C10A Hungarian pond aquaculture – the software

Implementation case

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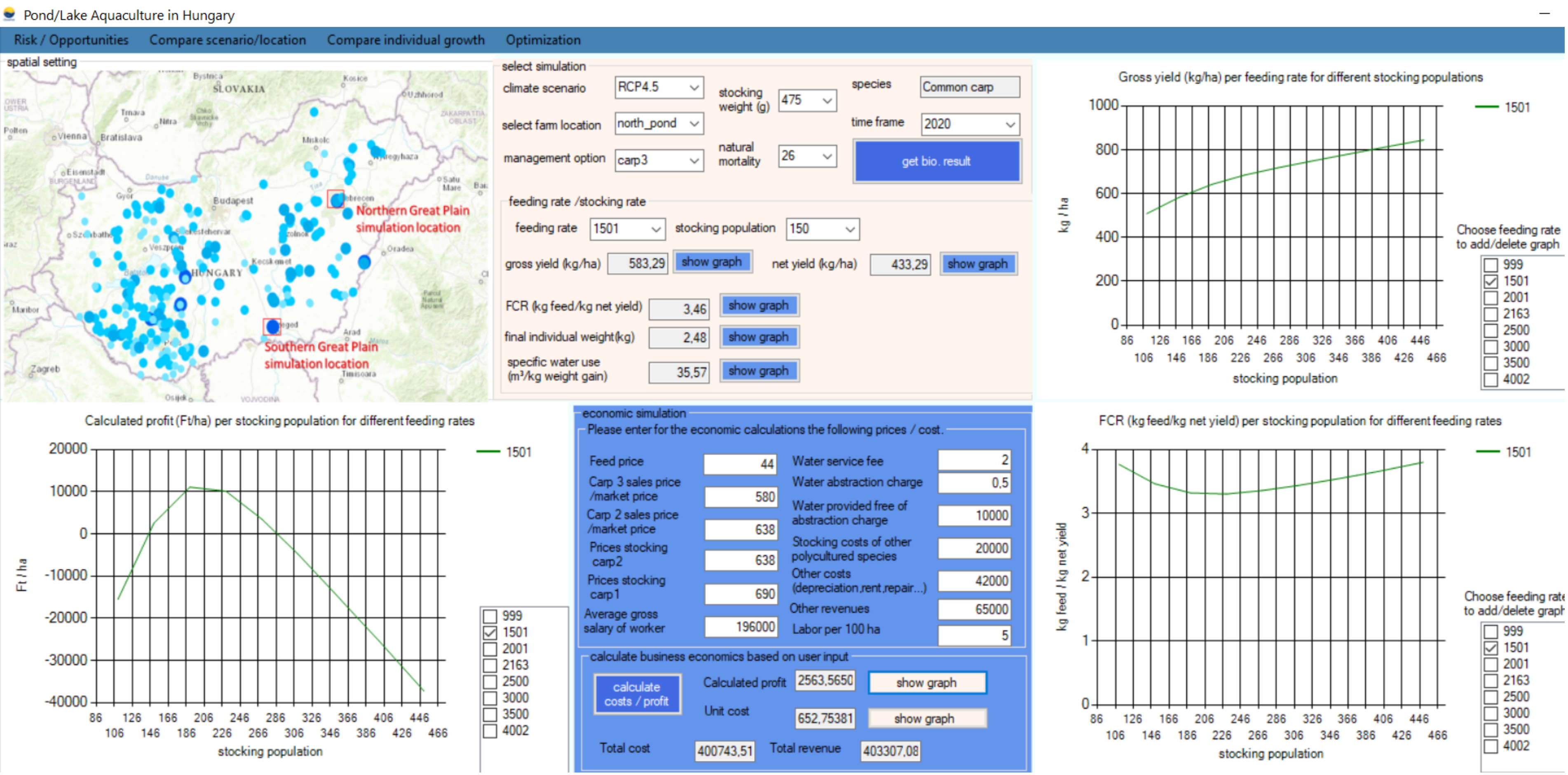
Principles of the Hungarian DSS

- Pond aquaculture: farm-level decision
- The Hungarian DSS was designed to **support decision at farm level** and not at regulation level
- Focuses on strategic direction of **input management** under CC
- Helps to identify **stock and feed management strategies most adaptive** to CC
- Only strategic guiding, not a precision tool

  → does not regulate daily managerial intervention!

Main interface of DSS



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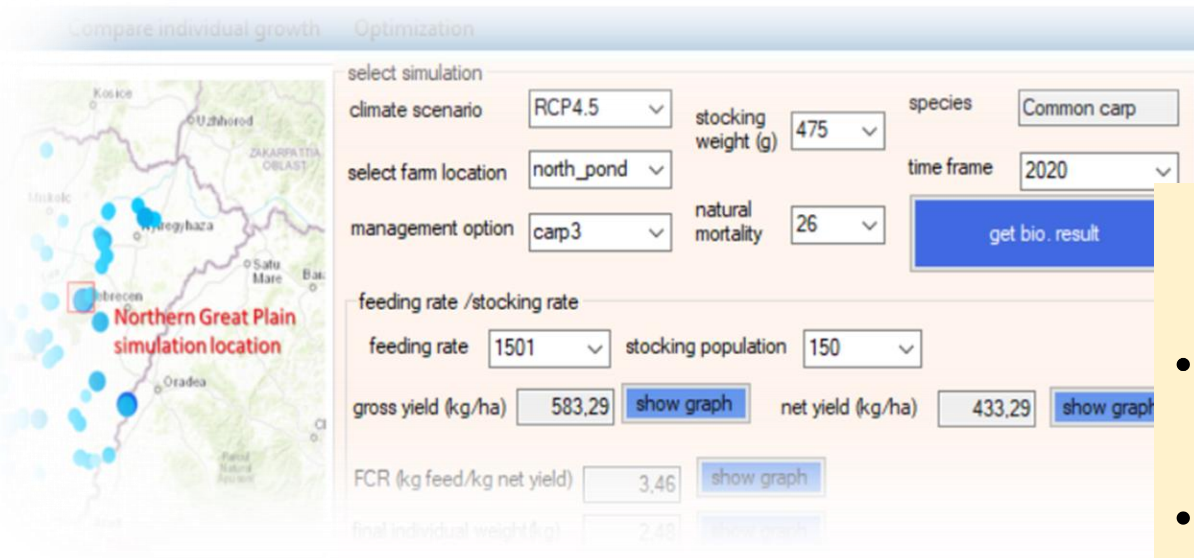
User defined parameters:



Location, time and scenario

- RCP4.5 / RCP8.5
- present, 2020, 2030, 2050
- 2 simulation locations

Farming technology

- **Stocking density (kg/ha)**
  - 10 options
- **Mortality**
  - 35% per season
  - 26% per season
  - 18% per season
- **Ind. weight of stockers**
  - 350g
  - 475g
  - 600g
- **Feeding rate (kg/ha/season)**
  - 8 options

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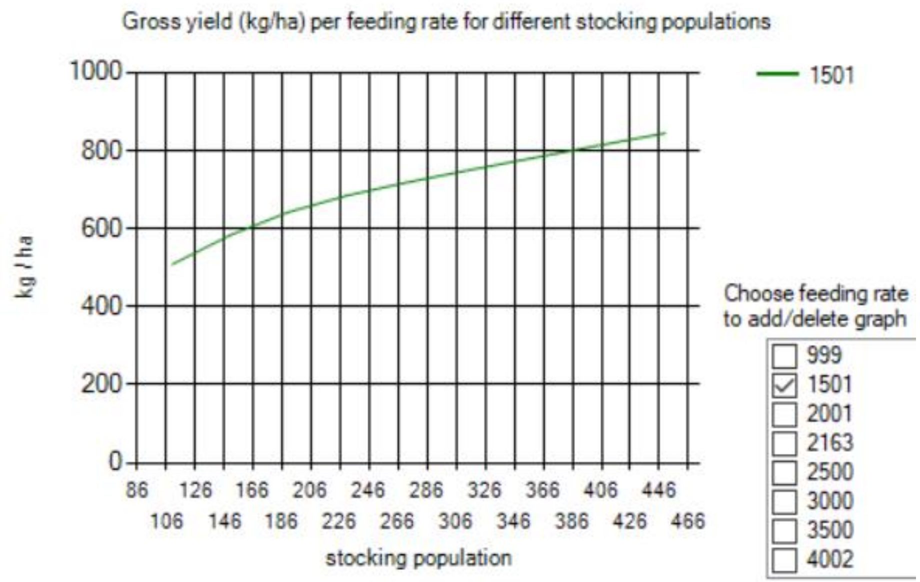
Biological Outputs



- Gross/net yield (kg/ha)
- Final individual weight (kg/pc)
- Water used per kg produced (m^3 /kg)
- FCR

Corresponding graphs can be generated

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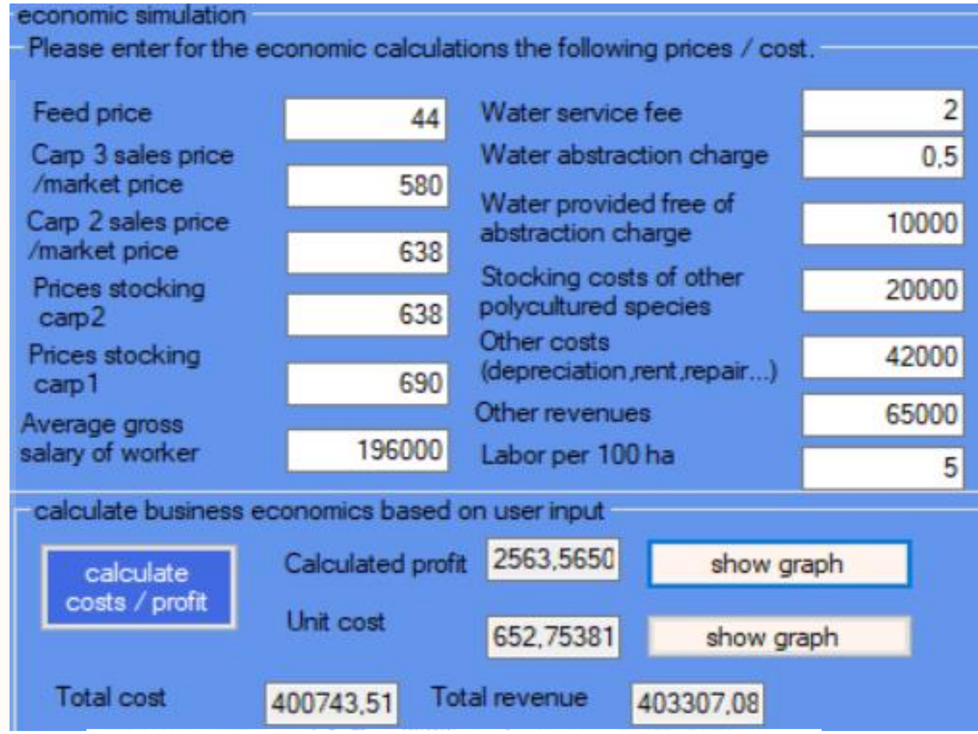
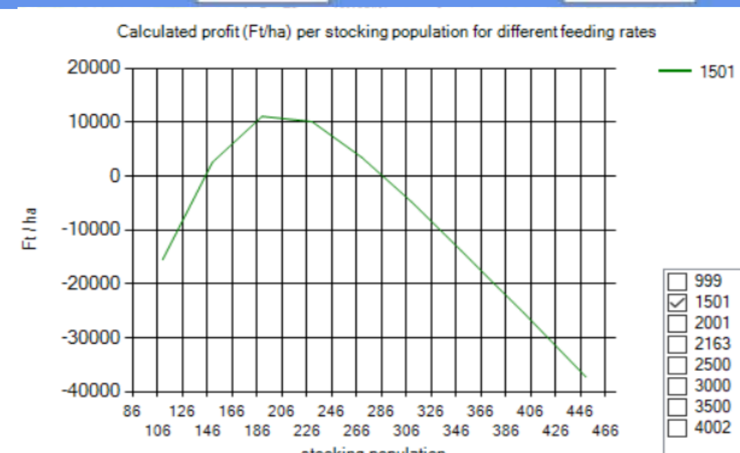
Farm-level economic module

- Costs categories → Feed + Stock + Labour + Water + Other
- Unit cost of inputs and price of output are user given
- Default values are market avg. (2017)
- Labour requirement (FTE/100ha) is also user given
- 2 main financial indicators are calculated:
  - Per-unit cost (HUF/kg)
  - Net income (HUF/ha)
- Generated graphs visualize cost and income functions





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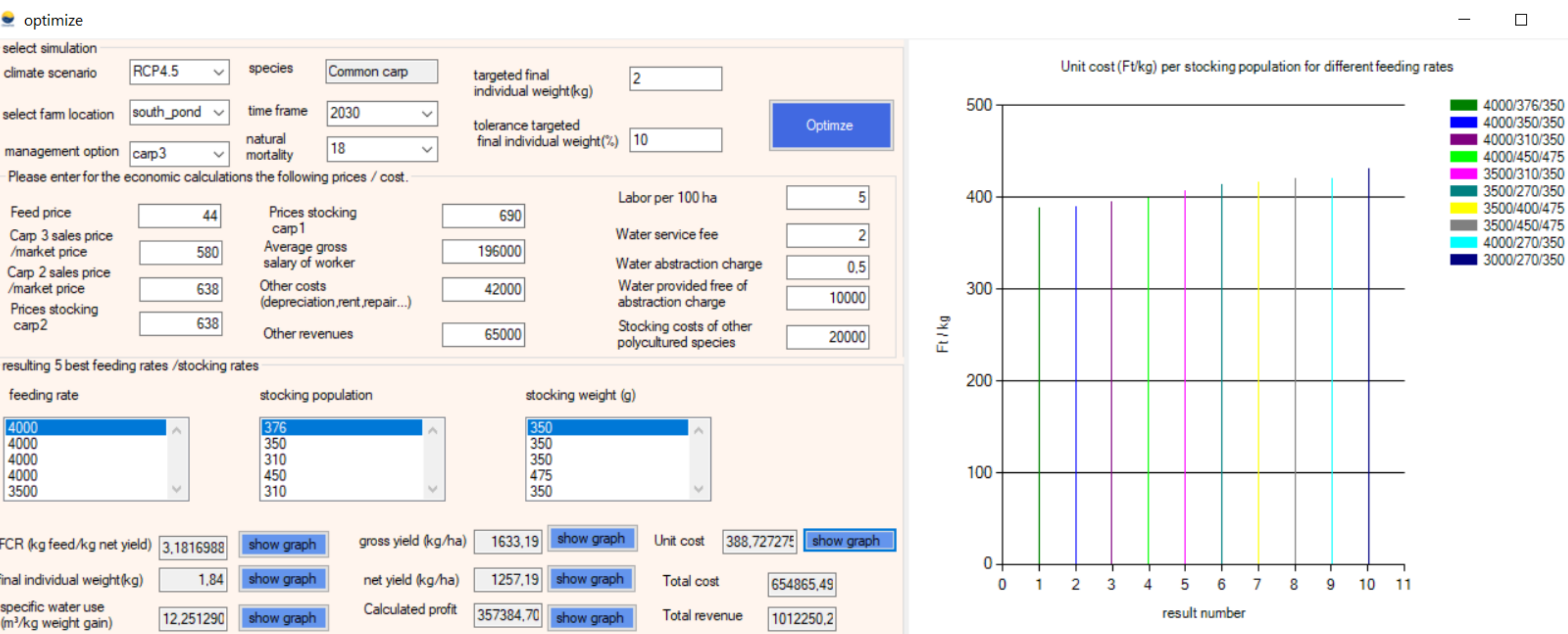
Optimizing mangerial intervention

Provides optimal combination of

- Feeding rate
- Stocking density
- Ind. weight of stokers

Minimal values for per-unit costs



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Comparing individual growth between locations and RCP scenarios

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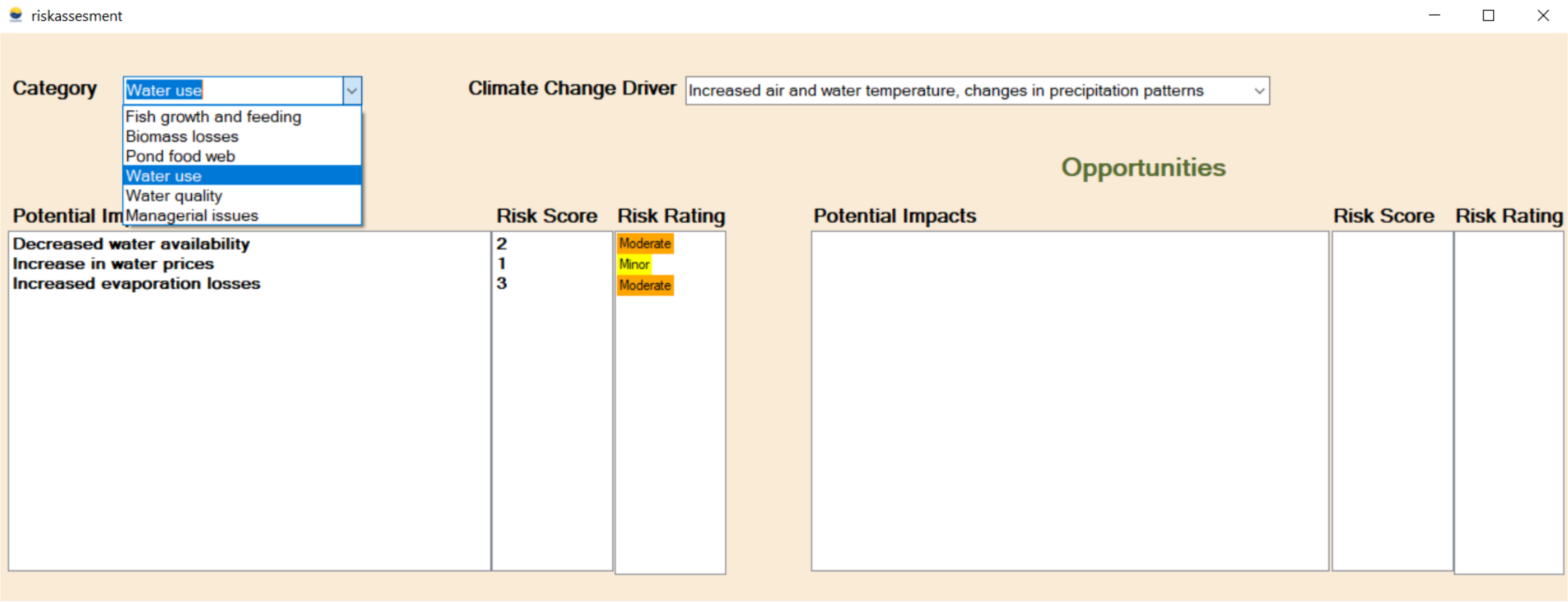
Risk assesment in DSS



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Thank you for your attention!

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