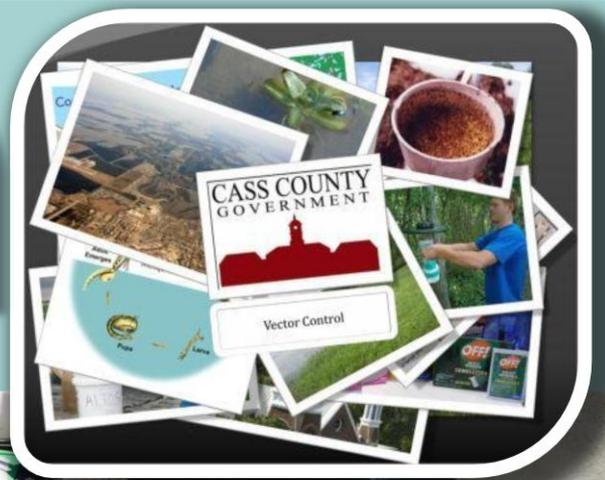


2011 Year End Review



Vector Control Board Meeting

DATE

TIME

Cass County Highway Department

1201 Main Ave. West

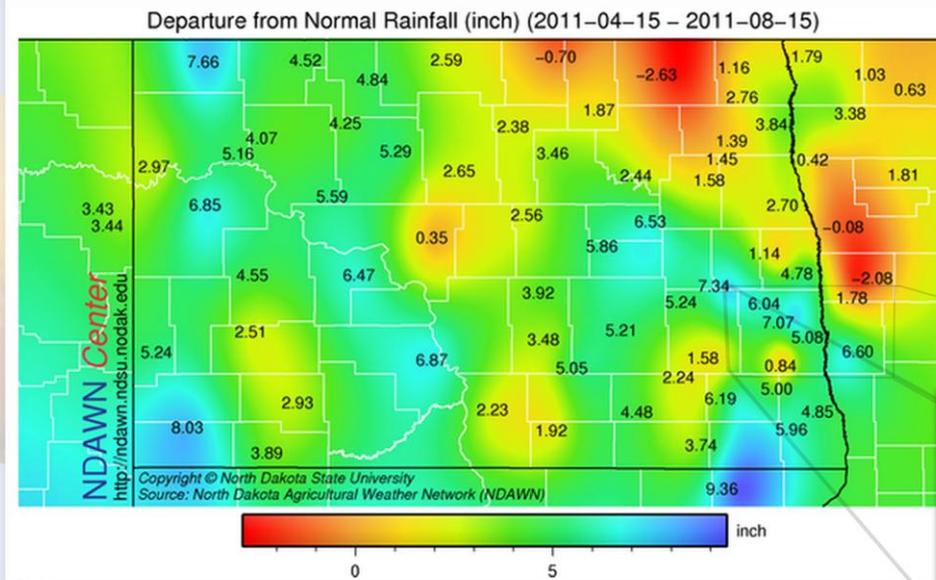
West Fargo, ND 58078

Note: Meeting will be conducted by Cass County Vector Control Board, but all persons/organizations involved in area mosquito abatement efforts are encouraged to attend.

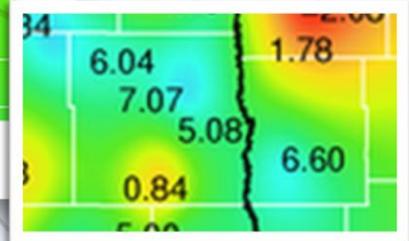
Agenda	
Call to Order	
2011 Vector Control Season Review	Prather
2012 Contracts- Fargo & West Fargo	Prather
NDPES Permit for Cass County	Prather
Discussion, Questions, & Comments	All
Adjourn	

Weather Conditions:

April 15th to August 15 Rainfall



Fargo Hector:



A majority of the 2011 Vector Control Operational Season was impaired with difficult conditions including frequent rainfall and relatively warm temperatures.

Results of these atmospheric hindrances lead to significant mosquito nuisance at certain parts of the summer.

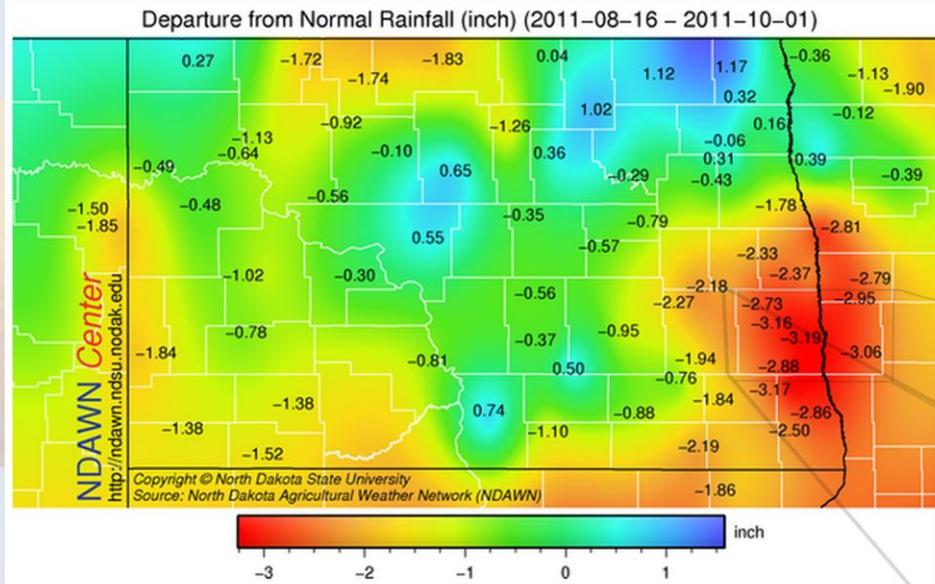
July was particularly difficult with several rainfall events occurring each week.

The above graph demonstrates the departure from normal rainfall. During this period, the Hector International gage was 5 inches above "normal".

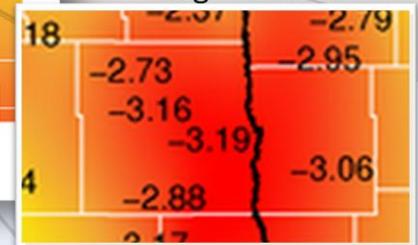


Weather Conditions:

August 16th to October 1st Rainfall



Fargo Hector:



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Fortunately and unlike the majority of the season; the period from mid- August to October was relatively quiet compared to recent history.

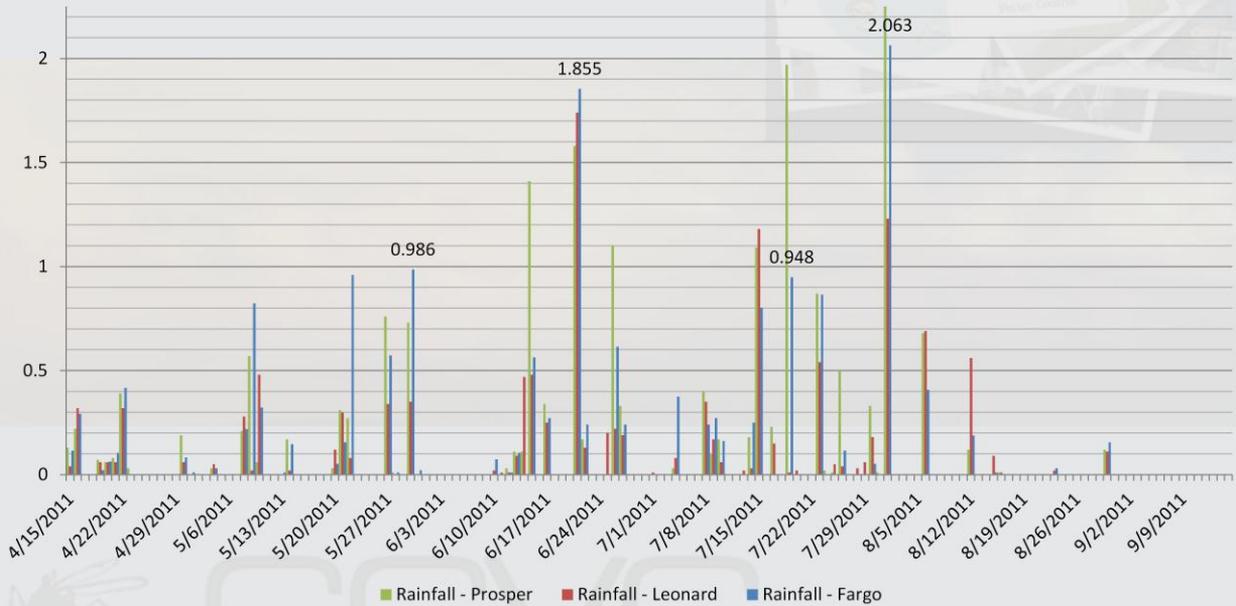
For the period the gage at Hector International airport was more than 3 inches under average.

This dry period allowed for a very comfortable late summer and early fall period.

The lack of rainfall was also met with cooler trending high temperatures that aided in keeping adult mosquitoes at bay.

Rain Events: Incidence and Severity

2011 Summer Rainfall - Fargo & Regional Weather Stations



The graph above documents 3 rain gage measurements from regional sites over the period from April 15th to September 15th.

Overall rain events were fairly wide spread throughout the area and affected adult mosquito populations region wide.

July's numerous rain events created significant challenges.

Each rainfall effectively eliminates any progress from previous pesticide applications.

Operational Response - Materials:

Material Usage In Standing Water:

- Overall this season exceeded all others for use of larval control insecticides.
 - We had our most productive season ever
- Material totals were determined from inventory numbers and previous Vector Control Director year end reports.
- The following numbers represent material usage from the prior years.

Actual material applied:

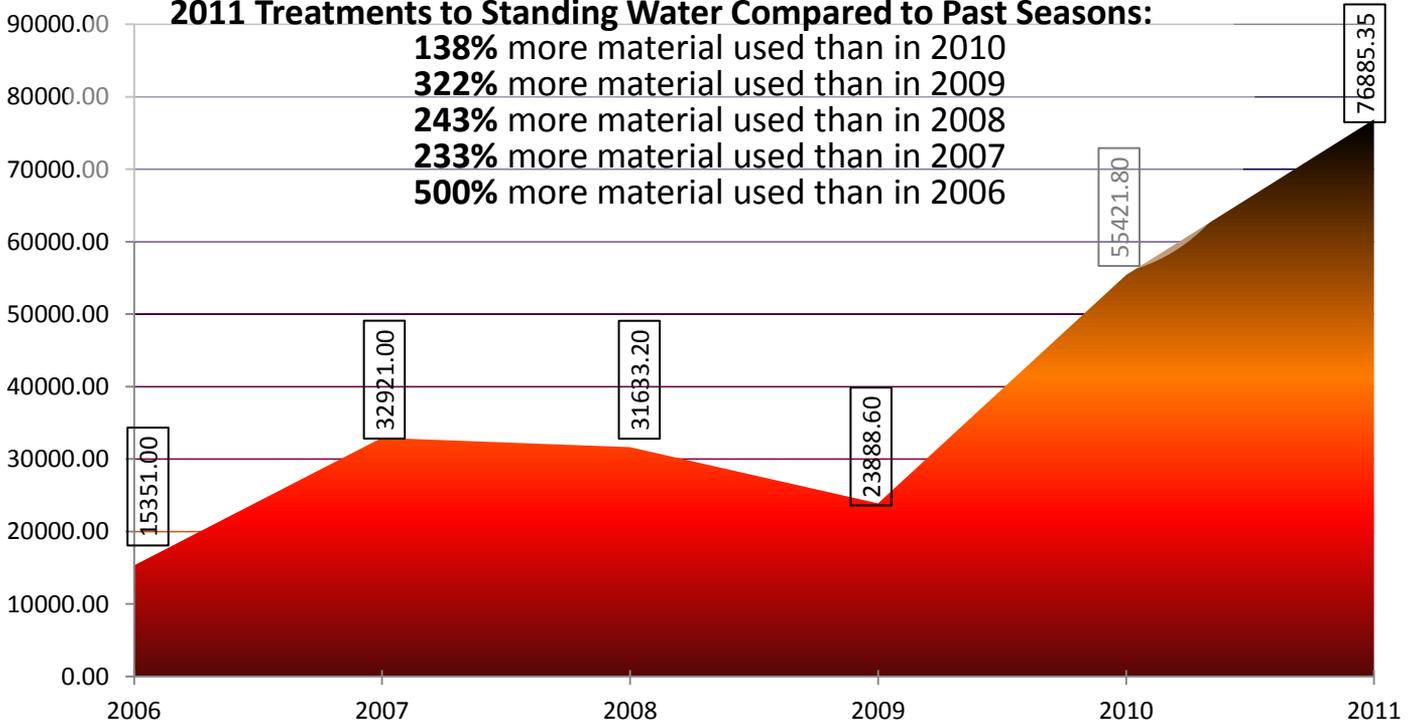
2011: 76,885.35 lbs –8275 acres of mosquito breeding habitat treated
2010: 55,421.8 Lbs
2009: 23,888.6 Lbs
2008: 31,633.2 Lbs
2007: 32,921 Lbs
2006: 15,351 Lbs



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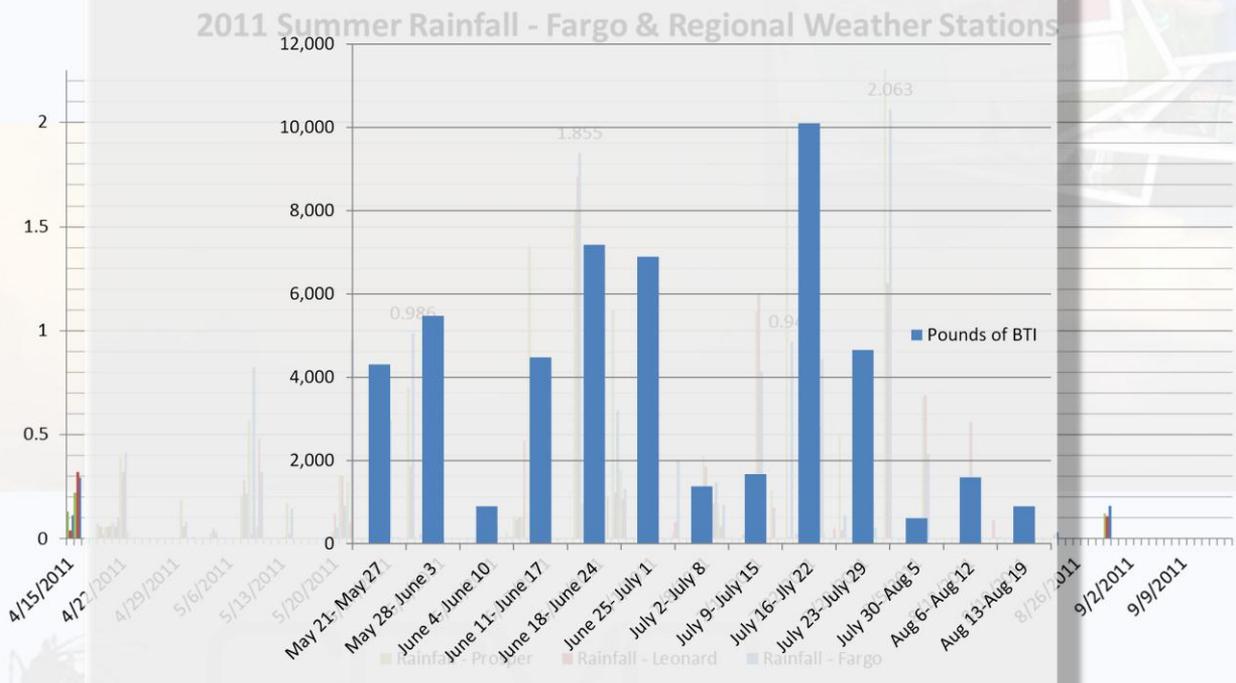
2011 Treatments to Standing Water Compared to Past Seasons:

138% more material used than in 2010
322% more material used than in 2009
243% more material used than in 2008
233% more material used than in 2007
500% more material used than in 2006



Weekly Product Usage

2011 Weekly BTI Application Amounts (lbs)



Cass County Vector Control

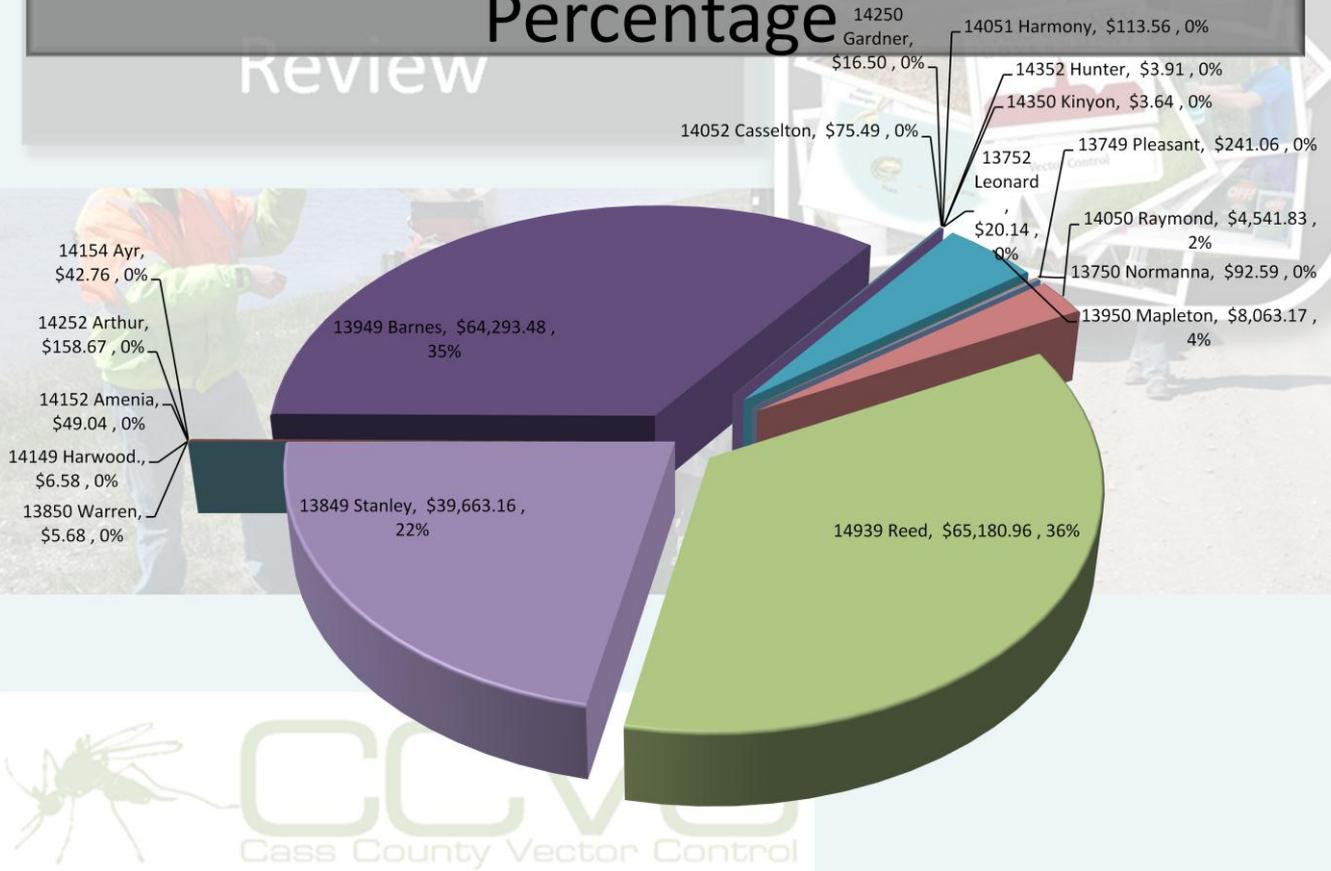
Above; an attempt to scale pesticide usage to rainfall events.

As one would expect- large rain events lead to massive increases in pesticide usage.

The week of July 16th thru the 22nd could have been the largest weekly total pesticide usage in the history of the program. That week's material usage represents almost half of the total pesticides used in some years.

Overall this graph demonstrates the high level of effort and hard work to curb the mosquito population put forth by dedicated county staff.

Allocation of Larviciding Materials Percentage



Figures here represent the cash value of larviciding materials placed into standing water through various townships.

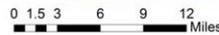
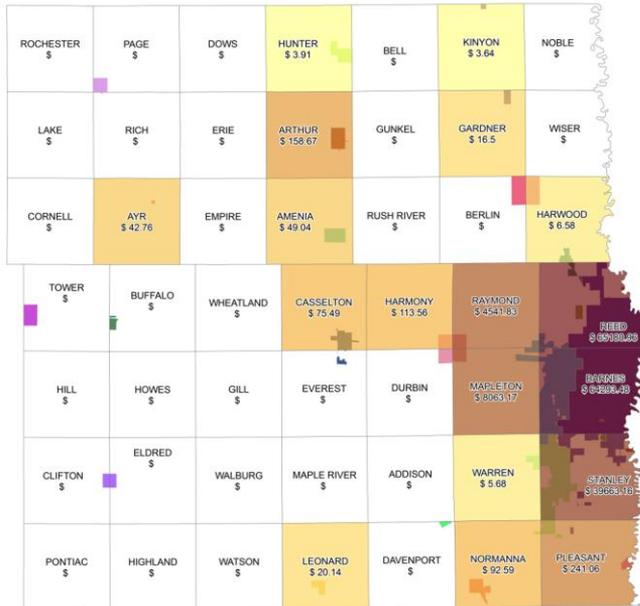
Fargo and West Fargo occupy all of Barnes Township and portions of both Stanley and Reed Townships.

Please note: In 2012 we will be changing material documentation to report these values by political jurisdiction rather than geographic townships. This change is necessary for billing and contractual reasons and will mirror labor hours in future reports.

Again in 2011 Reed Township including all incorporated areas lead in total cost for pesticide applications. This is largely attributed to cost associated in maintaining the area inside Hector International and the North Dakota Air National Guard grounds.

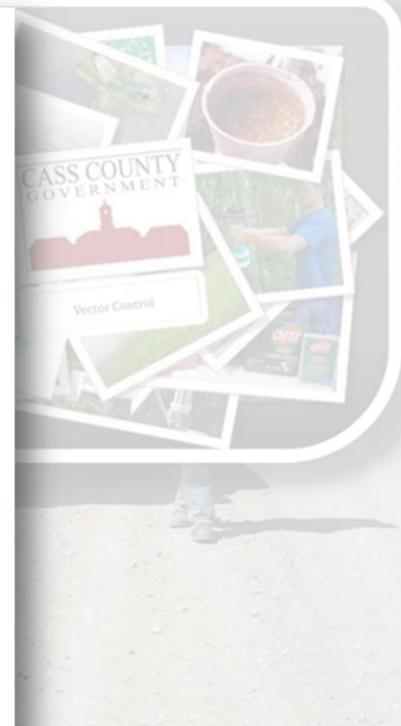
2011
R

2011 Approximate Value of Standing Water Pesticides by Township



Legend

Total Value of Applied Pesticides	3.91 - 6.58	49.04 - 113.56	241.06 - 8063.17
LarvicidingMatCost	6.58 - 20.14	113.56 - 158.67	8063.17 - 40000.00
	20.14 - 49.04	158.67 - 241.06	40000.00 - 65180.96



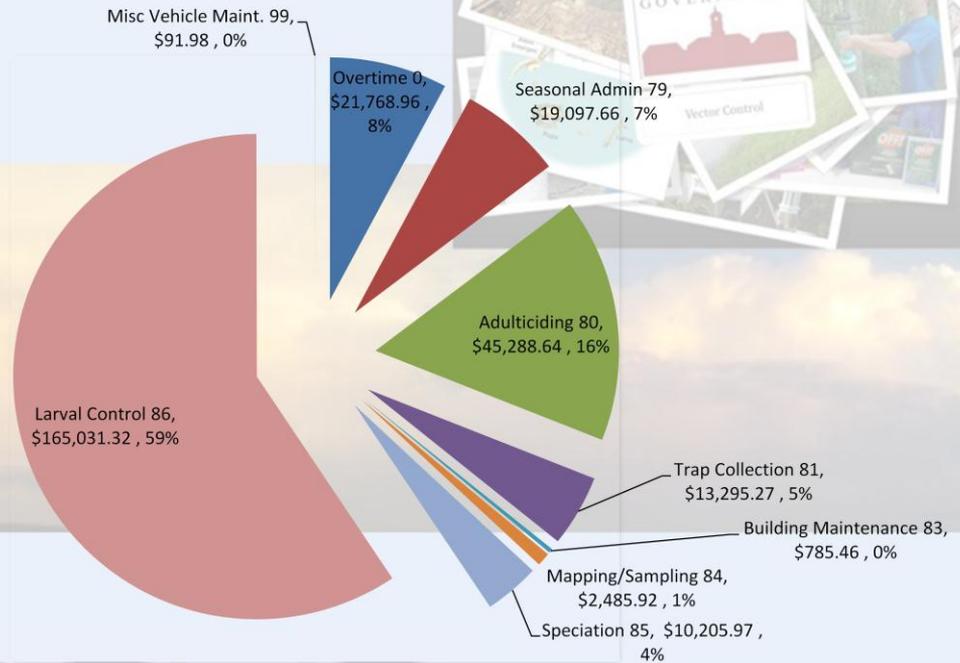
This map is a geographic representation of the cash value of materials that were applied to standing water. Please note the municipal areas shaded behind each township.

Most cities that did not receive larval control materials received applications of adult control materials at some point during the season.

Totals listed here are proportionate to both population and revenue source.

Operational Response - Labor:

2011 Total Cost Labor Cost By Task



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When looking at seasonal labor through the division of core functions; a majority of labor hours was spent treating and inspecting standing water this season.

Please note that administrative labor costs accounting has changed slightly from previous years. As it stands “Administration” reporting will refer to training, seminars, public informational booths/assignments, and other miscellaneous assignments.

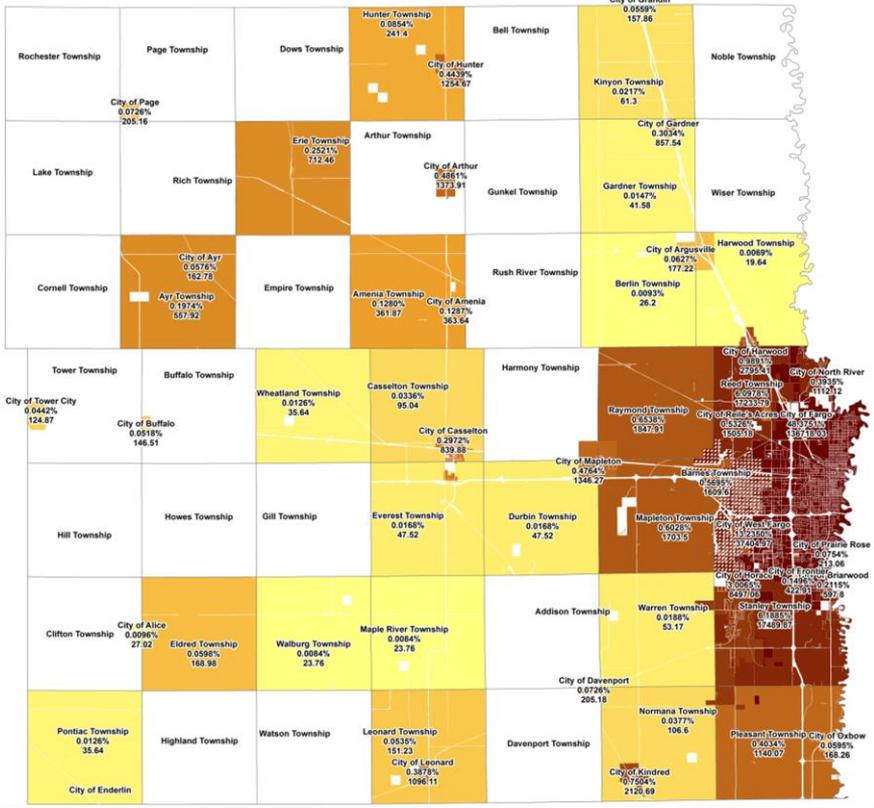
The significance of this change mostly affects the classification of field documentation of legally require pesticide records. This year the time spent while recording documentation of applications was included in each respective task while onsite.

“Adulticiding” or adult mosquito control labor total includes contracted labor such as truck mounted fogging and back pack spraying in both the urban an rural cities for flying mosquitoes.

2011 Value of Labor Provided Standing Water Treatments by Tax Jurisdiction



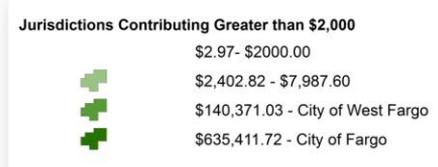
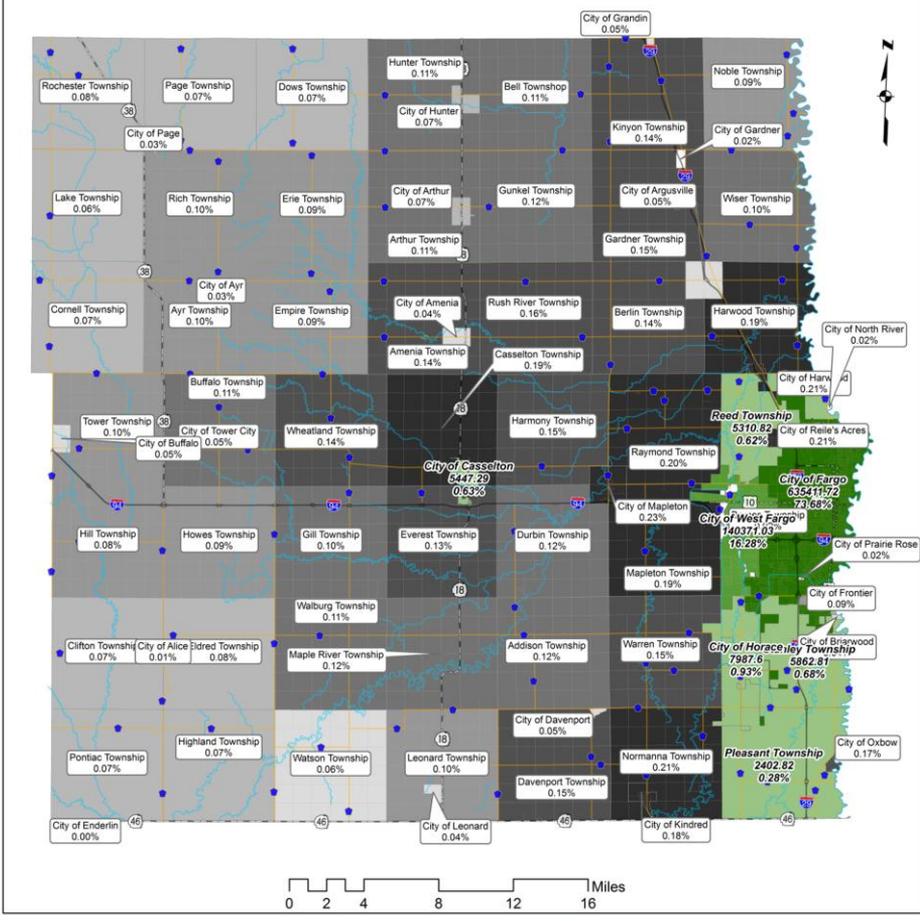
0 1.5 3 6 9 12
Miles



The graphic above as well as the table below represent the total labor costs for all seasonal mosquito control activities. Activities in rural areas and cities are accounted for either contractual agreements for adult mosquito control, or via mill levy expenditures. Mill funds are used in the rural cities and areas to primarily monitor adult mosquito populations and occasional site visits.

Rank	Jurisdiction	Cost of Labor Hours	Percentage
11	City of Kindred	\$ 2,120.69	0.7504%
10	City of Harwood	\$ 2,795.41	0.9891%
9	Seasonal Supervisor Admin	\$ 5,226.33	1.8492%
8	Field Aide Admin	\$ 6,518.49	2.3064%
7	City of Horace	\$ 8,497.06	3.0065%
6	Reed Township - Including City of Fargo ET	\$ 17,233.79	6.0978%
5	Stanley Township - Including City of Fargo ET	\$ 17,489.87	6.1885%
4	Overtime Hours	\$ 21,768.96	7.7025%
3	All Other Jurisdictions	\$ 26,847.26	9.4994%
2	City of West Fargo	\$ 37,404.97	13.2350%
1	City of Fargo	\$ 136,718.03	48.3751%
Grand Total		\$282,620.86	100.0%

2011 Vector Control Revenue



Vector Control revenue by tax jurisdiction.

Please note that these figures do not contain adult spraying revenue for cities other than Fargo and West Fargo. Contracted services for adult spraying rural cities equals approximately 1% of the total budget and are not represented here.

A detailed list of revenue by cities and townships as well as this map are available at :

<http://www.casscountynd.gov/county/depts/Vector/residents/Pages/Revenue.aspx>



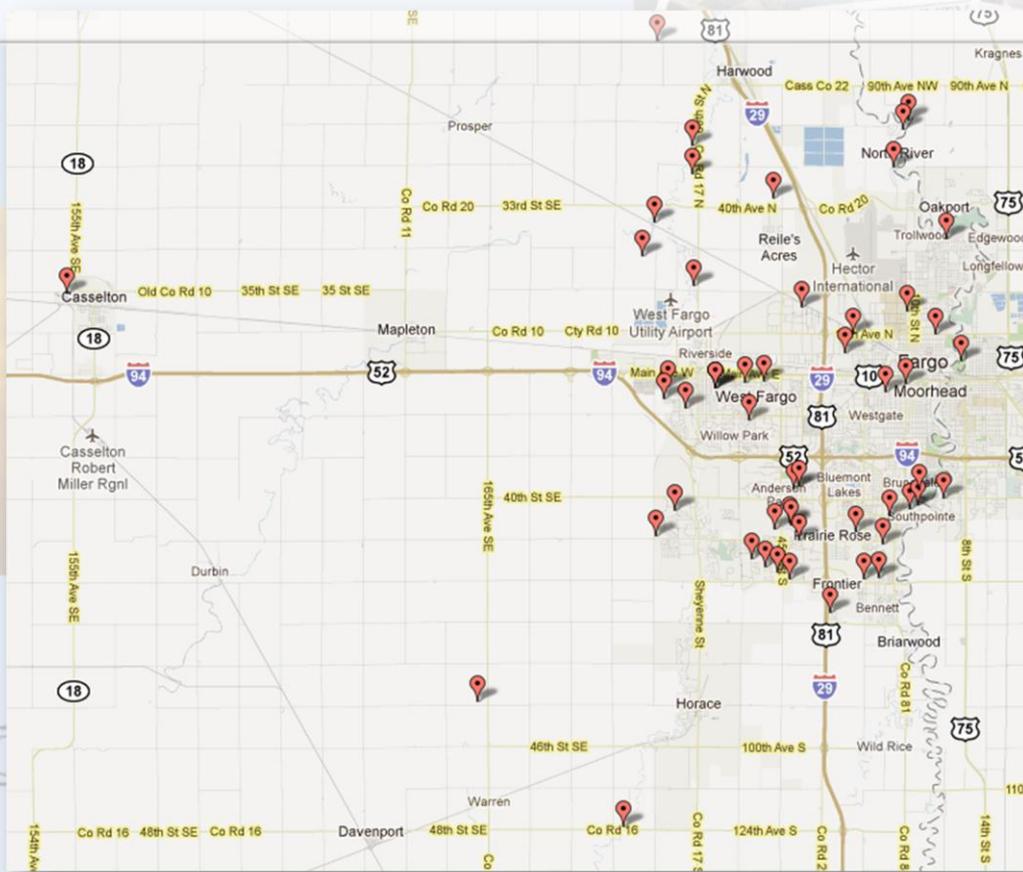
The image above displays static New Jersey Light Trap adult mosquito sampling locations throughout Cass County during the 2011 season.

Cass County maintains one of the most detailed and exhaustive adult trapping programs in the country.

Our efforts with 37 nightly New Jersey Light traps, 7 additional weekly CDC CO2 baited live traps, as well as supplemental ovitraps and gravid traps is unmatched in the state and region.

Plans in 2012 are to maintain and continue to develop this resource to best serve communities in Cass County.

Resident Requests for Service - 2011



This graphic represents residents who called this season with request for service and left a general address. Overall, documented public requests for service saw a 77% reduction this year compared to last.

Of the 53 total requests made in the 2011 season:
22 were made for assistance with adult mosquito problems
31 requests were for standing water investigation

The previous year (2010) saw 166 total requests- 46 for standing water concerns and 120 for adult mosquito problems.

This reduction can be attributed to public notice of treatments, public education efforts, and perhaps most significantly – targeted control efforts.

Completed ULV Applications

2011

JUNE						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY						
S	M	T	W	T	F	S
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



Rural City or Cities Only



Metro Area Aerial (Multi-Day Apps)



Metro Area Ground And Rural Cities

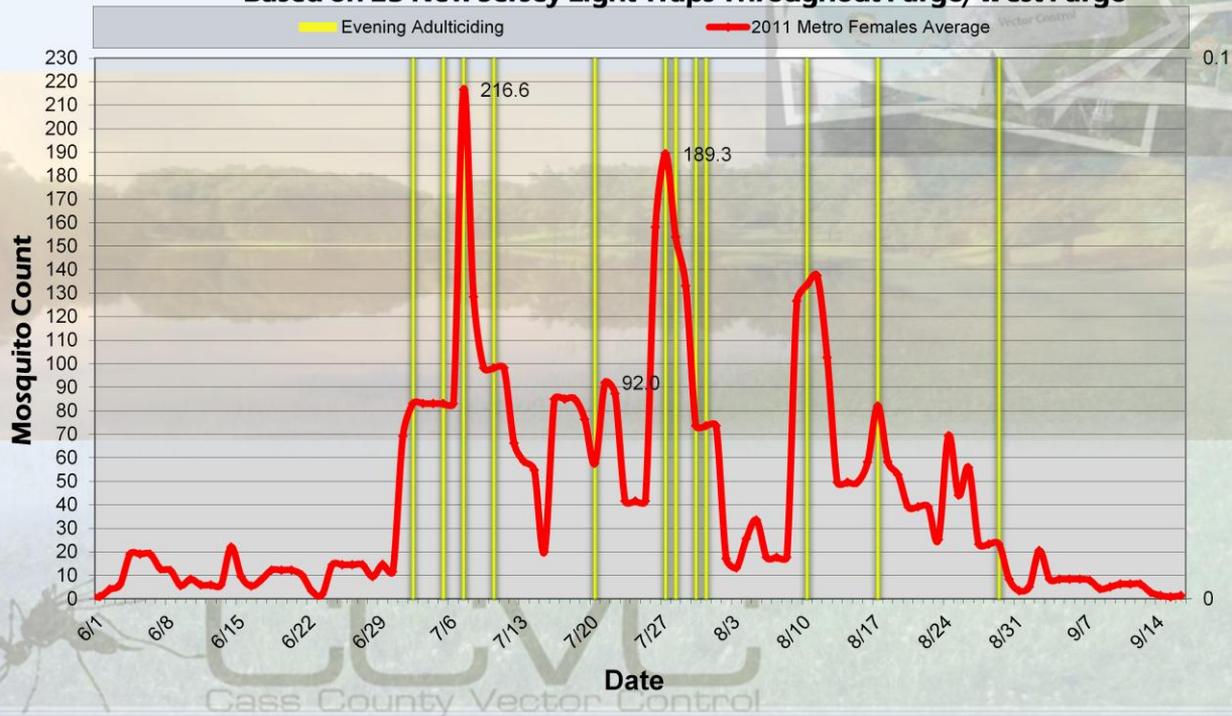
All Adult Control Applications in 2011

Location	Count of Applications
Aerial Mosquito Application - Fargo and West Fargo	1
7/2/2011 08:00 PM	1
Brooktree Park	1
7/11/2011 08:15 PM	1
City of Amenia	1
7/6/2011 08:15 PM	1
City of Arthur	3
6/30/2011 08:45 PM	1
7/6/2011 08:00 PM	1
7/21/2011 08:00 PM	1
City of Fargo	5
7/5/2011 08:15 PM	1
7/11/2011 08:15 PM	1
7/21/2011 08:00 PM	1
7/27/2011 07:45 PM	1
8/10/2011 12:45 AM	1
City of Gardner	3
7/5/2011 08:30 PM	1
7/11/2011 08:15 PM	1
7/21/2011 08:00 PM	1
City of Harwood	2
6/30/2011 08:45 PM	1
7/5/2011 08:30 PM	1
City of Hunter	4
6/2/2011 08:45 PM	1
6/16/2011 08:45 PM	1
6/30/2011 08:45 PM	1
7/11/2011 08:15 PM	1
City of Kindred	5
6/16/2011 08:45 PM	1
6/30/2011 08:45 PM	1
7/5/2011 08:30 PM	1
7/11/2011 08:15 PM	1
7/21/2011 08:00 PM	1

Location	Count of Applications
City of Leonard	4
7/6/2011 08:15 PM	1
7/11/2011 08:15 PM	1
8/4/2011 07:45 PM	1
8/23/2011 07:30 PM	1
City of Mapleton	3
7/6/2011 08:15 PM	1
7/11/2011 08:15 PM	1
7/27/2011 08:00 PM	1
City of North River	4
6/30/2011 08:45 PM	1
7/7/2011 08:00 PM	1
7/11/2011 08:15 PM	1
7/27/2011 08:00 PM	1
City of West Fargo	7
7/5/2011 08:15 PM	1
7/11/2011 08:15 PM	1
7/21/2011 08:00 PM	2
7/27/2011 07:45 PM	1
8/10/2011 07:45 PM	1
8/17/2011 07:30 PM	1
Completion of Fargo and West Fargo	1
7/28/2011 07:45 PM	1
Harwood	1
7/7/2011 08:00 PM	1
Red River Valley Fair Grounds	1
7/11/2011 11:00 PM	1
Red River Valley Fair Grounds and Surrounding Areas	1
7/6/2011 08:15 PM	1
Select Areas - City of Fargo	1
8/17/2011 07:30 PM	1
The Village Of Erie	1
7/6/2011 08:15 PM	1
Aerial Mosquito Application -Fargo, West Fargo, and adjacent areas	1
7/30/2011 05:00 PM	1
Select Areas - City of West Fargo	2
7/7/2011 08:00 PM	2
Grand Total	52

Completed ULV Applications Fargo And West Fargo - 2010

**Metro Area Mosquito Trap Average
Based on 23 New Jersey Light Traps Throughout Fargo/West Fargo**



The graph above depicts two correlating sets of data.

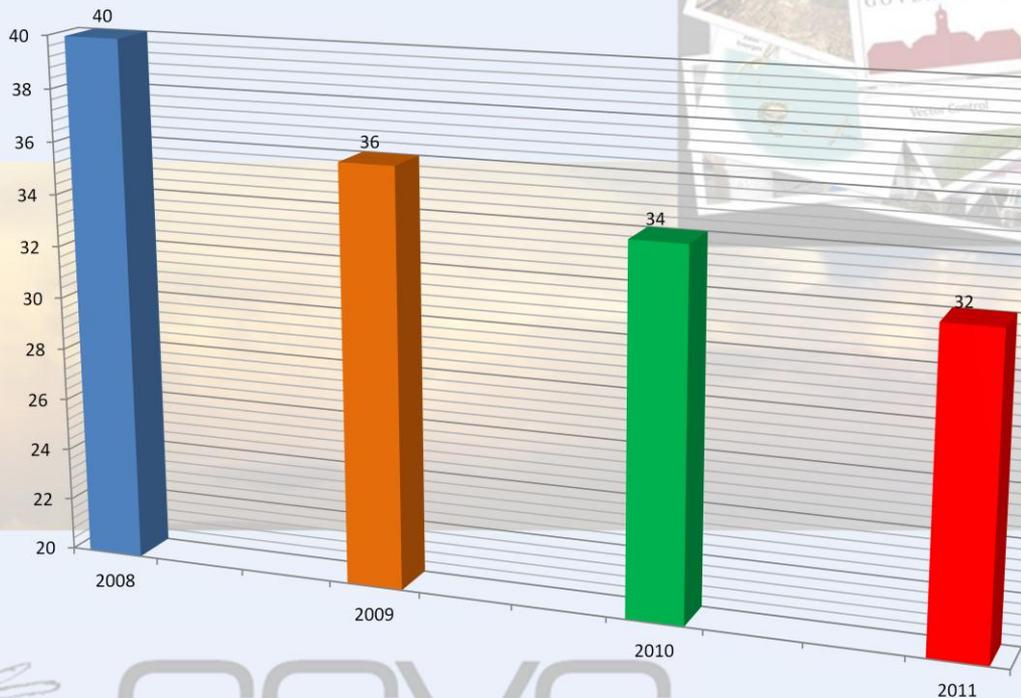
The red line is the average adult female mosquito trap collection in the communities of Fargo and West Fargo. This “average trap count” is used to determine the threshold for adult mosquito spraying via truck mounted fogging or aircraft.

The second data set; the vertical bars on the graph, depict adult control applications. This data includes both aerial and truck mounted applications to kill adult mosquitoes. These vertical lines correspond directly to the day the pesticide application occurs and demonstrate the effect on the adult population.

In summary, execution of adult spraying in the metro area was timely and effective. When applications were made, a direct correlation of reduced mosquito population was seen.

Administrative Actions:

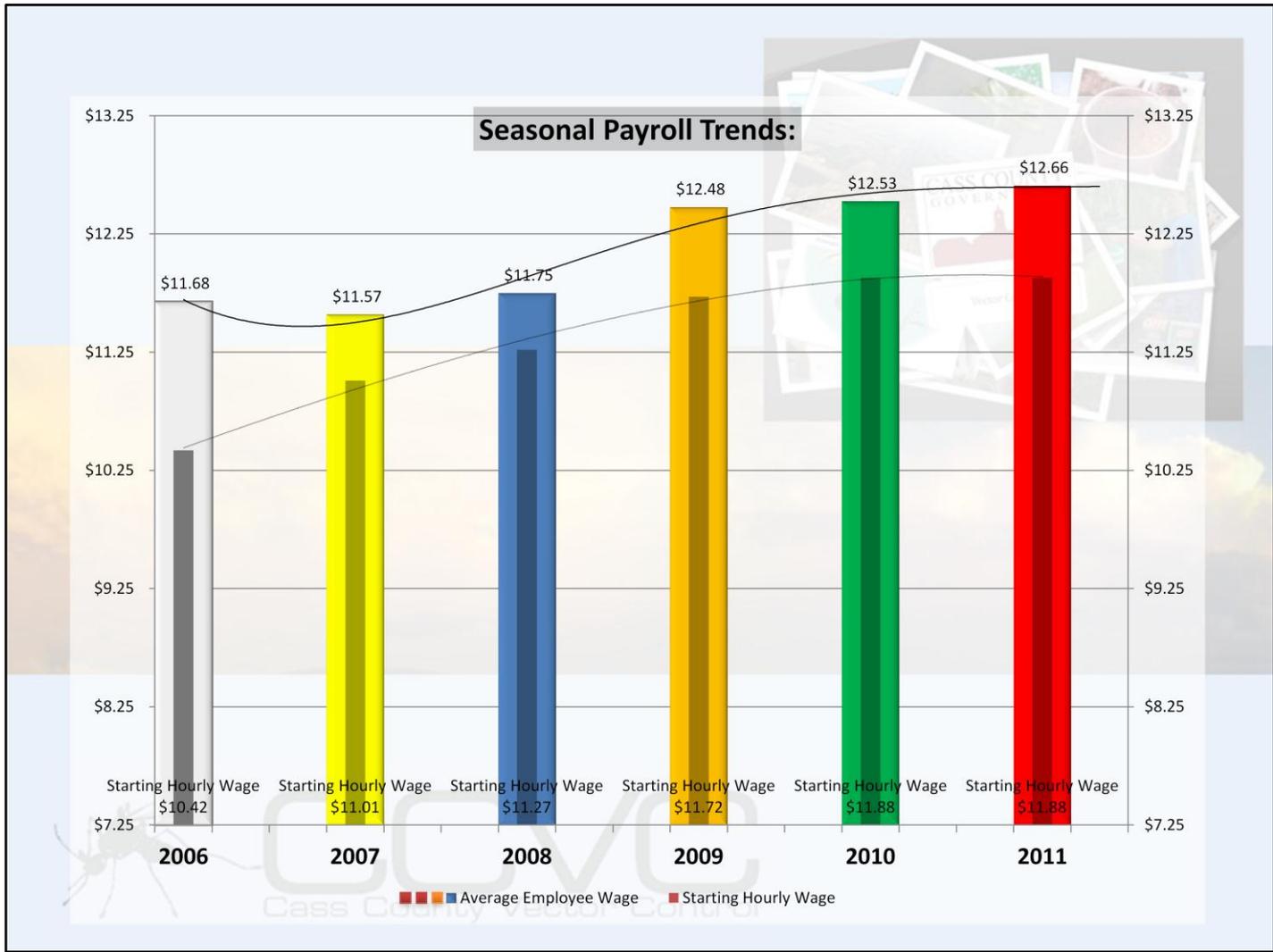
Number of Seasonal Employees



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Current staffing level is lean. The reduction in staff is in result of budgetary pressure experienced from our primary revenue partners. 28 seasonal field aids and 4 seasonal supervisors should be viewed as the lowest acceptable staff level unless significant changes account for further reductions.

Simply put, in order to maintain current level of service and an anticipated 15 weeks of work season; additional funds are being directed towards seasonal payroll in the 2012 budget.

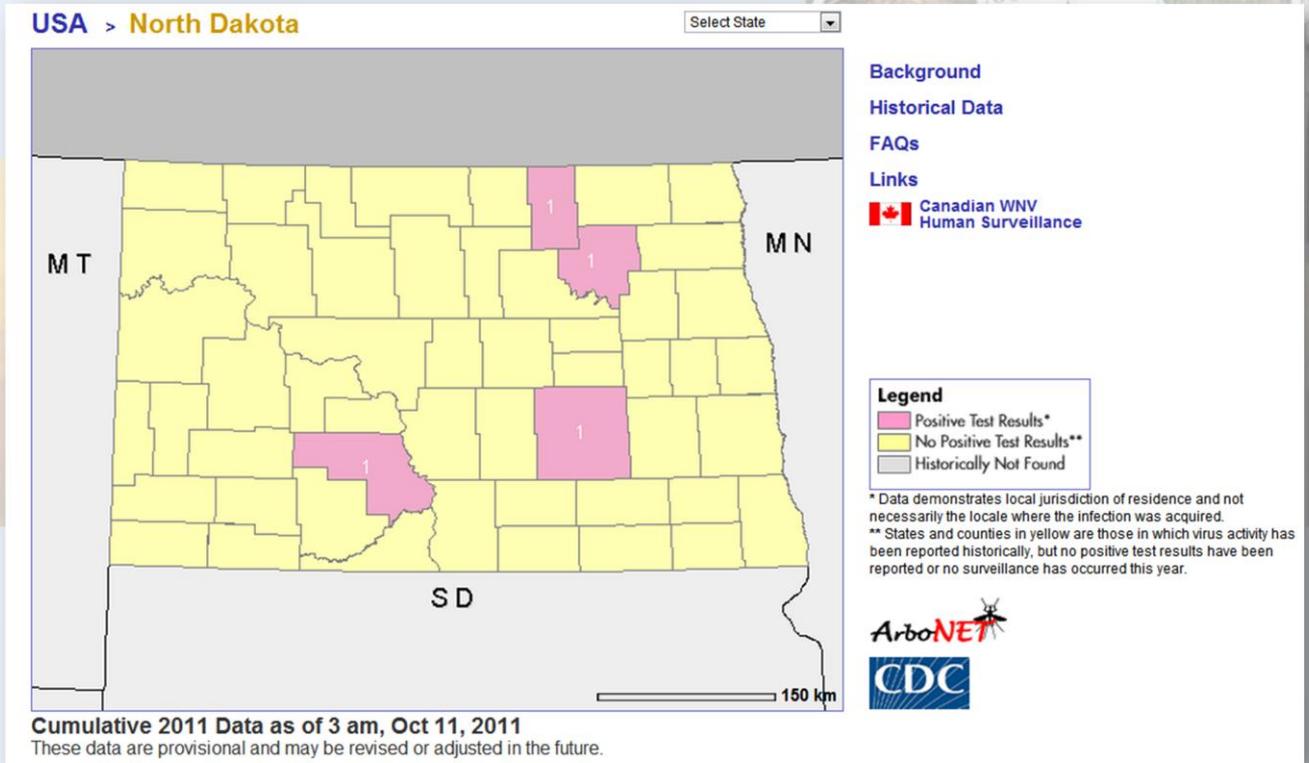


Overall trends in payroll have leveled off since 2009 in both starting hourly wage as well as average salary.

The graph above demonstrates 2 items per respective year:
 The average hourly wage in multi-colored bars
 Starting hourly wage shaded grey - "in front".

Efforts to maintain a competitive wage consistent with competing factors and contractual partnerships has been paramount to decisions regarding payroll.

West Nile Virus



West Nile Virus is still a threat and most likely will linger for years to come. Fortunately, the 2011 season saw very limited activity in the state of North Dakota.

Cass County Vector Control will continue to monitor the threat WNV poses. Plans in that effort are a multifaceted approach that include:

- Continued identification of vector species in the environment
- Periodic testing for WNV
- Specifically prescribed treatments to combat any potential outbreak
- Continued work with the North Dakota Health Department

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