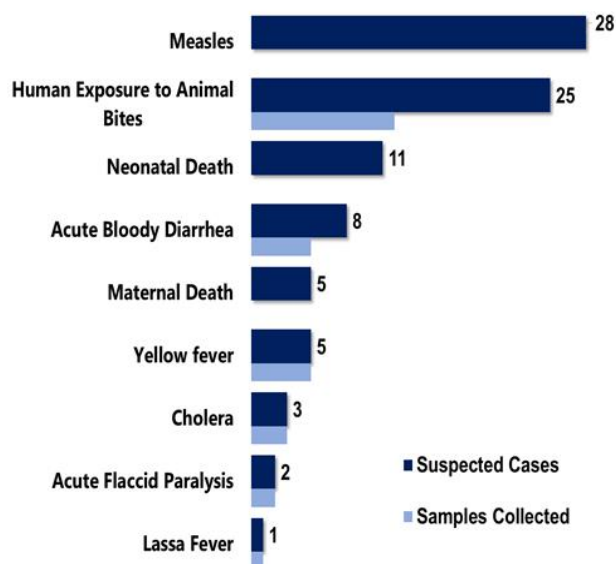


Country Population: 4,433,398 Volume 11, Issue 22 May 27–June 2, 2019 Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported during this week



Keynotes and Events of Public Health Significance

- **A total of 88** events of public health importance including **17** deaths were reported
- **Completeness and timeliness** of health facility reports were both **98%**
- One confirmed shigellosis from District # 1, Grand Bassa County
- **Ongoing measles outbreak** in Nimba county

Reporting Coverage

Table 1. Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi week 22, 2019

County	Number of Expected Report from Health Facility	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	57	57	100	100
Gbarpolu	16	15	15	94	94
Grand Bassa	34	34	34	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	19	19	19	100	100
Lofa	59	59	59	100	100
Margibi	59	59	59	100	100
Maryland	26	26	26	100	100
Montserrado	351	333	333	95	95
Nimba	84	84	84	100	100
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
Liberia	866	847	847	98	98

Legend:

≥80

<80

- The national target for weekly IDSR reporting is 80%
- Health facility timeliness is monitored at County level
- Montserrado and Margibi Counties submitted their weekly IDSR report late to the national level

847(98%)

Health facilities reported IDSR data

93(100%)

Health districts reported IDSR

847 (98%)

Health facilities out of 866 reported timely IDSR data

Vaccine Preventable Diseases

Measles

- Twenty-eight (28) suspected cases were reported from Sinoe (7), River Gee (5), Lofa (4), Montserrado (3), Cape Mount (2), Rivercess (2), Gbarpolu (2), Nimba (1), Margibi (1) and Grand Gedeh (1) Counties
 - Eight specimens were collected and pending laboratory confirmation
- Gbehlay-Geh District, Nimba County is currently in outbreak phase
- Vaccination status:
 - Among suspected cases: 20 (71.4%) vaccinated, 4 (14.3%) not vaccinated and 4 (14.3%) unknown
- Age distribution
 - Among suspected cases: <1 year: 5 (17.8%), 1 – 4 years: 6 (21.4%), ≥5 years: 17 (60.7%)
- Cumulatively, since Epi-week one, 975 suspected cases have been recorded; Of these, 308 have been tested by the laboratory and results showed 72 positive, 231 negative and 6 indeterminate
- Epi-classification is as follows: 738 (75.6%) confirmed (72 lab confirmed, 587 clinically confirmed, 79 epi-linked), 231 (23.6%) negative and 6 (0.6%) indeterminate (*See Table 2*)
 - Of the 231 specimens tested negative for measles, 183 specimens were tested for Rubella; 88 positive, 85 negative and 10 indeterminate for rubella

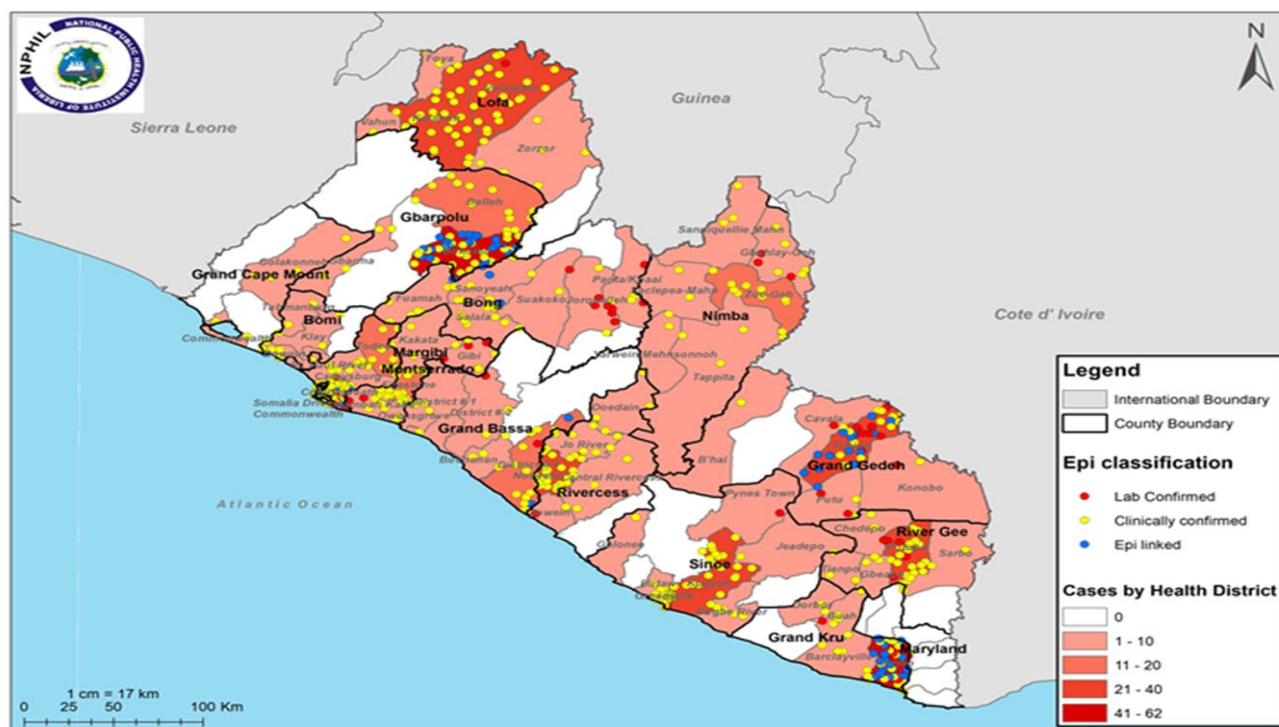
Public Health Action

- Case Management, active case search, health education, and community engagement are ongoing in districts that

Table 2. Cumulative Measles Cases Reported by County and Epi-classification, Liberia, Epi-week 1 - 22, 2019

Reporting County	Epi-classification					Total	Annualized Non Measles Febrile Rash Illness Rate
	Lab confirmed	Epi-linked	Clinically confirmed	Indeterminate (Equivocal)	Discarded (Negative)		
Bomi	0	0	13	0	4	17	8.9
Bong	9	2	31	1	11	54	6.0
Gbarpolu	4	27	48	0	5	84	11.3
Grand Bassa	2	2	22	1	15	42	12.7
Grand Cape Mount	0	0	8	0	8	16	11.8
Grand Gedeh	14	14	18	0	14	60	21.0
Grand Kru	10	20	32	0	10	72	32.5
Lofa	1	0	75	0	7	83	4.8
Margibi	6	0	39	1	20	66	17.9
Maryland	0	0	0	0	1	1	1.4
Montserrado	9	4	83	1	58	155	9.4
Nimba	7	10	31	1	27	76	11.0
River Gee	5	0	61	0	21	87	59.1
Rivercess	1	0	46	0	24	71	63.1
Sinoe	4	0	80	1	6	91	11.0
Liberia	72	79	587	6	231	975	12.3
Target Achieved	>=2		Below Target	<2			

Confirmed Measles Cases Reported by Health District, Liberia Epi-week 1 - 22, 2019



Acute Flaccid Paralysis (Suspected Polio)

- Two (2) suspected cases reported from Grand Bassa and Montserrado Counties
- Specimens were collected pending shipment
- Cumulatively, since Epi week one, 32 cases have been recorded, 24 tested negative, 8 specimens pending laboratory confirmation and (See Table 3)

County	< 15 years pop	# of AFP Cases Reported	# of Cases with Lab Result	Non-Polio AFP Rate	# of cases <14 days specimen collected	% of stool <14days	# of NPENTs	% of NPENT
Bomi	47576	1	0	5.0	0	0%	0	0%
Bong	196480	2	2	2.4	2	100%	0	0%
Gbarpolu	47163	0	0	0.0	0	0%	0	0%
Grand Bassa	125386	4	2	7.5	3	75%	0	0%
Grand Cape Mount	71872	2	1	6.6	1	50%	0	0%
Grand Gedeh	70844	1	1	3.3	1	100%	0	0%
Grand Kru	32755	0	0	0.0	0	0%	0	0%
Lofa	156050	2	3	3.0	1	50%	0	0%
Margibi	118729	2	3	4.0	3	150%	0	0%
Maryland	76884	2	1	6.1	2	100%	0	0%
Montserrado	653849	8	6	2.9	8	100%	0	0%
Nimba	261314	4	2	3.6	4	100%	0	0%
Rivercess	40444	0	0	0.0	0	0%	0	0%
River Gee	37775	1	1	6.3	1	100%	0	0%
Sinoe	57910	3	2	12.2	3	100%	0	0%
Liberia	1995031	32	22	3.8	29	91%	0	0%
Non-Polio AFP Rate	<2	Stool adequacy		<80%	Non-Polio Enterovirus	<10%	Silent	
	≥ 2			≥80%		≥10%		



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Neonatal Tetanus

- Zero case reported
- Cumulatively, since Epi-week one, 18 clinically diagnosed cases have been recorded of which six were dead

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- Zero alert was reported
- Cumulatively, since Epi-week one, 10 EVD alerts have been recorded with negative results

Lassa fever

- One (1 dead) suspected case was reported from Grand Bassa County
 - Specimen was collected and pending testing
- Cumulatively, since Epi week one, 65 suspected cases have been recorded including fifteen deaths
- Epi-classification is as follows: 22 positive, 39 negative and 4 pending laboratory confirmation

Yellow fever

- Five (5) suspected cases were reported from Bong (3), Nimba (1) and Rivercess (1) Counties
 - Specimen was collected and tested negative
- Cumulatively, since Epi-week one, 47 suspected cases have been recorded. Of these, 38 have been tested negative, specimens were not collected for 3 and 6 are pending laboratory confirmation

Monkeypox

- Zero case was reported
- Cumulatively, since Epi week one, 50 suspected cases have been reported and no specimen has been shipped

Meningitis

- Zero case was reported
- Cumulatively, since Epi-week one, 24 suspected cases have been recorded with one death, 21 tested negative, two specimens not collected due to lack of specimen collection kits and one pending laboratory confirmation

Events of Public Health Importance

Maternal Mortality

- Five (5) deaths were reported from Bong (1), Grand Kru (1), Maryland (1), Grand Gedeh (1) and Montserrado (1) Counties
- Reported causes: post-partum hemorrhage, eclampsia, retained placenta, severe anemia and one is ongoing investigation
- Four deaths were reported to have occurred in health facilities while one occurred in the community
- Cumulatively, since Epi-week one, 116 maternal deaths have been recorded (*See Table 4*)

Table 4. Annualized and Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 - 22, 2019

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Maryland	7347	1	8	7	257
Grand Gedeh	6770	1	7	6	244
Bong	18775	1	18	16	227
Margibi	11345	0	10	9	208
Nimba	24970	0	20	17	189
Grand Bassa	11981	0	7	6	138
Sinoe	5534	0	3	3	128
Rivercess	3865	0	2	2	122
Montserrado	62479	1	30	26	113
Gbarpolu	4507	0	2	2	105
Bomi	4546	0	2	2	104
Grand Kru	3130	1	1	1	76
Grand Cape Mount	6868	0	2	2	69
River Gee	3610	0	1	1	65
Lofa	14911	0	3	3	48
Liberia (National)	190636-	5	116	100	140

Neonatal Mortality

- Eleven (11) deaths were reported from Montserrado (4), Bong (2), Grand Kru (1), Maryland (1), Nimba (1), Grand Gedeh (1) and Gbarpolu (1) Counties
- Reported causes of deaths: asphyxia (6), sepsis (3), prematurity (1) and one is ongoing investigation
- Eight deaths were reported to have occurred in health facilities while 3 occurred in communities
- Cumulatively, since Epi-week one, 296 neonatal deaths have been reported (*See Table 5*)

Table 5. Annualized and Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 - 22, 2019

County	Estimated Annual Live birth (4.3%)	Current Week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
Grand Kru	3130	1	21	7	15.9
Grand Gedeh	6770	1	24	8	8.4
Bong	18775	2	41	14	5.2
Margibi	11345	0	25	8	5.2
Rivercess	3865	0	8	3	4.9
Montserrado	62479	4	106	36	4.0
Maryland	7347	1	12	4	3.9
Sinoe	5534	0	9	3	3.8
Gbarpolu	4507	1	5	2	2.6
River Gee	3610	0	4	1	2.6
Lofa	14911	0	16	5	2.5
Nimba	24970	1	17	6	1.6
Bomi	4546	0	3	1	1.6
Grand Cape Mount	6868	0	2	1	0.7
Grand Bassa	11981	0	3	1	0.6
Liberia (National)	190636	11	296	100	3.7

Other Reportable Diseases

Animal Bites (Human Exposure to Rabies)

- Twenty-six (26) cases were reported from Montserrado (13), Grand Kru (3), Nimba (3), Bong (2), Margibi (2), Grand Cape Mount (1), Lofa (1) and Sinoe (1) Counties
- Cumulatively, since Epi-week one, 821 cases of animal bites have been recorded including one death

Acute Bloody Diarrhea (Suspected Shigellosis)

- Eight (8) cases were reported from Gbarpolu (3), Montserrado (2), Bomi (1), River Gee (1) and Grand Bassa (1) Counties
 - Five specimens were collected; one confirmed from District # 1, Grand Bassa County and 4 tested negative
- Cumulatively, since Epi-week one, 122 acute bloody diarrhea cases have been recorded with 70 stool specimens collected and tested. Result: 10 positive and 60 negative
-

Severe Watery Diarrhea (Cholera)

- Two (2) cases were reported from Grand Bassa County
 - Two specimens were collected; one tested negative and one is pending laboratory confirmation
- Cumulatively, since Epi-week one, 56 suspected cases have been recorded with 44 specimens collected out of which; 39 negative, 5 rejected by laboratory, while 10 specimens were not collected

Unexplained Cluster of Health Events

- Zero case reported
- Cumulatively, since Epi-week one, eleven cases of unexplained death has been reported

Points of Entry

- Zero IDSR alert detected and verified
- A total of 4763 travelers were recorded for the week (See Table 6)

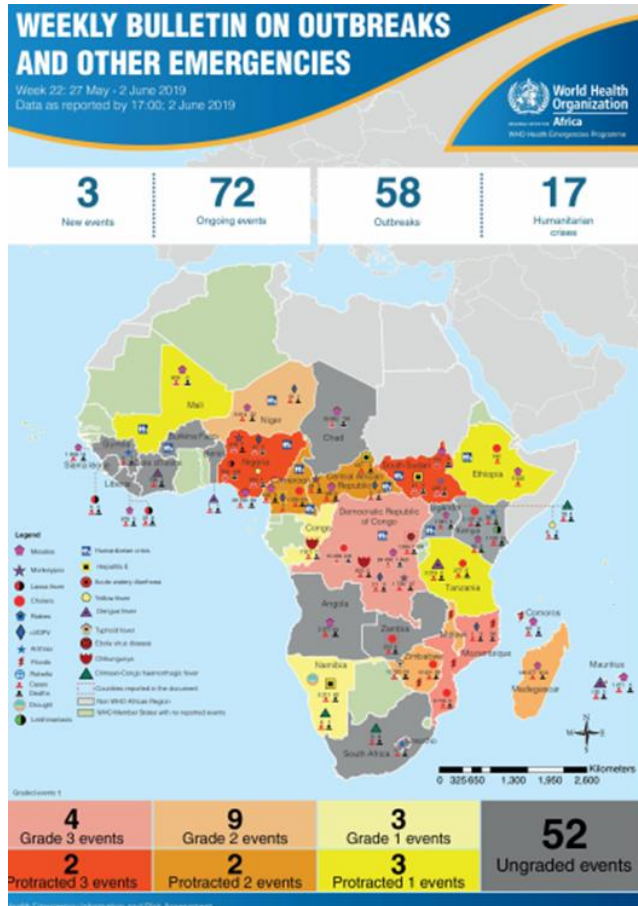
Table 6. Total Travelers, IDSR Alerts Detected and Verified at Points of Entry, Liberia, Epi-week 22, 2019

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	Yellow Book Damage/Card Replaced	Travelers Vaccinated	IDSR Alerts	Alerts Verified
Airport	James S. Paynes	79	42	37	0	0	0	0	0
	Robert International Airport	3208	1478	1730	33	33	0	0	0
Seaport	Freeport of Monrovia	124	62	62	0	0	0	0	0
	Buchanan Port	124	62	62	0	0	0	0	0
Ground Crossing	Bo Water Side	538	186	352	38	38	0	0	0
	Ganta	147	81	66	29	29	0	0	0
	Yekepa	86	58	28	0	0	0	0	0
	Loguatu	320	163	157	0	0	0	0	0
	Nursing Division	137	122	0	137	43	94	0	0
Total Traveler for the Week		4763	2254	2509	237	143	94	0	0

Note: Yellow book issue for both arrival and departure; Vaccination coverage for both arrival and departure

AFRO Public Health Events

The National Public Health Institute of Liberia continues to monitor acute public health emergencies and outbreaks occurring in the African Region in order to ensure preparedness and preventive measures are implemented



During this week, 72 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- Anthrax (probable) in Lesotho
- Vaccine derived poliovirus type 2 (environmental sample) in Cameroon
- Ebola virus disease in Democratic Republic of the Congo
- Cholera in Zambia
- Chikungunya in Congo

Outbreak

Confirmed Measles

Gbeley-Geh District, Nimba County

- Reported one new suspected case
- Treated and discharge
- Awaiting WHO to approve response budget to conduct the plan reactive campaign targeting 9 months to 15 years
- Active case search and health education ongoing

Suspected Measles

Putupo District, River Gee County

- Reported five new suspected cases
- Case was treated and discharged
- Plan to conduct 5 days mini campaign targeting 450 children from 6 to 59 months in affected and surrounding communities
- Six (6) contacts have been line listed and followed up daily



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Public Health Measures

National level

- Providing technical remote support to Counties
 - Heighten surveillance in affected and surrounding communities

County level

- Case management for all reported cases ongoing
- Active case searches ongoing in affected communities for Measles and Lassa fever

Notes

- *Completeness* refers to the proportion of expected weekly IDSR reports received (target: $\geq 80\%$)
- *Timeliness* refers to the proportion of expected weekly IDSR reports received by the next level on time (target: $\geq 80\%$). Time requirement for weekly IDSR reports:
 - Health facility - required on or before 5:00pm every Saturday to the district level
 - Health district - required on or before 5:00pm every Sunday to the county level
 - County - required on or before 5:00pm every Monday to the national level
- *Non-polio AFP rate* is the proportion of non-polio AFP cases per 100,000 among the estimated population under 15 years of age in 2017 (annual target: $\geq 2/100,000$)
- *Non-measles febrile rash illness rate* refers to the proportion of Negative measles cases per 100,000 population
- *Annualized maternal mortality rate* refers to the maternal mortality rate of a given period less than one year and it is the number of maternal deaths per 100,000 live births
- *Annualized neonatal mortality rate* refers to the neonatal mortality ratio of a given period less than one year and it is the number of neonatal deaths per 1,000 live births
- *Epi-linked* refers to any suspected case that has not had a specimen taken for serologic confirmation but is linked to a laboratory confirmed case
- *Confirmed case* refers to a case whose specimen has tested positive or reactive upon laboratory testing, or has been classified as confirmed by either epidemiologic linkage with a confirmed case, or clinical compatibility with the disease or condition
- *Case Fatality Rate (CFR)* is the proportion of deaths among confirmed cases

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Counties	No. of Expected Health District		Acute Flaccid Paralysis (Suspected Polio)		Acute Bloody Diarrhoea (Shigellosis)		Severe Acute Watery Diarrhoea (Cholera)		Human Exposure to Animal bites (Suspected Rabies)		Lassa fever		Measles		Meningitis		Maternal Mortality		Neonatal Mortality		Neonatal Tetanus		Ebola Virus Disease		Yellow fever		Monkeypox		Dengue fever		Bunuli Ulcer		MDR Tuberculosis		Yaws		Unexplained Cluster of deaths		Unexplained Cluster of Health Events/Disease		Other Diseases/Events	
	No. of Health District Reported		A	D	A	D	A	D	A	D	A	D	A	D	A	D	D	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D				
Bomi	4	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Bong	9	9	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gbarpolu	5	5	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Bassa	8	8	2	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Cape Mount	5	5	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Gedeh	6	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Kru	5	5	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Lofa	6	6	0	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Margibi	4	4	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Maryland	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Montserrado	7	7	0	0	2	0	0	0	13	0	0	0	3	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Nimba	6	6	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Rivercess	6	6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
River Gee	6	6	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sinoe	10	10	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Weekly	93	93	2	0	8	0	2	0	26	0	0	1	28	0	0	0	0	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Reported			32	0	122	0	56	0	821	0	50	15	975	0	24	0	116	296	16	2	7	3	47	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Laboratory Confirmed			0	0	10	0	0	0	0	0	14	8	72	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

D = Dead

A = Alive

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