D. Reporting templates

Based on the need to now report data not only for FC citywide but also separately for each of the four zones (NW, NE, SE, SW; broken down using College and Drake) the city has been divided into for the purpose of WNV surveillance and mosquito control, CSU had to generate a new reporting template. This new reporting template is tailored to provide data relevant to the Level III and IV entomological triggers (see below) for control measures in the "City of Fort Collins Program Response Guidelines to Mosquito Borne Arboviral Activity (July 2008 edition)".

Level III

- Vector index > 0.5 and increasing
- *Culex* mosquito populations increasing and at or above historical average for that time period
- Mosquito infection rates of > 3.0 per thousand (0.3%) and increasing

Level IV

- Vector index > 0.75.
- *Culex* mosquito population above historical average for that time period
- Sustained mosquito infection rates of > 5.0 per thousand (0.5%)

The new reporting format comprises a set of 6 tables to address the current week (1a, 2a, 3a) and to provide seasonal and historical context (1b, 2b, 3b) (see full table formats on following pages)

- Table 1a. Vector Index for current week
- Table 1b. Vector Index for All *Culex* by week from June-August
- Table 2a. Vector abundance for current week
- Table 2b. Vector abundance for All *Culex* by week from June-August
- Table 3a. WNV infection rate per 1,000 females for current week
- Table 3b. WNV infection rate per 1,000 females for All *Culex* by week from June-August

Table 1a. Vector Index for current week

Week: **30**	Mean abundance of females per trap night[1]		Estimate for proportion of females infected with WNV[2]		**Vector Index**		
	Cx. pipiens	*Cx. tarsalis*	*Cx. pipiens*	*Cx. tarsalis*	***Cx. pipiens*[3]**	***Cx. tarsalis*[4]**	**All *Culex*[5]**
FC – Zone NW	11.33	76.22	0.0000	0.0014	**0.00**	**0.11**	**0.11**
FC – Zone NE	13.00	178.00	0.0000	0.0006	**0.00**	**0.10**	**0.10**
FC – Zone SE	14.00	134.13	0.0056	0.0015	**0.08**	**0.20**	**0.28**
FC – Zone SW	4.56	35.67	0.0000	0.0000	**0.00**	**0.00**	**0.00**
FC – Citywide	11.23	111.60	0.0027	0.0011	**0.03**	**0.12**	**0.15**
LV	1.8	89.0	0.0000	0.0032	**0.00**	**0.29**	**0.29**

[1]From Table 2a (CDC light trap catches only).
[2]Derived from the data presented in Table 3a for estimated infection rate per 1,000 females (CDC light trap and gravid trap catches combined).
[3]Vector Index for *Cx. pipiens* = (Mean abundance of *Cx. pipiens* females per trap night) x (Estimate for proportion of all *Cx. pipiens* females infected with WNV).
[4]Vector Index for *Cx. tarsalis* = (Mean abundance of *Cx. tarsalis* females per trap night) x (Estimate for proportion of all *Cx. tarsalis* females infected with WNV).
[5]Vector Index for All *Culex* = (Vector Index for *Cx. pipiens*) + (Vector Index for *Cx. tarsalis*).

Table 1b. Vector Index for All *Culex* by week from June-August

Week	FC – Zone NW		FC – Zone NE		FC – Zone SE		FC – Zone SW		FC – Citywide		LV
	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	
23	N/A	0.01	N/A	0.02	N/A	0.02	N/A	0.01	N/A	0.02	N/A
24	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.10	0.00	0.01	0.02	0.00	0.01	0.03	0.01	0.00
27	0.00	0.00	0.10	0.03	0.00	0.01	0.00	0.00	0.02	0.01	0.00
28	0.00	0.00	0.10	0.03	0.21	0.11	0.00	0.01	0.10	0.05	0.00
29	0.09	0.12	0.00	0.17	0.00	0.40	0.00	0.04	0.01	0.2	0.08
30	0.11	0.13	0.10	0.18	0.28	0.31	0.00	0.10	0.15	0.19	0.29
31		0.20		0.13		0.21		0.06		0.18	
32		0.16		0.33		0.41		0.09		0.27	
33		0.20		0.38		0.28		0.06		0.24	
34		0.15		0.16		0.34		0.06		0.19	
35		0.03		0.11		0.18		0.16		0.13	

[1]2006-2013 (2003-2005 were excluded due to changes in trap locations from 2006 onwards).

Table 2a. Vector abundance for current week (CDC light trap catches only)

Week: **30**	Total number females collected			Number CDC light trap nights	Mean abundance of females per CDC light trap night		
	Cx. pipiens	*Cx. tarsalis*	All *Culex*		*Cx. pipiens*[1]	*Cx. tarsalis*[2]	All *Culex*[3]
FC – Zone NW	102	686	788	9	11.33	76.22	87.56
FC – Zone NE	130	1780	1910	10	13.00	178.00	191.00
FC – Zone SE	210	2012	2222	15	14.00	134.13	148.13
FC – Zone SW	41	321	362	9	4.56	35.67	40.22
FC – Citywide	483	4799	5282	43	11.23	111.60	122.84
LV	67	3293	3360	37	1.81	89.00	90.81

[1]Mean abundance of *Cx. pipiens* females per CDC light trap night = (Total number *Cx. pipiens* females collected) / (Number CDC light trap nights).

[2]Mean abundance of *Cx. tarsalis* females per CDC light trap night = (Total number *Cx. tarsalis* females collected) / (Number CDC light trap nights).

[3]Mean abundance of All *Culex* females per CDC light trap night = (Total number All *Culex* females collected) / (Number CDC light trap nights).

Table 2b. Vector abundance for All *Culex* by week from June-August

Week	FC – Zone NW		FC – Zone NE		FC – Zone SE		FC – Zone SW		FC – Citywide		LV
	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	
23	NA	2.19	NA	5.32	NA	7.79	NA	0.35	NA	4.77	NA
24	3.11	2.2	13.1	7.84	5.53	11.49	5.44	0.64	6.77	6.37	7.19
25	22.22	6.39	61.3	16.88	70.33	21.12	18	1.92	47.21	13.09	107.14
26	34.44	11.54	79.6	35.48	70.53	33.09	11.33	5.81	52.7	23.19	60.00
27	18.00	30.65	57.40	68.92	52.33	43.03	7.44	12.58	36.93	42.47	51.16
28	34.11	48.06	122.10	84.97	133.27	67.44	11.33	13.15	84.40	55.87	95.30
29	56.44	55.24	101.3	83.97	118.13	69.09	44.56	20.03	85.91	59.75	92.49
30	87.56	48.71	191.00	120.93	148.13	79.38	40.22	17.11	122.84	70.39	90.81
31		48.48		96.73		58.83		12.95		57.79	
32		41.25		68.12		57.75		14.77		48.11	
33		27.04		52.01		36.50		9.36		32.44	
34		20.04		46.60		27.58		6.54		26.43	
35		8.45		20.21		13.06		4.12		11.98	

[1]2006-2013 (2003-2005 were excluded due to changes in trap locations from 2006 onwards).

Table 3a. WNV infection rate per 1,000 females for current week (CDC light trap and gravid trap catches combined)

Week: **30**	Total number individuals examined			Total number pools examined			Total number WNV-infected pools			Estimate for WNV infection rate per 1,000 females[1]		
	Cx. pipiens	*Cx. tarsalis*	All *Culex*	*Cx. pipiens*	*Cx. tarsalis*	All *Culex*	*Cx. pipiens*	*Cx. tarsalis*	All *Culex*	*Cx. pipiens*	*Cx. tarsalis*	All *Culex*
FC – Zone NW	170	687	857	11	19	30	0	1	1	0.00	1.44	1.16
FC – Zone NE	329	1786	2115	17	41	58	0	1	1	0.00	0.56	0.47
FC – Zone SE	570	2019	2589	24	50	74	3	3	6	5.63	1.52	2.42
FC – Zone SW	75	321	396	7	11	18	0	0	0	0.00	0.00	0.00
FC – Citywide	1144	4813	5957	59	121	180	3	5	8	2.71	1.06	1.38
LV	15	1303	1318	4	29	33	0	4	4	0.00	3.22	3.18

[1]Maximum likelihood estimate (MLE) for WNV infection rate per 1,000 females calculated using the CDC PooledInfRate 4.0 plug-in for Excel.

Table 3b. WNV infection rate per 1,000 females for All *Culex* by week from June-August

Week	FC – Zone NW		FC – Zone NE		FC – Zone SE		FC – Zone SW		FC – Citywide		LV
	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	Current year	Historical average[1]	
23	N/A	0	N/A	0	N/A	1.99	N/A	0	N/A	0.58	N/A
24	0.00	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.58	0.00
25	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.09	0.00
26	0.00	0.00	1.08	0.00	0.75	0.44	0.00	0.54	0.75	0.24	0.00
27	0.00	0.00	1.59	0.09	0.00	0.25	0.00	0.00	0.53	0.17	0.00
28	0.00	0.00	0.65	0.41	1.43	0.90	0.00	0.49	0.97	0.53	0.00
29	1.87	1.58	0.00	1.4	0.00	3.22	0.00	1.17	0.23	2.07	0.89
30	1.16	2.97	0.47	2.1	2.42	4.01	0.00	3.60	1.38	3.05	3.18
31		4.29		1.42		4.27		3.40		3.27	
32		4.37		6.30		7.68		9.92		6.11	
33		8.34		7.54		10.85		4.80		8.96	
34		6.89		3.03		12.02		12.99		7.66	
35		8.13		4.78		15.60		61.30		10.80	

[1]2006-2013 (2003-2005 were excluded due to changes in trap locations from 2006 onwards).