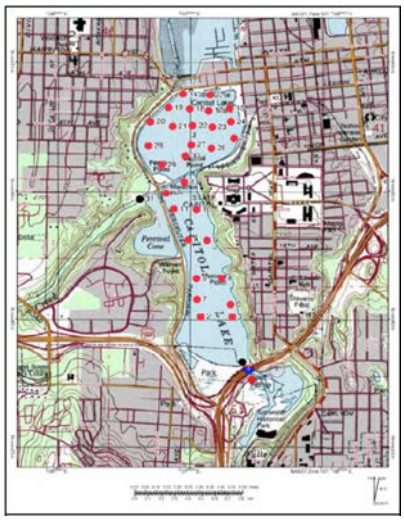
Capitol Lake New Zealand Mudsnail Management Options

The management of aquatic invasive species falls under the Washington Department of Fish and Wildlife's (WDFW) statewide mission to "preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities." New Zealand Mudsnail classification, risk, management options and actions, and current known distribution in the state is available in WDFW's "2015 New Zealand Mudsnail (NZMS) Statewide Action Summary."

NZMS are classified as prohibited under RCW 77.135.010(13) and pose an invasive risk of harming or threatening the state's environmental, economic, or human resources. NZMS are easily spread, reproduce to high densities quickly, and feed on the primary food web of algae and detritus important to native aquatic insects. Reductions in native aquatic insects in turn threaten the enormous environmental and economic investment spent on salmon recovery efforts as native insects are critical as feed to juvenile salmonids. NZMS are not an alternative food source as they have very low nutritional value and most pass through a fish's digestive track unharmed. In addition, NZMS are relatively recent invaders to the United States and their potential invasive harm continues to evolve with each new location in which they become established, developing relationships with other invasive species, and the effects of climate change.

Specific to Capitol Lake, WDFW has worked closely with the Department of Enterprise Services (DES) as the lake manager and with a stakeholder group on development and implementation of management approaches – which currently includes prevention, containment, control, and monitoring. The consensus of the group has been to keep the lake closed to public access until an effective management plan is developed, funded and implemented. Closure of the lake has been a feasible and effective action at this location and has prevented the spread of NZMS since 2009 within a 5 mile radius. Key group discussion points included:



Known distribution of NZMS in Capitol Lake as of 2013.

- <u>Lake/Estuary Effect on NZMS</u> - The scientific literature is clear that NZMS can survive in an estuary environment and are likely to have similar food web impacts. Therefore, the decision of lake, estuary, or hybrid does not affect the need to continue NZMS management actions.

- <u>Eradication</u> - WDFW has consistently supported an eradication attempt of the NZMS as part of any final lake/estuary implementation. This would require a significant and multi-pronged effort that would likely include physical removal of bed and bank materials beyond what might be considered for lake/estuary dredging, chemical (e.g. molluscicide) application, and appropriate disposal of dredge spoils. This is most costly and politically challenging option (use of chemicals/likelihood of attaining eradication), with no clear budget estimate based on multiple factors.

Examples how easily NZMS can be spread by people

- <u>Prevention/Containment</u> - If eradication is not feasible or supported as an option, at a minimum WDFW would require prohibited species prevention and containment management actions potentially including but not limited to: preventing the spread of NZMS in transported dredge spoils; and continuing the closure of the basin to public access, or limiting public access locations and installing decontamination stations.