



TACKLING

# American bullfrogs

(*Lithobates catesbeianus*)

Invasive species have significant impacts on the environment, human health, infrastructure and the economy in the Metro Vancouver region.

American bullfrogs are large, robust frogs native to eastern North America that have become well established on BC's south coast. First introduced as a delicacy for human consumption, they have since escaped or been released into natural areas in the Metro Vancouver region. Bullfrogs reproduce rapidly and thrive in human-disturbed habitats, allowing these invasive amphibians to establish and spread quickly. They are voracious predators that eat a variety of prey, including smaller bullfrogs and other frog species.

## IMPACTS

Bullfrog adults and tadpoles outcompete native frogs for habitat and food. They are responsible for the decline of other amphibians, including some that are endangered. Bullfrogs also spread deadly viruses and funguses to other amphibians, and damage wetland habitats and water supply infrastructure.

## IDENTIFICATION

- **Lifecycle:** Like all frogs, bullfrogs go through distinct life stages from egg to tadpole to adult
- **Egg Masses:** Large, jelly-like clusters of up to 20,000 eggs that float on the surface of ponds
- **Tadpoles:** Up to 15 centimetres long, dark green to black, with an arrowhead-shaped body
- **Adults:** Up to 20 centimetres long (the largest of our local frogs and toads); green to brown on the back and sides, with a white belly; distinct circular tympanum ("ear") located behind the eye that is surrounded by a fold of skin



American bullfrog egg mass

CREDIT: KENDRA MORGAN



American bullfrog tadpole

CREDIT: ALEESHA SWITZER



Adult American bullfrog with large circular tympanum behind the eye

CREDIT: ALEESHA SWITZER

## PREVENTION AND CONTROL

To prevent further spread across the region and beyond, it is best not to purchase, collect, breed or release American bullfrog adults or tadpoles. Effective invasive species management typically involves a variety of control methods. In areas appropriate for control, and upon identification confirmation by an expert, the following table summarizes the recommended techniques for controlling American bullfrogs on private property or where permission has been granted by the land owner or manager. Other methods may be used by professionals. **Work at wetland sites may require permits from provincial or federal authorities and consultation with a qualified environmental professional.**

CONTROL STRATEGY	TECHNIQUES		NOTES
Manual	<b>Remove egg masses</b>	<b>Eggs</b> (monitor from late-May to early September)	<ul style="list-style-type: none"> <li>Easiest life stage to control</li> <li>Monitor pond every 2-3 days</li> <li>Do not remove egg masses in early spring, as these belong to native frog or salamander species</li> </ul>
	<b>Dip nets*</b>	<b>Tadpoles, juveniles, adults</b>	<ul style="list-style-type: none"> <li>Scoop bullfrogs near the water's surface</li> <li>Use a good quality net</li> </ul>
	<b>Hand capture*</b>	<b>Juveniles, adults during breeding season</b> (mid-May to August)	<ul style="list-style-type: none"> <li>Locate bullfrogs by shining flashlight on water's surface, as eyes are reflective</li> <li>Stun bullfrogs by holding flashlight beam in its eyes, then slowly approach and capture by hand, net or bucket</li> <li>Track bullfrogs by listening for their sounds</li> </ul>
Cultural	<b>Habitat manipulation</b>	<b>All life stages</b>	<ul style="list-style-type: none"> <li>Enhances habitat for native species</li> <li>Long-term commitment</li> </ul>

\*These are non-lethal methods of capture that require humane euthanasia afterwards. These methods also have a risk of by-catch, the incidental capture of a non-target animal such as another frog species.

The elimination of American bullfrogs from sites in Metro Vancouver is likely impossible. Instead, efforts should be focused on preventing their spread and improving habitat for native species.

## How Can You Help?

- Avoid collecting and transferring frogs of any kind (adults, tadpoles and egg masses).
- If you have a backyard pond, create habitat that is appealing for native species and don't stock it with purchased aquarium frog species.
- If you also have invasive plants, check out the factsheets for those species. Visit [growgreenguide.ca](http://growgreenguide.ca) for non-invasive plant suggestions.
- Download the '[Report Invasives BC](#)' app to identify and report invasive species.

For the complete set of best management practices for American bullfrog, and other key invasive species, visit [MetroVancouver.org](http://MetroVancouver.org) and search 'Invasive Species'.



An adult bullfrog eating a juvenile bullfrog

CREDIT: ALEESHA SWITZER