

Louisiana Arbovirus Surveillance Summary 2009

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Report Summary

The goal of the surveillance for West Nile Infections in Humans is to describe the disease burden of the West Nile infection on the human population. There are some limitations. Only West Nile Neuro-invasive diseases (encephalitis or meningitis) get reliably reported. For every NID case there are about 10 cases of WN fever and about 90 completely asymptomatic infections. Only one percent of the WNFever and asymptomatic cases are reported. Although we show the number of cases of all WN infections, it is important to remember that only WN-NID cases are useful for monitoring disease burden and trends in WN in humans.

Human cases:

As of this report, 29 human WNV infections have been identified.

There are 8 asymptomatic cases. These cases are often times identified through screening of blood donors.

There are 10 WN fever cases which are a relatively mild fever with other minor symptoms. They are identified by serologic testing.

There are 11 cases of Neuro-Invasive Disease (NID - previously called meningo-encephalitis), the most severe form of the disease.

There have been no fatalities due to West Nile this year.

A comparison with previous years shows that the WN season started slow.

There have been no cases of California group Encephalitis, 1 case of Eastern Equine Encephalitis, and 0 cases of St. Louis Encephalitis reported in 2009.

These infections are not considered outbreaks since sporadic cases of these arboviruses often occur from year to year in the state.

Horses:

There are 28 EEE and 8 WNV horse infections reported this year.

Limitations:

Human data have very limited usefulness for mosquito control purposes. Only 2% of all WN infections are reported (because most WN infections are asymptomatic or WN fever cases that do not get medical care, never get diagnosed nor are reported). The reporting of those cases is delayed. From the time a mosquito bites a bird infected with WN viruses, it takes 1 to 2 weeks depending on temperatures and other environmental conditions for the virus to multiply in the mosquito vector (extrinsic incubation period), then it takes 3 to 14 days for the virus to multiply in the human host (intrinsic incubation period) then it takes several days from onset of disease to seeking medical care and a few more days for a physician to order a confirmatory lab test and get the result back (one week from onset, if all goes well) then any where from a few days to a week or two to get the report to OPH. All in all, from the initial mosquito infection to the reporting of the infection it may take from 3 to 6 weeks. In summary human data are too little too late to be of major use for mosquito control.

To provide mosquito control program with data on location of human cases that may be of limited use for correlating infection rates in mosquitoes and human cases and of use to address public and media concern, general geographical location of cases and weeks of onset are provided to mosquito control who request the information. This information must remain strictly confidential.

The OPH Laboratory is a reference laboratory used for epidemiologic purposes. Its role in diagnosis of cases is limited since the great majority of physicians and hospitals use private laboratories for their diagnosis.

Arbovirus Summary

Definitions:	
WNV	West Nile Virus
NID	Neuroinvasive Disease
F	Fever
PRE	Asymptomatic Present Infections

Total Human West Nile Virus Clinical Presentation	
NID	11
Fever	10
Asymptomatic	0
Positive Blood Donors	8

Eastern Equine Encephalitis Case			
CDC Week Onset	Parish	Age	Gender
27	Calcasieu	0-14	M

LaCrosse Cases			
CDC Week Onset	Parish	Age	Gender

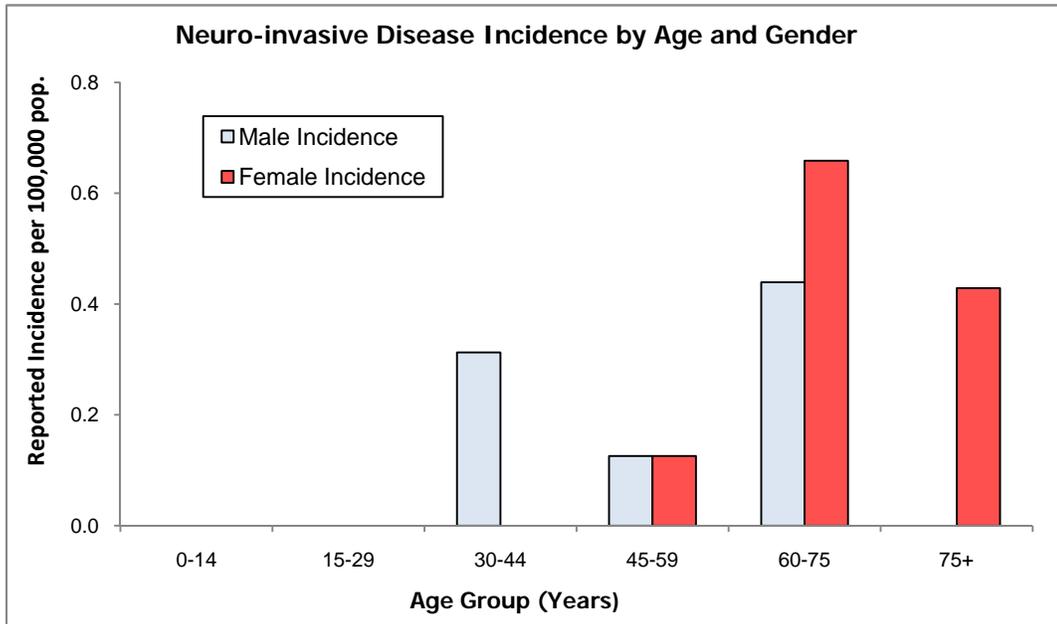
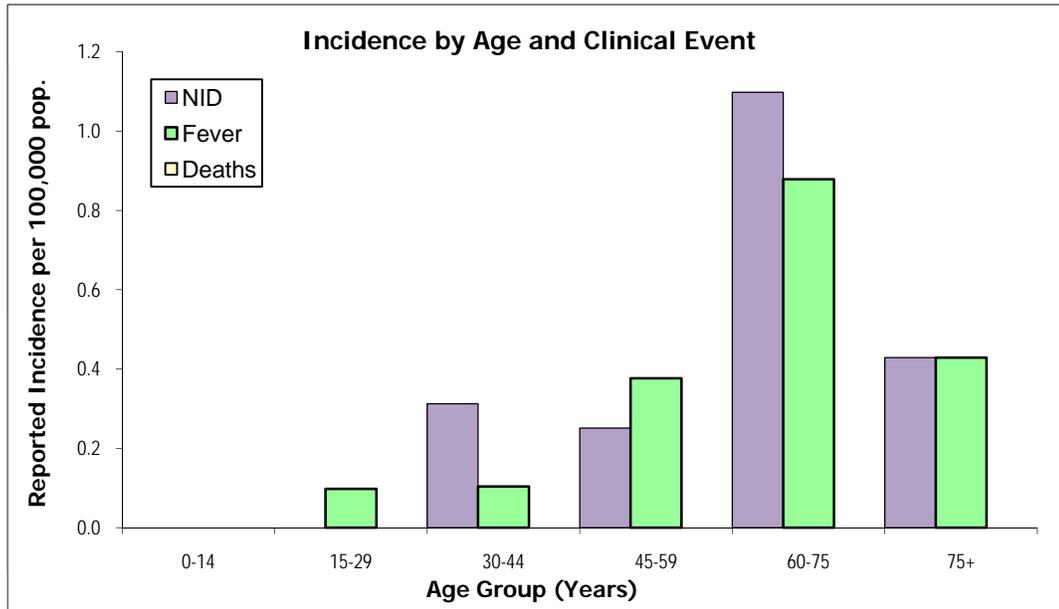
St. Louis Encephalitis and Fever Cases			
CDC Week Onset	Parish	Age	Gender

Total Human Arboviral Deaths	
	0

WNV Human Clinical Presentation

Age Group	Clinical Classification					
	NID Cases	Incidence	Fever Cases	Incidence	PRE Cases	Deaths
0-14	0	0.0	0	0.0	0	0
15-29	0	0.0	1	0.1	5	0
30-44	3	0.3	1	0.1	1	0
45-59	2	0.3	3	0.4	2	0
60-75	5	1.1	4	0.9	0	0
75+	1	0.4	1	0.4	0	0
Total	11	0.2	10	0.2	8	0

Age Group	Neuro-Invasive Disease by Gender & Age Group			
	Male	M Incidence	Female	F Incidence
0-14	0	0.0	0	0.0
15-29	0	0.0	0	0.0
30-44	3	0.3	0	0.0
45-59	1	0.1	1	0.1
60-75	2	0.4	3	0.7
75+	0	0.0	1	0.4
Total	6	0.1	5	0.1



NID by Parish 2002-Present

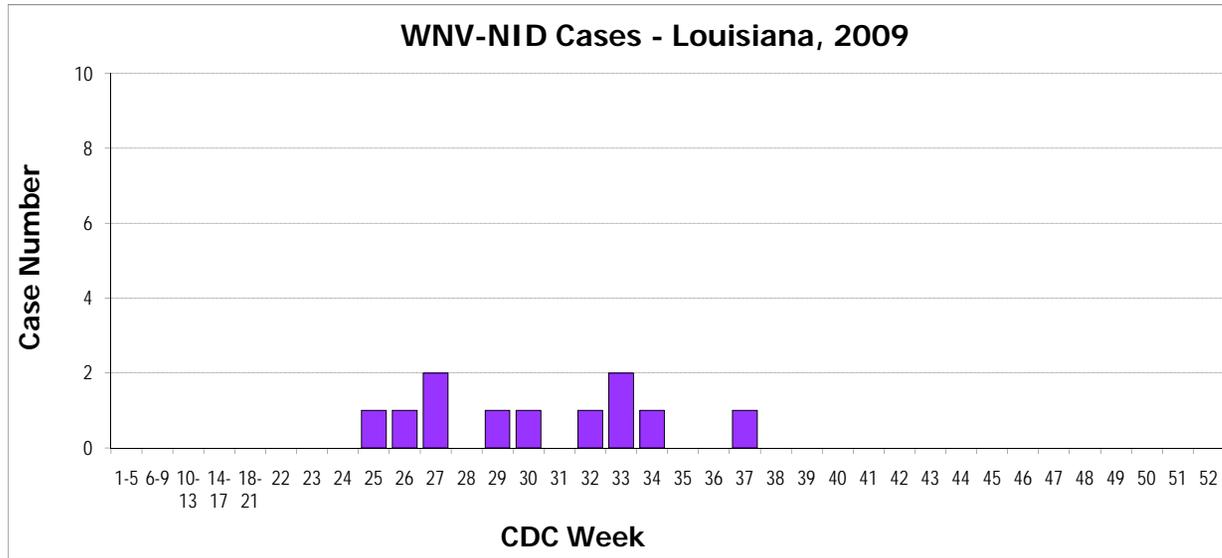
R	Parish	Reported Infections 2009			Previous NID Cases							
		Inc	NID	Fever	PRE	02	03	04	05	06	07	08
1	Jefferson	0.0			1	24	3	1	6	8	2	2
1	Orleans	0.0				10	2	1	6	12	2	2
1	Plaquemines	0.0				0	0	0	0	0	0	0
1	St Bernard	0.0				0	0	0	1	0	0	0
2	Ascension	0.0				6	2	1	3	10	0	0
2	East Baton Rouge	0.5	2	3	1	37	1	22	17	6	0	0
2	East Feliciana	0.0			1	2	1	1	0	0	0	0
2	Iberville	0.0				2	0	0	2	0	0	0
2	Pointe Coupee	0.0				6	0	0	2	0	0	0
2	West Baton Rouge	0.0				2	0	1	0	1	0	0
2	West Feliciana	0.0				0	0	0	0	0	0	1
3	Assumption	0.0				0	1	0	0	1	0	0
3	Lafourche	0.0				0	2	0	1	1	0	0
3	St Charles	0.0				0	0	0	0	0	0	0
3	St James	0.0				2	0	0	0	0	0	0
3	St John	0.0				2	0	0	0	0	1	0
3	St Mary	0.0			1	0	1	0	0	0	0	0
3	Terrebonne	0.0				0	3	0	0	0	0	0
4	Acadia	0.0				0	0	0	1	0	0	0
4	Evangeline	0.0				1	0	1	0	0	1	0
4	Iberia	0.0				2	1	0	4	0	0	0
4	Lafayette	0.0			1	4	0	1	1	1	1	0
4	St Landry	0.0				1	0	3	0	0	0	0
4	St Martin	0.0				0	0	0	0	0	0	0
4	Vermillion	0.0				0	0	0	0	1	0	0
5	Allen	3.9	1			0	0	0	0	0	0	0
5	Beauregard	0.0				0	0	1	1	0	1	0
5	Calcasieu	0.0				8	1	3	2	5	0	1
5	Cameron	0.0				0	1	0	0	0	0	0
5	Jefferson Davis	0.0				0	0	1	0	0	0	0
6	Avoyelles	0.0				2	0	0	0	1	1	1
6	Catahoula	0.0				0	1	0	0	1	0	0
6	Concordia	0.0				1	0	0	0	1	1	0
6	Grant	0.0				1	0	0	0	0	0	0
6	Rapides	0.8	1			14	2	8	7	7	2	0
6	Lasalle	0.0				0	0	0	0	0	0	0
6	Vernon	0.0				0	0	0	0	1	0	0
6	Winn	0.0				1	0	0	1	0	0	0
7	Bienville	0.0				0	0	0	0	0	0	0
7	Bossier	0.0				3	8	9	6	2	0	0
7	Caddo	0.4	1	2		5	38	8	16	3	7	3
7	Claiborne	0.0				0	1	0	0	0	0	0
7	DeSoto	0.0				0	1	0	0	0	0	0
7	Natchitoches	0.0				1	1	0	2	0	0	0
7	Red River	0.0				0	0	0	0	0	0	0

NID by Parish 2002-Present

R	Parish	Reported Infections 2009			Previous NID Cases							
		Inc	NID	Fever	PRE	02	03	04	05	06	07	08
7	Sabine	0.0				1	0	0	0	0	1	0
7	Webster	0.0				0	0	1	0	1	0	0
8	Caldwell	0.0				0	0	1	0	0	0	0
8	East Carroll	0.0				0	0	0	0	0	0	0
8	Franklin	0.0			1	0	0	1	1	0	0	0
8	Jackson	0.0				0	1	0	0	0	0	0
8	Lincoln	0.0				0	2	0	1	0	0	1
8	Madison	0.0				0	0	1	0	0	0	0
8	Morehouse	0.0				0	2	2	1	0	1	0
8	Ouachita	0.0		2		6	2	5	15	3	1	1
8	Richland	0.0				2	1	1	0	0	0	0
8	Tensas	0.0				0	0	0	0	0	0	0
8	Union	0.0				1	1	1	0	0	0	0
8	West Carroll	0.0				0	2	2	0	0	1	0
9	Livingston	0.0			2	12	5	6	11	1	1	1
9	St Helena	0.0				0	2	0	2	0	0	0
9	St Tammany	2.1	4	2		27	4	0	3	14	0	3
9	Tangipahoa	1.0	1			12	6	1	2	6	1	3
9	Washington	2.3	1	1		6	2	0	3	4	2	
	Total	0.2	11	10	8	204	101	84	118	91	27	19

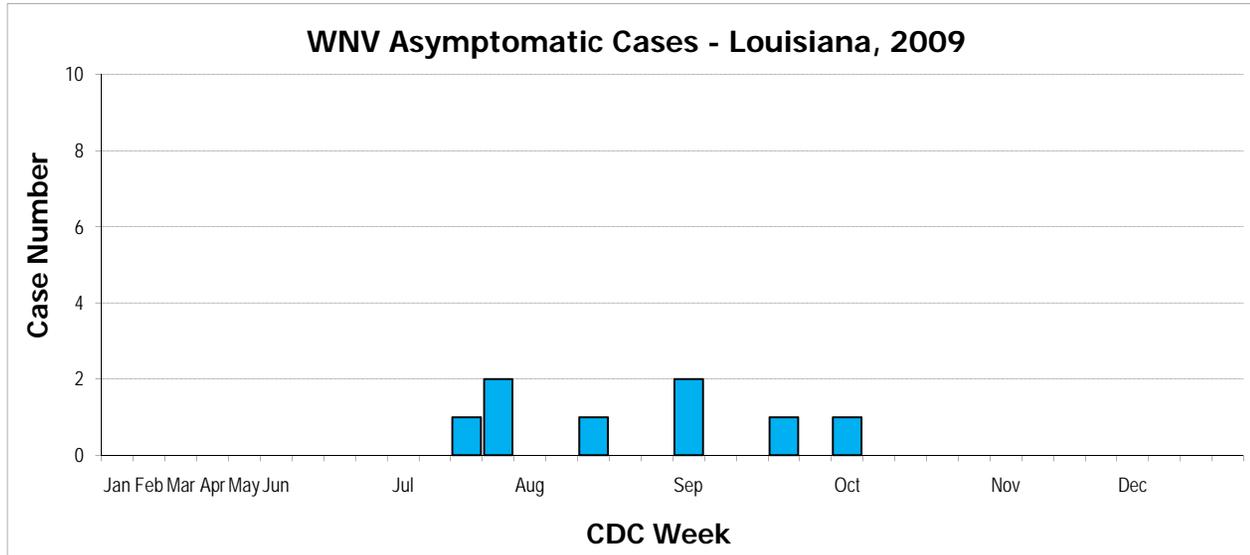
WNV-NID Infections by Parish According to CDC Week

CDC Week		1-5	6-9	10-13	14-17	18-21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Region	Parish																																				
2	East Baton Rouge	2																																			
5	Allen	1																																			
6	Rapides	1																																			
7	Caddo	1																																			
9	Washington	1																																			
9	Tangipahoa	1																																			
9	St. Tammany	4																																			
WNV-NID Total		11	0	0	0	0	0	0	0	0	0	1	1	2	0	1	1	0	1	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0



WNV-Asymptomatic Infections by Parish According to CDC Week

		CDC Week		1-5	6-9	10-13	14-17	18-21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52			
Region	Parish	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																												
1	Jefferson	1																																								
2	East Baton Rouge	1																																								
2	East Feliciana	1																																								
3	St. Mary	1																																								
4	Lafayette	1																																								
8	Franklin	1																																								
9	Livingston	2																																								
WNV-PRE Total		8	0	1	2	0	0	1	0	0	2	0	0	1	0	1	0																									



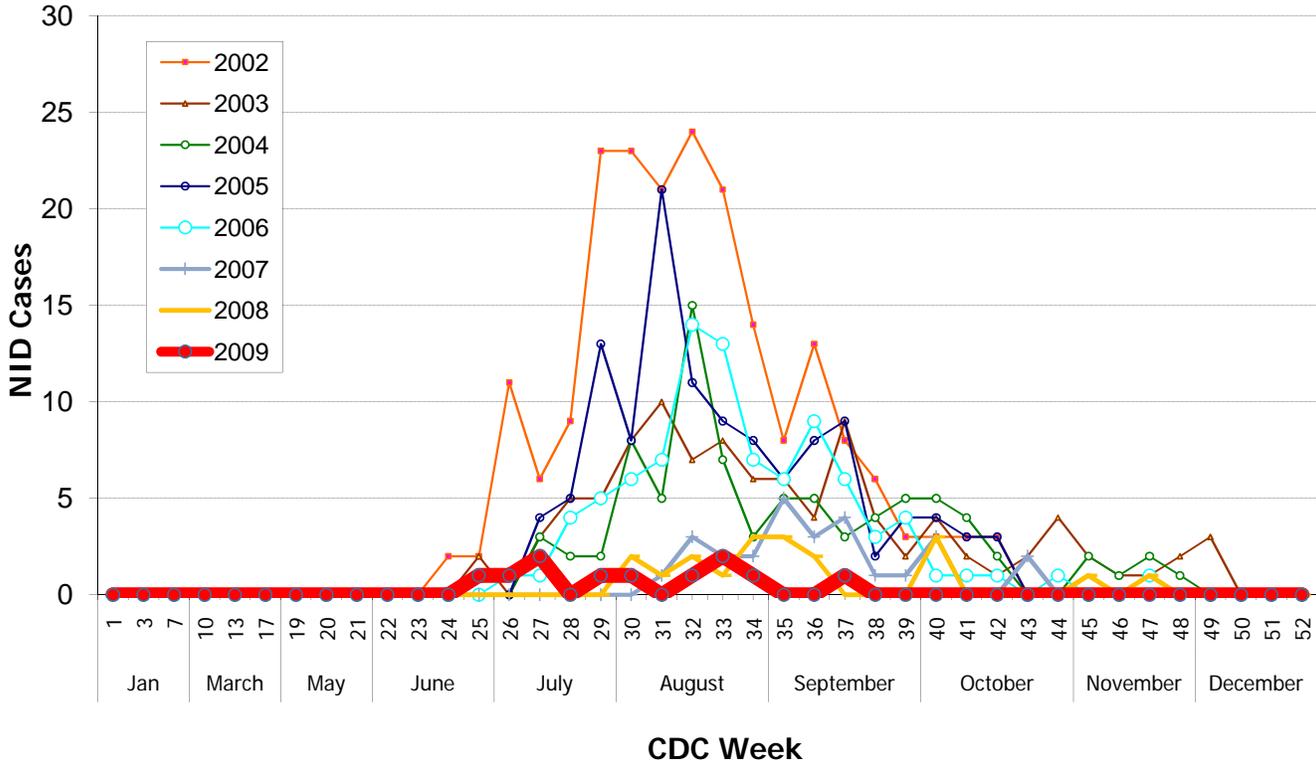
Human Summary 2002-Present

WNV-NID Cases by CDC Week by Year									
	Week	2002	2003	2004	2005	2006	2007	2008	2009
Jan	1	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
March	10	0	0	0	0	0	0	0	0
	13	0	0	0	0	0	0	0	0
	17	0	0	0	0	0	0	0	0
May	19	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0
	21	0	0	0	0	0	0	0	0
June	22	0	0	0	0	0	0	0	0
	23	0	0	0	0	0	0	0	0
	24	2	0	0	0	0	0	0	0
	25	2	2	0	0	0	0	0	1
July	26	11	0	0	0	1	0	0	1
	27	6	3	3	4	1	0	0	2
	28	9	5	2	5	4	0	0	0
	29	23	5	2	13	5	0	0	1
August	30	23	8	8	8	6	0	2	1
	31	21	10	5	21	7	1	1	0
	32	24	7	15	11	14	3	2	1
	33	21	8	7	9	13	2	1	2
	34	14	6	3	8	7	2	3	1
September	35	8	6	5	6	6	5	3	0
	36	13	4	5	8	9	3	2	0
	37	8	9	3	9	6	4	0	1
	38	6	4	4	2	3	1	0	0
	39	3	2	5	4	4	1	0	0
October	40	3	4	5	4	1	3	3	0
	41	3	2	4	3	1	0	0	0
	42	3	1	2	3	1	0	0	0
	43	0	2	0	0	0	2	0	0
	44	0	4	0	0	1	0	0	0
November	45	0	2	2	0	0	0	1	0
	46	0	1	1	0	0	0	0	0
	47	1	1	2	0	1	0	1	0
	48	0	2	1	0	0	0	0	0
December	49	0	3	0	0	0	0	0	0
	50	0	0	0	0	0	0	0	0
	51	0	0	0	0	0	0	0	0
	52	0	0	0	0	0	0	0	0
NID Total		204	101	84	118	91	27	19	11

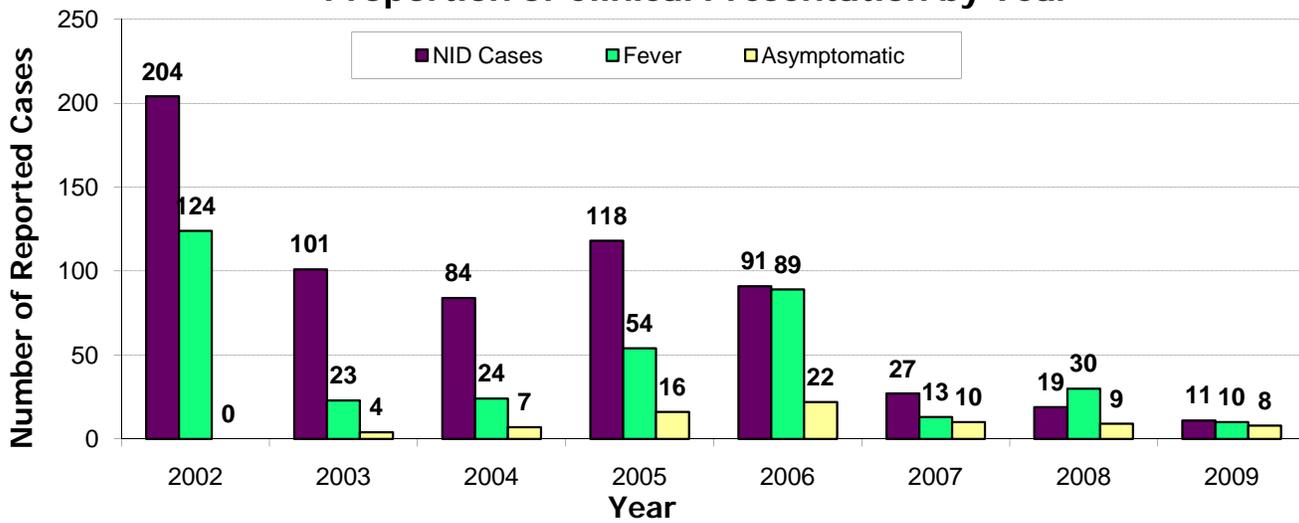
Total Human WNV Clinical Presentation by Year								
	2002	2003	2004	2005	2006	2007	2008	2009
NID Cases	204	101	84	118	91	27	19	11
Fever	124	23	24	54	89	13	30	10
Asymptomatic	NA	4	7	16	22	10	9	8
Proportion of NID/F	0.62	0.81	0.78	0.69	0.51	0.68	0.39	0.52

Human Summary 2002-Present

WNV - Neuroinvasive Disease Cases by CDC Week

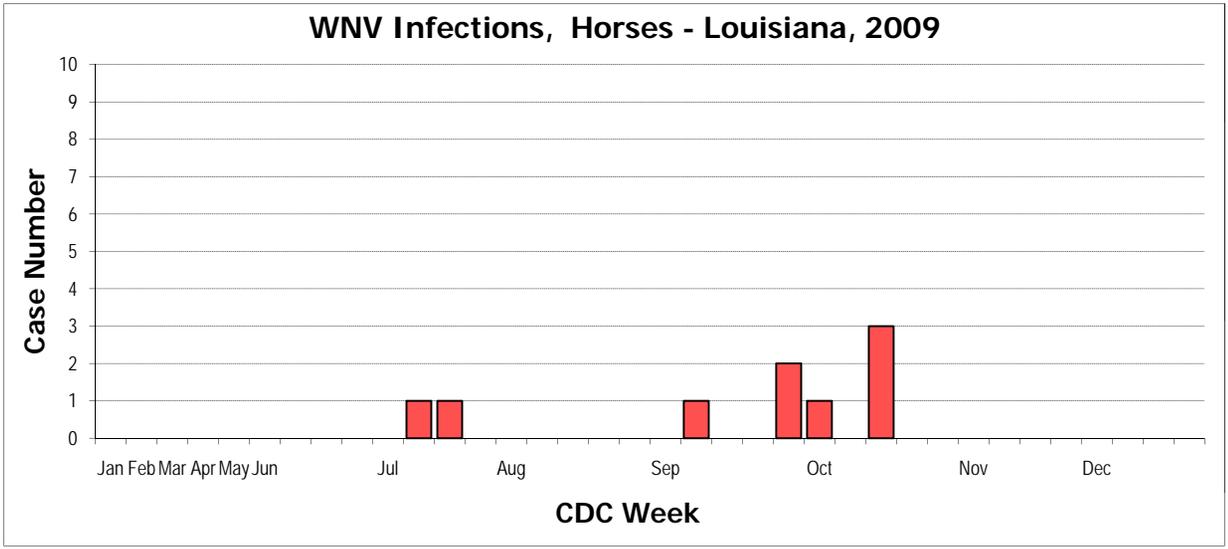


Proportion of Clinical Presentation by Year



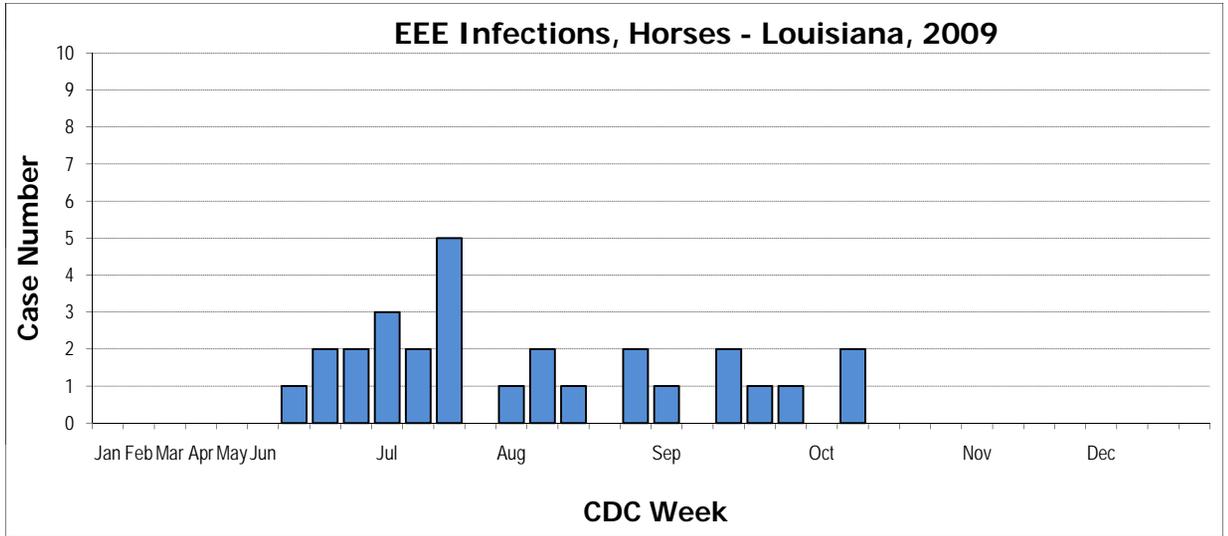
WNV Horses

CDC Week		1-5	6-9	10-13	14-17	18-21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52		
Region	Parish	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																									
2	East Baton Rouge	1																						1															
2	Iberville	1																										1											
5	Allen	1												1																									
8	Bossier	1																																					
9	Tangipahoa	1																																					
9	St. Tammany	3												1																									
WNV-Horses Total		8	0	1	1	0	1	0	3	0																													



EEE Horses

CDC Week			1-5	6-9	10-13	14-17	18-21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52		
Region	Parish	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																										
1	Orleans	1							1																															
2	West Baton Rouge	1							1																															
2	Ascension	1																				1																		
2	Pointe Coupee	1												1																										
2	Iberville	3							2				1																											
3	Lafourche	4											1			1	2																							
3	Assumption	1												1																										
3	St. James	2													1																									
6	Rapides	4							1				1					1								1														
7	Caddo	1																			1																			
7	De Soto	1																				1																		
8	Jackson	2																			1							1												
8	Richland	2																						1				1												
8	Ouachita	1												1																										
9	St. Tammany	1													1																									
9	Tangipahoa	1																						1																
9	Washington	1												1																										
EEE-Horses Total			28	0	0	0	0	0	1	2	2	3	2	5	0	1	2	1	0	2	1	0	2	1	1	0	2	0												



CDC Week	Week Starting	Week Ending
1	1/4/2009	1/10/2009
2	1/11/2009	1/17/2009
3	1/18/2009	1/24/2009
4	1/25/2009	1/31/2009
5	2/1/2009	2/7/2009
6	2/8/2009	2/14/2009
7	2/15/2009	2/21/2009
8	2/22/2009	2/28/2009
9	3/1/2009	3/7/2009
10	3/8/2009	3/14/2009
11	3/15/2009	3/21/2009
12	3/22/2009	3/28/2009
13	3/29/2009	4/4/2009
14	4/5/2009	4/11/2009
15	4/12/2009	4/18/2009
16	4/19/2009	4/25/2009
17	4/26/2009	5/2/2009
18	5/3/2009	5/9/2009
19	5/10/2009	5/16/2009
20	5/17/2009	5/23/2009
21	5/24/2009	5/30/2009
22	5/31/2009	6/6/2009
23	6/7/2009	6/13/2009
24	6/14/2009	6/20/2009
25	6/21/2009	6/27/2009
26	6/28/2009	7/4/2009
27	7/5/2009	7/11/2009
28	7/12/2009	7/18/2009
29	7/19/2009	7/25/2009
30	7/26/2009	8/1/2009
31	8/2/2009	8/8/2009
32	8/9/2009	8/15/2009
33	8/16/2009	8/22/2009
34	8/23/2009	8/29/2009
35	8/30/2009	9/5/2009
36	9/6/2009	9/12/2009
37	9/13/2009	9/19/2009
38	9/20/2009	9/26/2009
39	9/27/2009	10/3/2009
40	10/4/2009	10/10/2009
41	10/11/2009	10/17/2009
42	10/18/2009	10/24/2009
43	10/25/2009	10/31/2009
44	11/1/2009	11/7/2009
45	11/8/2009	11/14/2009
46	11/15/2009	11/21/2009
47	11/22/2009	11/28/2009
48	11/29/2009	12/5/2009
49	12/6/2009	12/12/2009
50	12/13/2009	12/19/2009
51	12/20/2009	12/26/2009
52	12/27/2009	1/2/2010