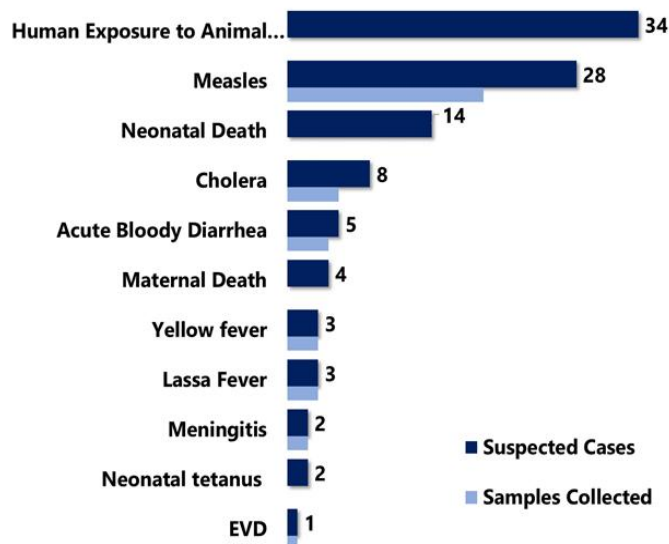


Country Population: 4,433,398 Volume 11, Issue 23 June 3-9, 2019 Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported during this week



Keynotes and Events of Public Health Significance

- **A total of 104** events of public health importance including **19** deaths were reported
- **Completeness and timeliness** of health facility reports were both **97%**
- **Ongoing measles outbreak** in Nimba county

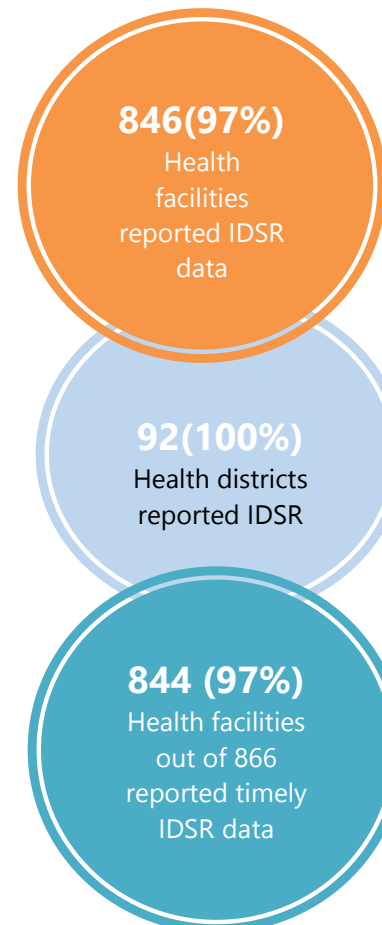
Reporting Coverage

Table 1. Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi week 23, 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	331	95	95
Nimba	84	83	83	100	100
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
Liberia	866	846	844	97	97

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



Vaccine Preventable Diseases

Measles

- Twenty-eight (28) suspected cases were reported from Sinoe (7), Lofa (7), River Gee (4), Rivercess (3), Montserrado (2), Grand Gedeh (2), Bong (1), Margibi (1), and Grand Kru (1) Counties
 - Nineteen specimens were collected and pending laboratory confirmation
- Gbehlay-Geh District, Nimba County is currently in outbreak phase
- Vaccination status:
 - Among suspected cases: 24 (86%) vaccinated, 2(7%) not vaccinated and 2 (7%) unknown
- Age distribution
 - Among suspected cases: <1 year: 1(3.5%), 1 – 4 years: 8 (28.5%), ≥5 years: 19 (68%)
- Cumulatively, since Epi-week one, 1010 suspected cases have been recorded; Of these, 339 have been tested by the laboratory and results showed 81 positive, 258 negative and 6 indeterminate
- Epi-classification is as follows: 746 (73.8%) confirmed (81 lab confirmed, 586 clinically confirmed, 79 epi-linked), 258 (34.5%) negative and 6 (0.8%) indeterminate (*See Table 2*)
 - Of the 258 specimens tested negative for measles, 183 specimens were tested for Rubella; 88 positive, 85 negative and 10 indeterminate for rubella

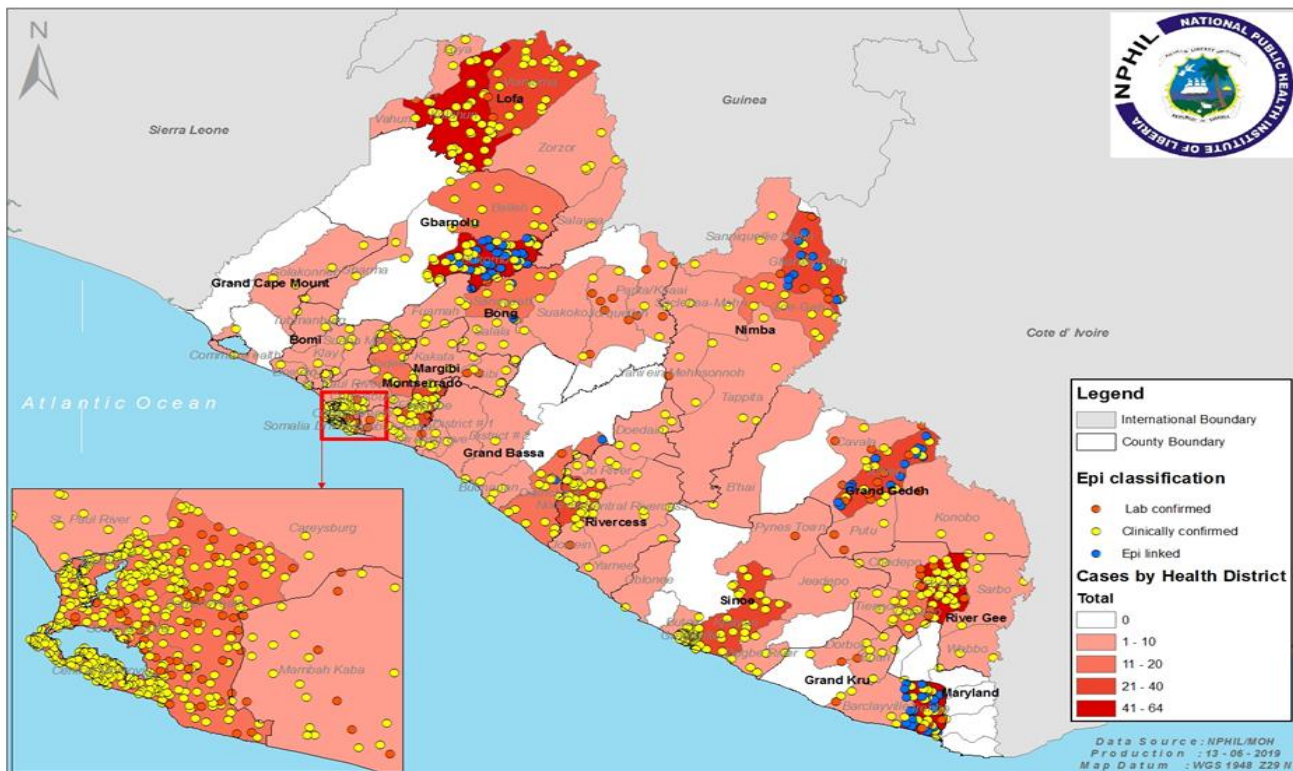
Public Health Action

- 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 - 23, 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	5	18	10.7
Bong	10	2	30	1	13	56	6.7
Gbarpolu	4	27	48	0	5	84	10.8
Grand Bassa	2	2	22	1	15	42	12.2
Grand Cape Mount	0	0	6	0	10	16	14.2
Grand Gedeh	16	14	18	0	14	62	20.1
Grand Kru	10	20	33	0	10	73	31.1
Lofa	3	0	75	0	12	90	7.8
Margibi	6	0	38	1	22	67	18.9
Maryland	0	0	0	0	1	1	1.3
Montserrado	10	4	80	1	63	158	9.8
Nimba	7	10	31	1	27	76	10.5
River Gee	6	0	59	0	24	91	64.6
Rivercess	1	0	46	0	30	77	75.5
Sinoe	4	0	87	1	7	99	12.3
Liberia	81	79	586	6	258	1010	12.6
Target Achieved	>=2		Below Target	<2			

Confirmed Measles Cases Reported by Health District, Liberia Epi-week 1 - 23, 2019



Acute Flaccid Paralysis (Suspected Polio)

- Zero cases reported this week
- Cumulatively, since Epi week one, 32 cases have been recorded, 24 tested negative, 8 specimens pending laboratory confirmation and (See Table 3)

Neonatal Tetanus

- Two (2) clinical diagnose cases were reported from Maryland County
- Cumulatively, since Epi-week one, 20 clinically diagnosed cases have been recorded of which six were dead

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- One alert (dead) was reported from Lofa County
- A 57 years male from Gboyea town, Zorzor district was admitted at Yeala clinic but expired.
- Cumulatively, since Epi-week one, 11 EVD alerts have been recorded with ten negative results

Lassa fever

- Three suspected cases were reported from Grand Bassa (2) and River Gee (1) Counties
 - Specimens were collected for all and pending testing
- Cumulatively, since Epi week one, 68 suspected cases have been recorded including fifteen deaths
- Epi-classification is as follows: 22 positive, 39 negative and 7 pending laboratory confirmation

Yellow fever

- Three (3) suspected cases were reported from River Gee (2) and Grand Kru (1) Counties
 - Specimens were collected; two tested negative
- Cumulatively, since Epi-week one, 50 suspected cases have been recorded. Of these, 47 have been tested negative, specimens were not collected for 3

Monkeypox

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

Meningitis

- Two (2) suspected cases were reported from Maryland and Nimba Counties
 - Specimens were collected; one tested negative and one pending confirmation from Nimba
- Cumulatively, since Epi-week one, 26 suspected cases have been recorded with one death, 22 tested negative, two specimens not collected due to lack of specimen collection kits and two pending laboratory confirmation

Events of Public Health Importance

Maternal Mortality

- Four (4) deaths were reported from Bong (1), Maryland (1), Rivercess (1), and Gbarpolu (1) Counties
- Reported causes: post-partum hemorrhage-4
- Three deaths were reported to have occurred in health facilities while one occurred in the community
- Cumulatively, since Epi-week one, 120 maternal deaths have been recorded (*See Table 4*)

Table 4. Annualized and Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 - 23 2019

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Maryland	7347	1	9	8	277
Grand Gedeh	6770	0	7	6	234
Bong	18775	1	19	16	229
Margibi	11345	0	10	8	199
Nimba	24970	0	20	17	181
Grand Bassa	11981	1	7	6	175
Sinoe	5534	1	3	3	150
Rivercess	3865	0	3	3	132
Montserrado	62479	0	30	25	123
Gbarpolu	4507	0	3	3	109
Bomi	4546	0	2	2	99
Grand Kru	3130	0	1	1	72
Grand Cape Mount	6868	0	2	2	66
River Gee	3610	0	1	1	63
Lofa	14911	0	3	3	45
Liberia (National)	190636-	4	120	100	142

Neonatal Mortality

- Fourteen (14) deaths were reported from Montserrado (4), Margibi (2), Maryland (2), River Gee (2), Bomi (1), Bong (1), Grand Gedeh (1), and Lofa (1) Counties
- Reported causes of deaths: asphyxia (11), sepsis (1), malaria (1) and prematurity (1)
- Thirteen deaths were reported to have occurred in health facilities while one occurred in the community
- Cumulatively, since Epi-week one, 310 neonatal deaths have been reported (*See Table 5*)

Table 5. Annualized and Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 - 23, 2019

County	Estimated Annual Live birth (4.3%)	Current Week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
Grand Kru	3130	0	21	7	15.2
Grand Gedeh	6770	1	25	8	8.3
Bong	18775	2	42	14	5.4
Margibi	11345	1	27	9	5.1
Rivercess	3865	0	8	3	4.7
Montserrado	62479	2	110	35	4.3
Maryland	7347	4	14	5	4.0
Sinoe	5534	2	9	3	3.8
Gbarpolu	4507	0	5	2	3.7
River Gee	3610	1	6	2	2.6
Lofa	14911	0	17	5	2.5
Nimba	24970	1	17	5	2.0
Bomi	4546	0	4	1	1.5
Grand Cape Mount	6868	0	2	1	0.7
Grand Bassa	11981	0	3	1	0.6
Liberia (National)	190636	14	310	100	3.7

Other Reportable Diseases

Animal Bites (Human Exposure to Rabies)

- Thirty-four (34) cases were reported from Montserrado (10), Nimba (6), Grand Bassa (3), Rivercess (3), Margibi (2), Bong (2), Grand kru (2), Lofa (2), Grand Gedeh (1), Grand Cape Mount (1), Maryland (1), and Sinoe (1) Counties
- Cumulatively, since Epi-week one, 855 cases of animal bites have been recorded including one death

Acute Bloody Diarrhea (Suspected Shigellosis)

- Five (5) suspected cases were reported from Montserrado (3), Grand Gedeh (1), Margibi (1) Counties
 - Four specimens were collected and all tested negative
- Cumulatively, since Epi-week one, 127 acute bloody diarrhea cases have been recorded with 74 stool specimens collected and tested. Result: 10 positive, 64 negative

Severe Watery Diarrhea (Cholera)

- Eight (8) cases were reported from River Gee (2), Sinoe (2), Grand Kru (2), Bong (1), Rivercess (1) Counties
 - Five specimens were collected and all tested negative
- Cumulatively, since Epi-week one, 66 suspected cases have been recorded with 49 specimens collected out of which; 46 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 4923 travelers were recorded for the week (See Table 6)

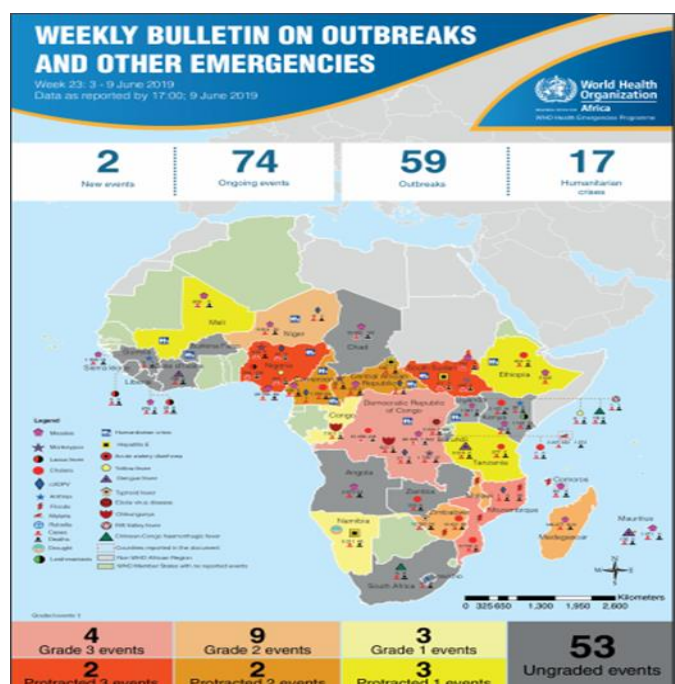
Table 6. Total Travelers, IDSR Alerts Detected and Verified at Points of Entry, Liberia, Epi-week 22, 2019

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	115	55	60	0	0	0	0	0
	Robert International Airport	3054	1139	1915	45	45	0	0	0
Seaport	Freeport of Monrovia	180	90	90	0	0	0	0	0
	Buchanan Port	110	55	55	0	0	0	0	0
Ground Crossing	Bo Water Side	636	270	366	16	16	0	0	0
	Ganta	401	175	226	0	29	0	0	0
	Yekepa	41	25	16	0	0	0	0	0
	Loguatu	97	47	50	12	12	0	0	0
	Nursing Division	289	243	46	289	100	189	0	0
Total Traveler for the Week		4923	2099	2824	362	173	189	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, 74 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- Malaria in Burundi
- Measles in Comoros island
- Ebola virus disease in Democratic Republic of the Congo
- Humanitarian crisis in Central African Republic



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

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



Liberia IDSR Epidemiology Bulletin

2019 Epi-week 22 (May 27- June 2, 2019)



- *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

Counties	No. of Expected Health District		No. of Health District Reported		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		Buruli Ulcer		MDR Tuberculosis		Yaws		Unexplained Cluster of deaths		Unexplained Cluster of Health Events/Disease		Other Diseases/Events						
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	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	0	0	0	0	0	0	0	0	0	0	0	0	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					
Bong	9	9	0	0	0	0	1	0	2	0	0	0	0	0	1	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	0	0			
Gbarpolu	5	5	0	0	0	0	0	0	0	0	0	0	0	0	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			
Grand Bassa	8	8	0	0	0	0	0	0	3	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	0	0	0	0	0	0	0			
Grand Cape Mount	5	5	0	0	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	0	0	0	0	0	0	0	0	0	0		
Grand Gedeh	6	6	0	0	1	0	0	0	1	0	0	0	0	0	2	0	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		
Grand Kru	5	5	0	0	0	0	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	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		
Lofa	6	6	0	0	0	0	0	0	2	0	0	0	0	0	7	0	0	0	0	1	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		
Margibi	4	4	0	0	1	0	0	0	2	0	0	0	0	0	1	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		
Maryland	6	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2	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	
Montserrado	7	7	0	0	3	0	0	0	10	0	0	0	0	0	2	0	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	0	
Nimba	6	6	0	0	0	0	0	0	6	0	0	0	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	0	0	0	0
Rivercess	6	6	0	0	0	0	1	0	3	0	0	0	0	0	3	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	0	0
River Gee	6	6	0	0	0	0	2	0	0	0	1	0	0	0	4	0	0	0	0	2	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
Sinoe	10	10	0	0	0	0	2	0	1	0	0	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	0	0	0	0	0	0
Total Weekly	93	93	0	0	5	0	8	0	34	0	3	0	3	0	28	0	2	0	4	14	2	0	0	1	3	0	0	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	127	0	66	0	855	0	53	15	1010	0	26	0	26	0	120	310	14	6	7	4	50	0	50	0	0	0	0	0	0	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	75	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

D = Dead
A = Alive

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