



Spread pathways of *Dreissena polymorpha* in the Lithuanian waters

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Introduction:

- *Dreissena polymorpha* has extended its original distribution range from the **Pontocaspian region to Western Europe** since the beginning of the 19th. It is now introduced to north-west Russia, central and western Europe, southern Scandinavia, Britain, Ireland and North-America.
- It was found in Curonian lagoon in 1810.
- Zebra mussel was introduced in 37 Lithuanian lakes during 1959-1995.



The aim:

- Is to reconstruct the potential waterways of *Dreissena polymorpha* expansion in the Lithuanian water bodies.



The tasks:

- To determine the risk of zebra mussel in rivers and lakes by combining available environmental data and analyzing of these data using GRASS, Qgis and other programs.

Study area - Lithuania



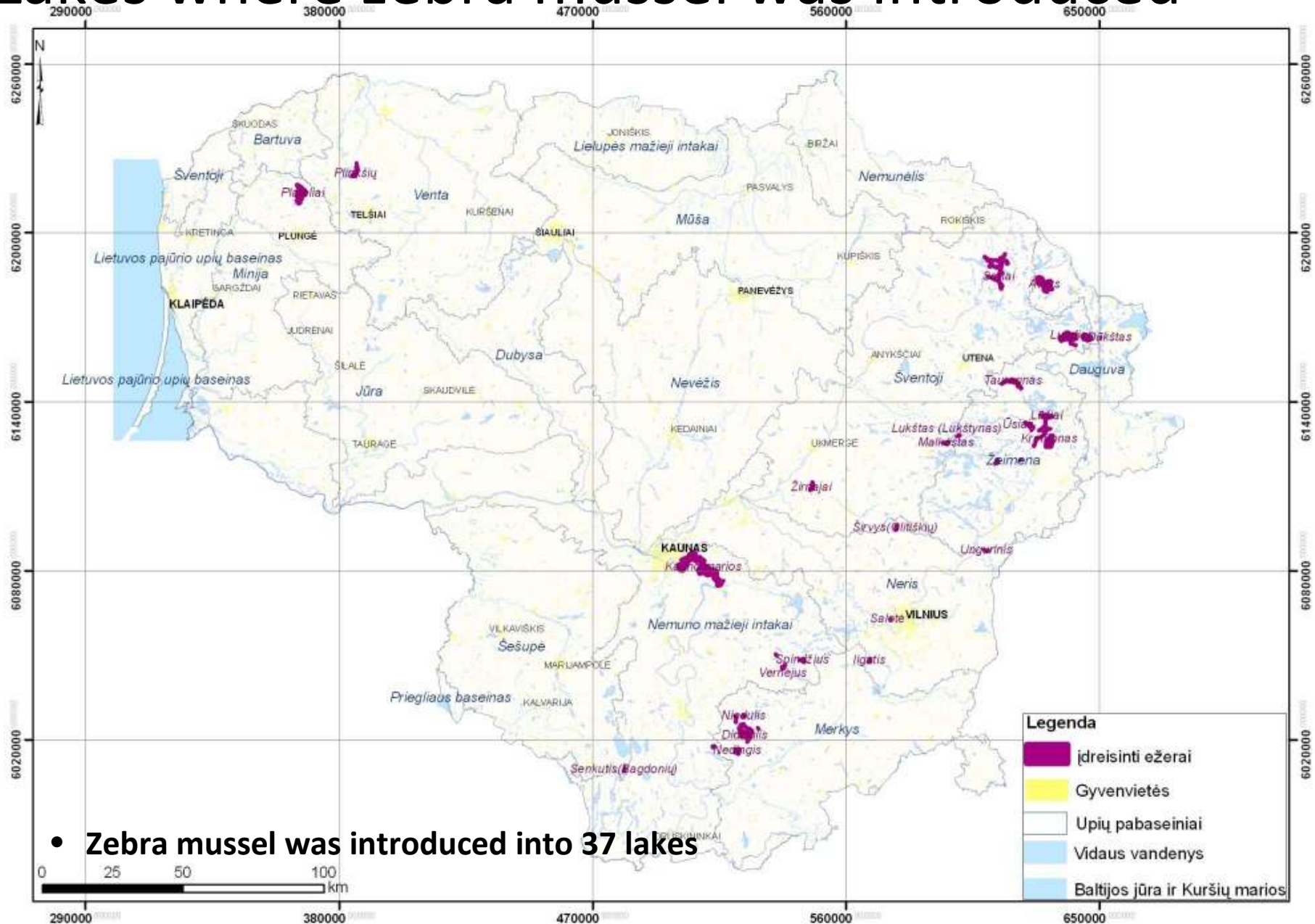
- Total area- 65,300 sq. km
- 4,5 % of territory is covered by inland waters.
- There are over 2,800 lakes larger than 0.5 hectares in size,
- 18 rivers longer than 100 kilometres.



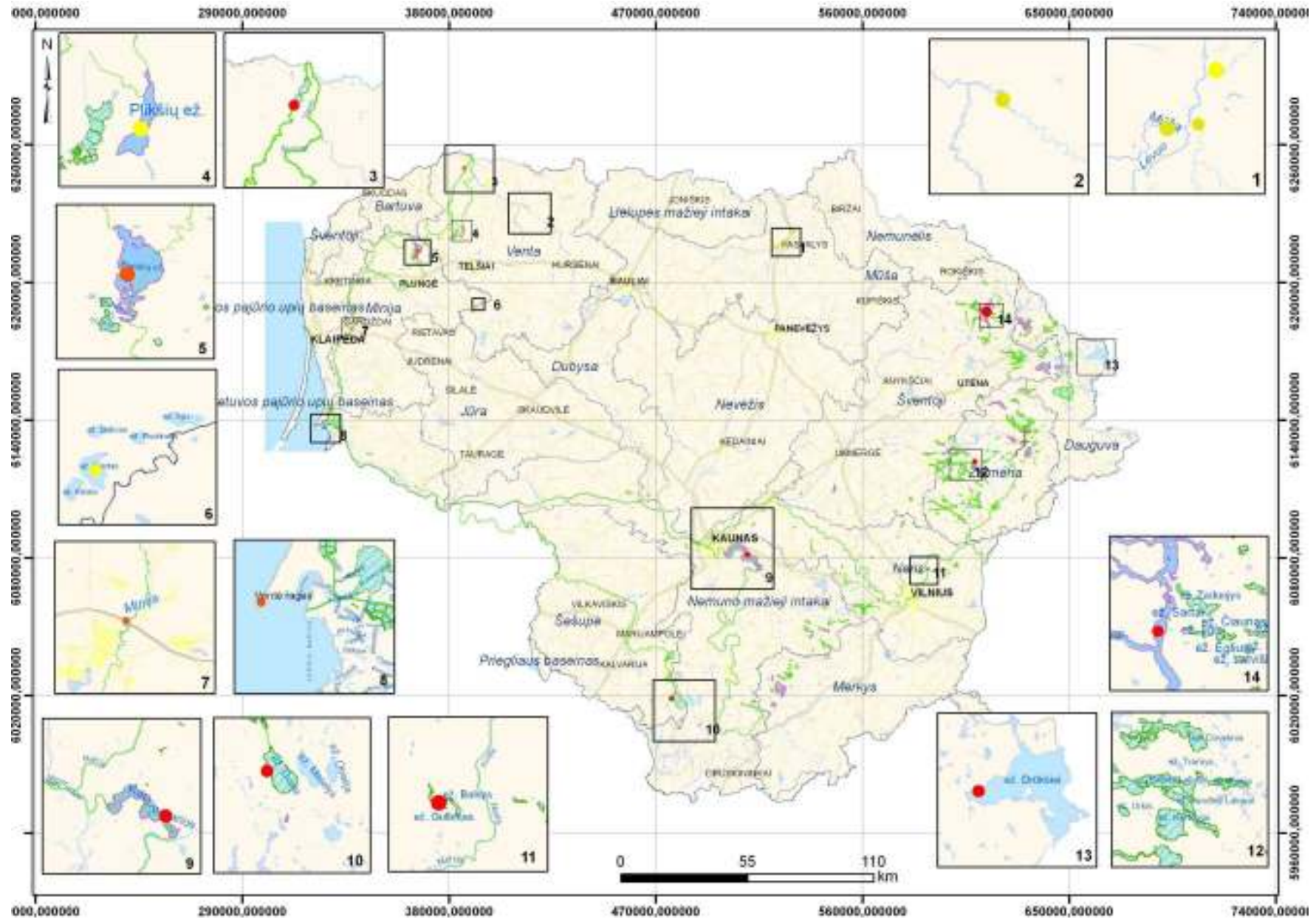
Materials:

- Data about the physical and chemical characteristics of the water bodies (Temperature, Ph, O₂, Ca, Stream flow) from The Environmental Protection Agency (EPA)

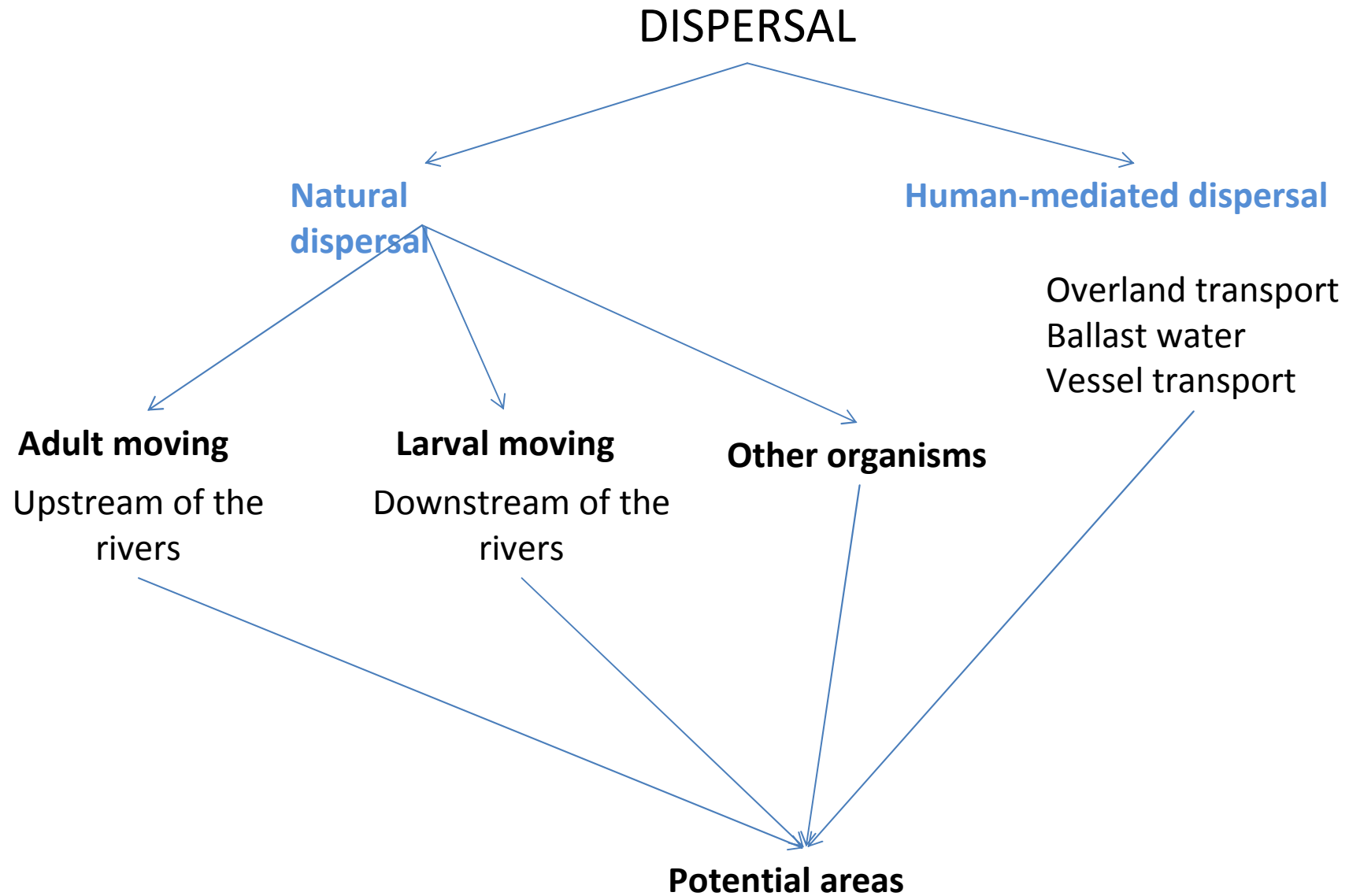
- **Zebra mussel was introduced into 37 lakes**



Samples from 14 areas



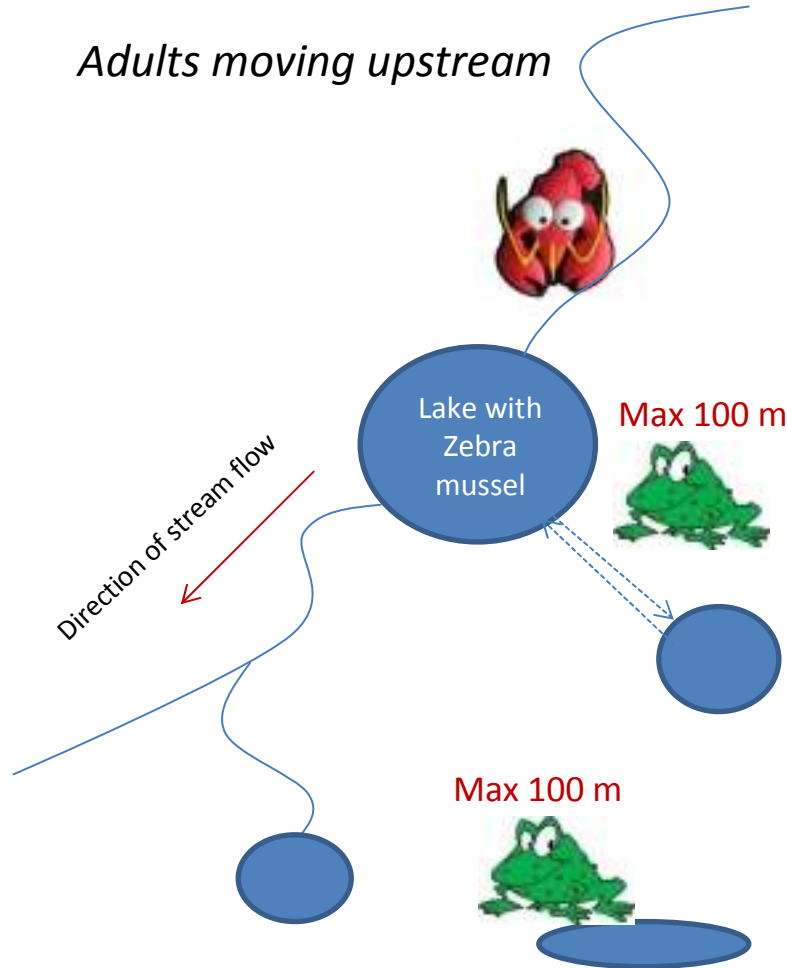
Methods:



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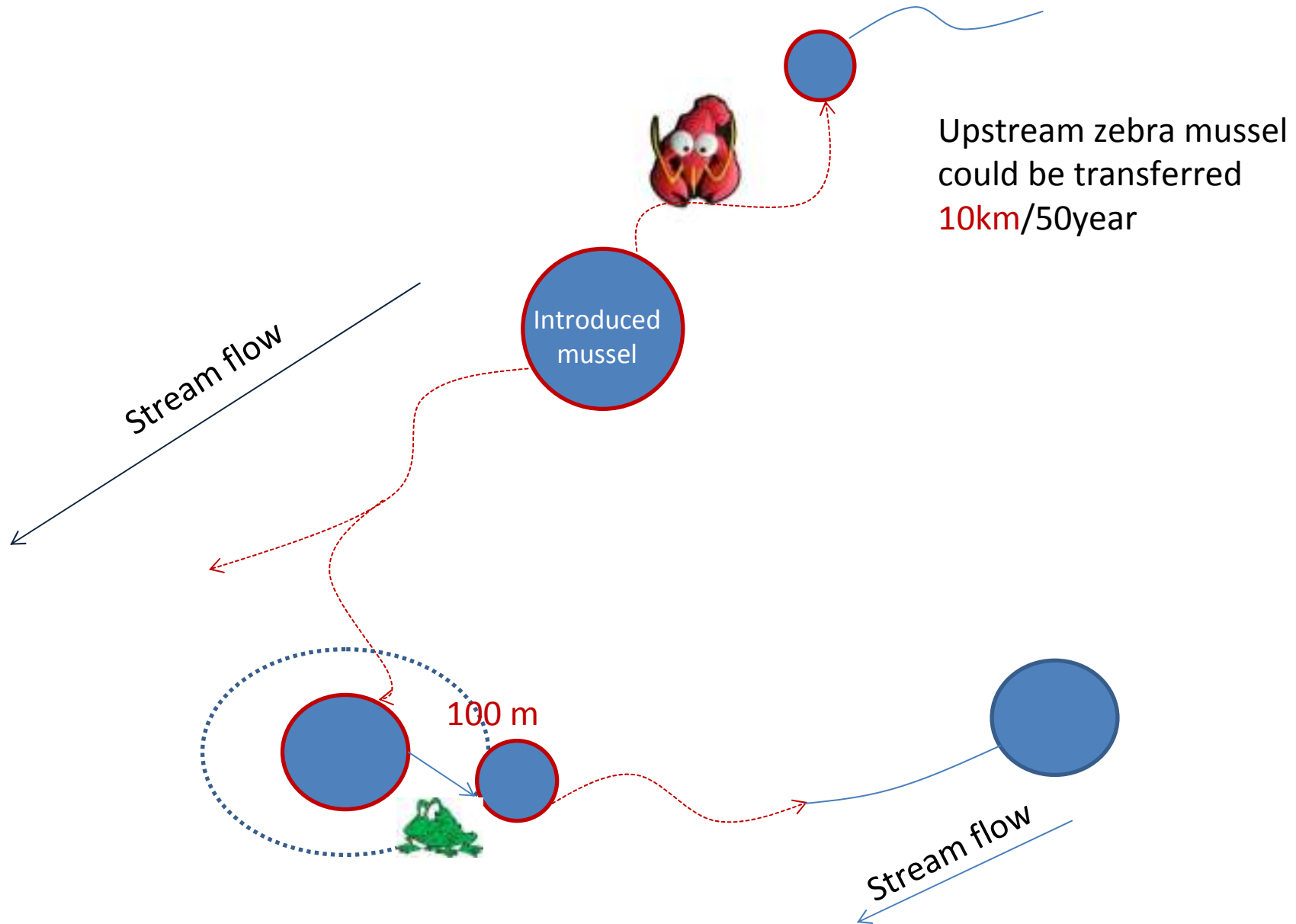
Natural dispersal:

Adults moving upstream



Larval is carried down

- Larval zebra mussels are free-swimming. So, it can be carried downstream the river and infect other areas.
- Adults and juvenils can move several meters per day upstream by alternately attaching and releasing byssal threads.
- Crayfish can transfer zebra mussel upstream (in early summer) up to 300 m per day.
- Other animals (amphibious, turtles) can transfer zebra mussel separate but very close bodies of water (about 100 meter).



Tack!

