

2013 Aquatic Invasive Species Monitoring Results



Sampling and monitoring is an important component of Wyoming's Aquatic Invasive Species (AIS) program with a focus on early detection of AIS to allow for rapid response plans to be implemented. Regular early-detection monitoring is conducted statewide throughout the year and continues to be more extensive each year since the program started in 2010. Post-detection sampling and monitoring provides insight into population persistence and impacts on the ecosystem, infrastructure, and human use of those waters.

In 2013, plankton tows were used to sample for the larval form of invasive mussels (zebra and quagga). Plankton tow monitoring was conducted on 65 waters in 2013. No larval invasive mussels were detected in any of the samples. Artificial substrates were deployed at 15 waters to capture the juvenile or adult form of invasive mussels (Figure 1). In addition, surveys were conducted on existing substrates such as boat docks and submerged trees at additional waters. No adult or juvenile mussels were detected during substrate monitoring. Shoreline and stream surveys were conducted to sample plants and animals (snails, clams, and crayfish). Shoreline surveys were conducted at 127 locations on 65 streams, rivers, and lakes (Figure 2). No invasive mussels were detected (Table 1).

Monitoring of existing populations of invasive species in Wyoming is conducted annually to track known populations of invasive species:

Asian Clam (*Corbicula fluminea*): Asian Clams were initially detected in the Laramie River in 2011 at Tunnel Road, Monolith, and Jelm access points. In 2013, surveys found the highest concentration of Asian clams at Monolith, as far away from the access as 0.5 miles upstream. Asian clam shells were found near Optimist Park access point, however no live clams were found and the shells were sparsely distributed. Asian clams were also observed at the Tunnel Road Bridge. A new occurrence was detected in the North Platte River, downstream from Guernsey Reservoir (Figure 3).

Brook Stickleback (*Culaea inconstans*): Regulation changes in 2012 classify the brook stickleback as an aquatic invasive species; their current distribution in Wyoming is shown below (Figure 4). No additional monitoring was conducted in 2013.

Curly Pondweed (*Potamogeton crispus*): Curly Pondweed was first found in Wyoming in 2011 in Lake DeSmet. In 2012 it was found in the North Platte River at the Miracle Mile, and New Fork Lake. During 2013 sampling, curly pondweed was also found in Keyhole Reservoir and Boysen Reservoir (Figure 5).

New Zealand Mudsail (*Potamopyrgus antipodarum*): Existing populations of New Zealand mudsnails have been monitored since 2012 on the Big Horn River, Snake River, and Polecat Creek. In 2013, mudsnails were confirmed in Polecat Creek (tributary to Snake River), and the Snake River at Flagg Ranch (Figure 6). At Polecat Creek the abundance of mudsnails was estimated at 64 individuals per square foot.

Rusty Crayfish (*Orconectes rusticus*): In 2012, Rusty crayfish were detected again in Wagonhound Creek, a tributary to the North Platte River, several years following an eradication attempt (Figure 7).

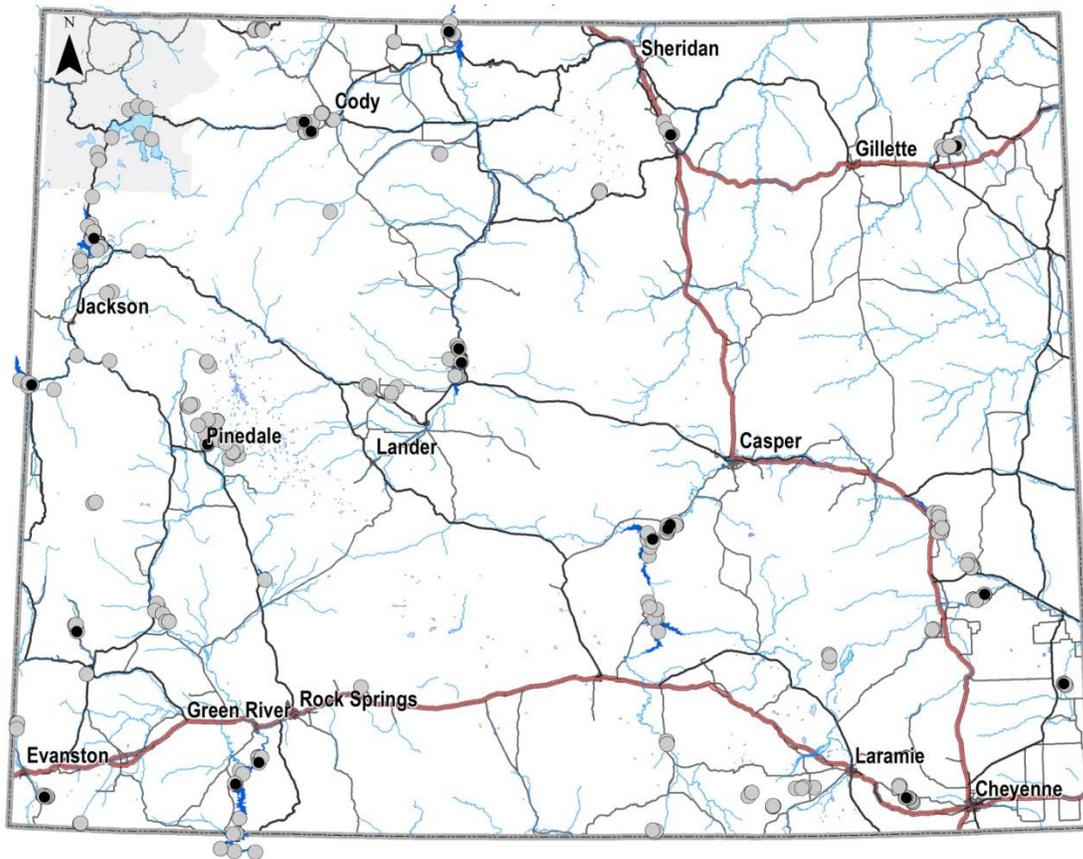


Figure 1. Location of plankton tows (grey) and artificial substrates (black) during 2013 sampling.

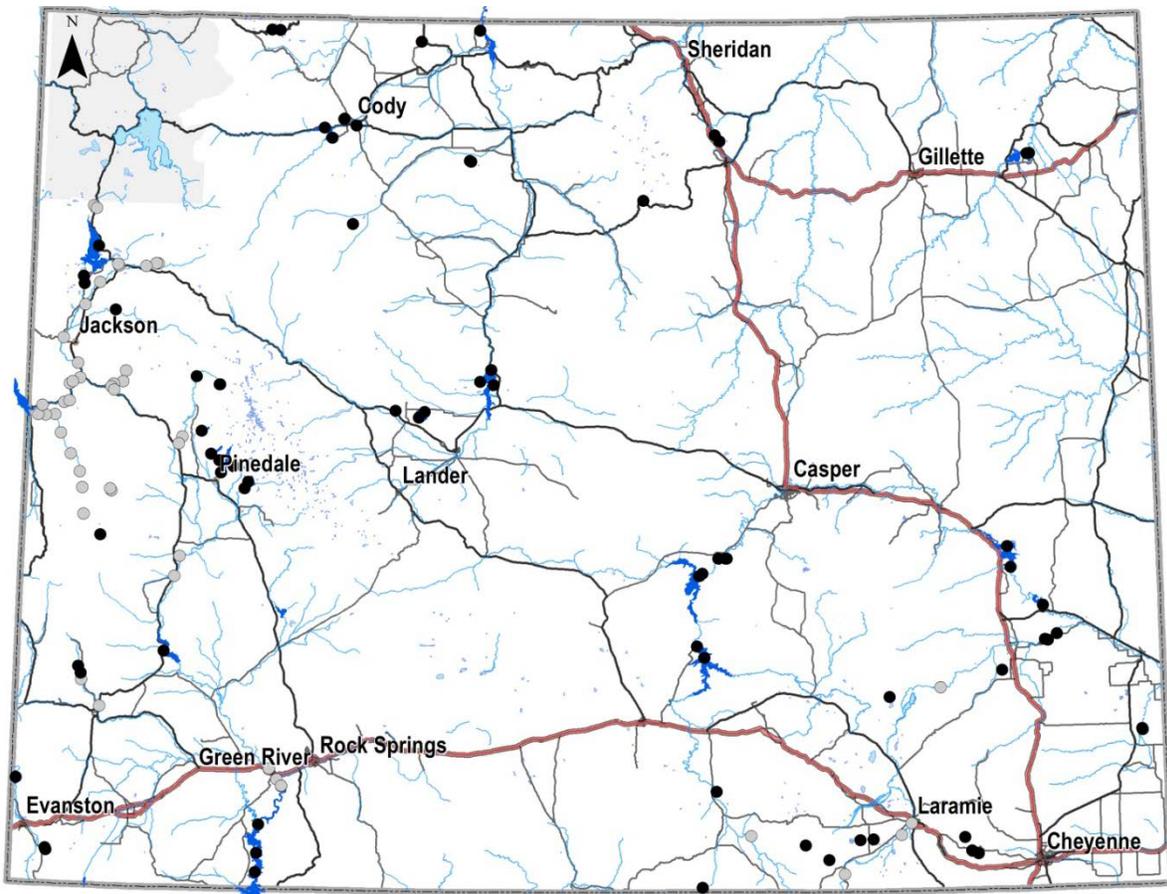


Figure 2. Location of stream (grey) and shoreline (black) surveys during 2013 sampling.

Table 1. Results from sampling conducted during 2013.

Water	Plankton Tow	Substrate	Shoreline/Stream Survey
Alcova Reservoir	Negative	Negative	Negative
Beartooth Lake	Negative	Not tested	Negative
Beck Lake	Negative	Not tested	Negative
Big Horn Lake	Negative	Not tested	Negative
Big Horn River	Not tested	Not tested	Not tested
Big Sandy Reservoir	Negative	Not tested	Not tested
Boulder Lake	Negative	Not tested	Negative
Boysen Reservoir	Negative	Negative	Curly Pondweed
Buffalo Bill Reservoir	Negative	Negative	Negative
Buffalo Fork River	Negative	Not tested	Negative
Burnt Lake	Negative	Not tested	Negative
Crystal Reservoir	Negative	Not tested	Negative
Deaver Reservoir	Negative	Not tested	Negative
Dollar Lake	Not tested	Not tested	Negative
East Newton Lake	Negative	Not tested	Negative
Flaming Gorge Reservoir	Negative	Negative	Negative
Fontenelle Reservoir	Negative	Not tested	Negative
Fremont Lake	Negative	Negative	Negative
Gelatt Lake	Negative	Not tested	Negative
Glendo Reservoir	Negative	Not tested	Negative
Granite Creek	Negative	Not tested	Negative
Granite Reservoir	Negative	Negative	Negative
Grayrocks Reservoir	Negative	Negative	Negative
Green River	Not tested	Not tested	Negative
Green River Lake	Negative	Not tested	Negative
Greys River	Negative	Not tested	Negative
Guernsey Reservoir	Negative	Not tested	Negative
Halfmoon Lake	Negative	Not tested	Negative
Hams Fork River	Not tested	Not tested	Negative
Harrington Reservoir	Negative	Not tested	Negative
Hawk Springs Reservoir	Negative	Negative	Not tested
Hoback River	Negative	Not tested	Negative
Hog Park Reservoir	Negative	Not tested	Negative
Island Lake	Negative	Not tested	Negative
Jackson Lake	Negative	Negative	Negative
Jenny Lake	Negative	Not tested	Negative
Jim Bridger Pond	Negative	Not tested	Not tested
Keyhole Reservoir	Negative	Negative	Curly Pondweed
Lake DeSmet	Negative	Negative	Curly pondweed
Lake Hattie	Negative	Not tested	Not tested
Lake Owen	Negative	Not tested	Negative
Laramie River	Not tested	Not tested	Asian clam
Lewis Lake	Negative	Not tested	Not tested
Lower New Fork Lake	Negative	Not tested	Curly Pondweed
Lower Slide Lake	Negative	Not tested	Negative
Meadowlark Lake	Negative	Not tested	Negative
Meeks Cabin Reservoir	Negative	Not tested	Not tested
Middle Piney Lake	Negative	Not tested	Negative
Naughton Plant Pond	Negative	Not tested	Not tested
North Cottonwood Creek	Not tested	Not tested	Negative
North Platte River	Not tested	Not tested	Asian clam
Ocean Lake	Negative	Not tested	Negative
Palisades Reservoir	Negative	Negative	Not tested
Pathfinder Reservoir	Negative	Negative	Negative

Pilot Butte Reservoir	Negative	Not tested	Negative
Polecat Creek	Not tested	Not tested	New Zealand Mudsail
Rob Roy Reservoir	Negative	Not tested	Negative
Saratoga Lake	Negative	Not tested	Negative
Seminole Reservoir	Negative	Not tested	Negative
Snake River	Negative	Not tested	New Zealand Mudsail
Soda Lake	Negative	Not tested	Negative
String lake	Negative	Not tested	Negative
Sulphur Creek Reservoir	Negative	Negative	Negative
Upper North Crow Reservoir	Negative	Not tested	Negative
Upper Sunshine Reservoir	Negative	Not tested	Negative
Viva Naughton Reservoir	Negative	Negative	Negative
Wagonhound Creek	Not tested	Not tested	Rusty Crayfish
Wardell Reservoir	Negative	Not tested	Negative
West Newton Lake	Negative	Not tested	Negative
Wheatland Reservoir #1	Negative	Not tested	Negative
Wheatland Reservoir #3	Negative	Not tested	Negative
Willow Lake	Negative	Not tested	Negative
Woodruff Narrows Reservoir	Negative	Not tested	Negative
Yellowstone Lake	Negative	Not tested	Not tested

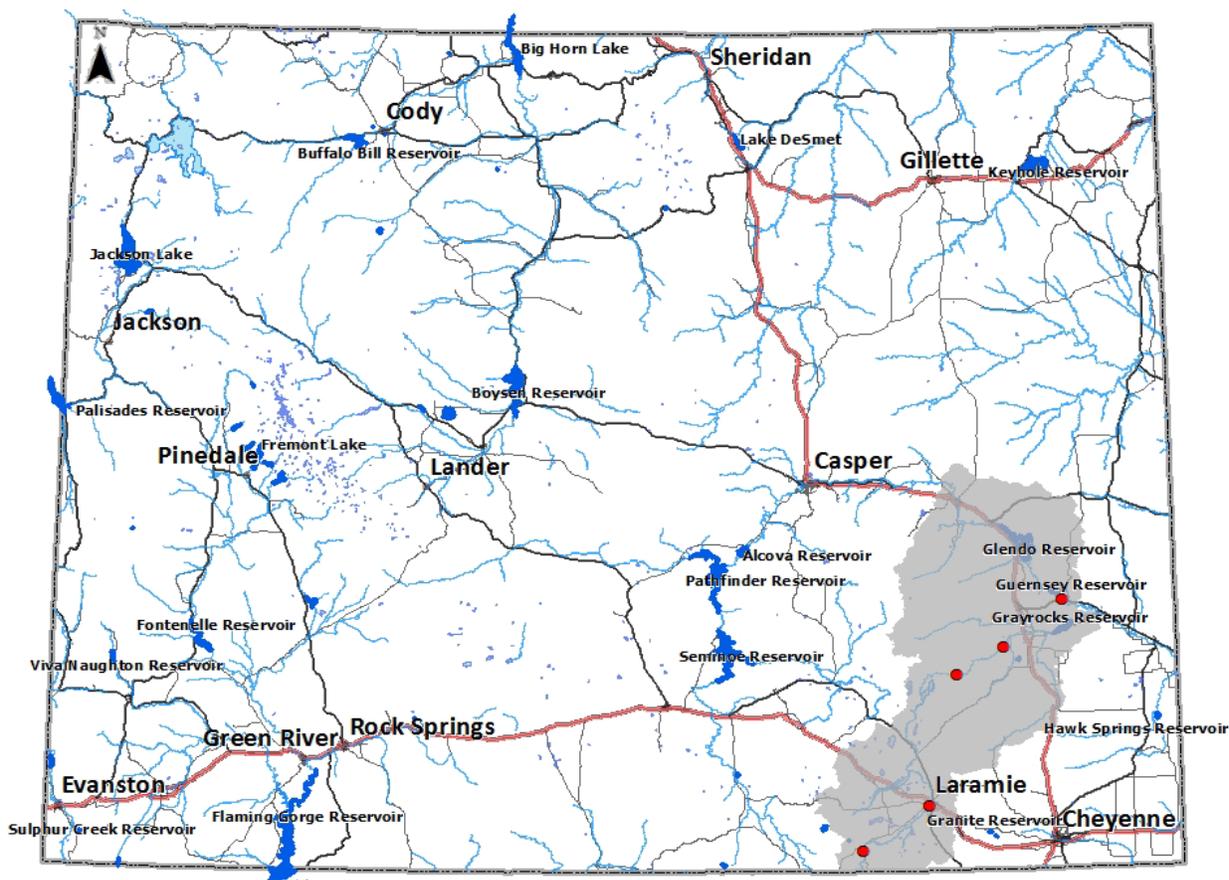


Figure 3. Distribution of Asian clam in Wyoming. Red dots indicate site occurrences and grey shading represents watershed in which infestation occurs.

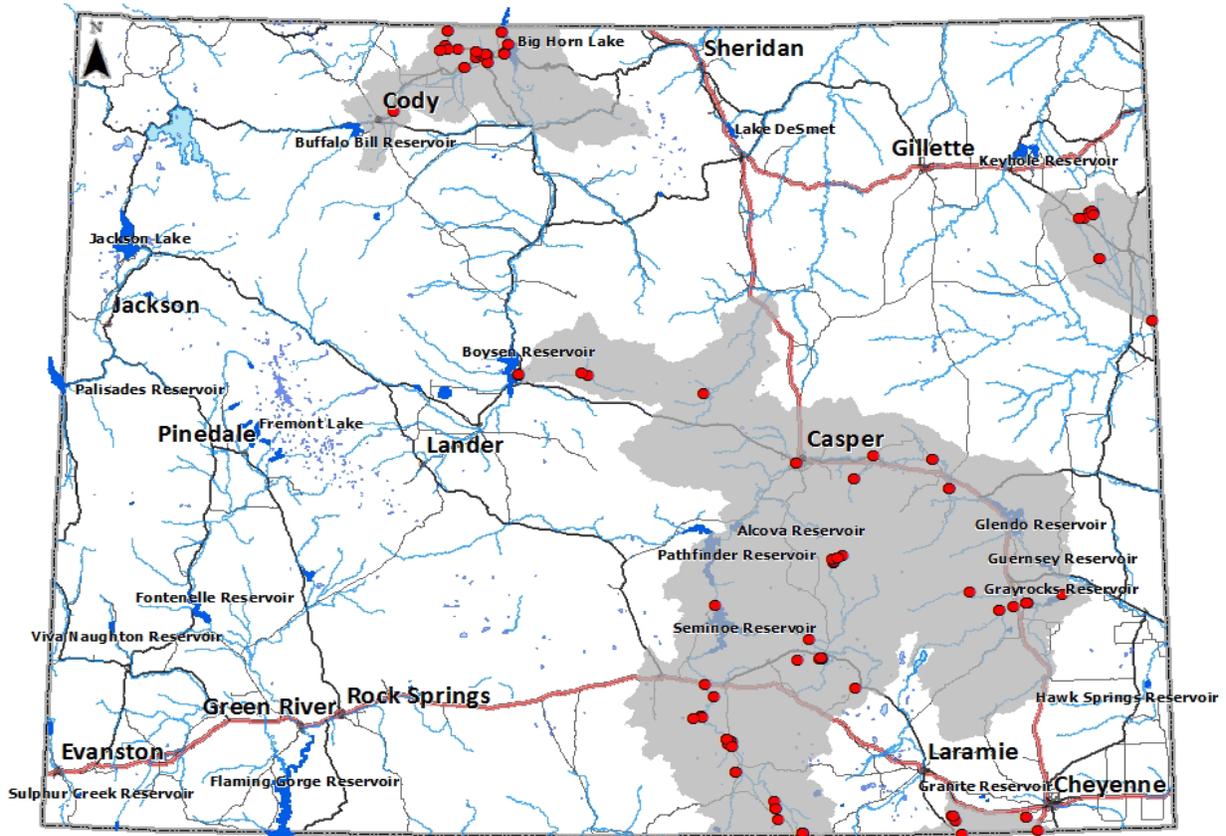


Figure 4. Distribution of brook stickleback in Wyoming. Red dots indicate site occurrences and grey shading represents watershed in which infestation occurs.

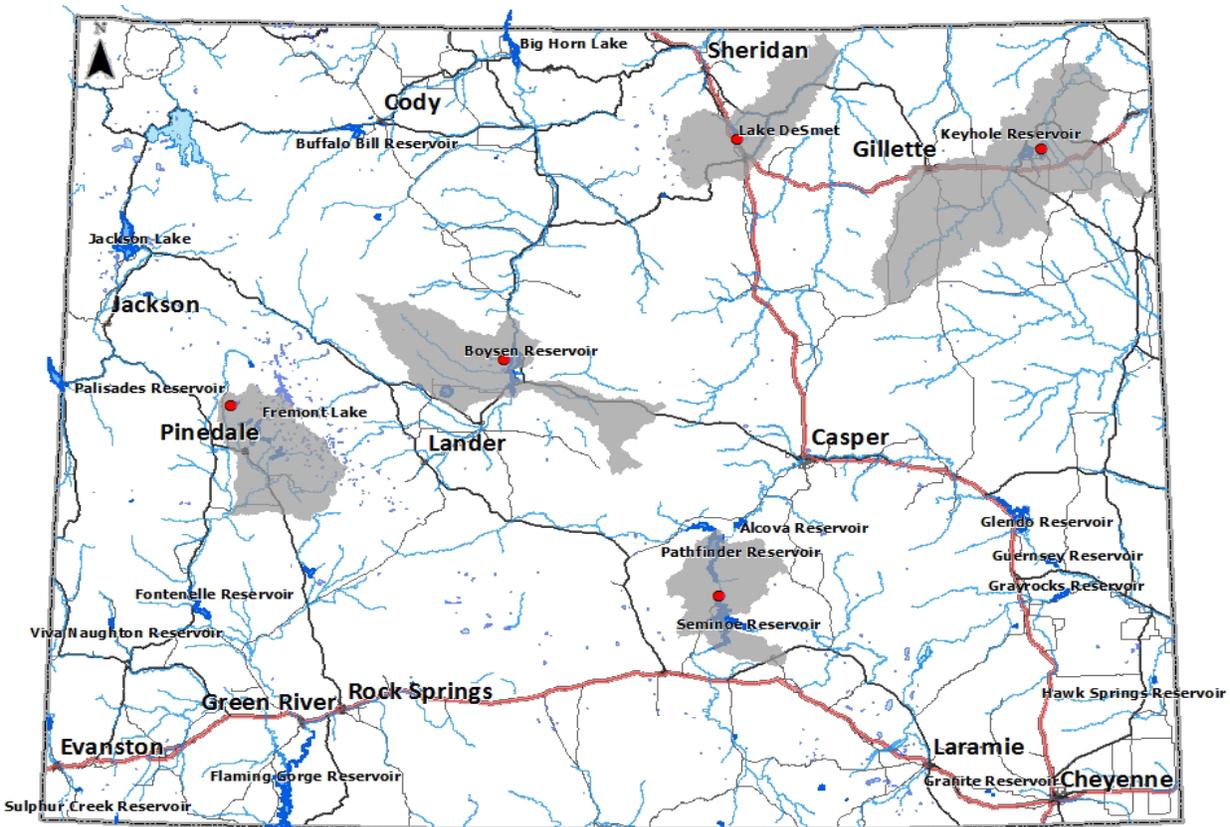


Figure 5. Distribution of curly pondweed in Wyoming. Red dots indicate site occurrences and grey shading represents watershed in which infestation occurs.

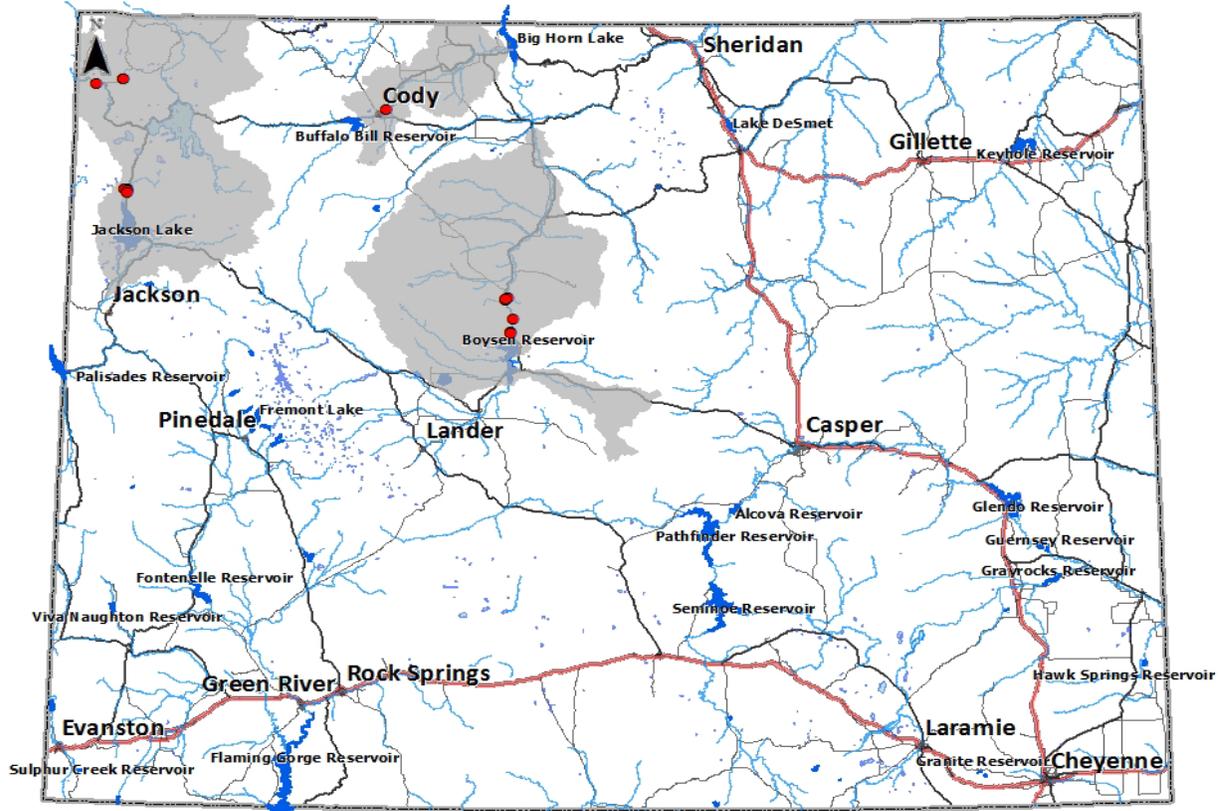


Figure 6. Distribution of New Zealand mudsnail in Wyoming. Red dots indicate site occurrences and grey shading represents watersheds in which infestation occurs.

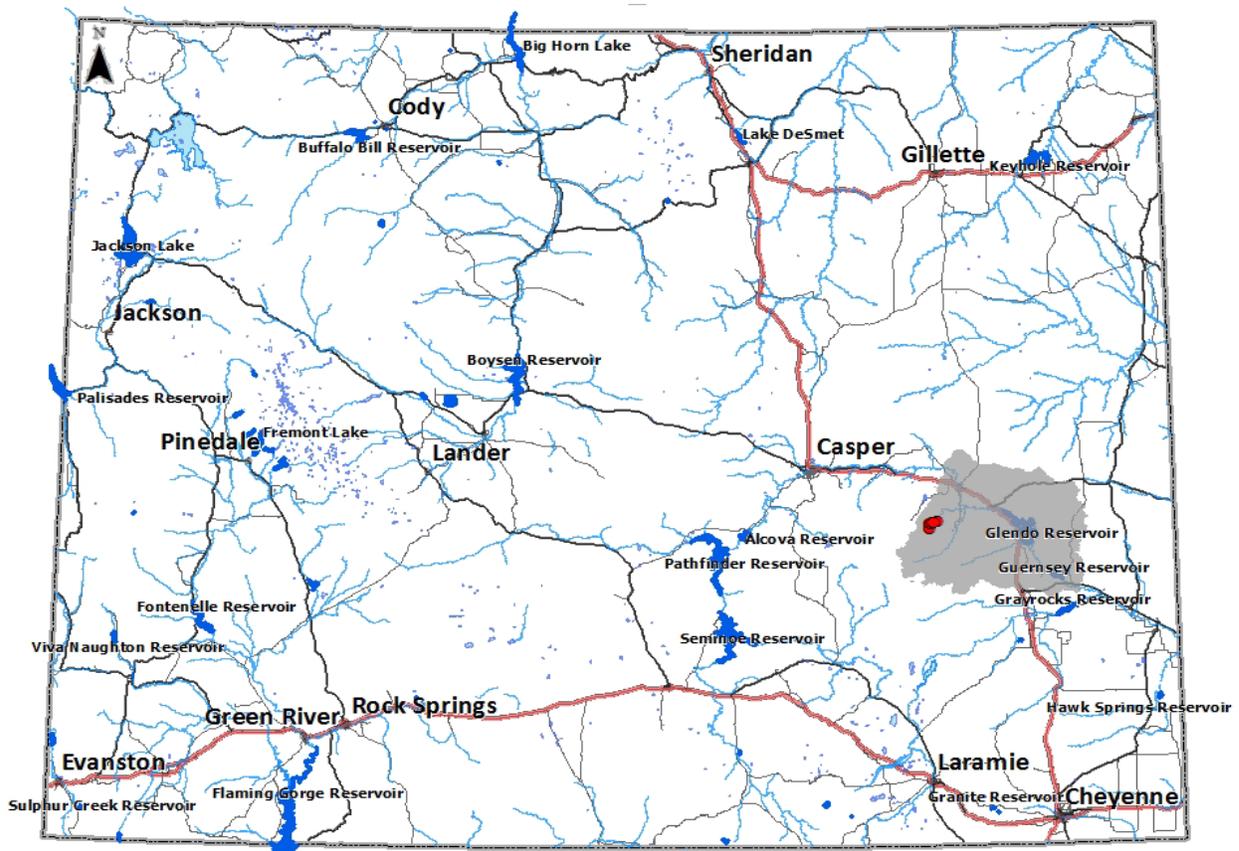


Figure 7. Distribution of rusty crayfish in Wyoming. Red dots indicate site occurrences and grey shading represents watersheds in which infestation occurs.