time seasonal employees, Stacy King (March 12-August 20) Jared Evans (March 23-November 30), and one part time seasonal, Hilary Smith (March 19-September 15).

#### **Geographic Area**

The TFCPAD primarily conducts work inside Twin Falls County. The County contains approximately 1,232,000 acres. Treatments are targeted to the areas that will produce the best results for the time and money spent.

Surveillance and treatment area for Black Fly control consisted of all moving water in Twin Falls County. This is primarily 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 entire Milner Irrigation Canal System was also treated; this system originates in Twin Falls County runs through Cassia County and 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, those areas that have historically had WNV or have recently tested positive and recreational areas.

#### **1. Collaborative Agreements**

We have welcomed partnerships and the sharing of information and resources in order to fulfill our mission. No formal agreements were entered in to this year. All parties worked with last year continued in provide assistance with location of areas in need of treatment.

We provided Mentorship to a CSI student working on a biology Project, part of which the student assisted with some collection of field data for the Abatement District.

Idaho Department of Health and Welfare provided supplies as well as \$2,500 for mosquito surveillance through a grant.

The Twin Falls Canal company, Salmon Falls Canal company, and Milner irrigation district provided Canal information, water flow rates, data and in the case of Twin Falls Canal the loan of some water measuring equipment and water temperature data.

South Central District Health Board provided information on related disease testing as well as helped with public education.

KMVTV and Gap West Broad cast worked with us on producing Public Service Announcements and Sponsoring a PSA contest for High School Students.

The Idaho Department of Fish and Game assisted with our fish capture and stocking efforts. They provided manpower, a boat, transport tanks, and expertise.

## **2. Surveillance**

Black Fly larval surveillance in canals primarily consisted of 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. In fluctuating water 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.

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 summer (4/26 to 10/19/10). Traps used a light and CO<sub>2</sub> produced by dry ice to attract the mosquitoes. Traps were set in the evening and retrieved in the morning. 255 trap nights produced a total of 10,332 female mosquitoes that were speciated as a part of this surveillance. This excludes data where traps failed, or efforts were being duplicated. Mosquito populations were higher this year and this was reflected in both larval and adult surveillance. This trapping provided mosquitoes for West Nile Virus WNV testing as well as feedback on treatment results and needs. No mosquito pools tested positive for WNV, St. Louis encephalitis and Western Equine encephalitis.

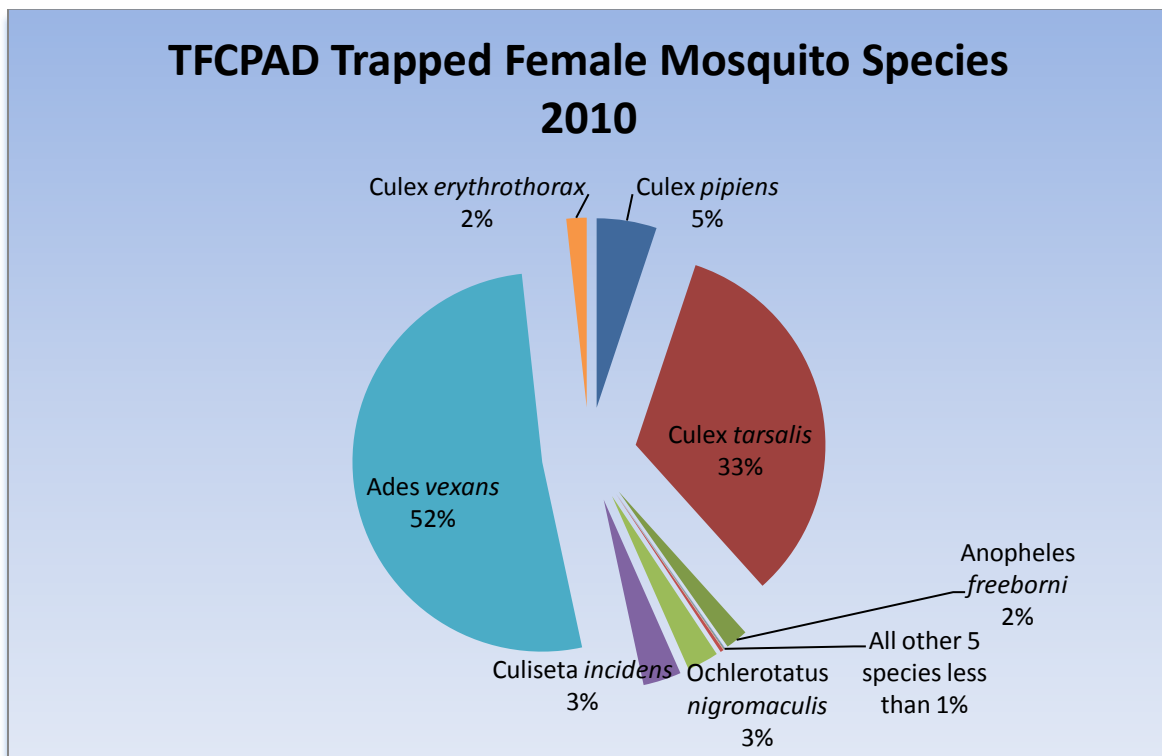
Two livestock were reported as having WNV in Twin Falls County September 29 additional surveillance and treatment was conducted in the area with no positive mosquito pools found.

Testing this year was conducted both by the Idaho State Health lab and in house. As part of our grant we were able to obtain a rapid immunochromatographic system or RAMP tester to conduct in house testing and get immediate feedback on our samples.

Surveillance was increased 143% as compared to last year which resulted in us catching 269% more mosquitoes than last year. Our increased surveillance allowed us to more effectively cover the county in an attempt to provide early disease detection. Our surveillance was also used to find areas in need of treatment and rate the effectiveness of our treatment work. Using data from last year and state guidelines we established a Twin falls 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. For example, trapping of over 30 *Culex tarsalis* in one night in one trap would prompt a review of larval surveillance and treatment for that area, a search for potential

breeding locations in the vicinity that were missed during previous treatments. The location would also be re-trapped the following night and the following week. The goal was to catch problem areas sooner so that we could maintain mosquito numbers below the threshold where disease is easily transmitted. These guidelines will be reviewed and updated with the new data from this year.

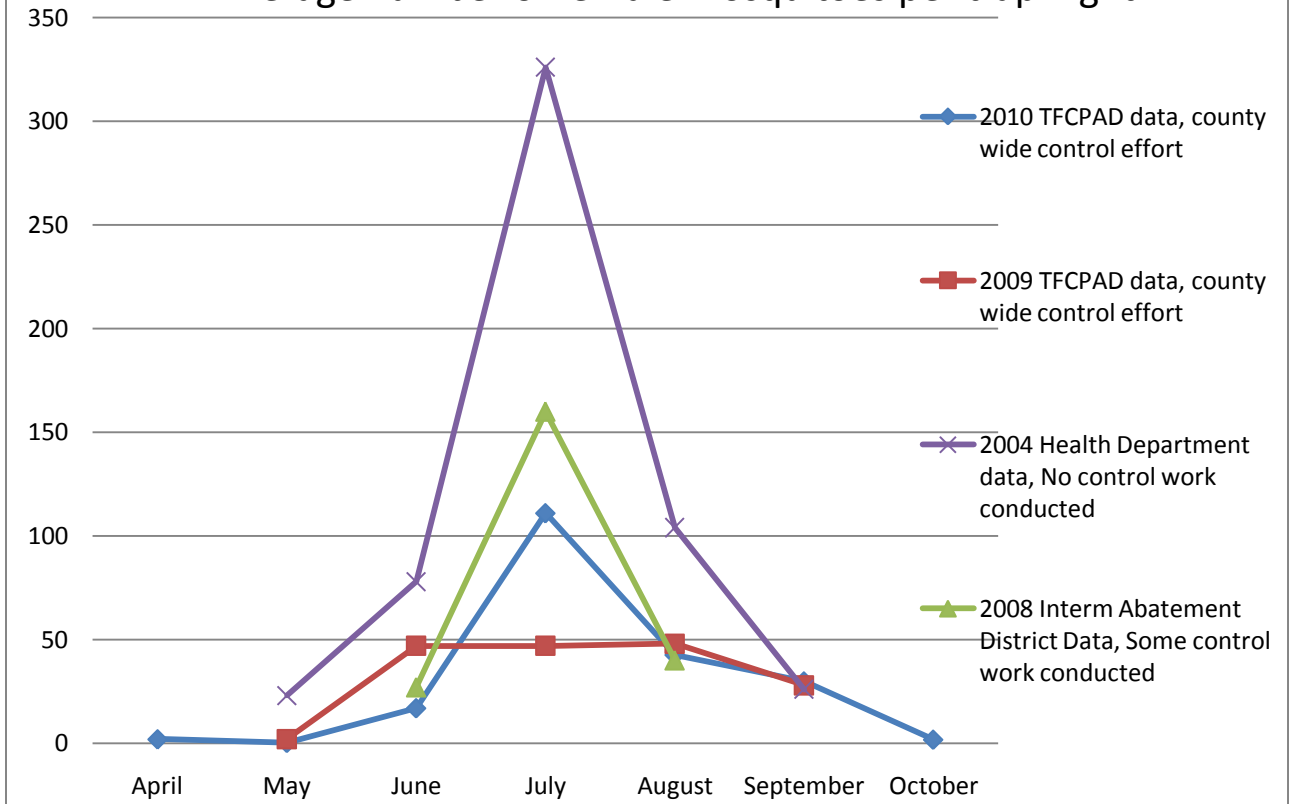
Mosquito species also let us know what type of habitat to look for, and if we were dealing with a potential vector of disease or just a nuisance mosquito. This year's numbers were much higher than last year and most of those high numbers were nuisance species. Most came from one areas of the county that flooded and had not been flooded in several years. Vectors of disease bite, lay eggs and then bite again this feeding then feeding again is where disease is transmitted. 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 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.



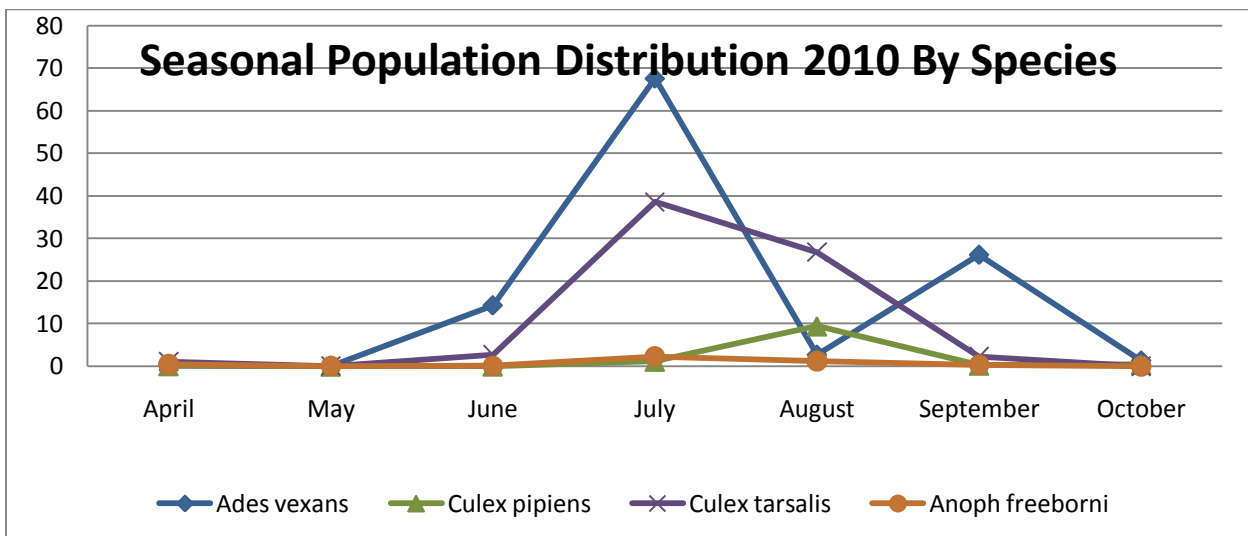
The previous chart shows the population distribution of trapped female mosquitos. *Culex tarsalis* and *Culex pipians* are the two species likley to carry WNV, all were tested. *Culex* are most often found in ponds and containers. *Ades vexans* our most common mosquitoare called a flood water mosquito. They are most often found in floded areas along the river, and flooded irrigation areas . They would sometimes generate complaints, but are mostly a nuicance mosquito not generaly a vector of diease.

## TF County Mosquito Population 2004, 2008-2010

### Average number of female mosquitoes per trap night



This year we received lots of moisture which resulted in flooding in areas that had not experienced flooding in several years. These same areas then produced a lot of floodwater mosquitoes, which made up the bulk of the mosquitoes we trapped. Lots of water meant more larvas to treat and we used a great deal more product this year. Product trials were conducted with some new products and are happy with the results. They should give us greater efficiency next year.

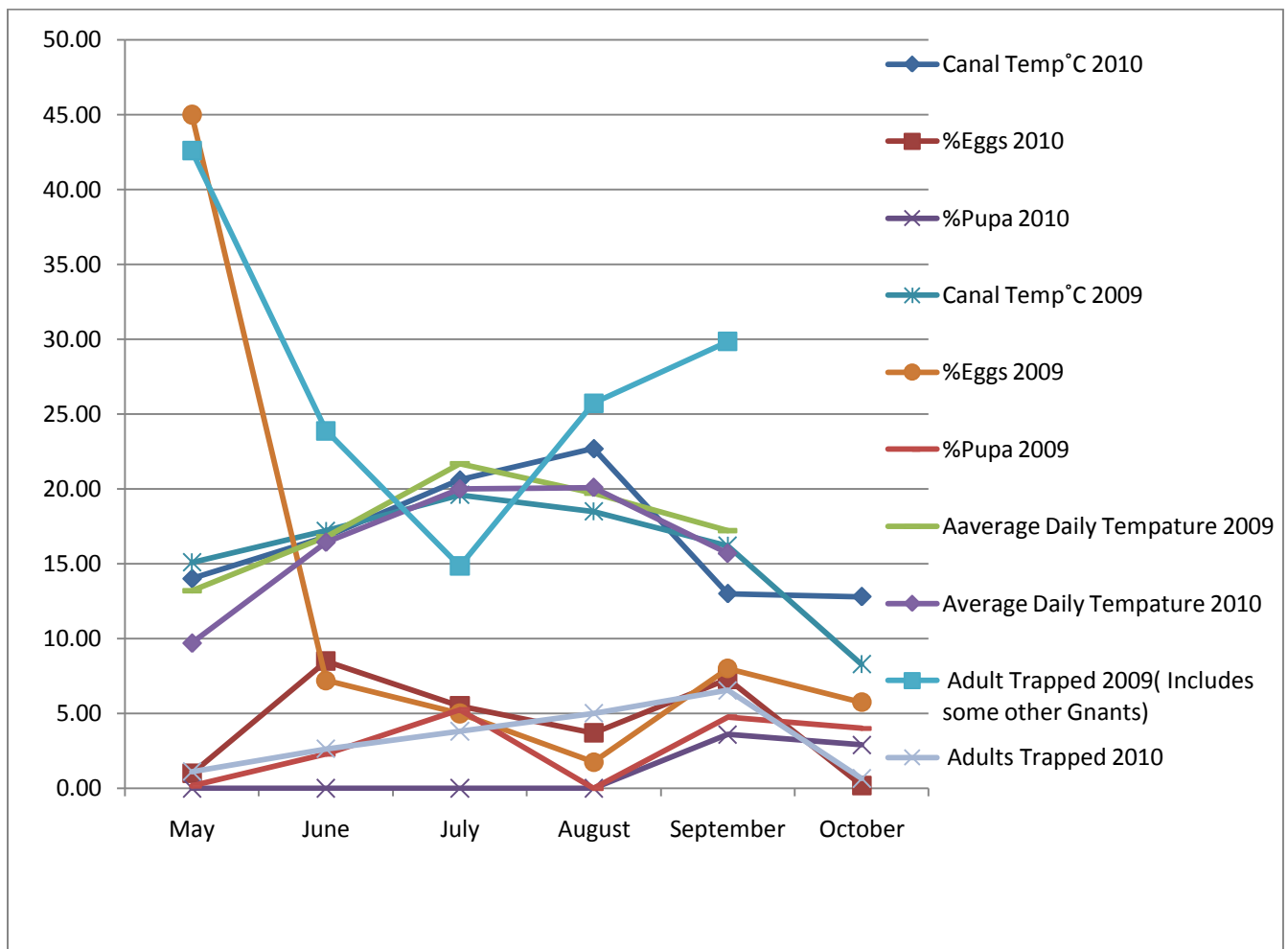




Our primary larvicide is Bti ( Bacillus thuringienisiis v. israelensis) which is a product of a natural soil bacteria, when refined it produces a protein crystal that when consumed reacts with the alkaline gut of a mosquito or black fly resulting in death. There is no secondary toxicity, or recycling 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. Larval stage and water temperature were monitored to determine treatment intervals.

A new stratagem employed this year was the use of late season larval treatments are directed at larvae that overwinter in some of the year round water sources as slowly growing larva that then emerge in the spring. Some black flies will also overwinter as eggs, and will not be affected by our treatments. With water flow rates low in the late fall, we can treat with a small amount of product versus the large amount that would be required in the spring to treat the same area.



Data from our first trial season of treating overwintering larva is very promising. This chart shows rope survey data from the Twin Falls canal adjacent to the Snake River Where we conducted overwintering treatments. Similar results were obtained from near rock creek. These treatments reduced the early season recolonization of Black Fly's of the canals and reduced the number of treatment early in the season. We used similar amounts of product as last year, but we were able to treat a greatly expanded



area. These studies also showed the great travel distance of Black Flies and how we are impacted by the influx of adult Flies from surrounding untreated areas later in the season.

Mosquito larvae were controlled in several ways. Early in the season catch basins, storm drains, and some water retention ponds were treated using Altosid which comes as a small ingot that slowly releases methoprene, an insect growth regular. The slow release formula allows these early season treatments to last during the summer. Methoprene prevents mosquito larva from developing into adults, and in the form applied, the water can dry up and the product remains ready for the next time the catch basin fills with water. An ideal treatment for storm drains where we do not have the man power to check and treat each one at intervals during the summer. In addition we Used Four Star on a trial basis. It is a slow release of Bti and Bacillus *sphaericus* (Bs). Bacteria for 45, 90, or 180 day larval control. We plan on using this as a rotational product as well as for treating small ponds to reduce our return interval.

Additional mosquito larval control was conducted by the use of Bti and a Bacillus *sphaericus* biological Larvacide 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. A combo product was available this year that pairs the two bacteria in order to get 30 days of control. It performed well and we will use much more of this in the future. Most of these products come on a corn cob granule (CG or G) that we then broadcast or a water soluble pouch (WSP)

In a few areas we use a surface film to treat for mosquitoes. A surface film is a monomolecular film that coats the surface of the water 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 and as a last choice.

In addition stocking of Bluegill for mosquito larval control was trialed this summer. The results showed that fish stocking did reduce larval counts at a noticeable level when stocking rates of at least 60 fish per Acre, in areas of high fish predation the recommendation is to double the stocking rate.

<b>2010 TFPAD PESTICIDE USE TOTALS</b>		
<b>Product</b>	<b>EPA Reg. #</b>	<b>Quantity Used</b>
Four Star (45 day)	83362-3	343 each
Four Star (90 day)	83362-3	574 each
4 Star (180 day)	83362-3	2866 each
Agnique (surface Film)	53263-28	3 gallons
Aerosurf (Surface Film)	8329-74	5.5 gallons
Altosid Briquet	2724-421	1169 pieces
Altosid WSP	2724-448	47 pouches
Vectolex CG(BS )	73049-20	100.1 pounds
Vectolex WSP (BS)	73049-20	1391 pouches

Vectobac CG (Bti)	73049-19	395 pounds
Vectomax CG(BTi,BS)	73049-429	870 pounds
Teknar G (BTi)	73049-403	24.5 pounds
Vectobac 12AS(Bti)	73049-38	6514 gallons

## **6. Control of Adult Mosquito Populations**

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

Plans are in place and we are ready if needed for the use of aerial application of larvicides .

Control of adult mosquitoes through fogging was not conducted .TFCPAD has an ultra low volume fogger ready for use in the event that serious disease outbreak justifies its use. We did not meet the action thresholds in our operations guide to justify its use.

Several adult trap designs were trials this summer; mixed results were obtained so this is an area that we will continue to do more work next year. The goal is to have a trap that we can leave unattended for two weeks that is effective.

In an effort to increase natural predators of Mosquitoes and Black Flies, TFCPAD sponsored and worked with two Boy Scout Eagle Projects. The Project included building and installing bat boxes at select location through the county.

## **7. Certification**

Professional Applicator licenses were maintained by all our applicators. In house training was conducted on defensive driving, water safety, equipment calibration and use, emergency procedures and insect identification. The following is a list of training and important meeting attended:

January 12, 2010 Twin Falls Canal Companies shareholder meeting.

January 14, 2010 Attended Univars customer education day.

Feb 3-5<sup>th</sup> National Black Fly Conference, (Presenter and attendee)

Feb 23 71 Cattle association meeting

Feb 25 Canyon County Board meeting to learn more about NPEDS permitting process.

April 27, Hands on mosquito training at Rock Creek Park (Presenter and attendee)

April 28-29 Idaho Mosquito Vector and Mosquito Control Association Meeting in Nampa (Presenter and attendee)

June 9<sup>th</sup> State Sponsored Budget Training

June 15 NPDES public meeting Boise

October 6-8 Utah Mosquito control association meeting in Salt Lake City

October 20 Idaho PRIMA Risk Management Training

October 26 ISDA is putting on a pesticide workshop for Schools (Presenter and attendee)

November 3-4 Idaho Mosquito and Vector Control Association meeting (Presenter and attendee)

## **8. Public Education and awareness**

The following is a list of educational events attended by TFCPAD and significant coverage by the press:

January, Sponsored a Public Service Announcement contest for High School Students

Feb. 19-20 Twin Falls Home and garden show

March 4 Public meeting in Homedale presenting the history of the TF county Abatement District, Black Fly treatment and their life cycle.

April 5, Spoke to the Meeting of the Magic Valley Region of the Idaho Chapter of the American Society of Farm Manager and Rural Appraisers.

April 20, Speaker for Master Gardeners

May 12 Cow Day (Careers on wheels) Twin Falls School District

May 27 Display at IDFG Sportsman Fish Fry, Magic Valley Office in Jerome

May Educational information included in Twin Falls Canal Co. newsletter and City Water Bill

June 26 [http://www.magicvalley.com/news/local/article\\_4edf75bb-14b1-5223-82dc-1fbda2ff1f72.html](http://www.magicvalley.com/news/local/article_4edf75bb-14b1-5223-82dc-1fbda2ff1f72.html)

Mosquito Education Display in TF city office for two weeks in June

Display at D&B Supply June 29, July 7<sup>th</sup>, Lowes July 10<sup>th</sup>. Display and pond set up at Fred Meyer July 17<sup>th</sup> (Fish were given out for people to put in back yard ponds and horse troughs as part of these educational events.)

Fish for mosquito control July 16<sup>th</sup>, <http://www.kmvt.com/news/local/Using-fish-to-control-rising-mosquito-populations-98642179.html>, [http://www.magicvalley.com/news/local/twin-falls/article\\_83b05913-1a5a-5e77-aba9-341fdab626a8.html?mode=video](http://www.magicvalley.com/news/local/twin-falls/article_83b05913-1a5a-5e77-aba9-341fdab626a8.html?mode=video)

Black Fly Field Education Day July 24<sup>th</sup>, [http://www.magicvalley.com/news/local/twin-falls/article\\_43d3b49e-908b-5eb7-8a43-39132bede2bb.html](http://www.magicvalley.com/news/local/twin-falls/article_43d3b49e-908b-5eb7-8a43-39132bede2bb.html)  
<http://www.kmvt.com/home/video/Keeping-the-bugs-at-bay-98988044.html>

Display at University of Idaho Twilight Tour July 24<sup>th</sup>  
Update to KMVT on WNV, <http://www.kmvt.com/news/local/So-far-no-west-nile-cases-reported-in-Idaho-99900614.html#tv>

Aug 14, sponsored Eagle Scout Bat Box Project, [http://www.magicvalley.com/news/local/twin-falls/article\\_bd00d72f-39c6-5939-acdc-2b7047e9c8e8.html](http://www.magicvalley.com/news/local/twin-falls/article_bd00d72f-39c6-5939-acdc-2b7047e9c8e8.html)

September 18, the South Central Community Action Park Day

November 30, Issued a news release regarding the finding of WNV in Livestock and the need to remain vigilant. It was covered on TV, Radio and in the paper.

[http://www.magicvalley.com/news/local/twin-falls/article\\_97f311d1-0431-52d5-b021-b0c75d9e65c2.html](http://www.magicvalley.com/news/local/twin-falls/article_97f311d1-0431-52d5-b021-b0c75d9e65c2.html)

In addition we have been able to get out information through homeowners associations, contributions to newsletters, our website and even taking hatch out jars of mosquito larvae into schools!

### **9. Other Business**

Our fiscal year ended on September 30, 2009 we ended the year with \$369,091.75 having been spent, \$192,000.00 carryover money that has been budgeted for emergency money in the future. All Board meetings were announced and open to the public. The following is a list of meeting dates,

1/27/2010	5/6/2010	8/25/2010
3/17/2010	6/9/2010	10/13/2010
4/14/2010	8/4/2010	11/17/2010



Left to Right, Clif Amundsen, Ph.D . Kirk Tubbs Manager, Evard Gibby, Health District (being recognized for his service) John Snelling – President, Theresa Strolberg Treasurer, Tony Brand Secretary, Board Members not pictured Erik, J. Wenninger, Ph.D., Univ. of Idaho Extension, Greg Garatea, Mary Jensen, Health District

**BUDGET FOR TWIN FALLS COUNTY PEST ABATEMENT DISTRICT**

Budget was approved at a public hearing Thursday, August 25, 2010, at 7:30 PM at the Twin Falls County Pest Abatement district office. The following table shows the budgets for 2010, and 2011.

Budget Categories	Budget Items	2010 Total Budget	2010 Total Actual	2011 Total Budget
Income	1-01 Taxes	-467,461	-464,528.41	-467,461
Income	1-02 Grants	-2,000	-2,000.00	-2,500
Income	1-04 Carryover Money other	-109,000	-109,000.00	-204,173
<b>Income Total</b>		<b>-578,461</b>	<b>-575,528.41</b>	<b>-674,134</b>
<b>A Budget</b>				
<b>A Budget (Salaries &amp; Wages) Total</b>		<b>86,414</b>	<b>76,528.68</b>	<b>101,101</b>
<b>B Budget</b>				
<b>Benefits &amp; Taxes Total</b>		<b>33,160</b>	<b>18,256.19</b>	<b>33,090</b>
<b>Building Expenses Total</b>		<b>28,856</b>	<b>31,904.25</b>	<b>28,316</b>
<b>Other Insurance Total</b>		<b>5,592</b>	<b>3,048.00</b>	<b>5,816</b>
<b>Vehicles Total</b>		<b>30,470</b>	<b>5,659.43</b>	<b>20,100</b>
<b>Travel Total</b>		<b>7,600</b>	<b>1,425.78</b>	<b>5,650</b>
<b>Training Total</b>		<b>1,640</b>	<b>916.45</b>	<b>1,680</b>
<b>IT and Communications Total</b>		<b>5,882</b>	<b>2,766.77</b>	<b>5,182</b>
Emergency & Carry Over	10-01 Emergency Abatement Fund	20,004	20,004.00	20,004
Emergency & Carry Over	10-02 FY010 carryover	109,000	109,000.00	204,173
<b>Emergency &amp; Carry Over Total</b>		<b>129,004</b>	<b>129,004.00</b>	<b>224,177</b>
<b>Community Outreach Total</b>		<b>7,400</b>	<b>2,892.91</b>	<b>7,900</b>
<b>Integrated Pest Management Total</b>		<b>186,543</b>	<b>176,979.07</b>	<b>184,222</b>
<b>Administration total</b>		<b>55,900</b>	<b>50,977.52</b>	<b>56,900</b>
<b>Total B Budget</b>		<b>492,047</b>	<b>423,830.37</b>	<b>573,033</b>
<b>Grand Total A+ B</b>		<b>578,461</b>	<b>500,359.05</b>	<b>674,134</b>
<b>Total Income - Total Expenses</b>		<b>0</b>	<b>75,169.36</b>	<b>0</b>

2009 carry over	2010 Line item Saving towards Emergency Abatement Fund	2010 extra money	Total Carry Over to 2011
109,000	20,004	75,169	204,173

## 2010 TFCPAD Goals

These are the Goals set by the abatement district to help guide our work in 2010, below each is a short summary of accomplishments.

1. **Maintain a positive work environment where hard work, innovation and finding better more efficient solutions to our work are encouraged.**
  - Provided training, Safety equipment, proper tools, flexible schedules and merit awards to employees.
  - Set goals as part of a job performance evaluation with each individual worker.
2. **Maintain a good working relationship with other agencies, universities and professional organizations.**
  - See section 1.
3. **Maintain a safe working environment!**
  - Up graded trucks to include additional hazard lights and reflective markers.
  - Provided the Proper Personal Protective Equipment, training in its use training in defensive driving, pesticide spill cleanup, forklift operation and water safety training.
  - Record and track all accidents, pesticide spills, and injuries. (None in 2010)
  - Have policy and operations manuals in place.
4. **Be a resource for Black Fly control operations.**
  - Kept records and reports on black Fly treatments and made them available to others. Sponsored a Black Fly field education day.
  - Develop a greater understanding of Black Fly biology and adult movements through studying past research, attending educational conferences, visiting with other programs, and conducting in hose studies.
  - Produce a summary report of what was learned from the years monitoring and treatment and apply it to our operational plan in the form of guide lines for treatments.
5. **Conduct a public education and awareness campaign.**
  - Maintain a web site. Opportunities to educate the public included Morning radio show, Morning TV program, and speaker at events. See Section 8.
6. **Develop other adult control methods as part of IPM.**
  - See section 6.
7. **Be prepared for a serious disease outbreak.**
  - Maintain an emergency fund, See Budget.
  - Maintain enough products on hand that if needed aerial application of Bti could start tomorrow. We also have two weeks' worth of Black fly treatment and a month worth of mosquito treatment in inventory.
  - Plans for aerial treatment in place and coordination with private applicators conducted.
  - ULV fogger in working condition.
  - Mapping of treatment needs updated yearly
8. **Fiscally conservative operation.**
  - Increased efficiency so that the Abatement District can provide good service without seeking an increase in funding from the taxpayers. See Budget.
  - Operated within budget ending year with a surplus to carryover for emergency funding.
  - Made Annual Repayment to the County for work conducted by interim abatement district.

**TFCPAD. A Summary Addendum. A Brief of Board Considerations Related to the 2010 Year End Report, December 2010.**

**The Governing Board of The Twin Falls County Pest Abatement District** is made up of five Twin Falls County Commission appointed Trustees. It includes John Snelling (President), Tony Brand (Secretary), Theresa Strolberg (Treasurer), Greg Garatea and Dr. Clif Amundsen. Input is provided by two Ex officio members: Dr. Erik Wenninger (University of Idaho Entomologist) and for most of the 2010 year, Evard Gibby (Health Specialist) — replaced upon his retirement by Mary Jensen (South Central Idaho District Health Agency). Kirk Tubbs is the District Manager. The manager attends all Board meetings, and has prepared a comprehensive Year End Report. This Summary highlights Board oversight functions. Referred activities are discussed in detail in the available Year End Report. The Board continues to define and adjust the mission and goals of the District activities as necessary and provides oversight on protocols and expenditures. The Board has upgraded policies on Public Information, and formally adopted policies on Personnel\_status and (Manager generated details) for District Operations. The Board met nine times during the 2010 calendar year with all meetings open and publically announced. Minutes of meetings, board policies and budget reports are on public file.

**Generally, following the topic sequence of previously publicized operational considerations, the Board has:**

**1/ Geographic Area.** >Emphasized the abatement of nuisance levels of Blackflies and Mosquitoes within the boundaries of Twin Falls County. The Board remains open to consideration of (compensated) near-county treatments which meet the protocols established through District research and application as well as indicating benefits to District interests.

**2/ Collaborative Agreements.** > Continued (with the manager) to solicit collaborative activities. Highlights for the year included flexible arrangements as: 1) Mentoring a College of Southern Idaho student in a pertinent research effort; 2) Taking advantage of cooperation with the Idaho Department of Health and Welfare including the receipt of a \$2.5K grant for mosquito study efforts; 3) Incorporation of water conditions data from canal companies within the geographic area and utilization of some environmental measuring equipment; 4) Exchange of pertinent information with the South Central District Health Board; 4) Continuing exposure in local media and at public affairs for appropriate service publicity; 5) Cooperative project with local Boy Scouts to assemble and place bat (*Myotis* sp.) houses for adult mosquito control; and, 6) Taking advantage of the expertise and equipment of the Idaho Department of Fish and Game in the introduction of predatory Bluegills (*Lepomis* sp.) in mosquito breeding waters.

**3/Summary of Surveillance, Monitoring, Identification and Critical Alerts.** > Supported the protocols for targeting of abatement areas. In effect, stakeholder reports, visual observations including on-site sampling, and systematic surveillance techniques are employed. Such activities increased markedly this past year as a consequence of information and experience gained the previous year (the first) of TFCPAD operation. While Blackflies are grouped to genus, specific identification of disease vector mosquitoes was possible in our improved local laboratory facility. West Nile Virus was reported to us from two livestock test incidences in Twin Falls County, but increased surveillance in areas adjacent to the loci of these reports did not show viral presence in vector

samples. Testing was conducted by the State Health Lab while equipment purchased with a \$2.5K Health and Welfare grant (cited above) allowed preliminary in-house testing. The Board has authorized surveillance activities throughout the year as environmental conditions dictate.

**4/Mapping and Documentation of Sampling and Treatment Locales.** > Reviewed detailed mapping protocols of County sites of interest (and adjacent areas). Techniques for the District have been enhanced with approval of the Board for improved equipment.

**5/Summary of Insect Vector Control.** >Supported Manager directed treatments focusing on reducing larval development of targeted pests. Blackfly and mosquito abatement treatments involve an Integrated Pest Management (IPM) approach that emphasizes direct (Hands-On) application of the least toxic (and narrowly-targeted) larvacides available to breeding waters accompanied by reductions of breeding habitats. The larvacides in use are natural bacterial derivatives of *Bacillus thuringiensis* ssp. *Israelensis* (BTI), a compound that interferes with insect maturity. Mosquito breeding nurseries are also reduced by controls of standing waters. ALTOSID™ [(S)-methoprene, an insect growth regulator] has been supplied to cooperators for use in time-release aquatic treatments such as in storm drains and private retention pools. All pesticide applications follow National and State criteria for such amendments to the environment. .

Elimination of incidental standing waters reduces mosquito development. Blackflies, which develop while attached to substrates in flowing waters, may be partially controlled by (canal or stream) channel sanitation, but such efforts are often impractical. Aerial spraying and/or vehicular fogging using adult insecticides have not been implemented as yet by the TFCPAD Board. Local fogging of insecticides in livestock confinement areas can be considered for emergencies. District policy continues to forgo the practice of aerial (airplane) applications of all biocides, although contingency plans include considerations of vehicular fogging and aero-applications in situations deemed critical to human or livestock health. Such emergency situations would be determined by the Board with the advice, recommendations and approval of area health agencies and appropriate governmental authorities. The Board continues to restrict the application of treatments to optimal, cautionary and prudent methods. Considerations also include landed stakeholder access consent, awareness of organic agricultural practices, and such activities as bee-keeping. The District conserves insecticide supplies and reserve funds to expand treatments of larval (and/or adult) vectors should dangerous infestations be identified.

**6/Staffing and Certification.** > Continues to employ only one full-time staff member, the Manager. The manager has options, within budgetary constraints, of technically training and employing qualified persons during periods of active and widespread control activities. All personnel, including the manager and part-time staffers, are trained and certified under State applicator criteria.

**7/Public Education and Awareness.** > Recognizes that comprehensive success of the District pest abatement program continues to depend on public awareness and public cooperation in all activities and stresses participation in Integrated Pest Management. In this regard the Board suggests, approves and supports public presentations concerning District aims, methodology, and accomplishments. Such exposures have been numerous and continue with the support of the local media and opportunities for presentations at public gathering events. The District entity



and the Manager are enrolled in regional and national organizations allowing the sharing of techniques and practical results.

**8/ Budgetary and Financial Notes.** . > Has held an announced public budget hearing and presented the upcoming budget to the County Commission as legally required. The District operates on revenues from a County voter-approved tax levy. The Board voted not to invoke an allowed percentage increase to this tax levy for the upcoming budget year, and continues to operate at the previous year's funding level. An independent financial audit, which is a matter of public record, was passed. Financial records are updated for each meeting by the Board treasurer and now professionally maintained by the CPA firm of Tilley & Lincoln as well.. Earmarked revenues collected by the County are now deposited as working capital in a TFCPAD account in D. L. Evans bank rather than being handled by the County. Selected reserve funds are on deposit with the State of Idaho LGIP (Local Government Investment Pool) where they draw interest and are available upon demand. Reference to the Fiscal Year and Calendar Year budgets is made to the audited Year End Report and the documented Budget Report intended to accompany this Summary Addendum.

**9/Outlook .** > Considers current funding adequate for the proscribed abatement activities for the determined, targeted, pests (mosquitoes and Blackflies). The Board operates from a vintage, rented building and is open to relocation (particularly through a lease-purchase arrangement); given suitable circumstances of cost and improvement of efficient operations. The Board has adopted a prudent policy for budgeting operational expenses with considerations for reserve materials and funds should other pest targets require action or the current targets present critical population levels requiring enhanced treatments. The Board remains in regular contact with appropriate stakeholders and governmental health agencies for consultation should pestiferous emergencies arise.

January 2011

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