

# Asian Clams

**What are they:** A small, invasive freshwater bivalve (*Corbicula fluminea*) native to regions of Southeast Asia, Australia and Africa. Sometimes called Asiatic clam, pygmy clam, or gold clam. Asian clams are simultaneous hermaphrodites, which means they have both male and female reproductive parts and one clam can self-fertilize.

Asian clams are NOT the invasive Zebra or Quagga mussels. Asian clams can be mistaken for Montana's native pea clams or fingernail clams that are commonly found in Lake Elmo.

The shell of the Asian clam is thick, triangular in shape, and has deep distinctive growth rings. They are typically small, averaging less than 2.5 cm (1 in) and rarely exceeding 6.5 cm (2.5 in).



**Discovery in Lake Elmo:** Summer 2019 was first discovery in Montana in Lake Elmo (Billings).

- June 18: During a training event FWP monitoring staff found several dead Asian clam shells near the Lake Elmo State Park boat ramp.
- July 15: FWP staff returned to Lake Elmo and conducted an organized grid search of Lake Elmo. Live juvenile Asian Clams were found in 2 locations and dead shells of all age sizes in several locations.

**How Asian clams got to Lake Elmo:** Likely introduced by people transporting mud or water on boats and gear. The microscopic larvae can go unseen in bait buckets and livewells. FWP reminds boaters and anglers to clean, drain and dry boats and gear every time they leave the water to help prevent the spread of ALL aquatic invasive species. They are also still sold commercially as bait throughout the United States, and in the aquarium trade as pygmy or golden clams. It is illegal to transport bait from out of state.

**Why drawdown Lake Elmo?** Due to the high number and variance of size in dead clam shells found, it appears that there was a recent event in Lake Elmo that killed most of the adult clams. This could have been the harsh winter of 2018-2019. In 2019, very few (5) live clams were found. Only juvenile clams were found alive. This may indicate that the population of Asian clams is just starting to bounce back from a kill event. This is the best time to try to draw down the lake level to kill what clams are remaining while their densities are low. Drawing down and draining the lake will likely expose the clams to freezing temperatures and dry conditions which could kill the remaining clams in the lake. This method isn't guaranteed to kill all the clams but is the best opportunity to control them and reduce their spread.

**Impacts of Asian clams:** Unlike invasive mussels, they do not attach themselves to pipes or other structures. But in large enough numbers, they can clog screens on irrigation pumps or the internal workings of power plants and other water intakes. They are efficient filter feeders, consuming microscopic plants and animals that form the base of the food chain and competing with native clams, juvenile fish, and other native aquatic organisms for food. Since they are capable of tolerating polluted environments better

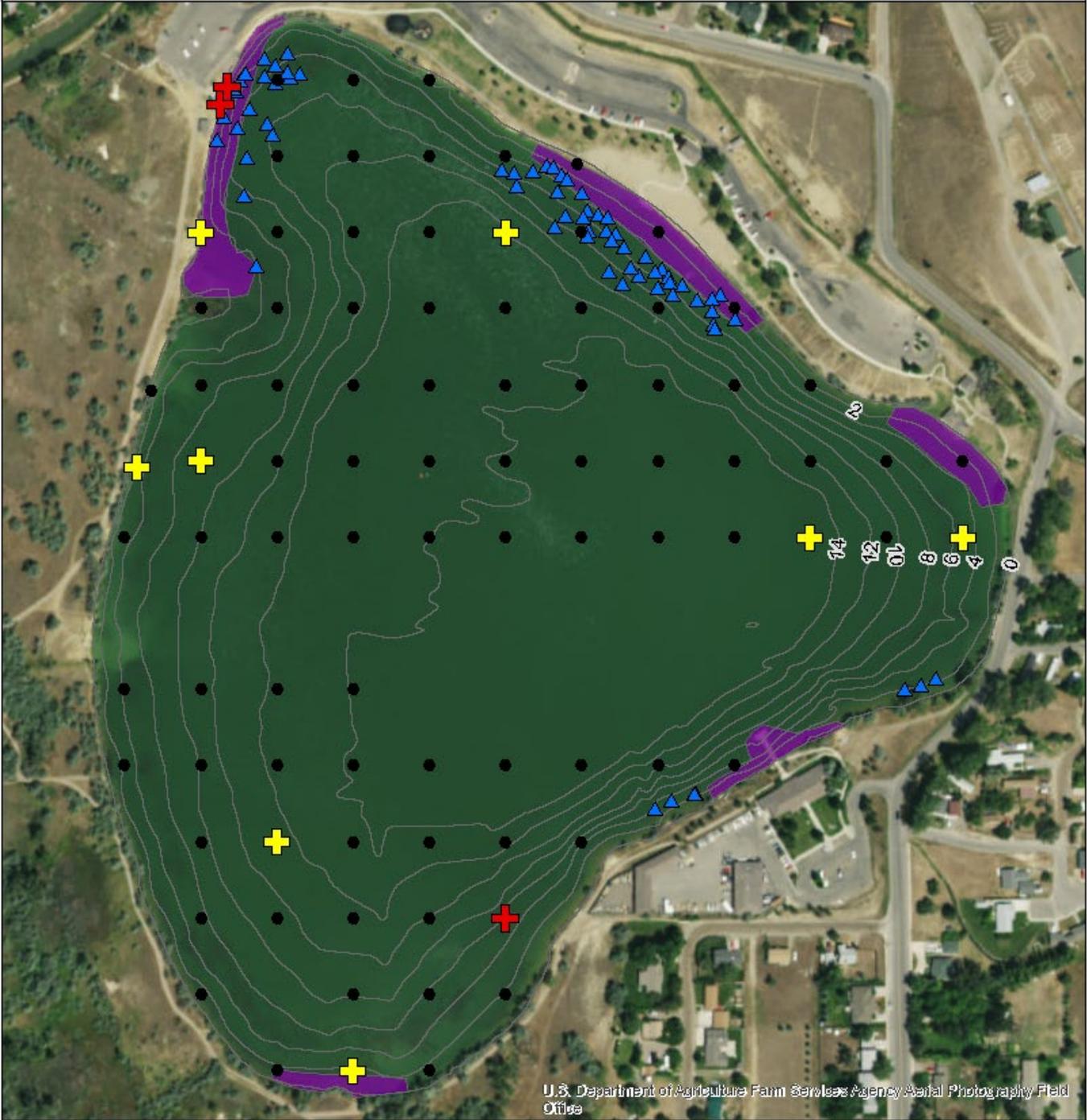
**Distribution in US:** Found in 46 states including South Dakota, Wyoming and Idaho. It's believed that Asian clams were first introduced to the west coast of the United States in 1924 to be harvested as a food source. By the 1970s, it occupied most of the Mississippi River Basin, the Gulf Coast, and the eastern United States.



# Lake Elmo Asian Clam Delineation Effort

MONTANA FWP

July 15th-17th, 2019



U.S. Department of Agriculture Farm Services Agency Aerial Photography Field Office

-  Alive clam search
-  No shells or live clams found
-  Shells or fragments found
-  Live juvenile clams found
-  Snorkel survey areas where clam evidence found



Map Produced by: AIS Bureau  
Author: CRM  
LakeElmoACDC2019Results.mxd



Credits: Created - Craig McLane, 7/31/2019.  
Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT.

