



Invasive Species  
Council of BC

HOW TO TAKE ACTION

# Create an Ecosphere



## WHAT IS AN ECOSPHERE?

An ecosphere is a self-sustaining mini ecosystem that is usually created in a jar and contains natural pond water and organic vegetation.

Ecospheres give us the opportunity to observe the tiny, yet amazing invertebrate organisms that live in something as simple as a pool of creek water that could otherwise go unnoticed. It also provides the opportunity to show others why even the smallest natural habitats deserve to be preserved and protected.

All you need for a successful ecosphere are a few household items and a little bit of sunlight. Then sit back and watch nature take over! If functioning correctly, the environment within the jar can sustain itself.

Ecological processes, like the breakdown of organic matter, creates nutrients needed for bacteria, algae and other small organisms to grow and reproduce naturally. Ecospheres can sustain themselves anywhere from six months to several years! However, it is encouraged to only keep them for short periods and release them to the same pond they were collected in after a few weeks.

Please note that only small and adaptable creatures can survive and participate in the ecological cycle of a closed ecosphere. Even though having small fish or other larger organisms would be cool to see in an ecosphere, unfortunately their eco-load is too high and the

ecosystem processes needed to sustain them would be insufficient. In addition, capturing large vertebrate animals, such as fish, is illegal under the Wildlife Act.

## SUPPLIES

- » Clear glass jar with a sealable lid (a half litre or litre jar works great!)
- » Water, soil and vegetation from a natural pond
- » Bucket and shovel
- » Gloves are recommended

## STEPS

1. Select a clear glass container. Choose one with as little visual distortion as possible.
2. Visit a local creek, stream or pond with vegetation.
3. In the following order, add gravel, sand/sediment and organic matter.
4. For your own and the pond's safety, be careful when near a pond. It is easy to slip on algae covered rocks, so watch your footing when collecting your specimens. Also, try to limit your collection site to one location, to minimize the disturbance to the ecosystem.
5. Do not shake the ecosphere and be as gentle as you can while transporting it home. Not only could shaking the ecosphere harm the creatures inside, but the water visibility will take hours to clear.
6. Select a well-lit spot. Once you get home, place your ecosphere in a quiet spot that is well lit but not in direct sunlight.

## OTHER THINGS TO CONSIDER

Please only collect specimens in approved areas. It is illegal to remove anything from Provincial Parks and Protected Areas.

Only handle plants that you can identify. If you are unsure what the plant is, use iNaturalist and identify before handling it. You can join the iNaturalist project "I Spy and Identify" to help protect BC's, as well as Canada's, biodiversity. This national project is in partnership with the Canadian Council on Invasive Species.

When venturing into new areas, it is important that we always PlayCleanGo so we aren't unintentionally spreading invasive species. Follow these five steps to ensure you are leaving ecosystems just as you found them:

- » Remove plants, insects and mud from your boots, gear and pets.
- » Check your tires on bikes and ATVs.
- » Clean your gear before entering and leaving a recreation site.
- » Stay on designated trails.
- » Learn to identify common invasive species and report them.

Learn more about PlayCleanGo at [bcinvasives.ca/playcleango](http://bcinvasives.ca/playcleango).



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