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Well field of Crépieux-Charmy: Research Platform and SEEGMA

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Well field of Crépieux-Charmy: Research Platform and SEEGMA

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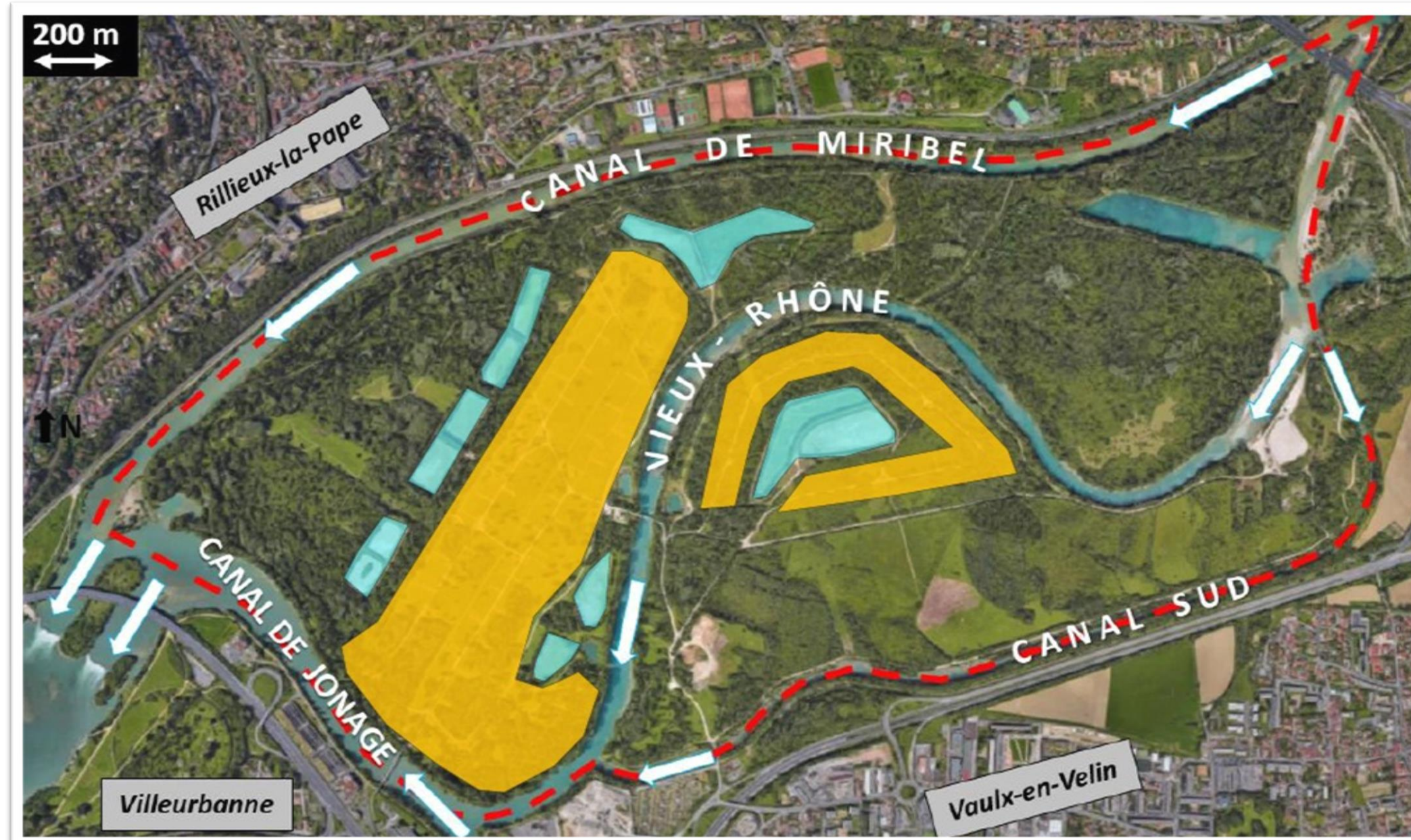
LYON METROPOLE



- ◆ Area :538 km²
- ◆ Municipalities :59
- ◆ Population: 1.3 million
- ◆ Drinking water: 240 000 m³/day

91% of the water supplied come from the **well field of Crépieux-Charmy**

WELL FIELD OF CRÉPIEUX-CHARMY (CONSTRUCTED IN 1954)



- ◆ 375 hectares
- ◆ 111 wells
- ◆ 12 Infiltration basins
- ◆ Capacity : 600 000 m³/day
- ◆ Water quality: drinking
- ◆ Added treatment: chlorination when needed

Underground water recharge (Rhône) :

- Natural recharge based on river-groundwater exchanges
- Artificial recharge with infiltration basins

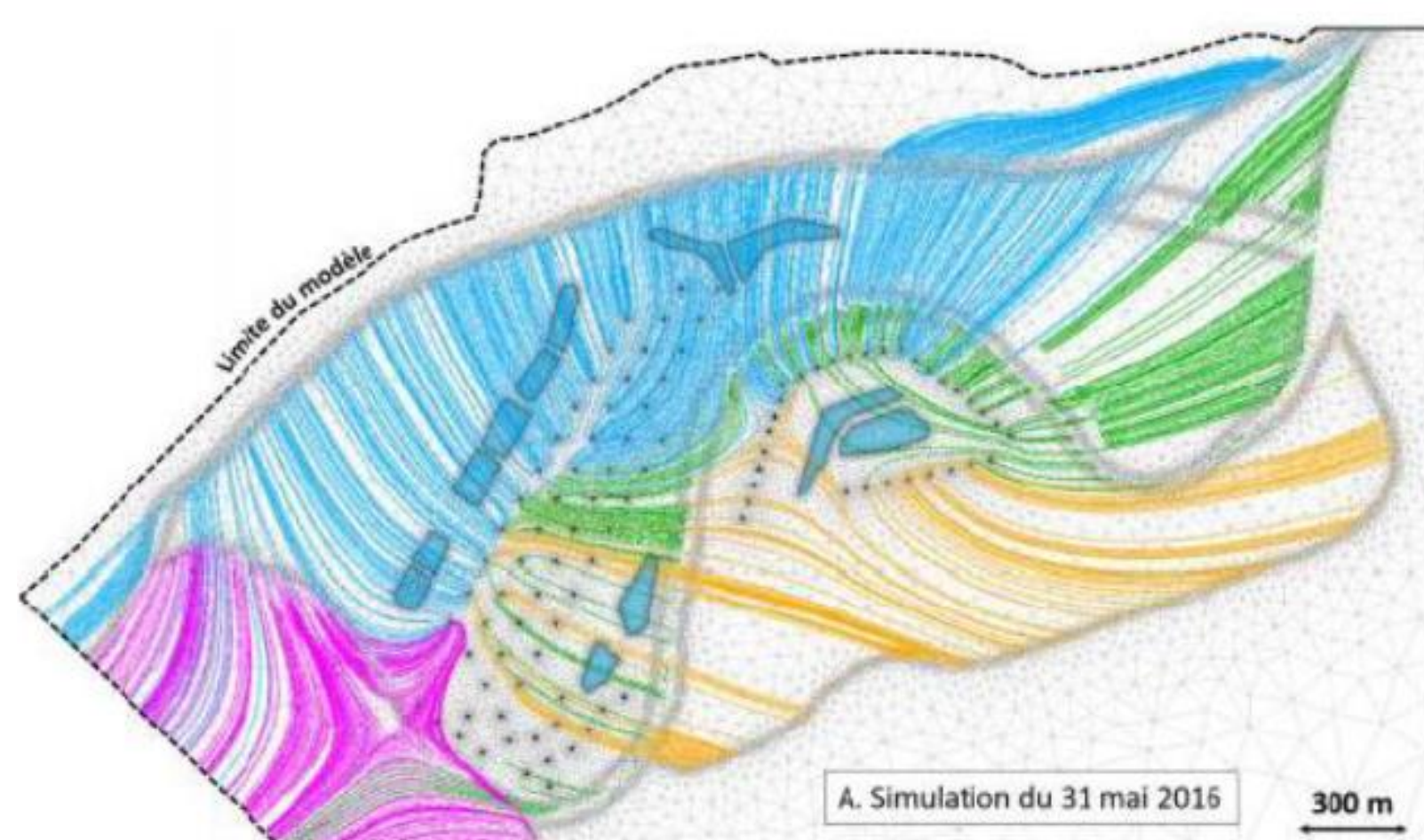
RESEARCH PLATFORM OF CRÉPIEUX CHARMY (CREATED IN 2010)

Objectives: to ensure the quantitative and qualitative sustainability of the water resources in Crépieux-Charmy

Public-private consortium: Lyon metropole, academic and institutional partners, private consultants

Multidisciplinary approaches to understand the hydro & biogeochemical functioning of Crépieux-Charmy well field

Hydrogeology & Geophysics



3D Modelling of water pathways

Complex interactions between river, groundwater and infiltration basins

Ecohydrology



Algal biofilm

Grazing by gastropods

Restoration of the hydrological performances of infiltration basins clogged by algal biofilms

Ecological engineering techniques based on trophic interactions "herbivorous gastropods - biofilms"

Environmental chemistry & microbiology



Piezometers

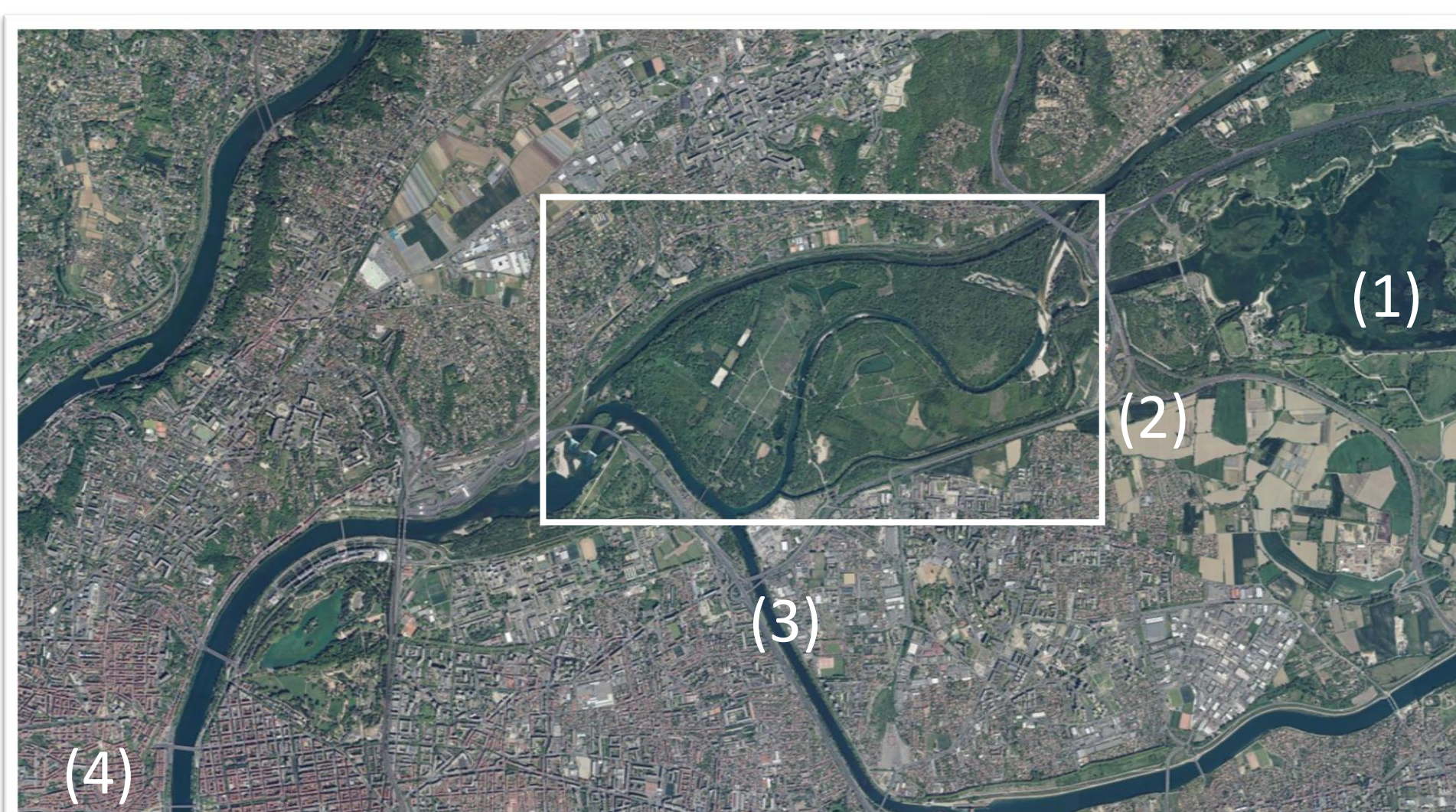
Chemcatchers

Germcatchers

Interfaces between surface water and ground water: their influence on water fluxes and quality

Emerging pollutants, nutrients, bacterial communities

WELL FIELD OF CRÉPIEUX-CHARMY: A VITAL RESOURCE IN ANTHROPIZED ENVIRONMENTS



(1) Recreation areas; (2) A42 Motorway; (3) Ring road of Lyon ; (4) Lyon city center <4 km.

- ◆ 2019: integration in the Rhone Valley Human-Environment Observatory
- ◆ 2022: label SEEGMA - Global Ecology Study Site of Anthropized Environments

NEWS INTERDISCIPLINARITIES

MULTI-SCALE APPROACHES

- ◆ Influence of the Rhône river evolution and management on water resources
- ◆ Impacts of global changes on water resources
- ◆ Social perception of crucial but invisible water resources