



CONSERVATION OF FRESHWATER PEARL MUSSELS (*MARGARITIFERA MARGARITIFERA* L.) IN AUSTRIA – ADVANCES IN A CONTROLLED REARING SYSTEM

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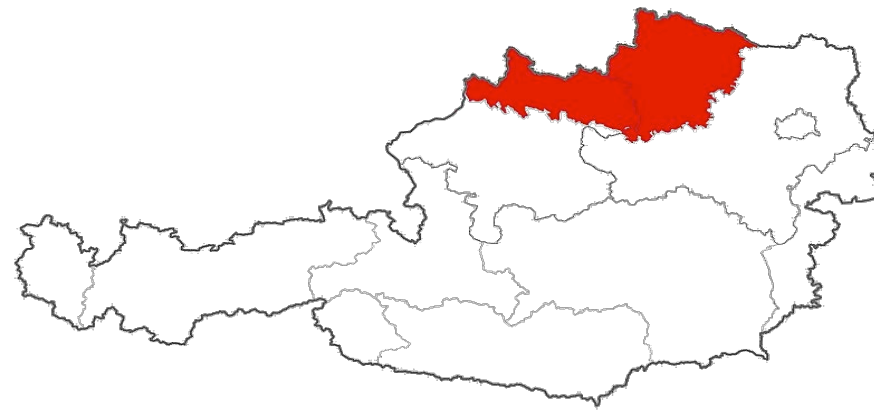
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Overview



- Introduction – Austrias freshwater pearl mussel project
- Preliminary project at the Gießenbach millrace
- „Vision Flussperlmuschel“ – project phase I: 2011 - 2013
- „Vision Flussperlmuschel“ – project phase II: 2014 – 2016
- Results: comparison of annual breeding success and survival rates

Occurrence of freshwater pearl mussels in Austria



„Vision Flussperlmuschel“



... a long term conservation project funded by the Office of the State Government of Upper Austria and the European Union.

- 10 years period
- Two main strategies:
 - 1/3 captive breeding
 - 2/3 catchment restoration

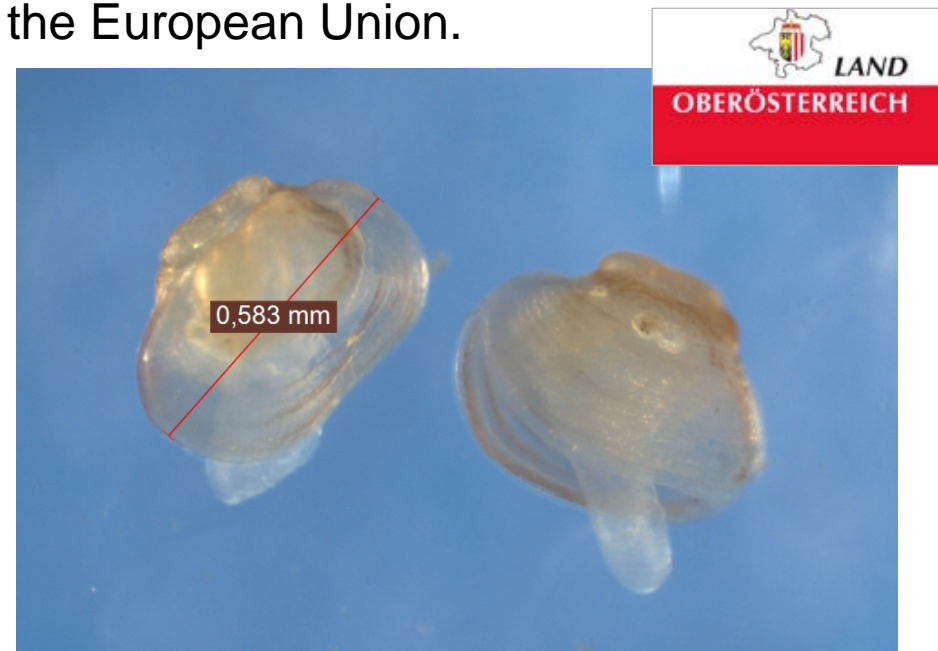


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Preliminary project at the Gießenbach



→ The Gießenbach millrace – naturally inhabited by freshwater pearl mussels

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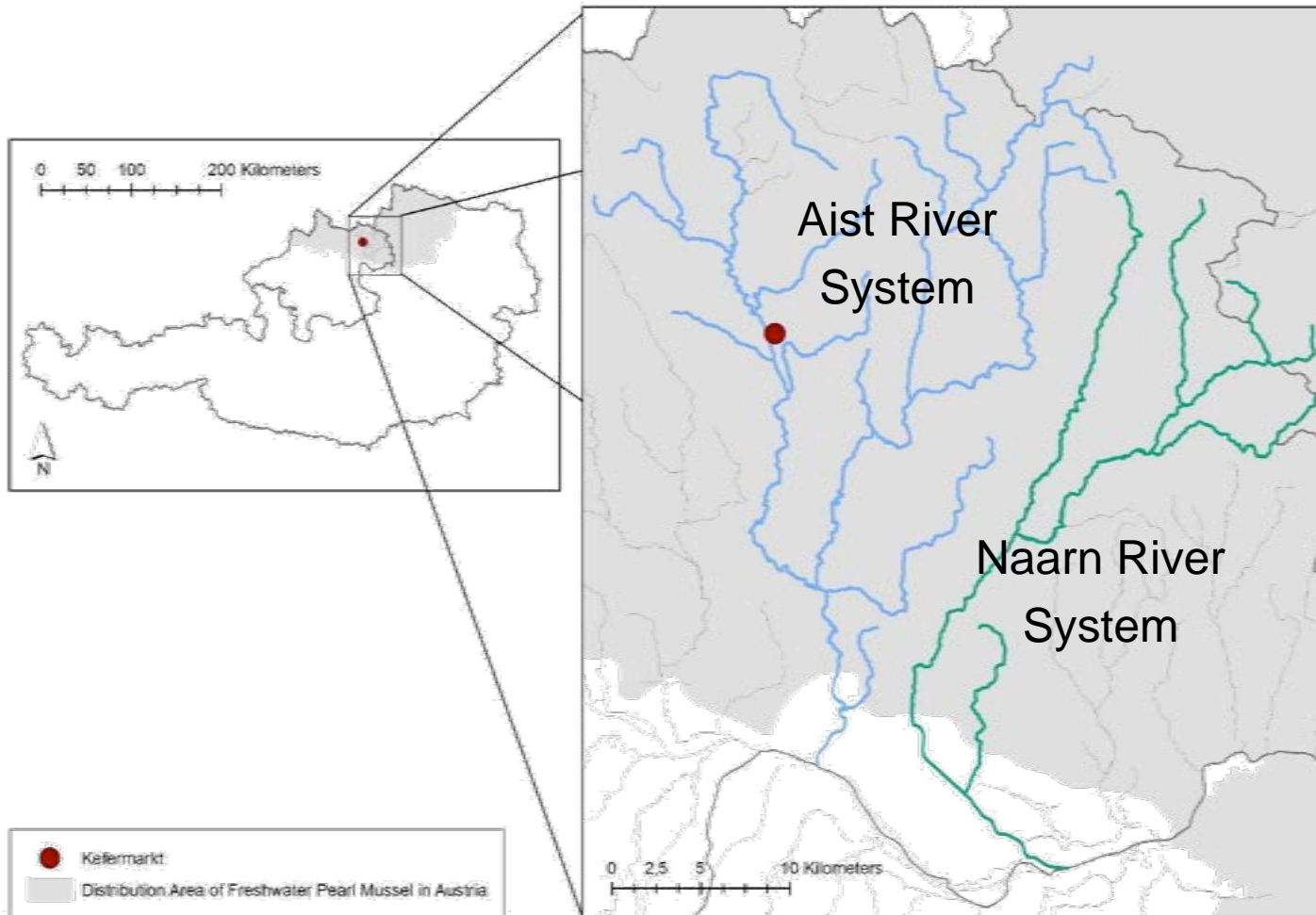


→ First „harvest“ of juvenile mussels in summer 2011

„Vision Flussperlmuschel“ – two mussel lineages . . .

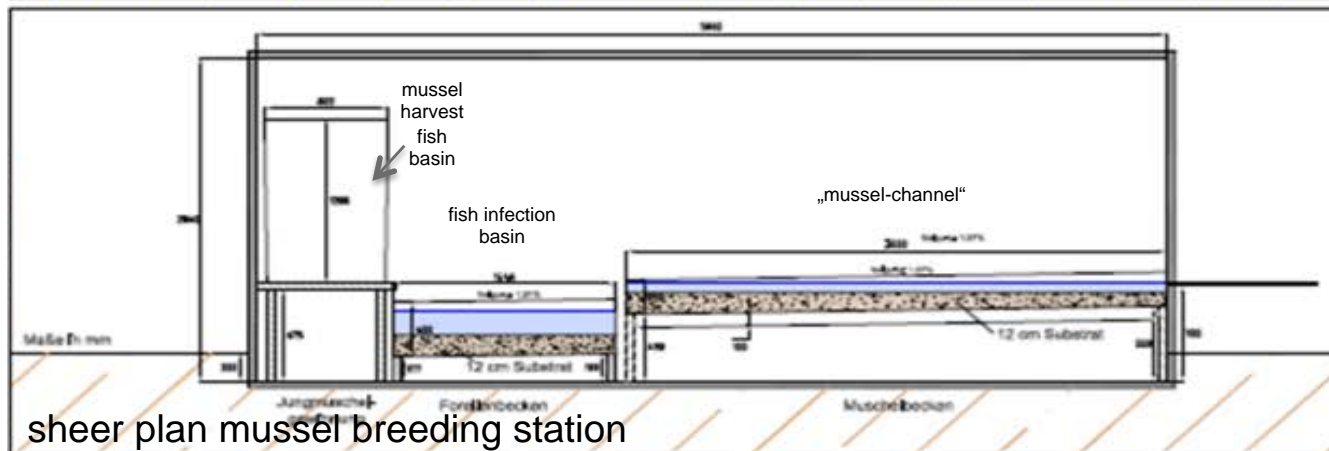
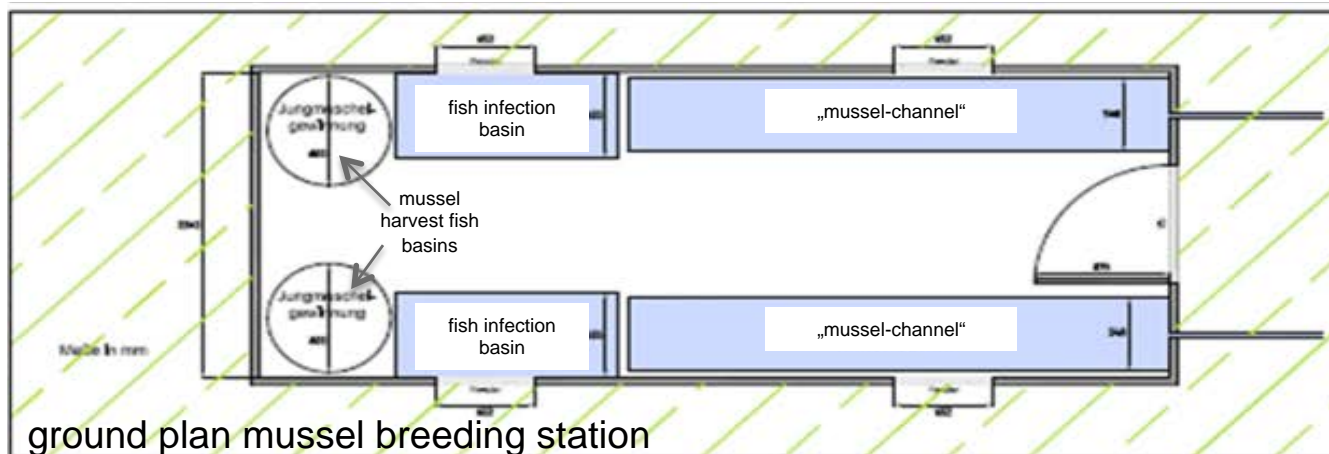
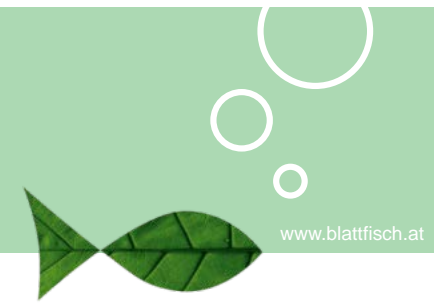


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- Biomonitoring in eight streams to find the best resettlement habitats

„Vision Flussperlmuschel“ – project phase I: 2011 - 2013



- One „mussel channel“ for each mussel lineage → Aist and Naarn
- 50 mussels per channel
- 150 fish per infection basin

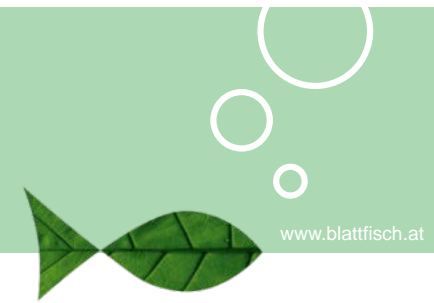
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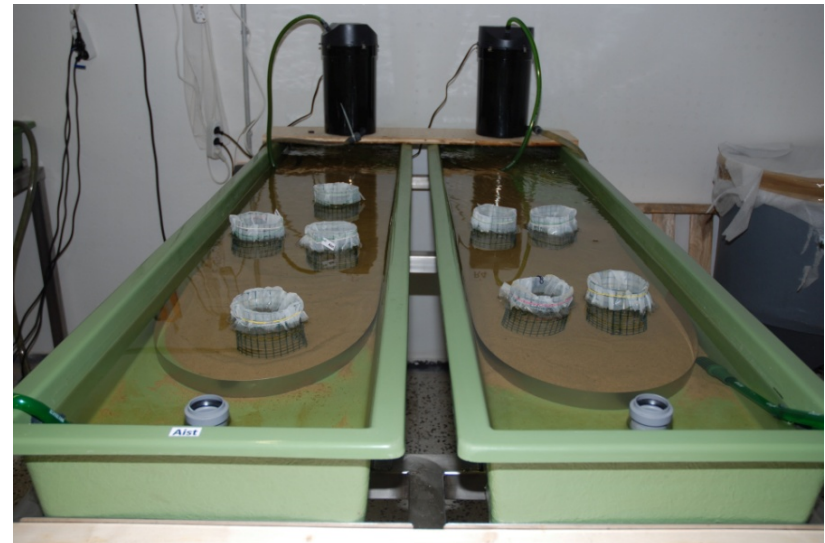
- Temperature in climate chamber: 18 °C
- Fresh water, algal solution and detritus once a week
- Until they are big enough (about 1 mm) for Buddensiek boxes



„Vision Flussperlmuschel“ – project phase II: 2014 - 2016



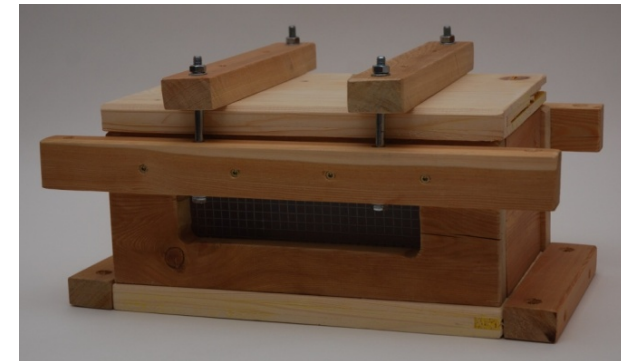
- Same breeding station, same harvesting method, but higher numbers of harvested mussels
- High mortality rate in the first summer
- Installation of new flow-through channels for juvenile mussels (“French” type)



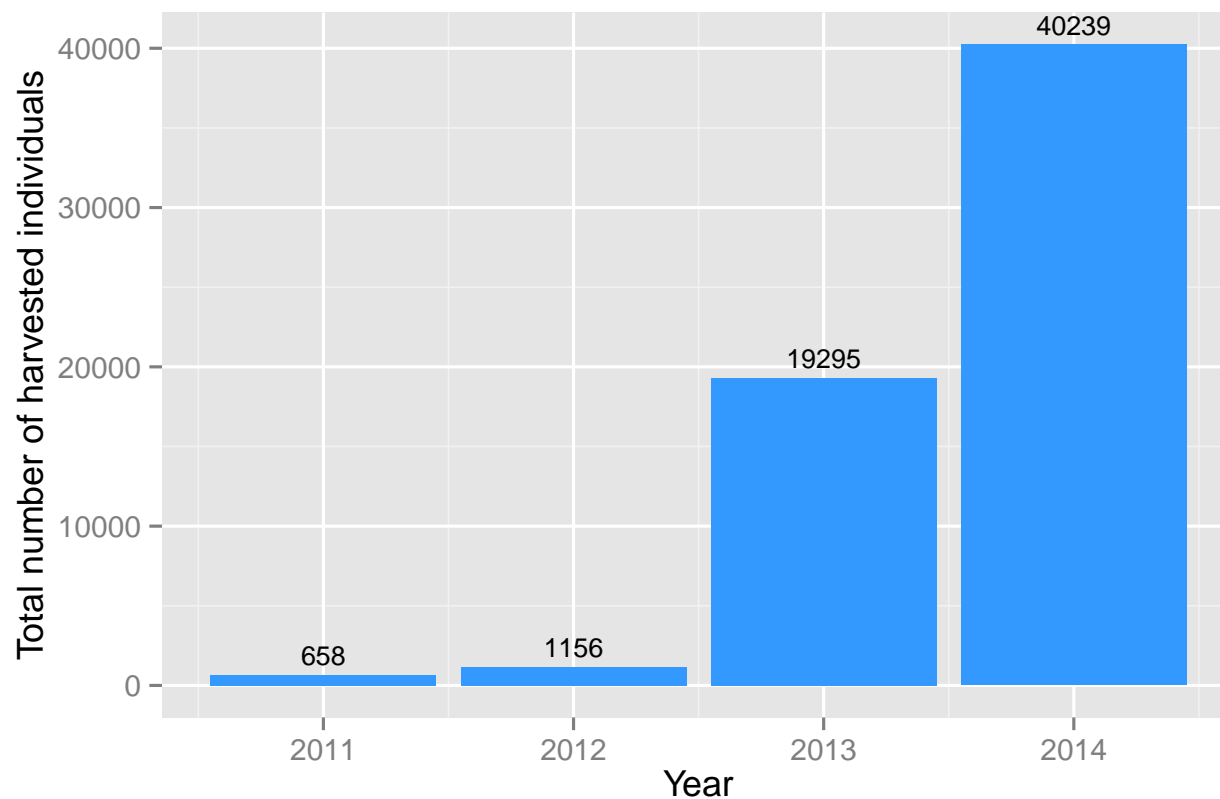
„Vision Flussperlmuschel“ – project phase II: 2014 - 2016



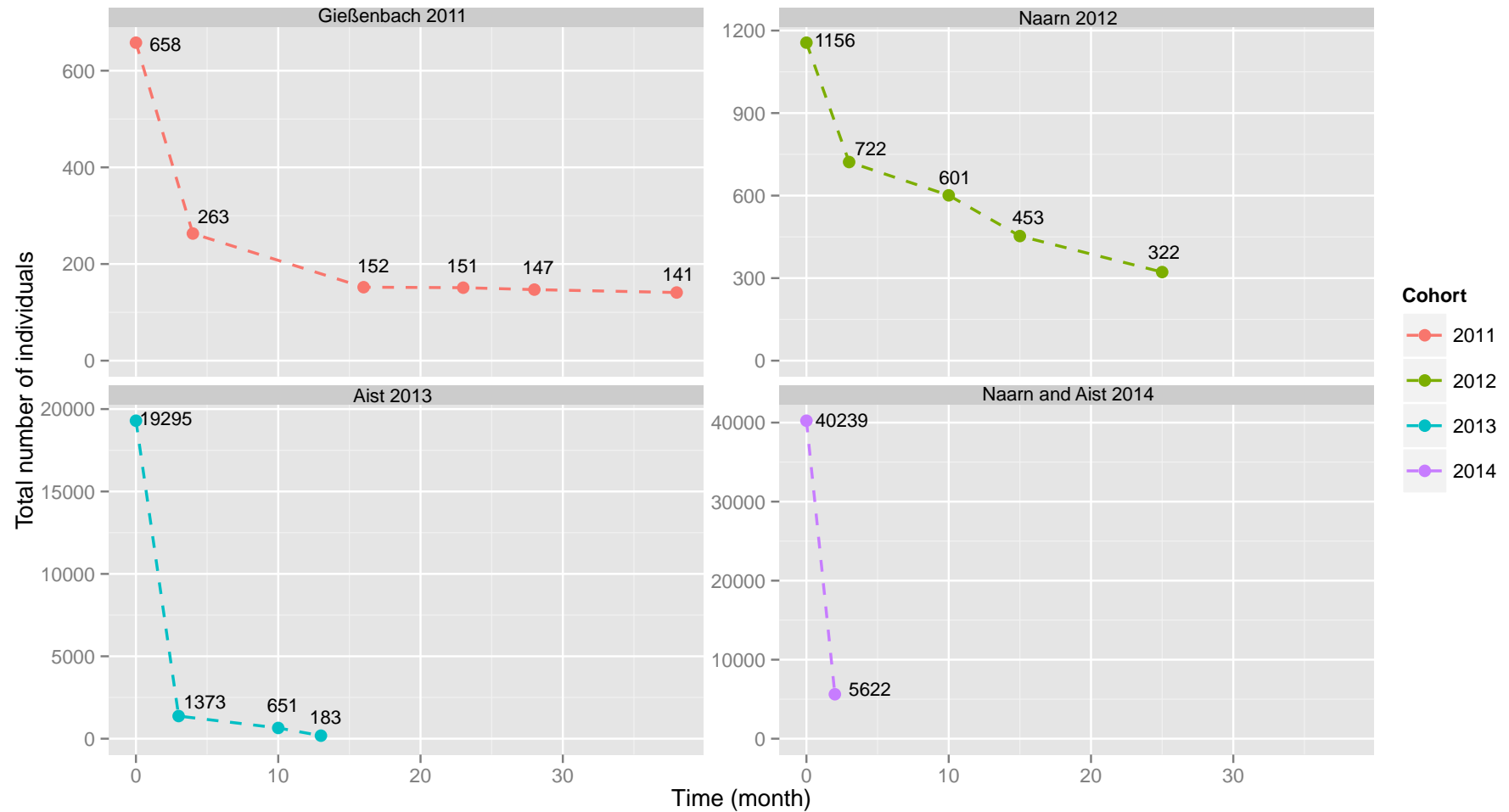
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- New wooden cages (type “Elender”) and mussel silos (type “Barnhart”)



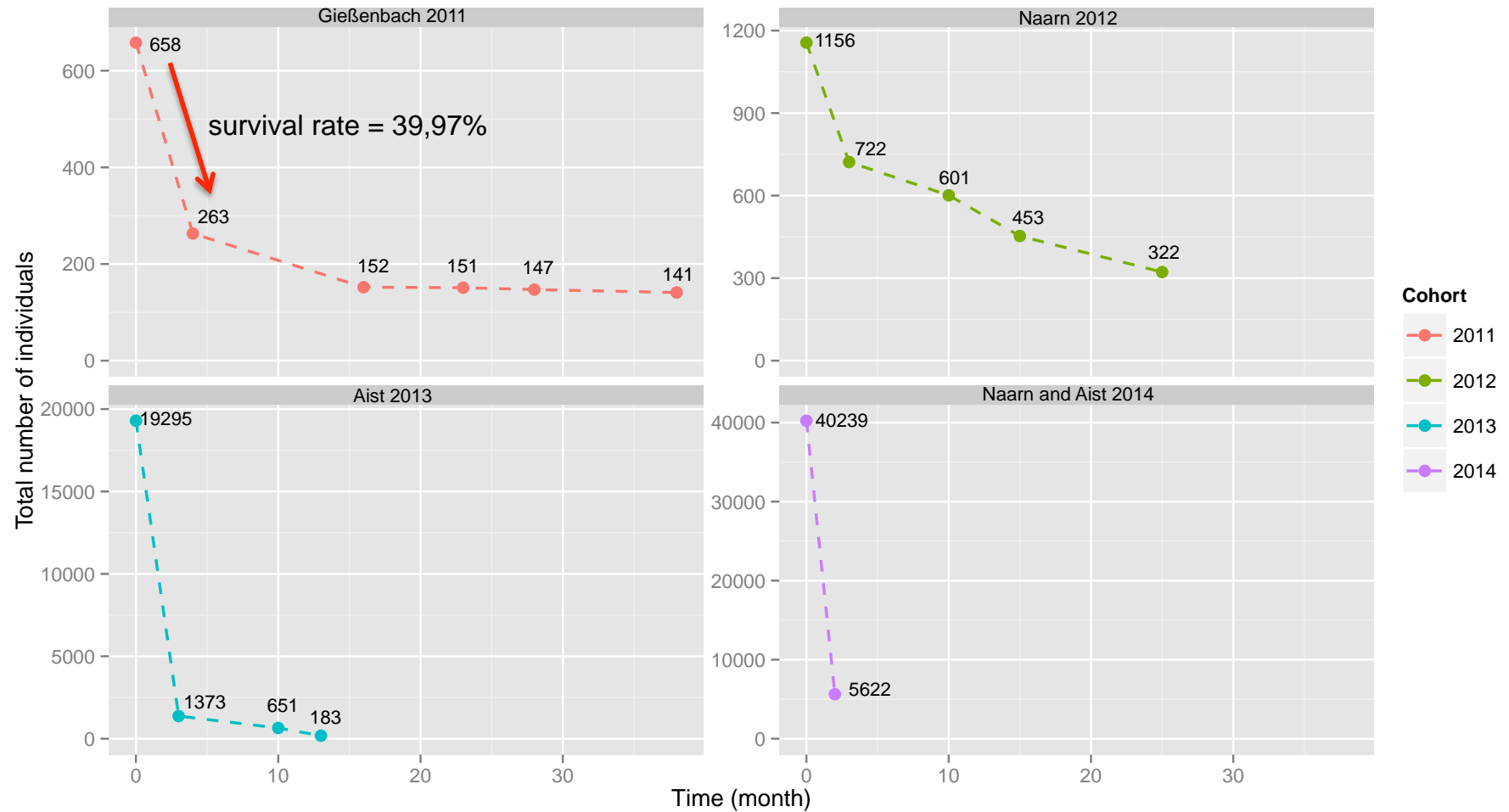
Results - comparison of annual „mussel-harvest-numbers“



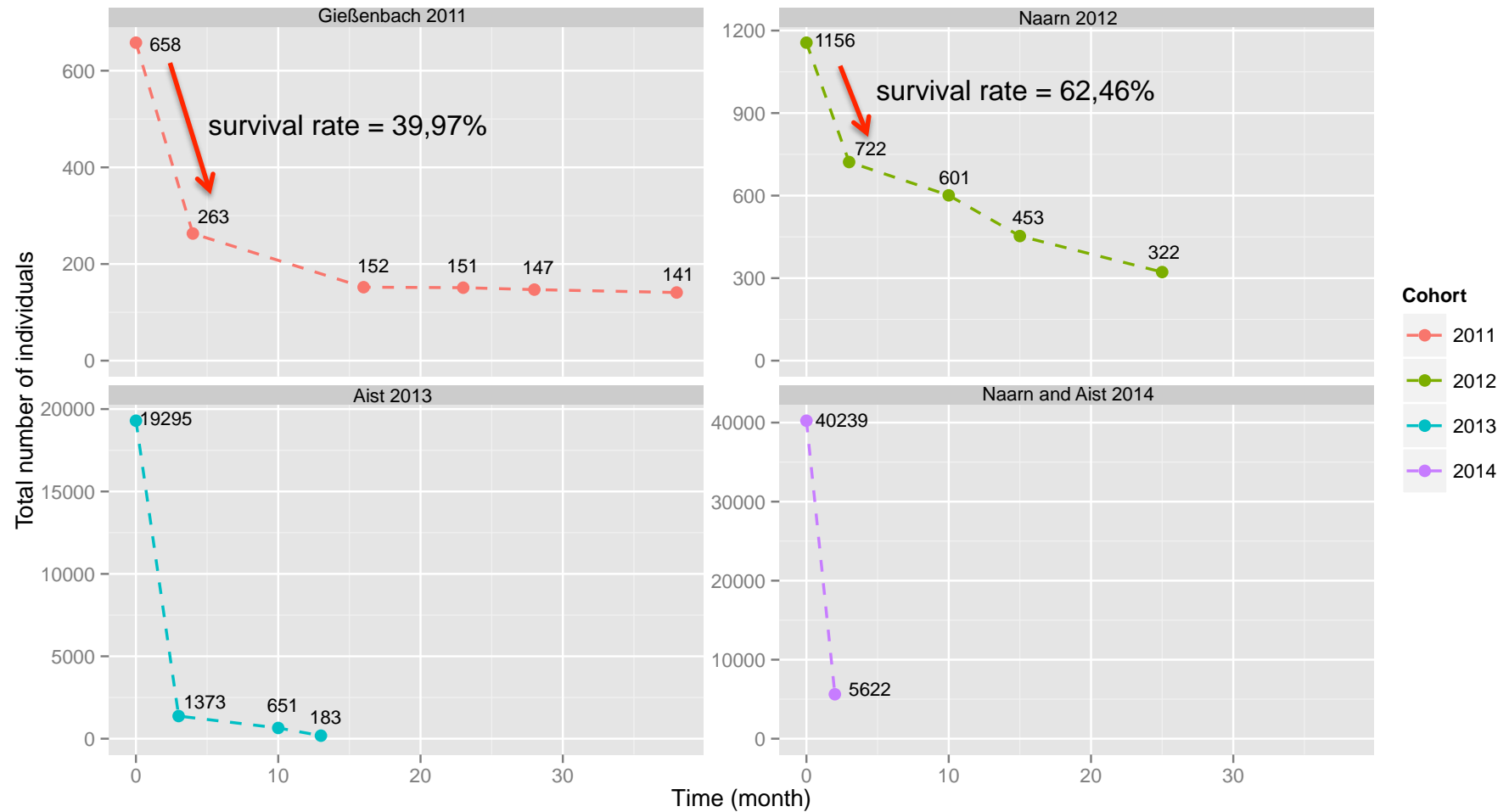
Results – trends of mussel numbers



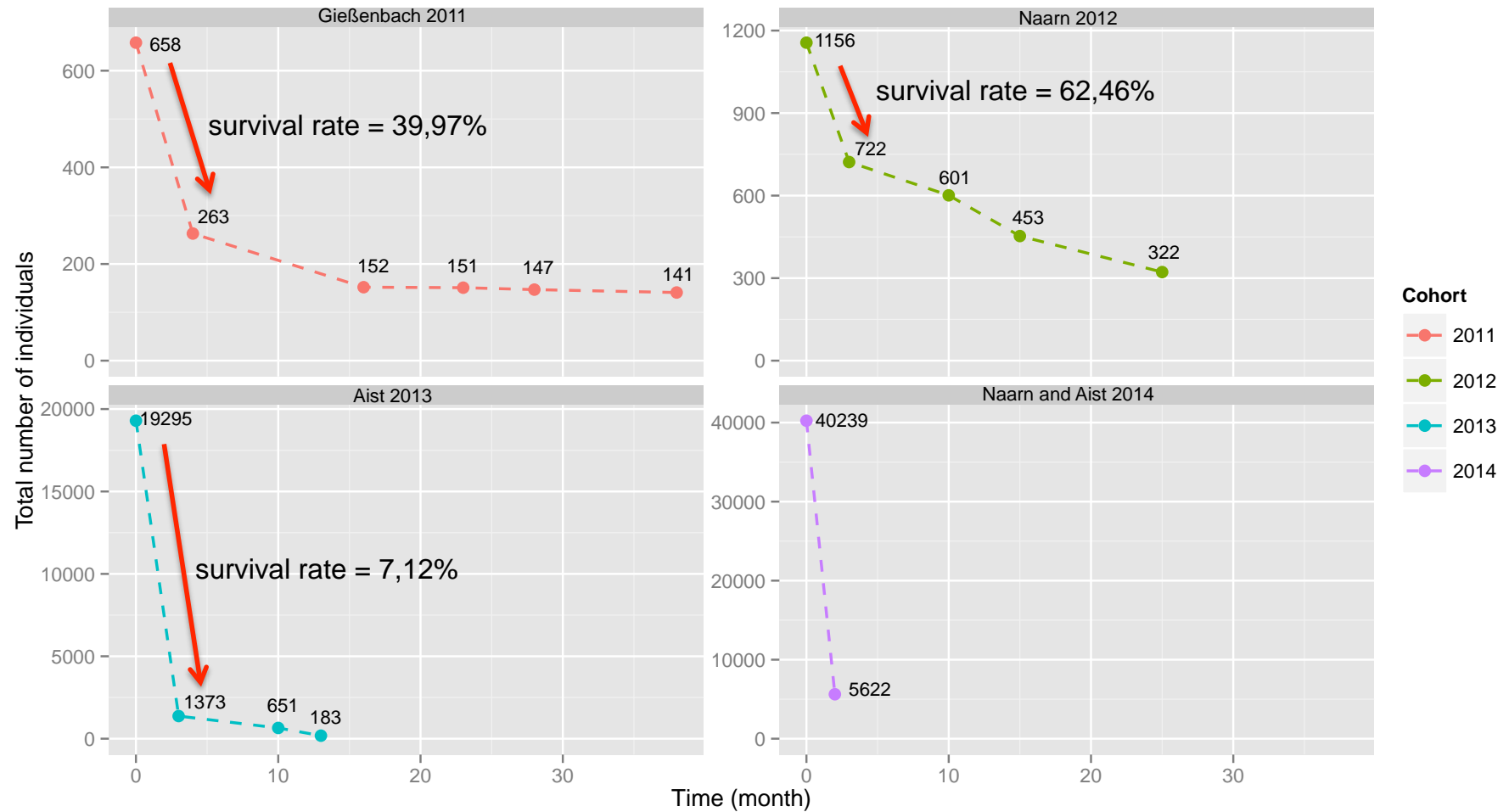
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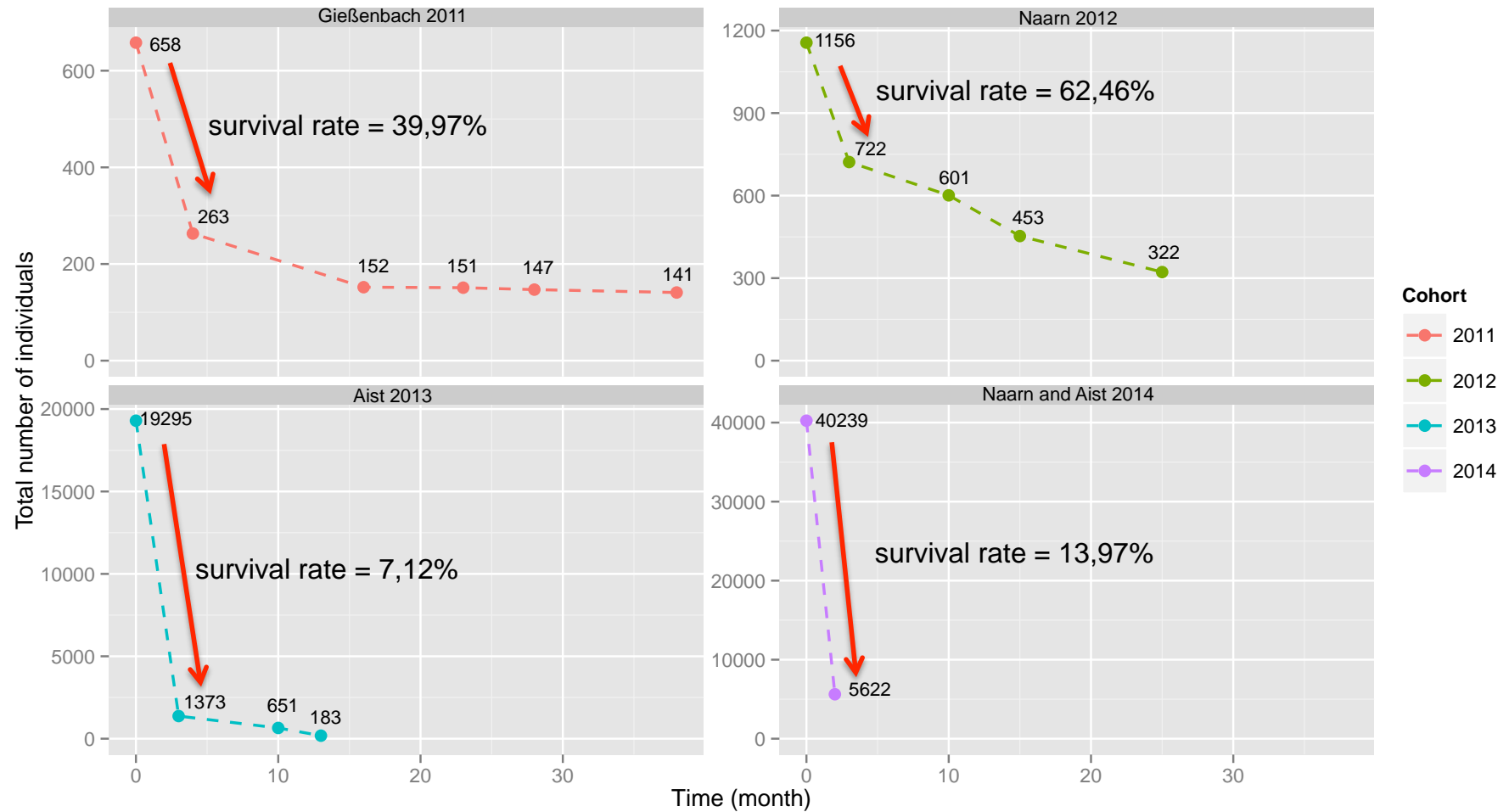
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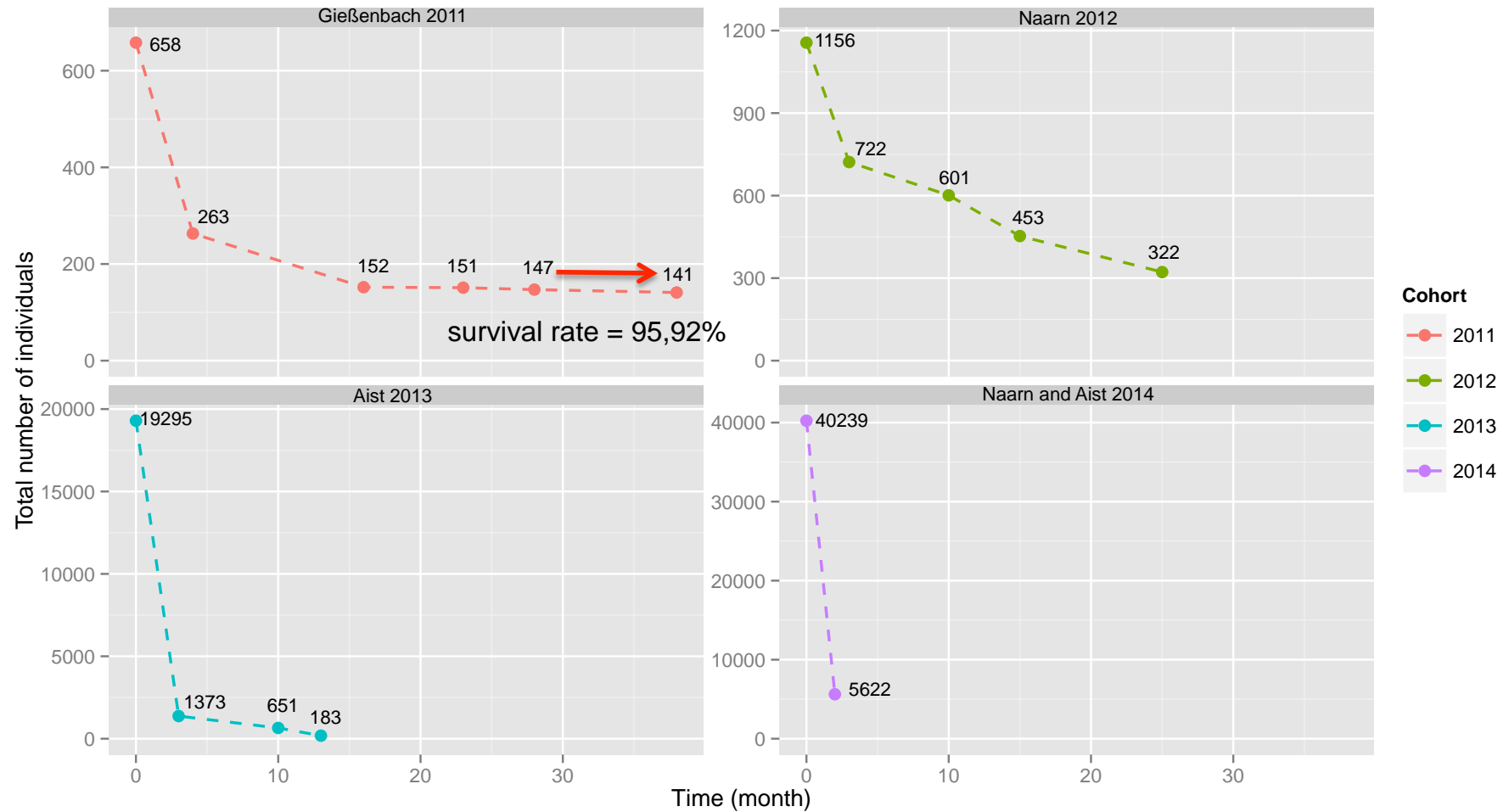
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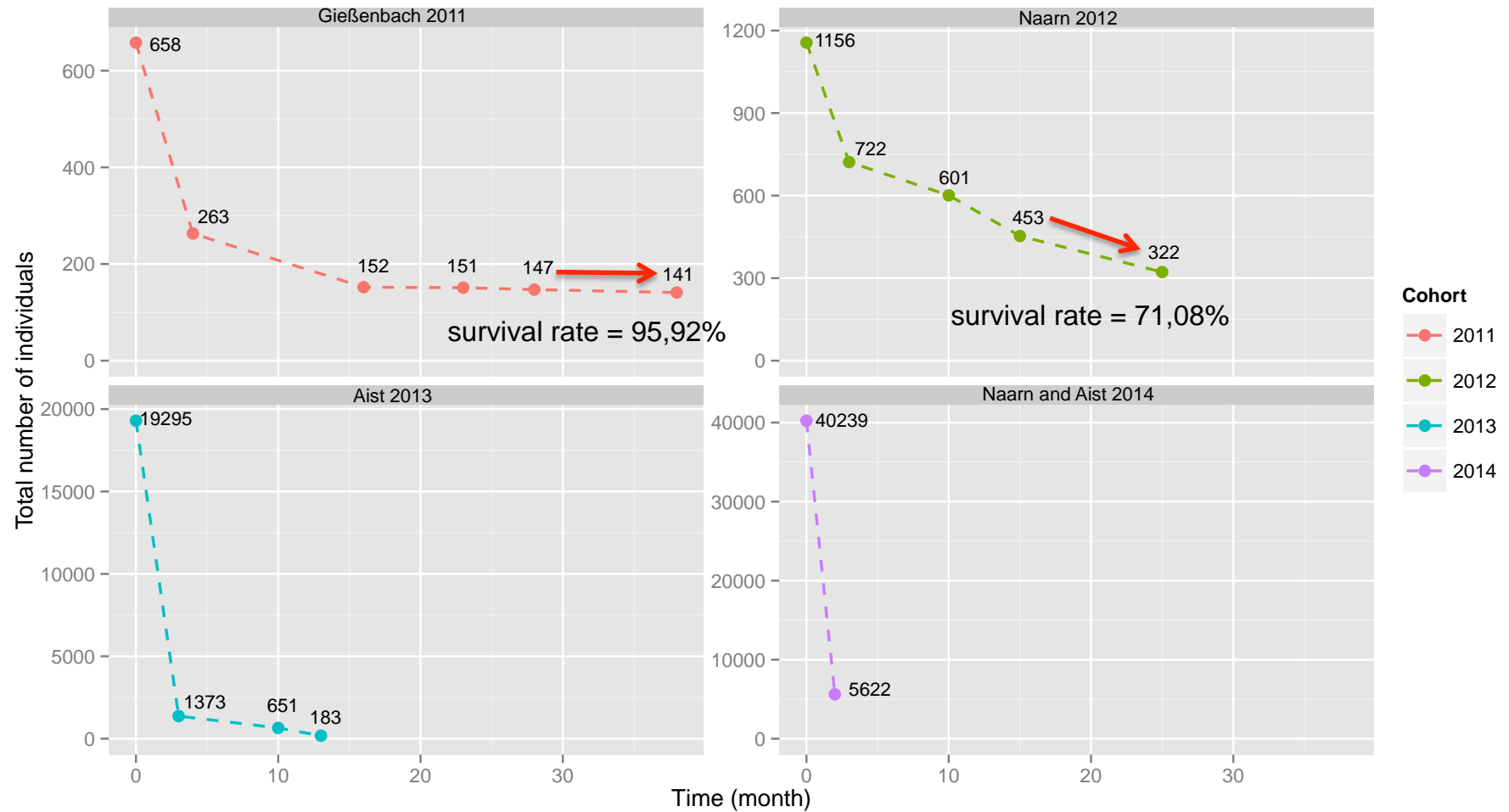
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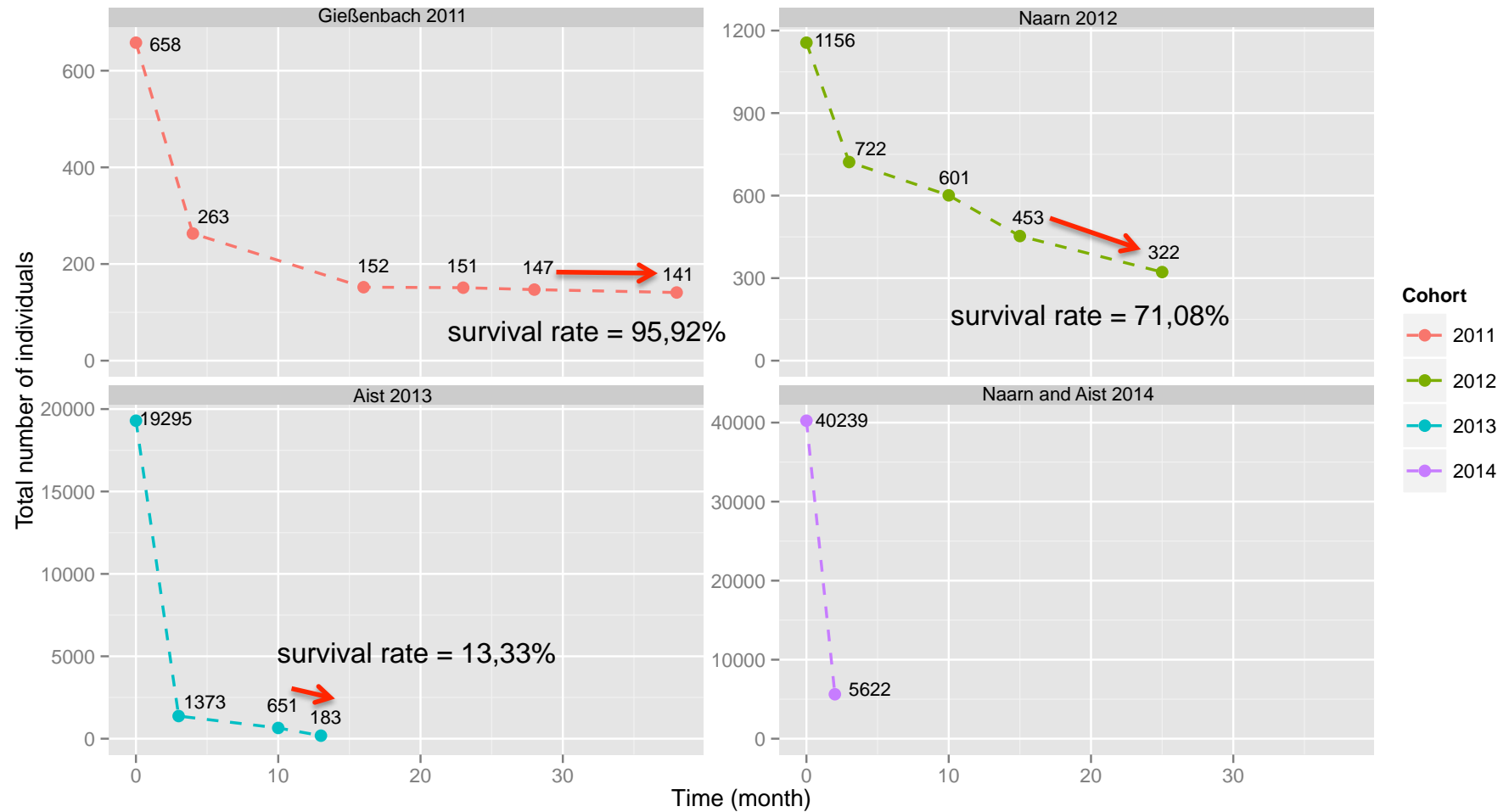
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Conclusion



- Permanent advancements in the breeding system
- Increasing numbers of juvenile mussels every year



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- Permanent advancements in the breeding system
- Increasing numbers of juvenile mussels every year
- High mortality rates during the first summer
- Individual numbers stabilize when juvenile mussels get older
- Improvements to increase mussel survival in the first summer - for a higher annual reproductive success



Thank you for your attention!



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- € **Office of the State Government of Upper Austria, Section for Environmental Protection**
- € **Environmental Councilor, Dr. Manfred Haimbuchner**
- € **European Union**