**TABLE A1** Spring-vents that were monitored for *Gammarus desperatus* in the Rio Hondo spring-system, Bitter Lake National Wildlife Refuge, New Mexico. Y = *G. desperatus* were detected in at least one of the three samples taken at the spring-vent; N = no *G. desperatus* were detected in any of the three samples.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Season | Spring-vent 1 | Spring-vent 2 | Spring-vent 3 | Spring-vent 4 | Spring-vent 5 | Spring-vent 6 | Spring-vent 7 | % with Noel’s amphipods |
| 2014 | Summer | Y | Y | Y | Y | Y | Y | N | 0.86 |
| 2015 | Winter | N | N | N | N | N | Y | N | 0.14 |
| 2015 | Summer | Y | Y | Y | Y | Y | Y | Y | 1.00 |
| 2016 | Winter | N | N | N | Y | Y | Y | N | 0.75 |
| 2016 | Summer | Y | Y | Y | Y | Y | Y | Y | 1.00 |
| 2017 | Winter | N | N | N | N | Y | Y | N | 0.29 |
| 2017 | Summer | Y | N | N | Y | N | Y | Y | 0.57 |
| 2018 | Winter | N | N | N | N | N | N | N | 0.00 |
| 2018 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Winter | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Summer | Y | Y | N | N | N | Y | Y | 0.57 |
| 2020 | Winter | Y | N | Y | Y | N | Y | Y | 0.57 |
| 2020 | Summer | Y | N | Y | Y | Y | Y | Y | 0.86 |
| 2021 | Winter | N | N | Y | N | Y | Y | N | 0.43 |
| 2021 | Summer | Y | Y | Y | Y | N | N | Y | 0.71% |

**TABLE A2** Spring-vents that were monitored for springsnails in the Rio Hondo spring-system, Bitter Lake National Wildlife Refuge, New Mexico. Y = springsnails were detected in at least one of the three samples taken at the spring-vent; N = no springsnails were detected in any of the three samples.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Season | Spring-vent 1 | Spring-vent 2 | Spring-vent 3 | Spring-vent 4 | Spring-vent 5 | Spring-vent 6 | Spring-vent 7 | % with Springsnails |
| 2014 | Summer | N | N | N | N | N | N | N | 0.00% |
| 2015 | Winter | N | N | N | N | N | N | N | 0.00% |
| 2015 | Summer | N | N | N | N | N | N | N | 0.00% |
| 2016 | Winter | N | N | N | N | N | N | N | 0.00% |
| 2016 | Summer | N | N | N | N | N | N | N | 0.00% |
| 2017 | Winter | N | N | N | N | N | N | N | 0.00% |
| 2017 | Summer | N | N | N | N | N | N | N | 0.00% |
| 2018 | Winter | N | N | N | Y | N | N | N | 0.14% |
| 2018 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Winter | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Summer | N | Y | Y | Y | Y | N | N | 0.57% |
| 2020 | Winter | N | Y | Y | Y | N | N | N | 0.43% |
| 2020 | Summer | Y | Y | Y | Y | Y | Y | Y | 1.00% |
| 2021 | Winter | Y | Y | Y | Y | Y | Y | N | 0.86% |
| 2021 | Summer | Y | Y | Y | Y | Y | N | N | 0.71 |

**TABLE A3** Midstream sites that were monitored for *G. desperatus* at Bitter Lake National Wildlife Refuge, New Mexico. Sample location Midstream 1 is the upstream most location and Midstream 6 is the downstream most location. Y = *G. desperatus* were detected in at least one of the three samples taken at the monitoring site; N = no *G. desperatus* were detected in any of the three samples.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Season | Midstream 1 | Midstream 3 | Midstream 4 | Midstream 5 | Midstream 6 | % with Noel’s amhipods |
| 2014 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2015 | Winter | N | N | N | N | N | 0% |
| 2015 | Summer | N | N | N | N | N | 0% |
| 2016 | Winter | N | N | N | N | N | 0% |
| 2016 | Summer | N | N | Y | N | N | 20% |
| 2017 | Winter | N | N | Y | N | N | 20% |
| 2017 | Summer | N | N | N | N | N | 0% |
| 2018 | Winter | N | N | N | N | N | 0% |
| 2018 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Winter | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Summer | N | N | N | N | N | 0% |
| 2020 | Winter | N | N | N | N | N | 0% |
| 2020 | Summer | N | N | N | N | N | 0% |
| 2021 | Winter | N | N | N | N | N | 0% |
| 2021 | Summer | N | N | N | N | N | 0% |

**TABLE A4** Midstream sites that were monitored for springsnails at Bitter Lake National Wildlife Refuge, New Mexico. Sample location Midstream 1 is the upstream most location and Midstream 6 is the downstream most location. Y = springsnails were detected in at least one of the three samples taken at the monitoring site; N = no springsnails were detected in any of the three samples.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Season | Midstream 1 | Midstream 3 | Midstream 4 | Midstream 5 | Midstream 6 | % with Springsnails |
| 2014 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2015 | Winter | N | N | N | N | N | 0% |
| 2015 | Summer | N | N | N | N | N | 0% |
| 2016 | Winter | N | N | N | N | N | 0% |
| 2016 | Summer | N | N | N | Y | N | 20% |
| 2017 | Winter | N | N | N | N | N | 0% |
| 2017 | Summer | N | N | N | N | N | 0% |
| 2018 | Winter | N | N | N | N | N | 0% |
| 2018 | Summer | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Winter | No Survey | No Survey | No Survey | No Survey | No Survey |  |
| 2019 | Summer | Y | N | N | N | N | 20% |
| 2020 | Winter | Y | N | N | N | N | 20% |
| 2020 | Summer | Y | N | N | N | N | 20% |
| 2021 | Winter | Y | Y | N | N | N | 40% |
| 2021 | Summer | Y | Y | Y | Y | N | 80% |