

Louisiana Arbovirus Surveillance Summary 2008

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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, 58 human WNV infections have been identified.

There are 9 asymptomatic cases often times identified through screening of blood donors.

There are 30 WN fever cases which are relatively mild fever with minor other symptoms. They are identified by serologic testing.

There are 19 cases of Neuro-Invasive Disease (NID - previously called meningo-encephalitis), the most severe form of the disease.

There has been one fatality due to West Nile this year.

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

There has been 1 case of California group Encephalitis, most likely LaCrosse Encephalitis, 0 cases of Eastern Equine Encephalitis, 1 case of St. Louis Encephalitis and 2 cases of St. Louis Encephalitis Fever reported in 2008. These infections are not considered outbreaks since sporadic cases of these arboviruses often occur from year to year in the state.

Horses:

There are 9 EEE and 9 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.

False Positive West Nile Tests

Inverness Medical has voluntarily recalled two of their West Nile testing kits due to their high false positive rates.

Some of our West Nile cases (fever and neuro-invasive) were tested with one of these kits.

Retesting of patient samples were performed by the CDC. The outcome of the retests has resulted in fewer West Nile cases for Louisiana.

Arbovirus Summary

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

Total Human West Nile Virus Clinical Presentation	
2008	
NID	19
Fever	30
Asymptomatic	1
Positive Blood Donors	8

Eastern Equine Encephalitis Case			
CDC Week Onset	Parish	Age	Gender

LaCrosse Cases			
CDC Week Onset	Parish	Age	Gender
23	Rapides	0-14	Male

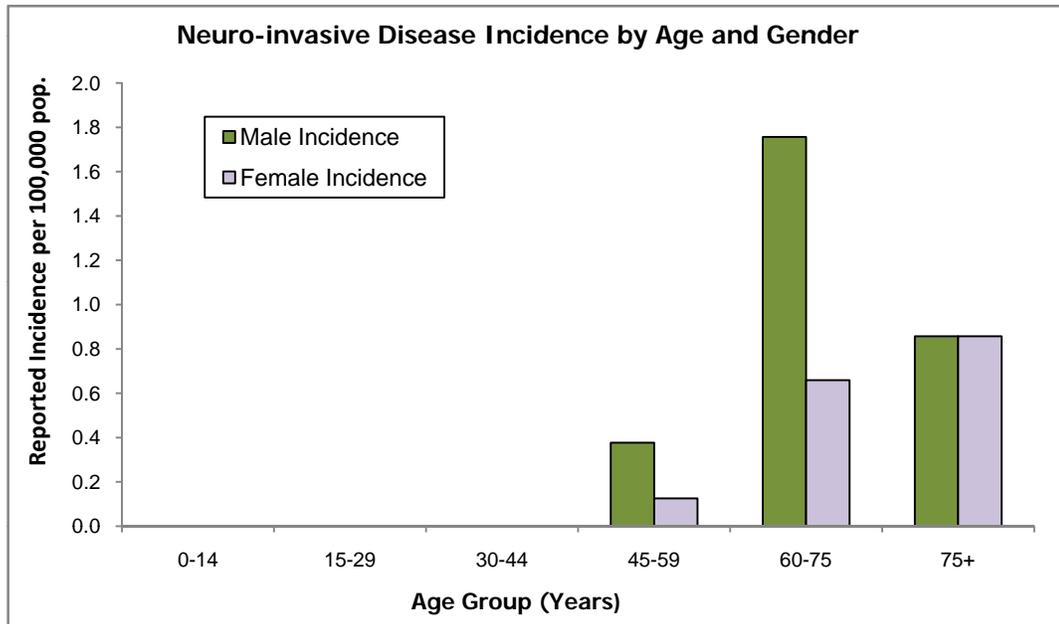
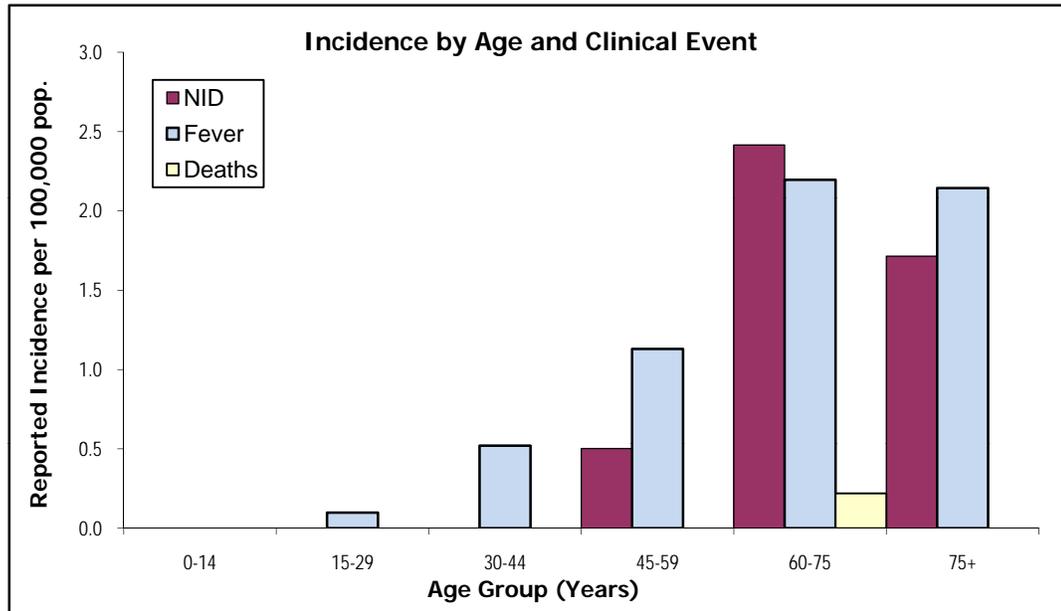
St. Louis Encephalitis and Fever Cases			
CDC Week Onset	Parish	Age	Gender
33	Richland	15-29	Female
37	Caddo	0-14	Female
43	Caddo	0-14	Female

Total Human Arboviral Deaths	
EEE	0
WNV	1

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	1
15-29	0	0.0	1	0.1	1	
30-44	0	0.0	5	0.5	2	
45-59	4	0.5	9	1.1	1	
60-75	11	2.4	10	2.2	2	
75+	4	1.7	5	2.1	3	
Total	19	0.4	30	0.7	9	1

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	0	0.0	0	0.0
45-59	3	0.4	1	0.1
60-75	8	1.8	3	0.7
75+	2	0.9	2	0.9
Total	13	0.3	6	0.1



NID by Parish 2002-Present

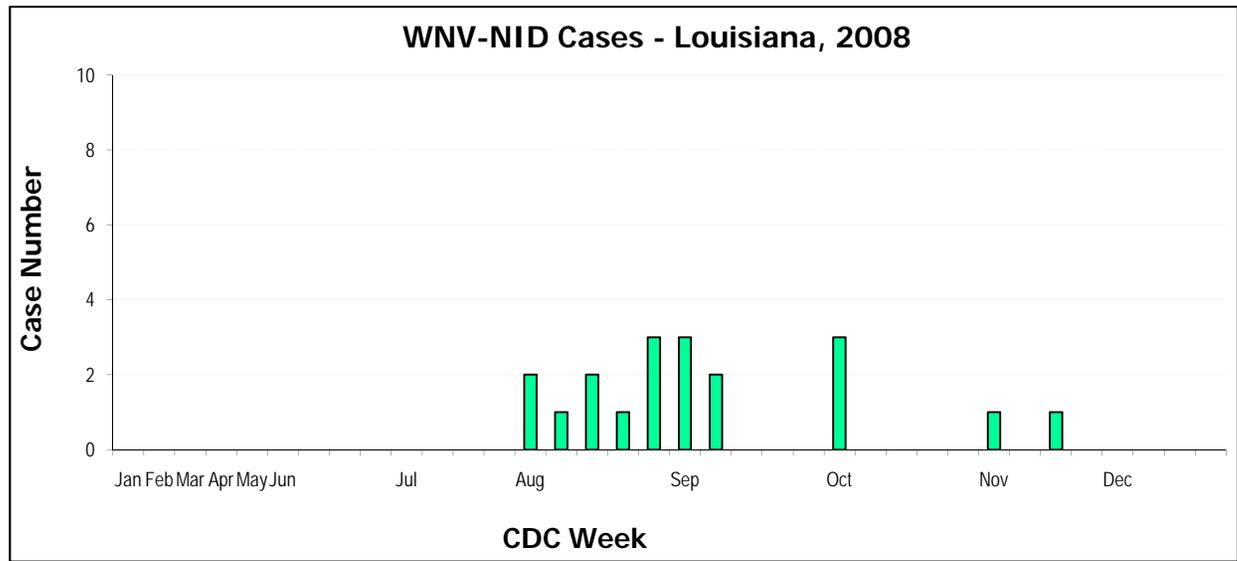
Reg	Parish	Reported Infections 2008				Previous NID Cases					
		Inc	NID	Fever	PRE	02	03	04	05	06	07
1	Jefferson	0.4	2		1	24	3	1	6	8	2
1	Orleans	0.4	2			10	2	1	6	12	2
1	Plaquemines	0.0				0	0	0	0	0	0
1	St Bernard	0.0				0	0	0	1	0	0
2	Ascension	0.0			2	6	2	1	3	10	0
2	East Baton Rouge	0.0		5	2	37	1	22	17	6	0
2	East Feliciana	0.0		1		2	1	1	0	0	0
2	Iberville	0.0				2	0	0	2	0	0
2	Pointe Coupee	0.0		5	1	6	0	0	2	0	0
2	West Baton Rouge	0.0				2	0	1	0	1	0
2	West Feliciana	6.6	1			0	0	0	0	0	0
3	Assumption	0.0				0	1	0	0	1	0
3	Lafourche	0.0				0	2	0	1	1	0
3	St Charles	0.0				0	0	0	0	0	0
3	St James	0.0				2	0	0	0	0	0
3	St John	0.0				2	0	0	0	0	1
3	St Mary	0.0				0	1	0	0	0	0
3	Terrebonne	0.0				0	3	0	0	0	0
4	Acadia	0.0				0	0	0	1	0	0
4	Evangeline	0.0				1	0	1	0	0	1
4	Iberia	0.0				2	1	0	4	0	0
4	Lafayette	0.0		1		4	0	1	1	1	1
4	St Landry	0.0		1		1	0	3	0	0	0
4	St Martin	0.0				0	0	0	0	0	0
4	Vermillion	0.0				0	0	0	0	1	0
5	Allen	0.0		1		0	0	0	0	0	0
5	Beauregard	0.0				0	0	1	1	0	1
5	Calcasieu	0.5	1	2		8	1	3	2	5	0
5	Cameron	0.0				0	1	0	0	0	0
5	Jefferson Davis	0.0				0	0	1	0	0	0
6	Avoyelles	2.4	1			2	0	0	0	1	1
6	Catahoula	0.0				0	1	0	0	1	0
6	Concordia	0.0				1	0	0	0	1	1
6	Grant	0.0				1	0	0	0	0	0
6	Rapides	0.0				14	2	8	7	7	2
6	Lasalle	0.0				0	0	0	0	0	0
6	Vernon	0.0				0	0	0	0	1	0
6	Winn	0.0				1	0	0	1	0	0
7	Bienville	0.0				0	0	0	0	0	0
7	Bossier	0.0				3	8	9	6	2	0
7	Caddo	1.2	3	5		5	38	8	16	3	7
7	Claiborne	0.0				0	1	0	0	0	0
7	DeSoto	0.0				0	1	0	0	0	0
7	Natchitoches	0.0				1	1	0	2	0	0
7	Red River	0.0				0	0	0	0	0	0

NID by Parish 2002-Present

Reg	Parish	Reported Infections 2008				Previous NID Cases					
		Inc	NID	Fever	PRE	02	03	04	05	06	07
7	Sabine	0.0				1	0	0	0	0	1
7	Webster	0.0				0	0	1	0	1	0
8	Caldwell	0.0				0	0	1	0	0	0
8	East Carroll	0.0				0	0	0	0	0	0
8	Franklin	0.0				0	0	1	1	0	0
8	Jackson	0.0				0	1	0	0	0	0
8	Lincoln	2.4	1			0	2	0	1	0	0
8	Madison	0.0				0	0	1	0	0	0
8	Morehouse	0.0				0	2	2	1	0	1
8	Ouachita	0.7	1			6	2	5	15	3	1
8	Richland	0.0				2	1	1	0	0	0
8	Tensas	0.0				0	0	0	0	0	0
8	Union	0.0				1	1	1	0	0	0
8	West Carroll	0.0				0	2	2	0	0	1
9	Livingston	1.1	1	1	1	12	5	6	11	1	1
9	St Helena	0.0				0	2	0	2	0	0
9	St Tammany	1.6	3	5		27	4	0	3	14	0
9	Tangipahoa	3.0	3	3	2	12	6	1	2	6	1
9	Washington	0.0				6	2	0	3	4	2
	Total	0.4	19	30	9	204	101	84	118	91	27

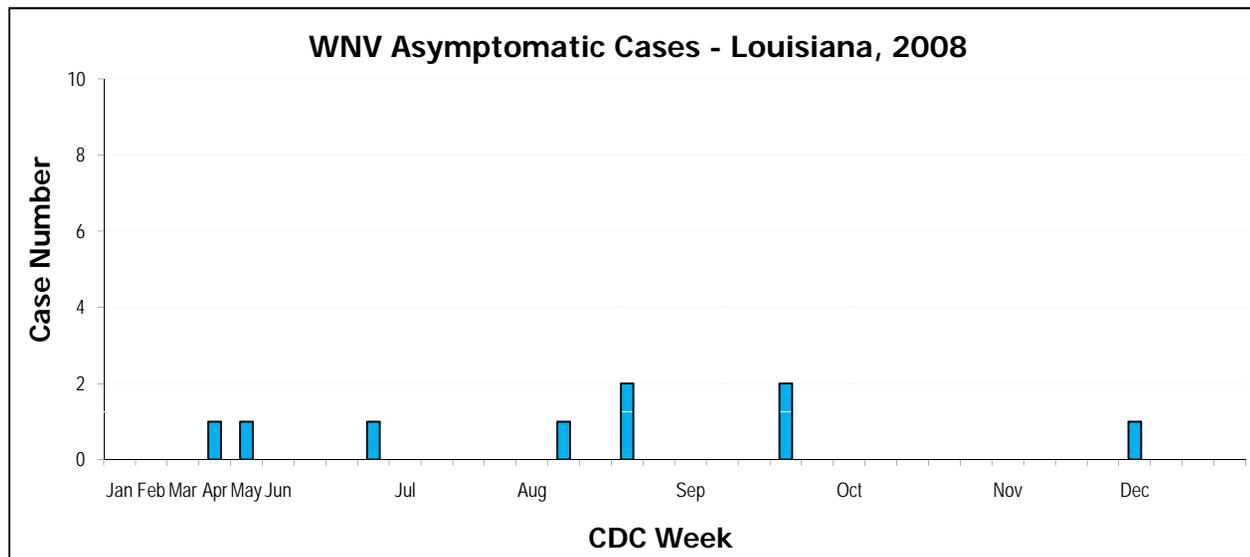
WNV-NID Infections by Parish According to CDC Week

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	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																												
1	Orleans	2																																								
1	Jefferson	2																																								
2	West Feliciana	1																																								
5	Calcasieu	1																																								
6	Avoyelles	1																																								
7	Caddo	3																																								
8	Lincoln	1																																								
8	Ouachita	1																																								
9	St. Tammany	3																																								
9	Livingston	1																																								
9	Tangipahoa	3																																								
WNV-NID Total		19	0	2	1	2	1	3	3	2	0	0	0	3	0	0	0	0	0	1	0	1	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				1																																	
2	Pointe Coupee	1															1																						
2	Ascension	2																					1														1		
2	East Baton Rouge	2																1					1																
9	Tangipahoa	2								1						1																							
9	Livingston	1				1																																	
WNV-PRE Total		9	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	2	0	1	0	0	0										

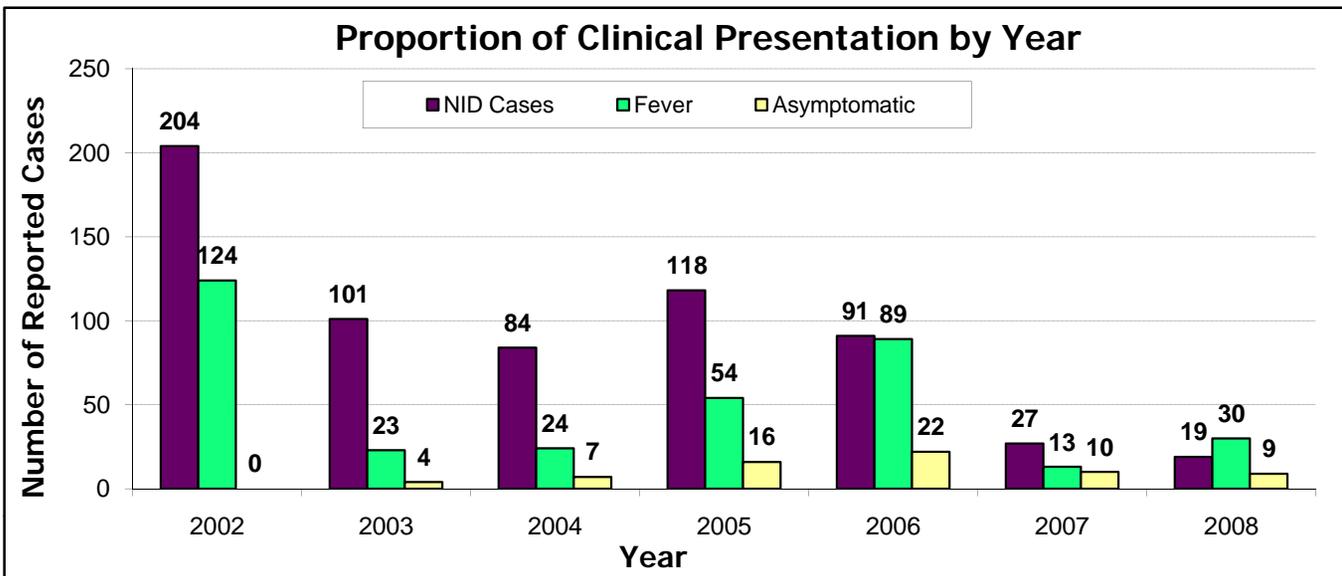
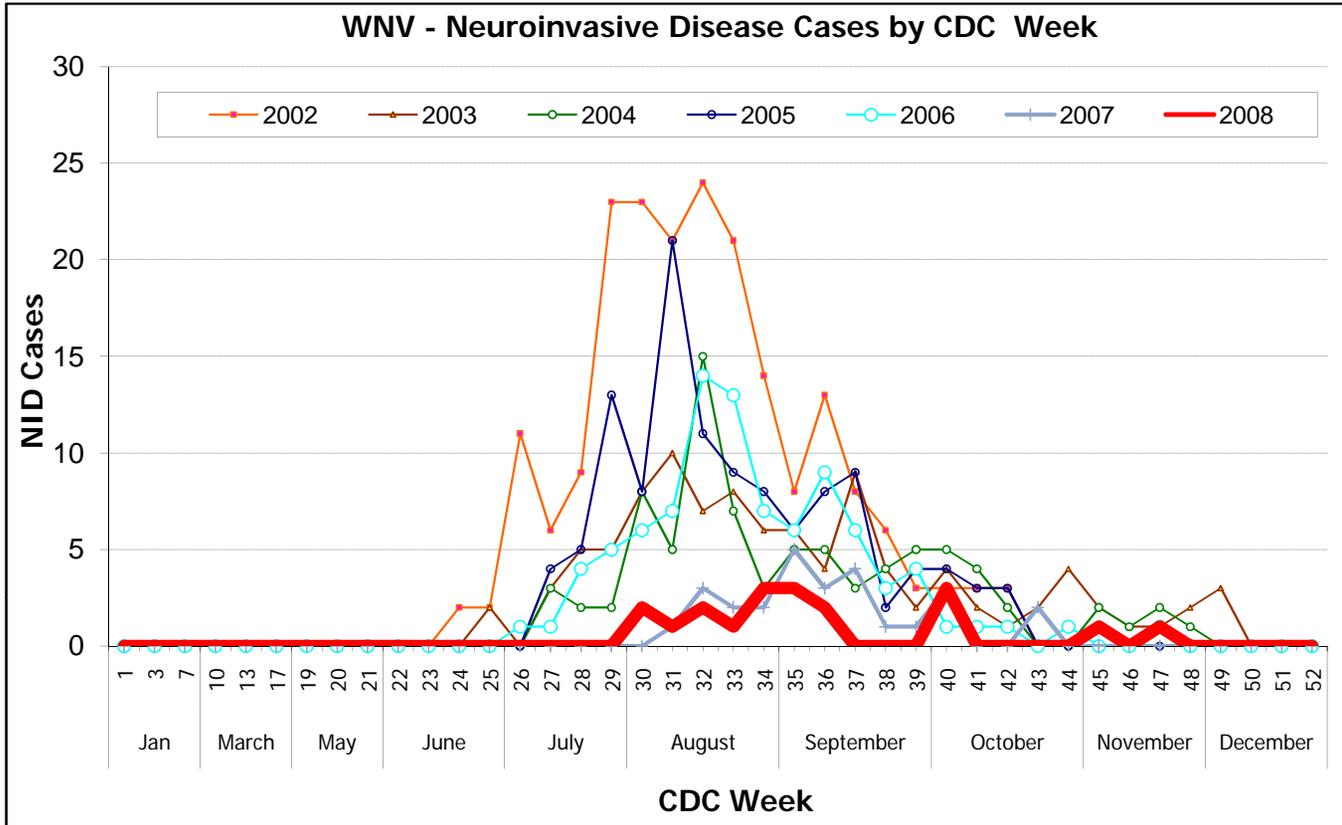


Human Summary 2002-Present

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

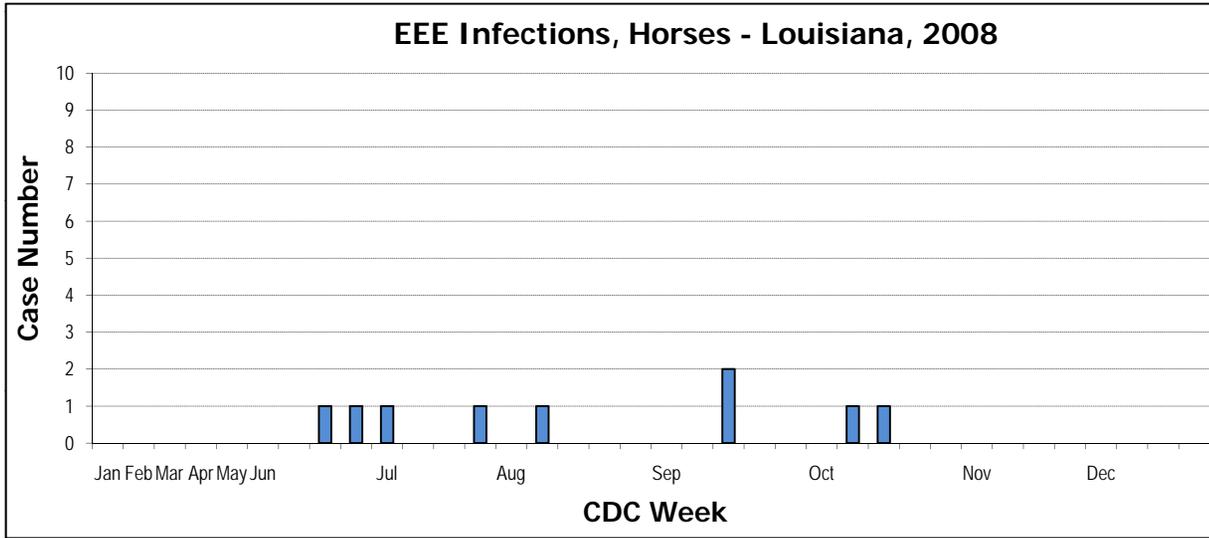
Total Human WNV Clinical Presentation by Year							
	2002	2003	2004	2005	2006	2007	2008
NID Cases	204	101	84	118	91	27	19
Fever	124	23	24	54	89	13	30
Asymptomatic	NA	4	7	16	22	10	9
Proportion of NID/F	0.62	0.81	0.78	0.69	0.51	0.68	0.39

Human Summary 2002-Present



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								
1	Jefferson	3									1	1	1																									
2	Ascension	1														1																						
2	East Baton Rouge	1																									1											
3	Assumption	1																					1															
9	Washington	1												1																								
9	Livingston	1																					1															
9	Tangipahoa	1																									1											
EEE-Horses Total		9	0	0	0	0	0	0	0	1	1	1	0	0	1	0	1	0	0	0	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0



CDC Week	Week Starting	Week Ending
1	12/30/07	01/05/08
2	01/06/08	01/12/08
3	01/13/08	01/19/08
4	01/20/08	01/26/08
5	01/27/08	02/02/08
6	02/03/08	02/09/08
7	02/10/08	02/16/08
8	02/17/08	02/23/08
9	02/24/08	03/01/08
10	03/02/08	03/08/08
11	03/09/08	03/15/08
12	03/16/08	03/22/08
13	03/23/08	03/29/08
14	03/30/08	04/05/08
15	04/06/08	04/12/08
16	04/13/08	04/19/08
17	04/20/08	04/26/08
18	04/27/08	05/03/08
19	05/04/08	05/10/08
20	05/11/08	05/17/08
21	05/18/08	05/24/08
22	05/25/08	05/31/08
23	06/01/08	06/07/08
24	06/08/08	06/14/08
25	06/15/08	06/21/08
26	06/22/08	06/28/08
27	06/29/08	07/05/08
28	07/06/08	07/12/08
29	07/13/08	07/19/08
30	07/20/08	07/26/08
31	07/27/08	08/02/08
32	08/03/08	08/09/08
33	08/10/08	08/16/08
34	08/17/08	08/23/08
35	08/24/08	08/30/08
36	08/31/08	09/06/08
37	09/07/08	09/13/08
38	09/14/08	09/20/08
39	09/21/08	09/27/08
40	09/28/08	10/04/08
41	10/05/08	10/11/08
42	10/12/08	10/18/08
43	10/19/08	10/25/08
44	10/26/08	11/01/08
45	11/02/08	11/08/08
46	11/09/08	11/15/08
47	11/16/08	11/22/08
48	11/23/08	11/29/08
49	11/30/08	12/06/08
50	12/07/08	12/13/08
51	12/14/08	12/20/08
52	12/21/08	12/27/08
53	12/28/2008	1/3/2009