

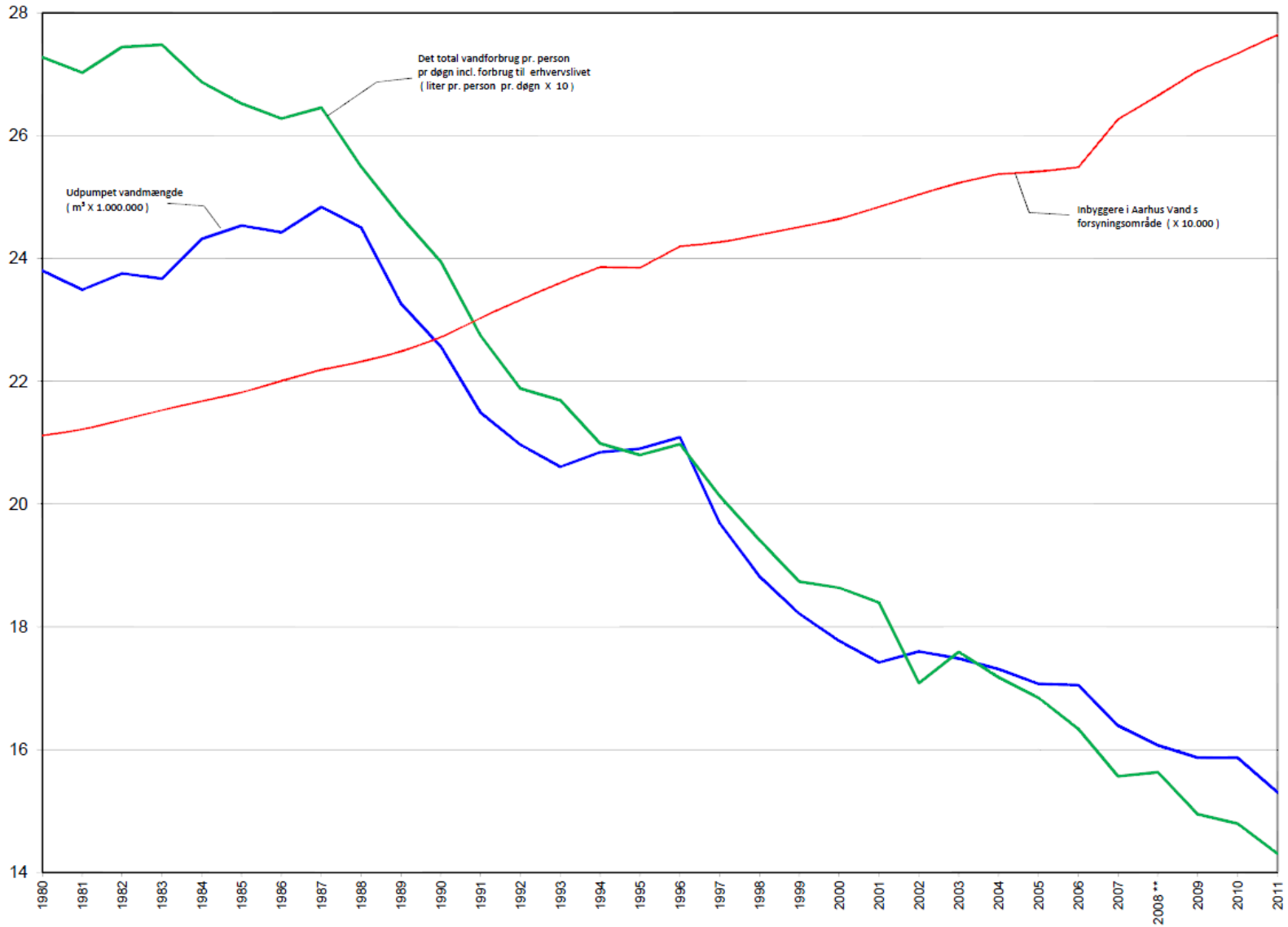
HYGEM – Kasted test site

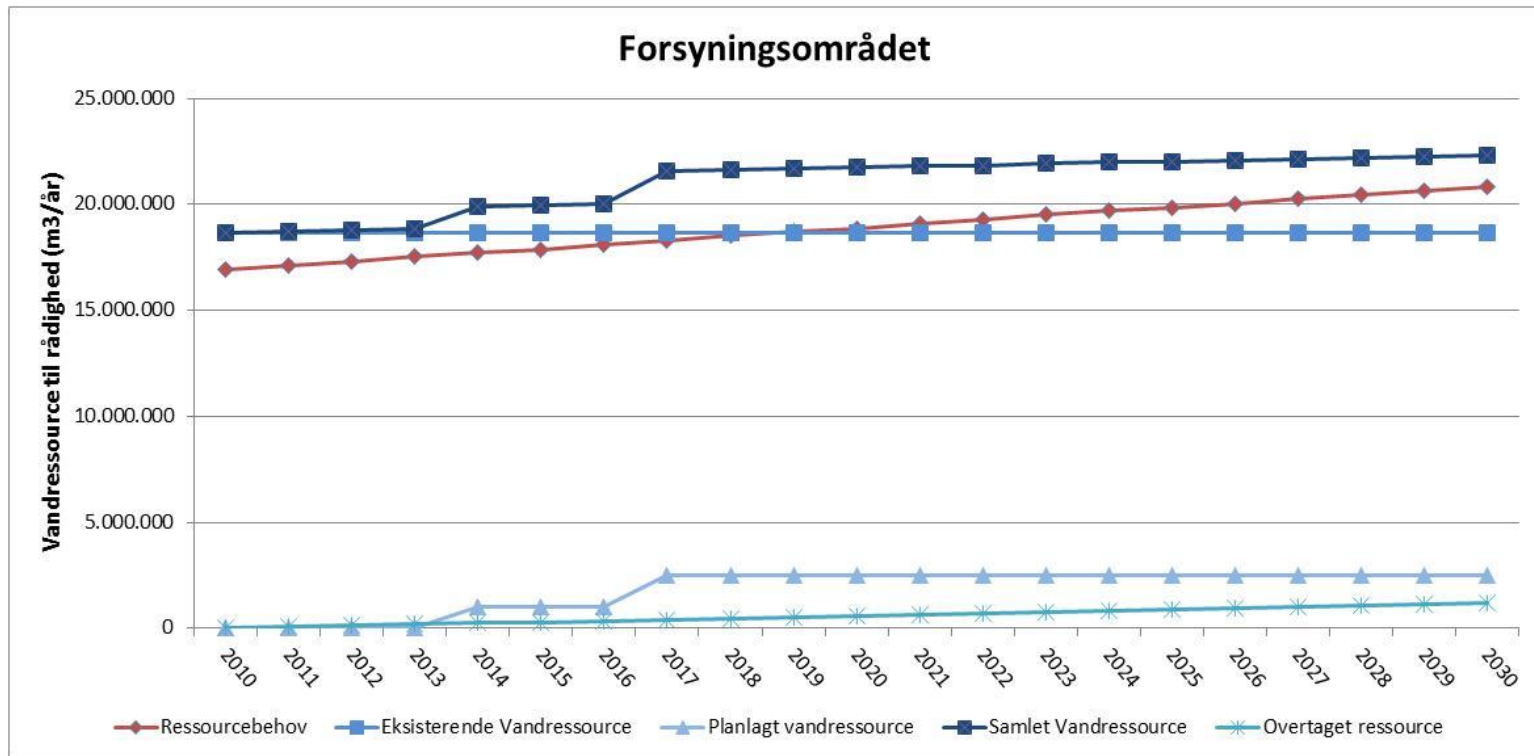


# The second-largest city in Denmark



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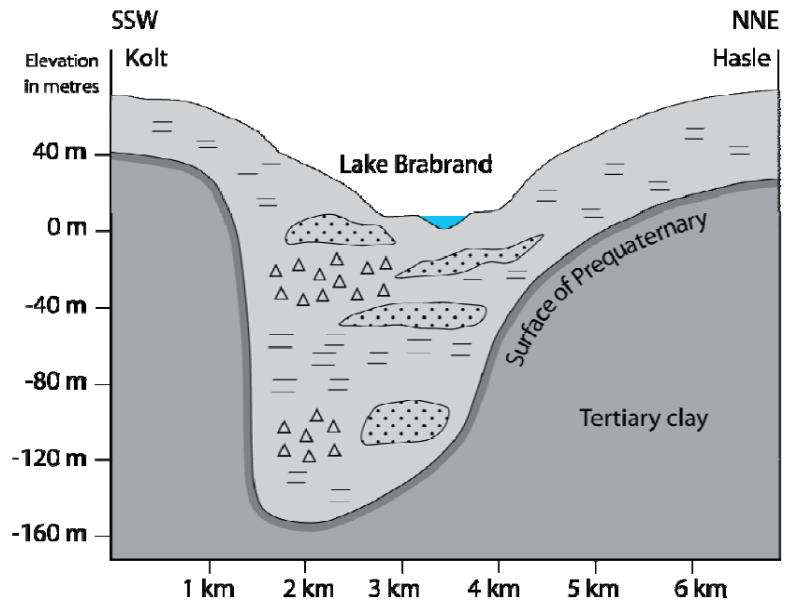
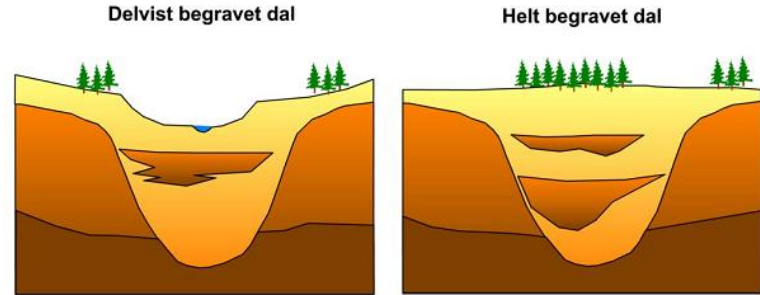


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16 well fields

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# Challenges

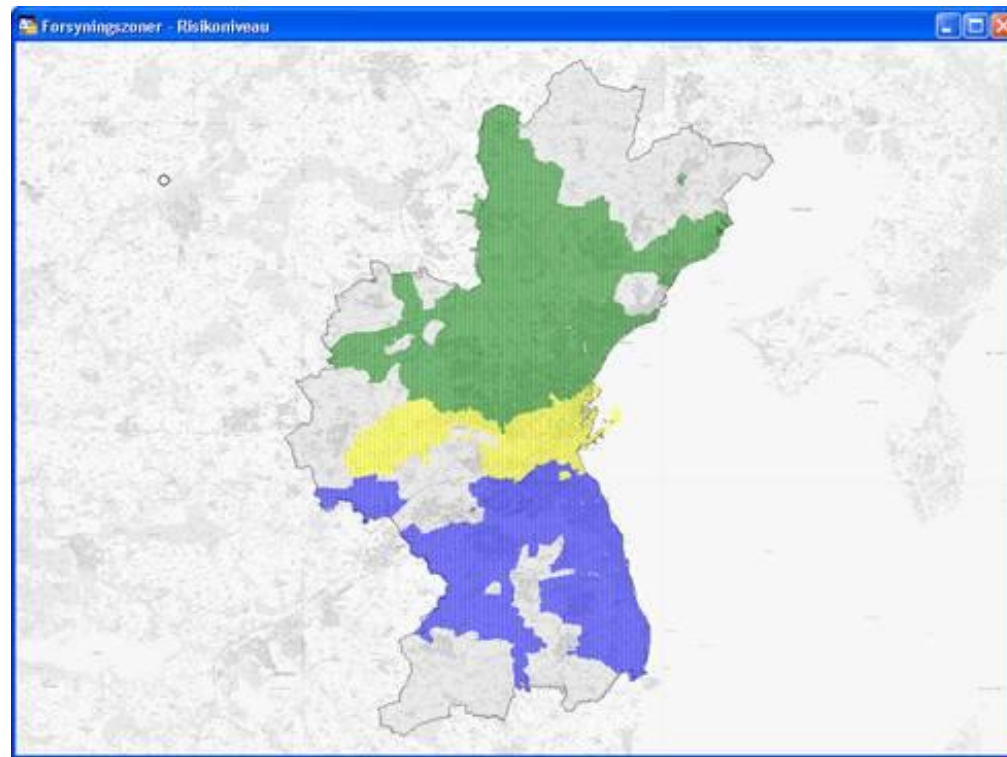
1. Water sektor Law
2. Water Frame Directive
3. Renewal of permissions to abstract water





# 1. Water sektor Law

- Minimize costs on operations and maintenance
  - New structure
    - Reducing the number of waterworks (9-6)
    - Reduce the number of storage tanks



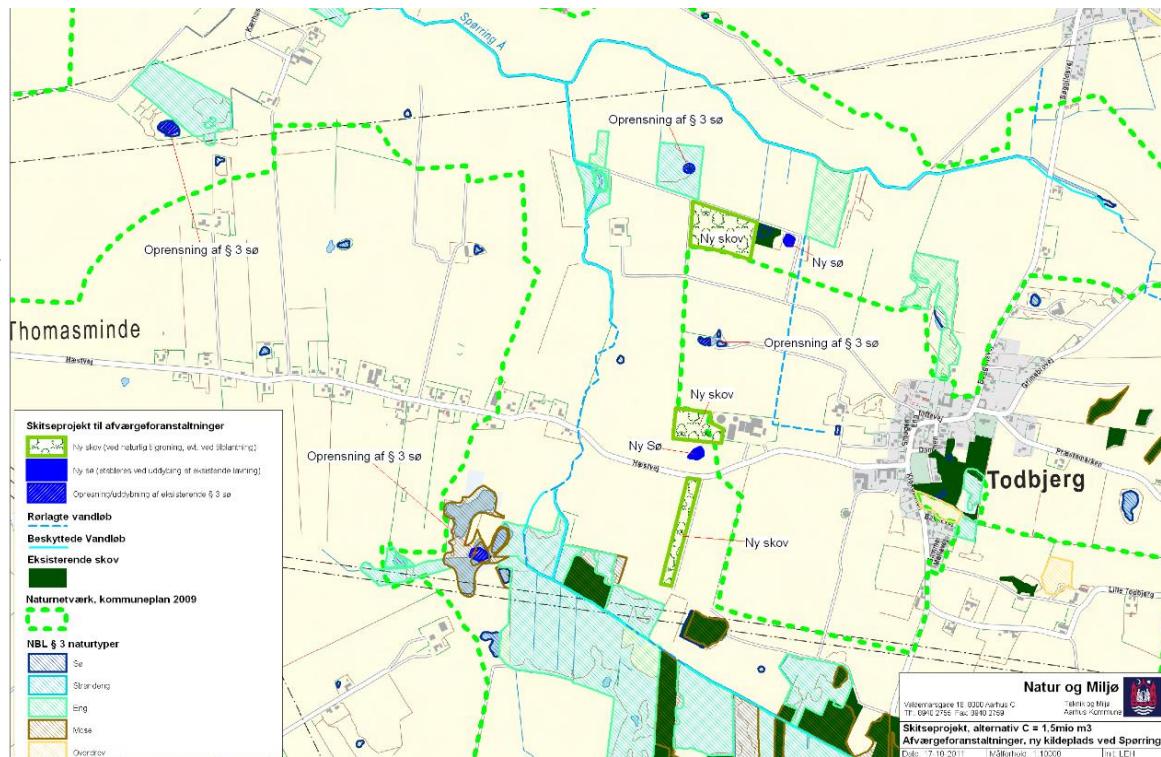




## 2. Water Frame Directive

- Water balance
  - Restrictions on environmental impact (surface water)
    - Agreements with landowners on a voluntary basis.

Grw molde - stream flow 20% to low



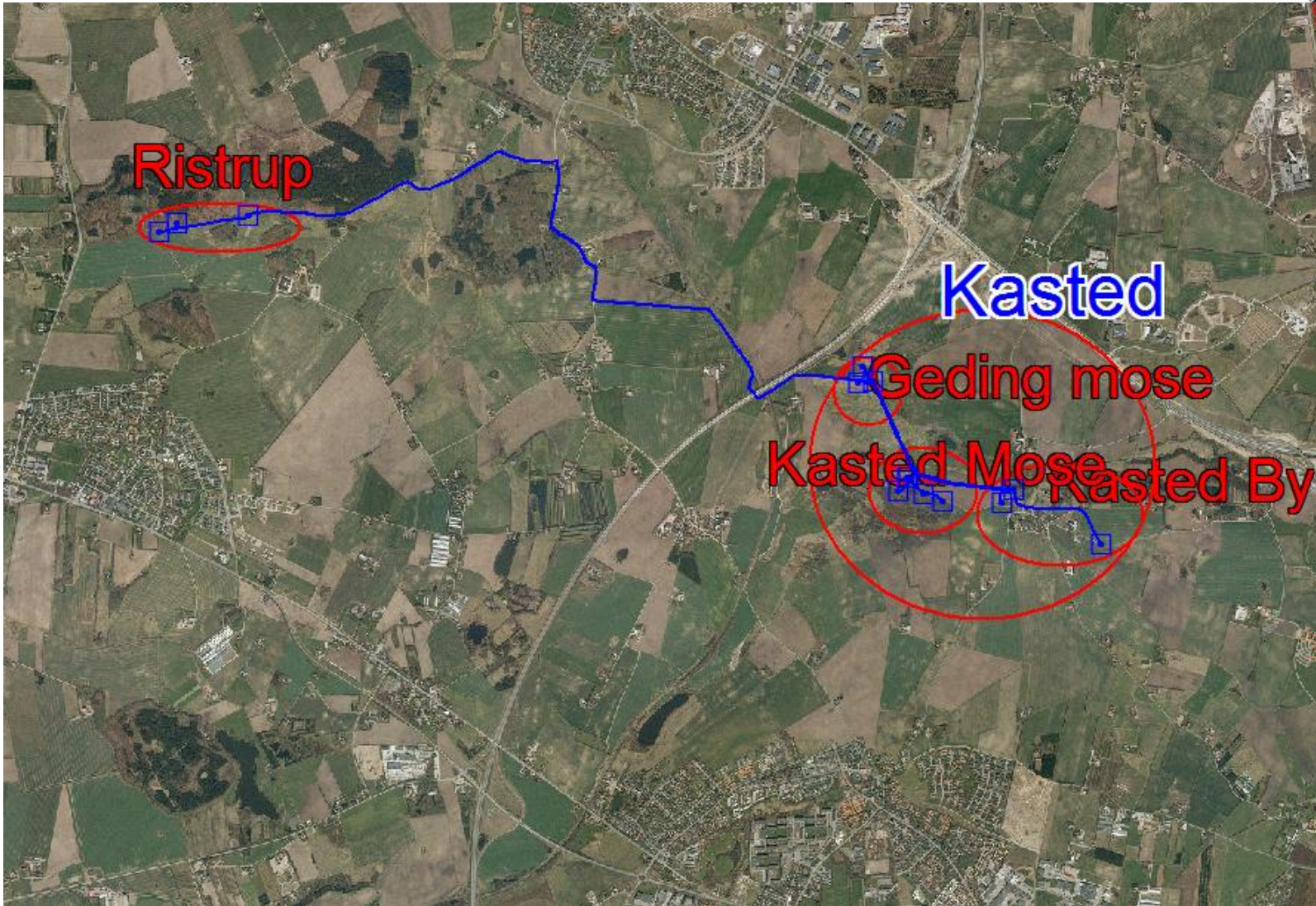


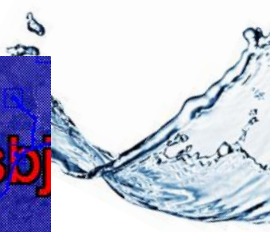
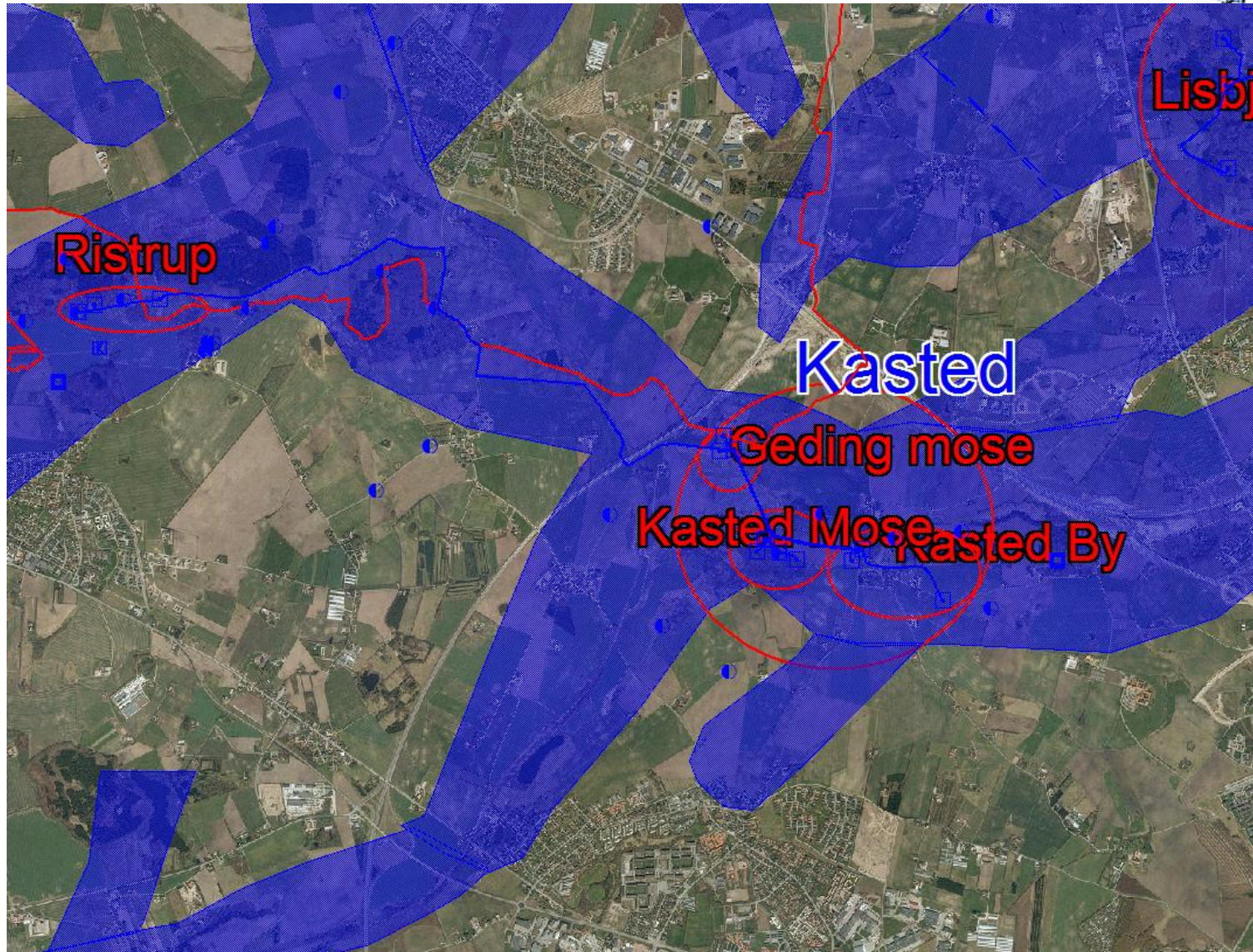
### 3. Permissions

- Total permission 22.270.000 m<sup>3</sup>/year
- 23 permits running out in 2023
  - New structure –
    - more fluctuation at the well fields
    - more water (north)
  - Water Frame Directive
    - reduktion in total abstraction
    - kompensation and landowner agreements

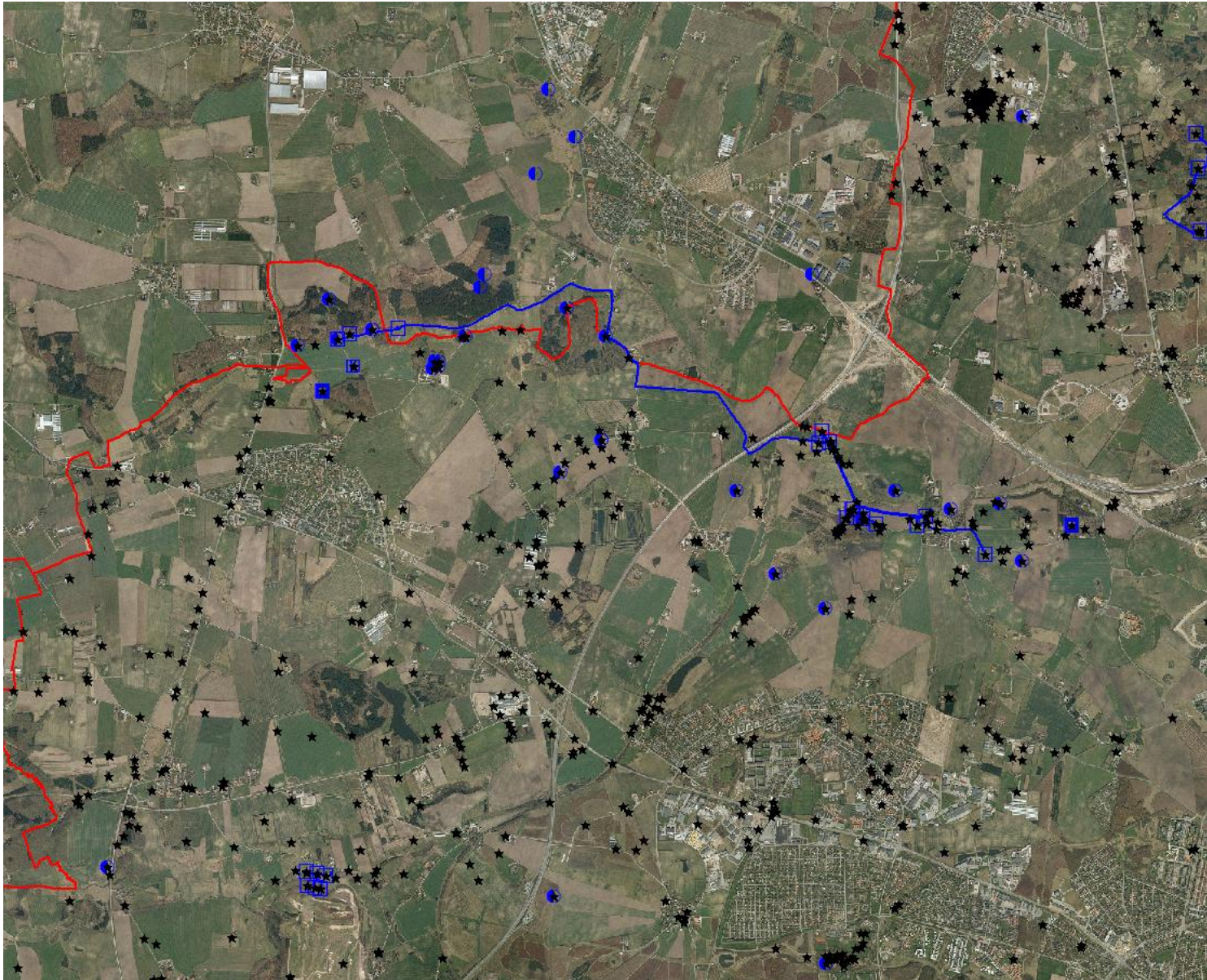
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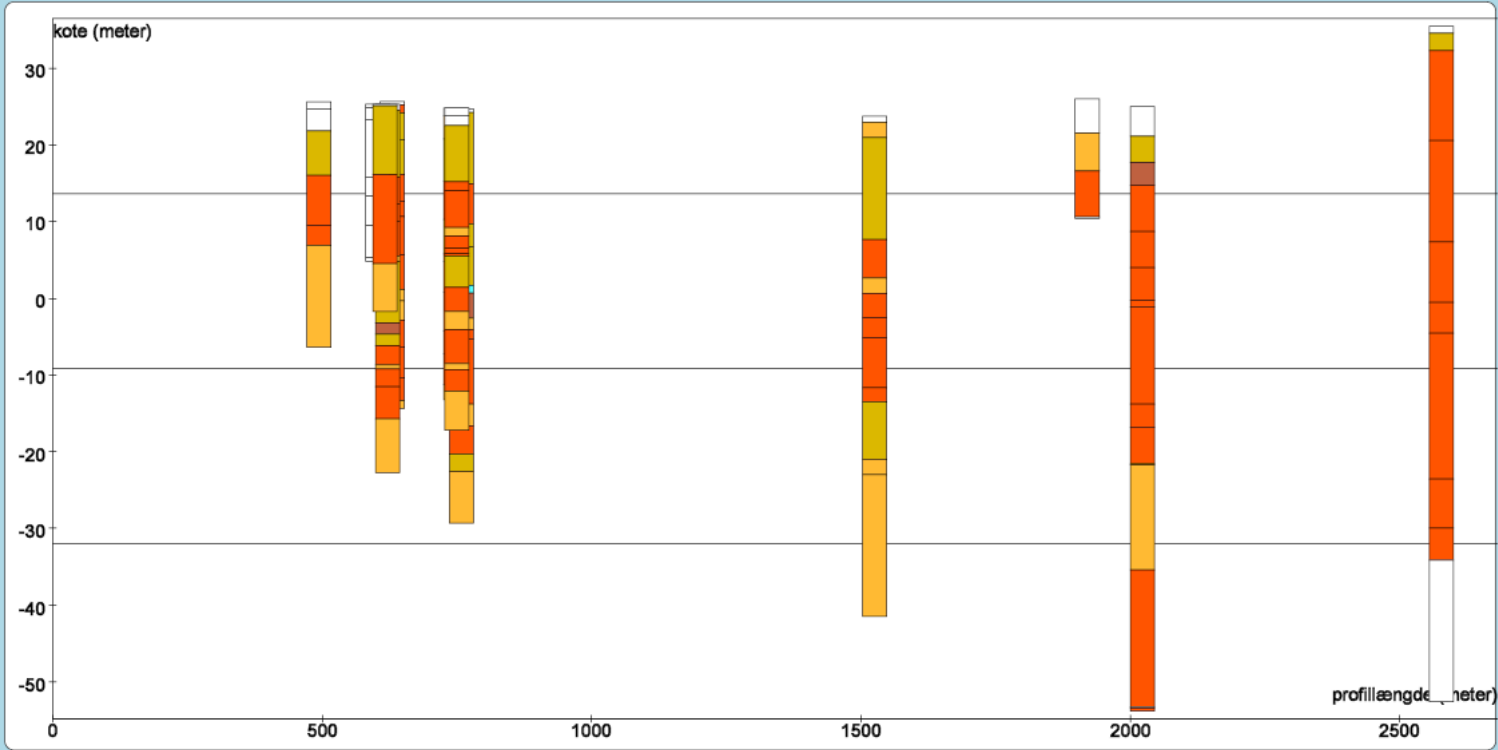
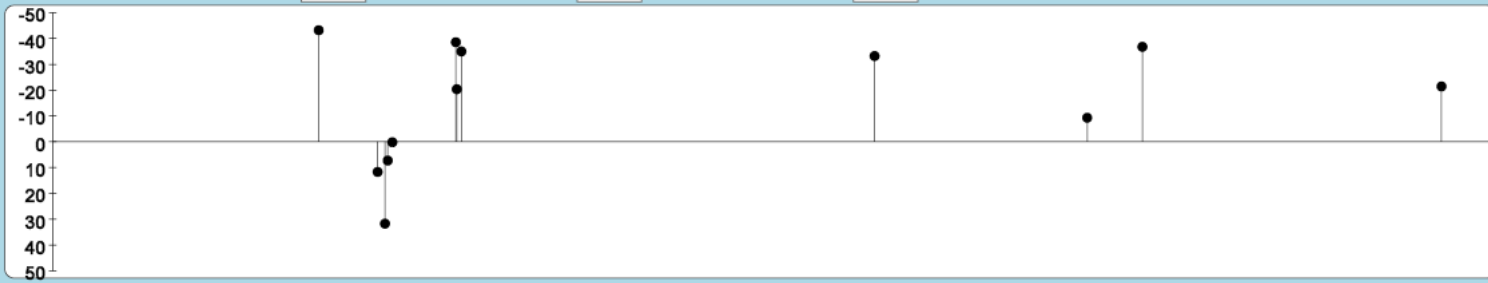


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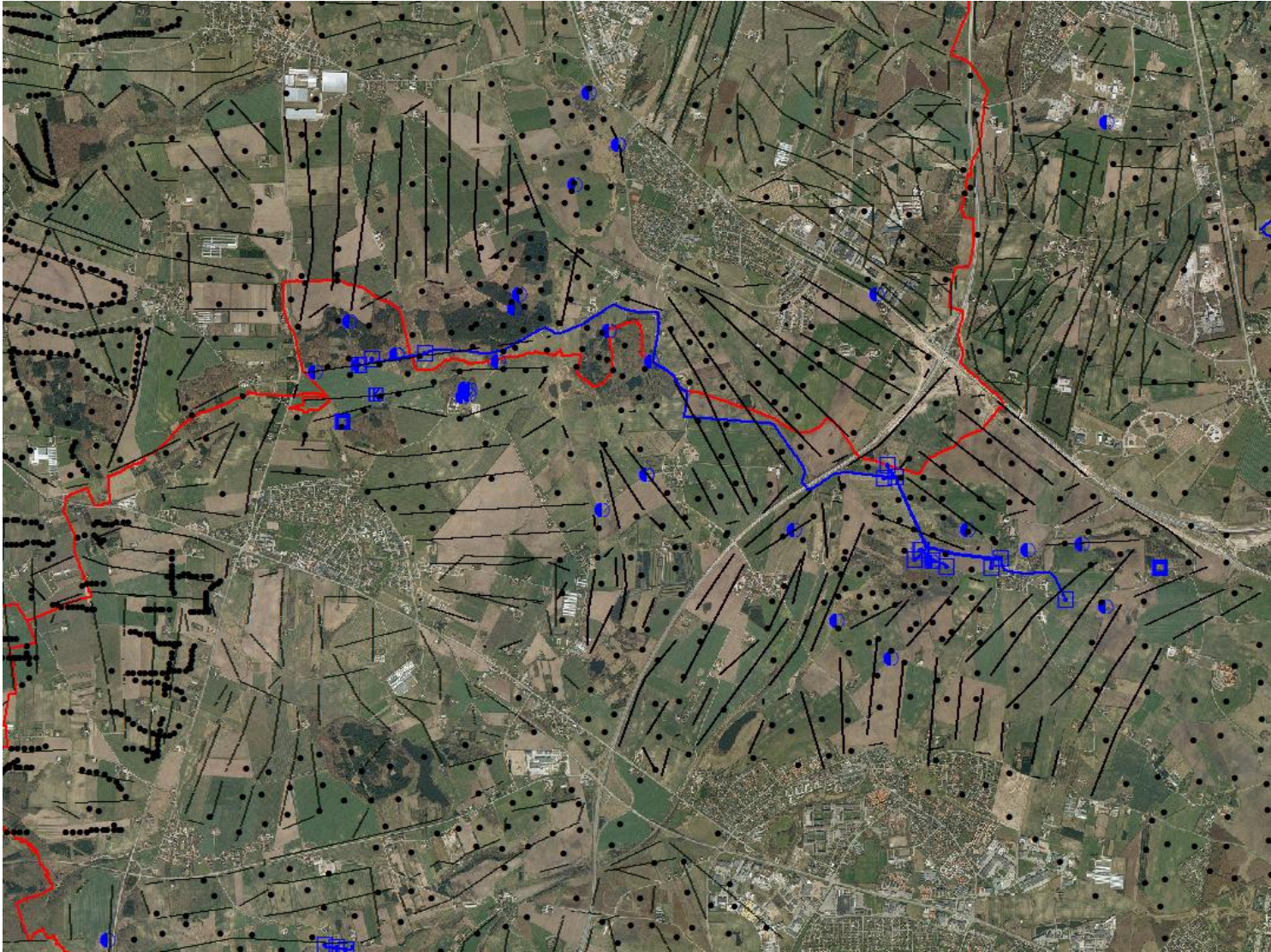




Profilbredde (meter):  Topkote (meter):  Bundkote (meter):



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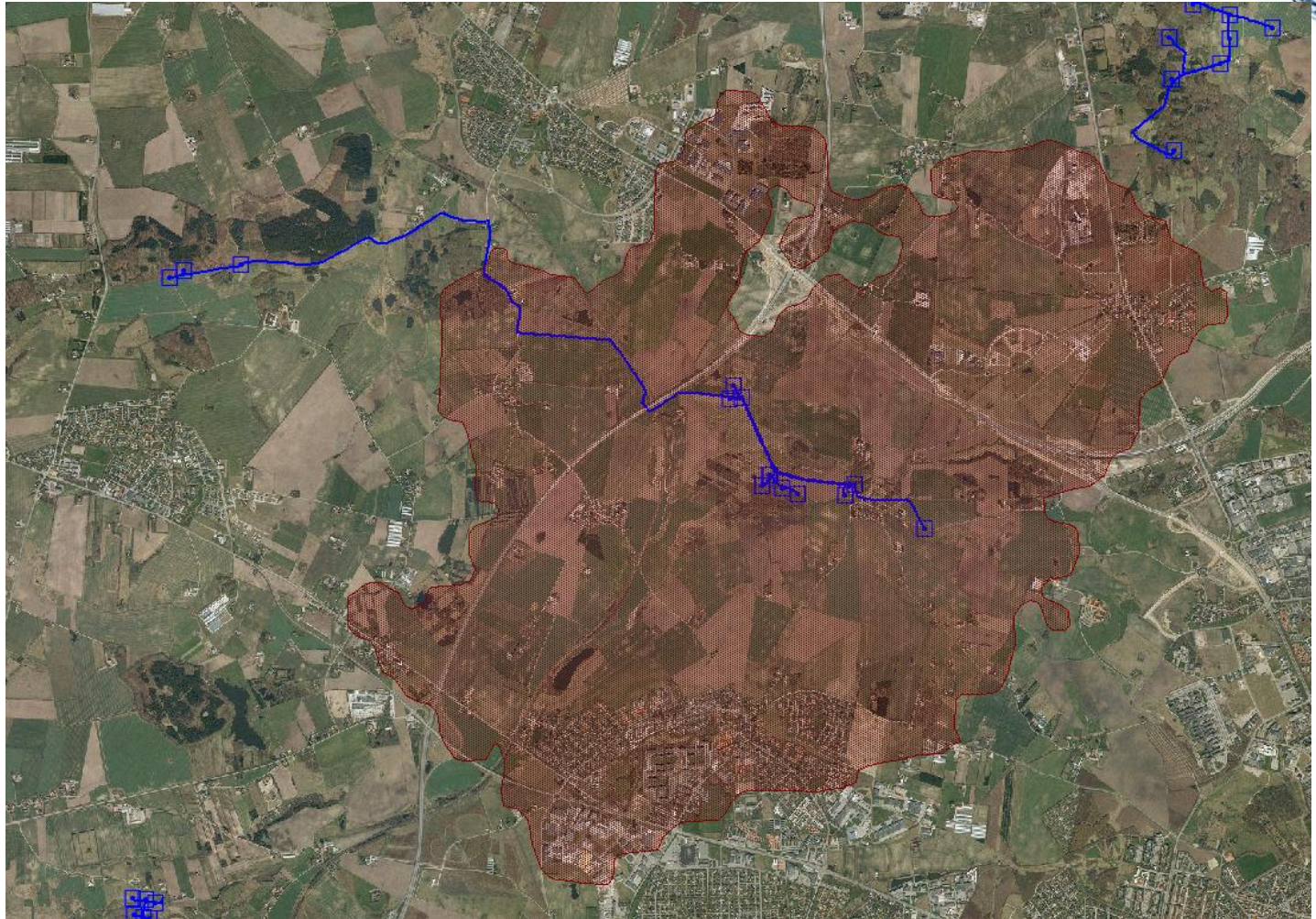






Grw model 1.600 km<sup>2</sup> 1996-1998 (MIKE SHE)

Kasted model, 4 layer, 220 km<sup>2</sup> 1999-2000 (MIKE SHE)



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