

THE FISH MIGRATION RIVER

DE NIEUWE
afsluitdijk



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DNA THE NEW AFSLUITDIJK

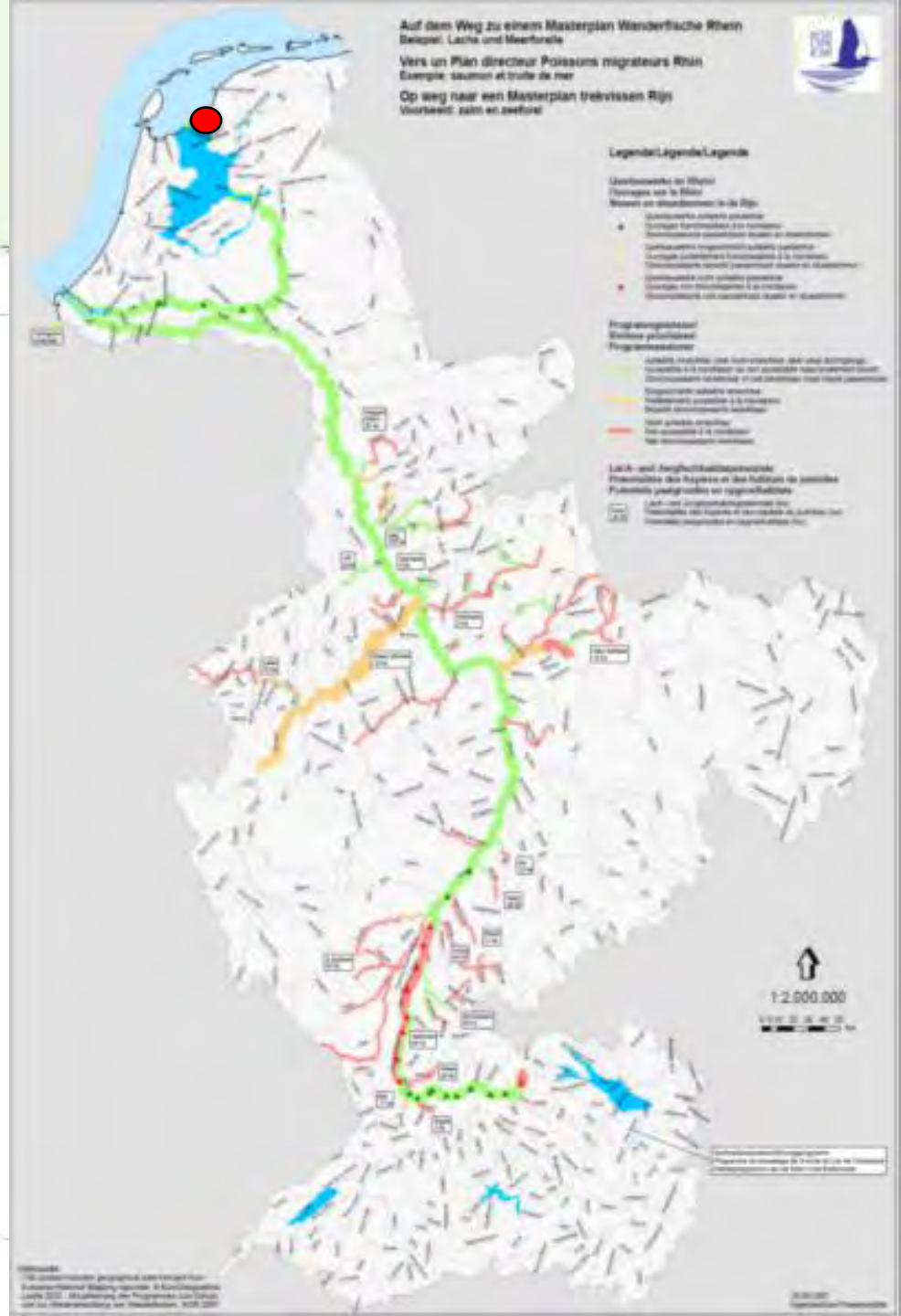


**The Afsluitdijk is more than 80 years old;
it needs to be reinforced**

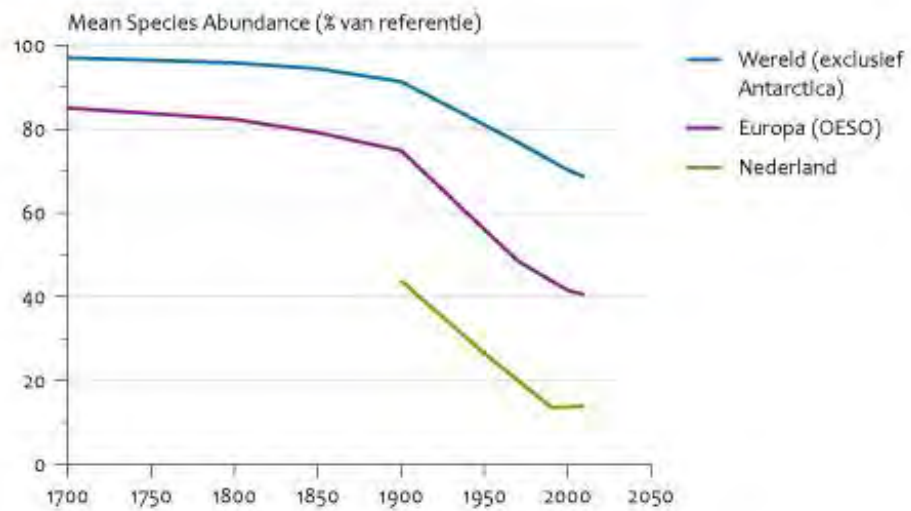
**DNA: A consortium to improve nature,
economics and recreation at the Afsluitdijk**



WWW.RIJKEWADDENZEE.NL

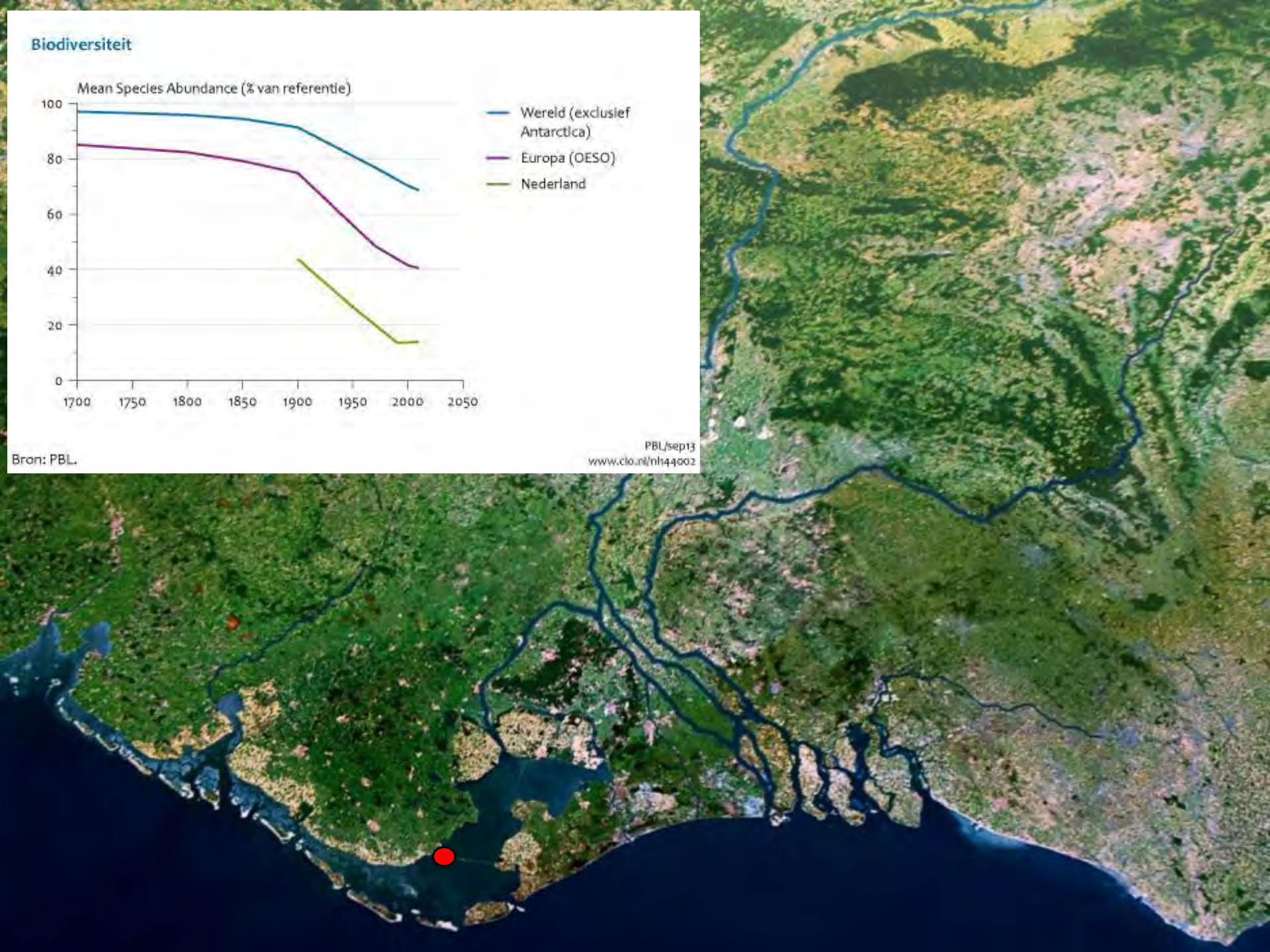


Biodiversiteit



Bron: PBL

PBL/sep13
www.clo.nl/nh44002



BARRIER

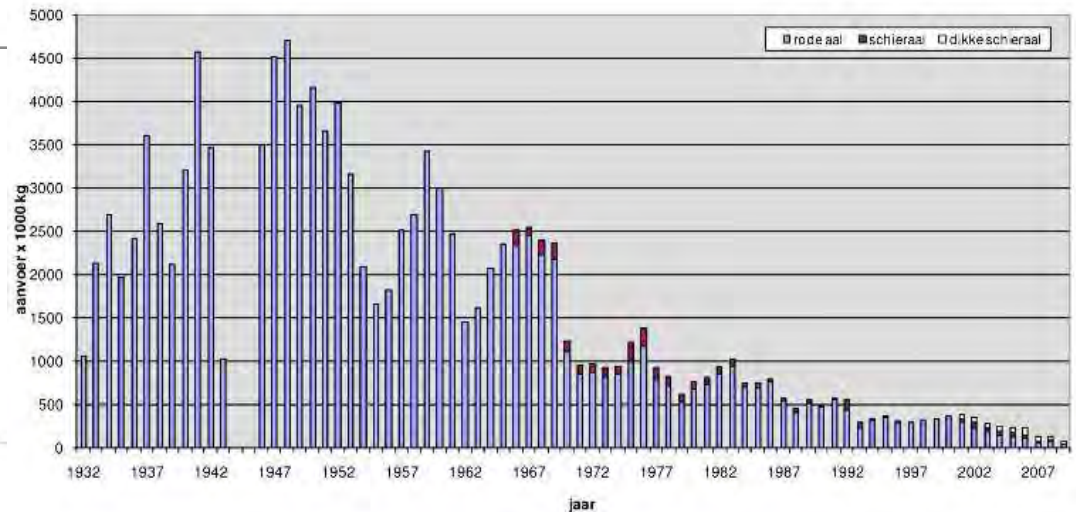
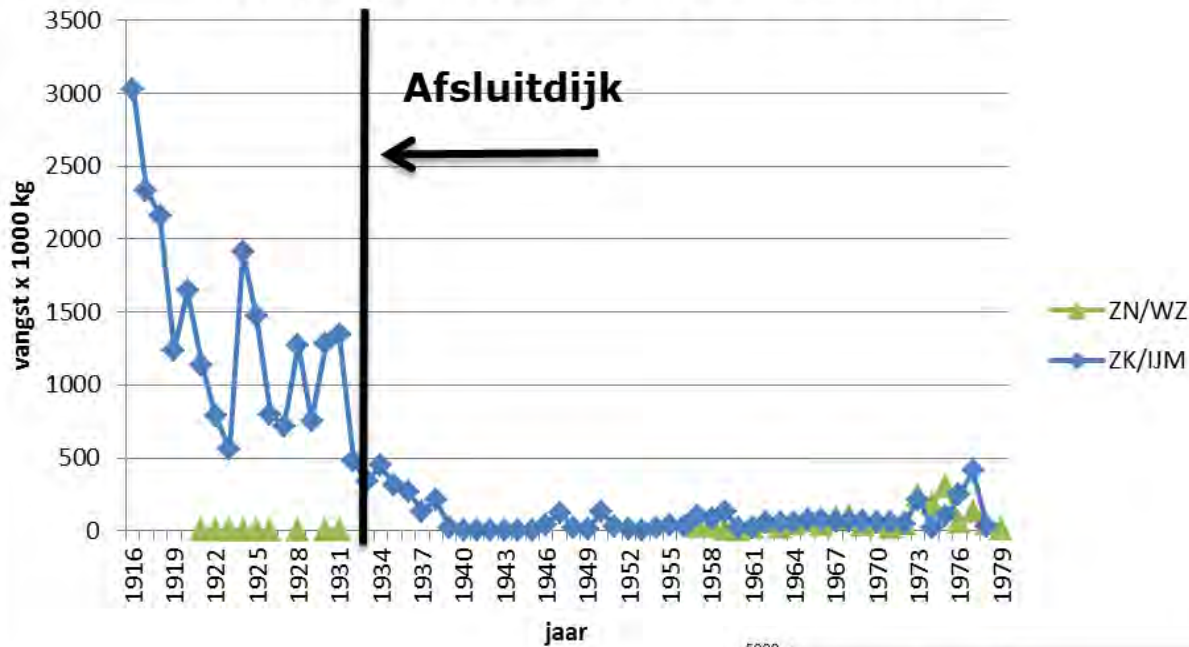


DISCHARGE SLUICES



IMPACT ON FISH POPULATIONS

vangst spiering ZN/WZ, ZK/IJM 1916-1979



IMPACT ON BIRDS



SOMETHING NEEDS TO BE DONE!

DE NIEUWE
afsluitdijk



Vereniging
Vaste
Vistuigen Noord



BASIC DEMANDS

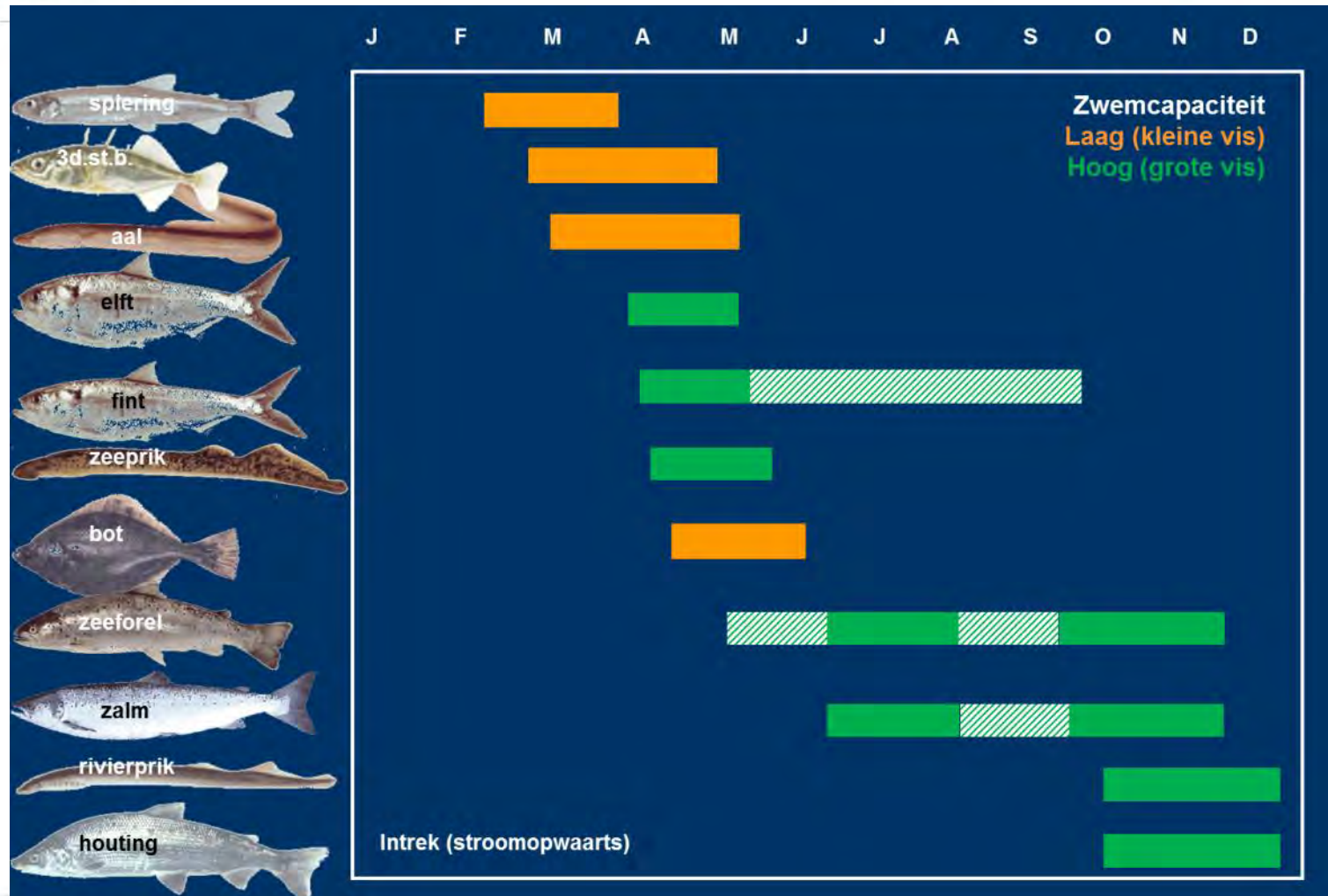


Terms of Reference

- Robust ecological connection
- Facilitate all migratory species all year round
- Tidal migrants!
- Robust attraction flow and transition zone
- Recreation. Basis for sustainable fisheries

Restrictions: No extra salt. Not limiting water discharge.
Not limiting water storage

TIMING & SWIM CAPACITY





IMARES wageningen UR - Ben Grifioen



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TELEMETRY STUDY 2014



Figuur 3-32 Individuele zwempatronen voor twee succesvol ingetrokken zeeprikken. De tracks (posities per minuut) zijn geschat op basis van simultane detecties bij meerdere receivers, waarbij minimaal een onzekerheidsmarge van 50 m moet worden aangehouden, dus de oevers kunnen ook bezocht zijn.

SEA LAMPREY AT KWZ

ONLY 12 - 20% PASSES

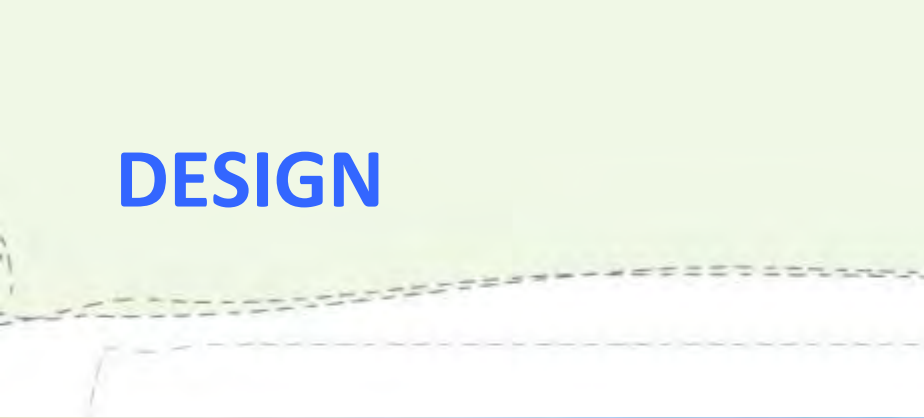


CONCLUSIONS FIELD STUDY

- **Sluice complex attracts the migratory fish**
- **Millions - 100's of millions of fish!**
(smelt, flounder larvae, glass eel, 3-spined sticklebacks)
- **Concentration on the west side**
- **Migration delay**
- **Sluice management helps, but...**
- **FMR: Multiple entrances needed**



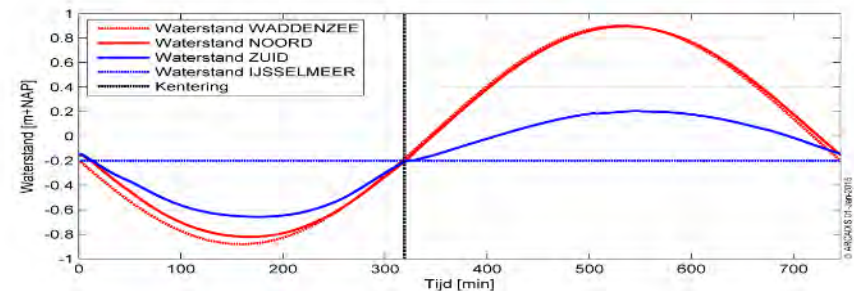
DESIGN



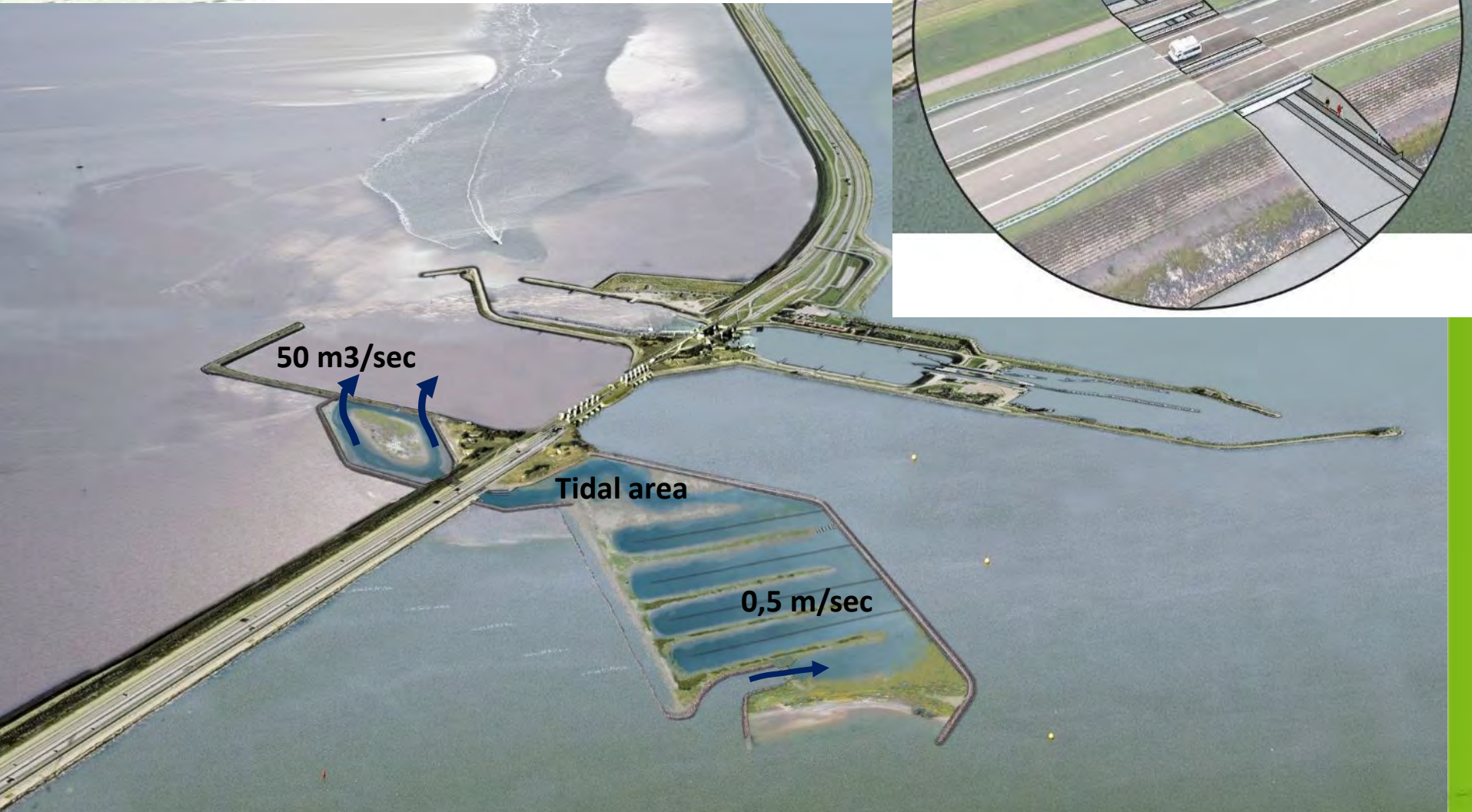
DESIGN

The characteristics:

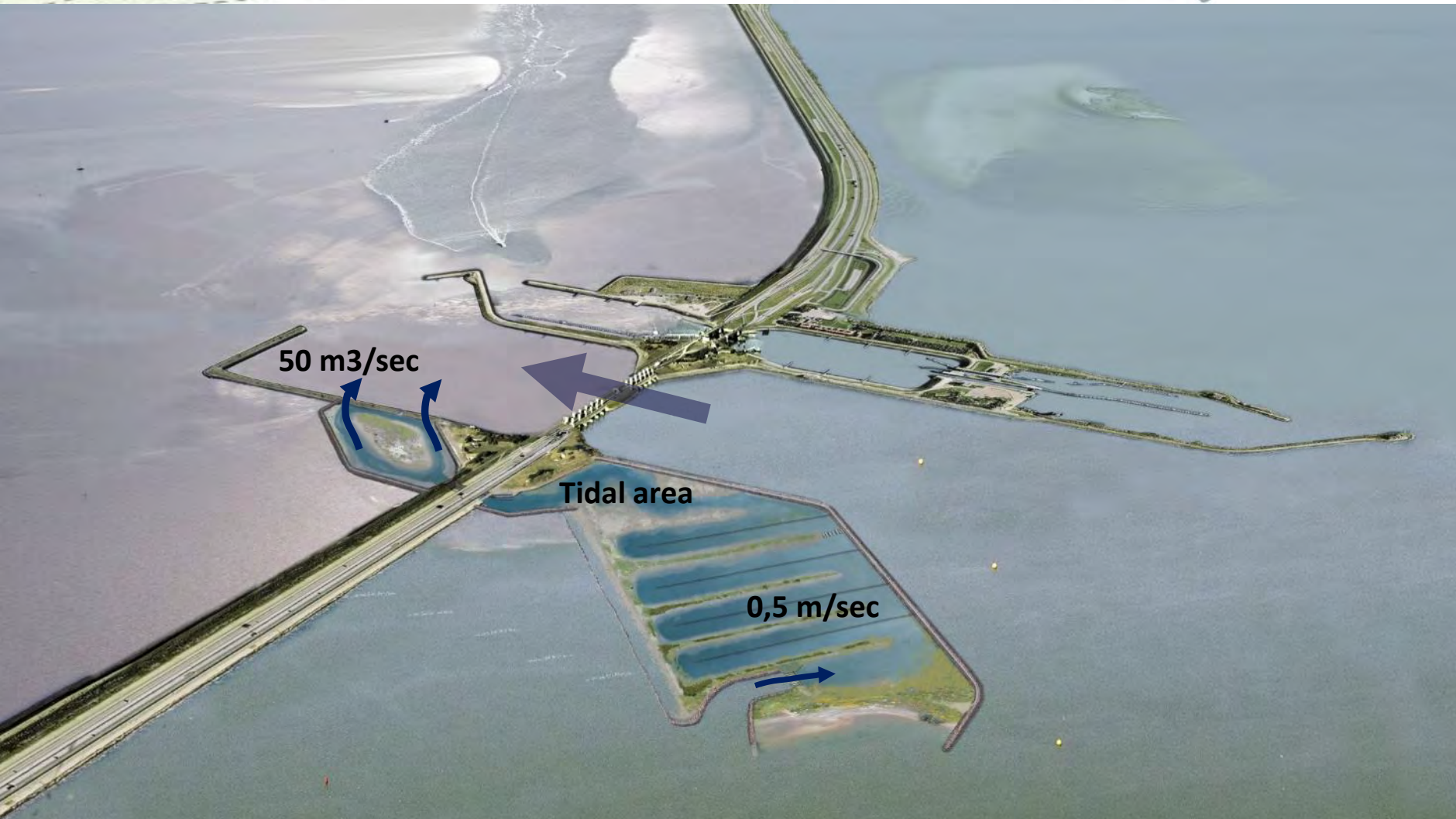
- 4 km long
- 24 / 7 open
- Runs at low tide; 2 entrances; 50 m³/sec
- Open culvert (7m) and vertical slot (3 m)
- Velocities change through tide; in river 0,5 m/sec
- Sand based, tidal area (80 cm tide)
- Inflow of salt water
- Stable brackish habitat



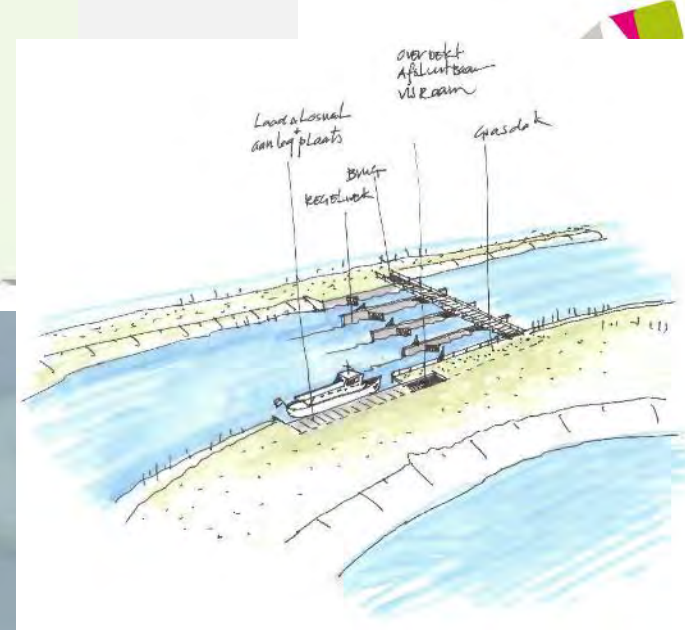
DESIGN: low tide



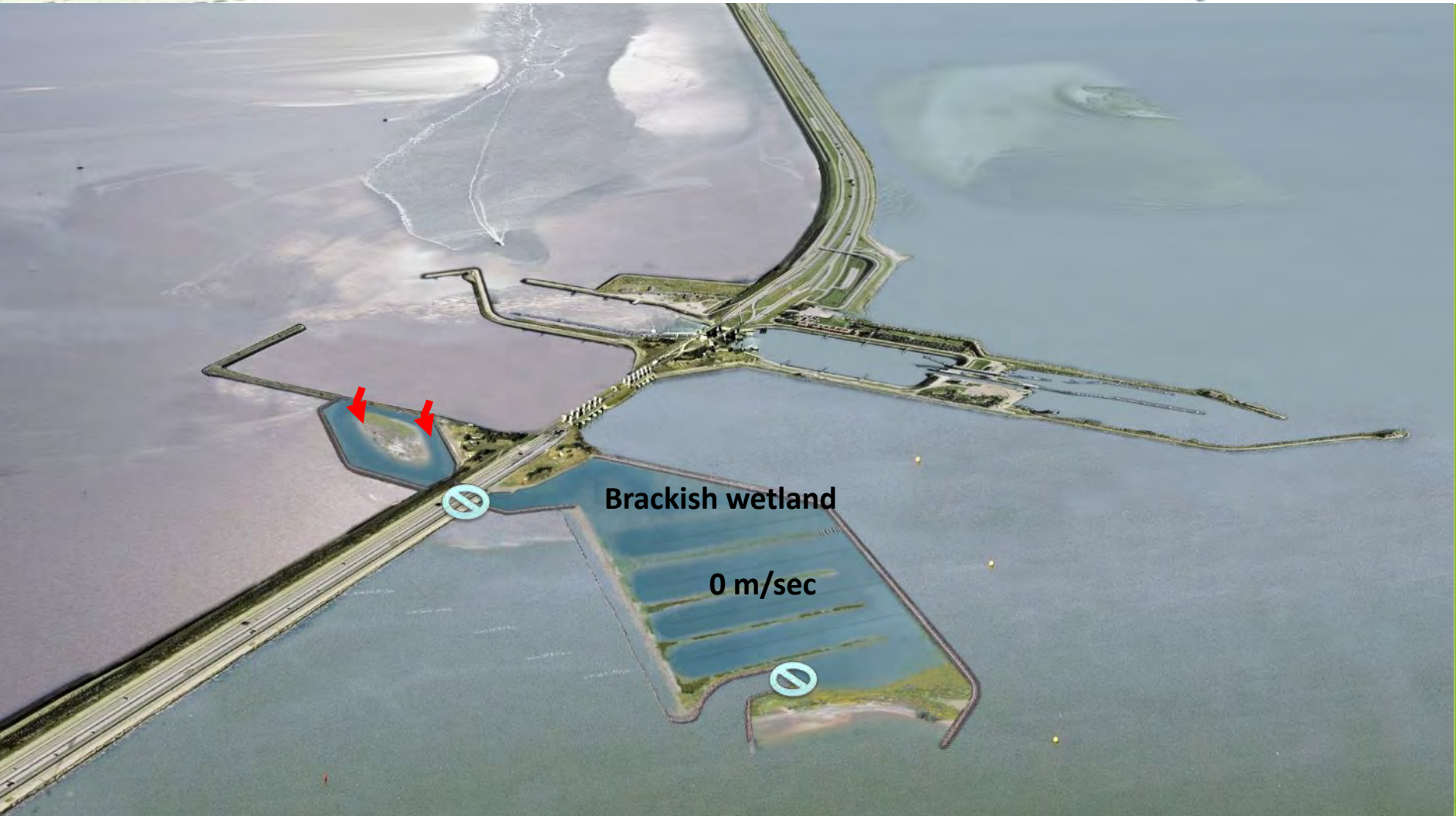
DESIGN: low tide



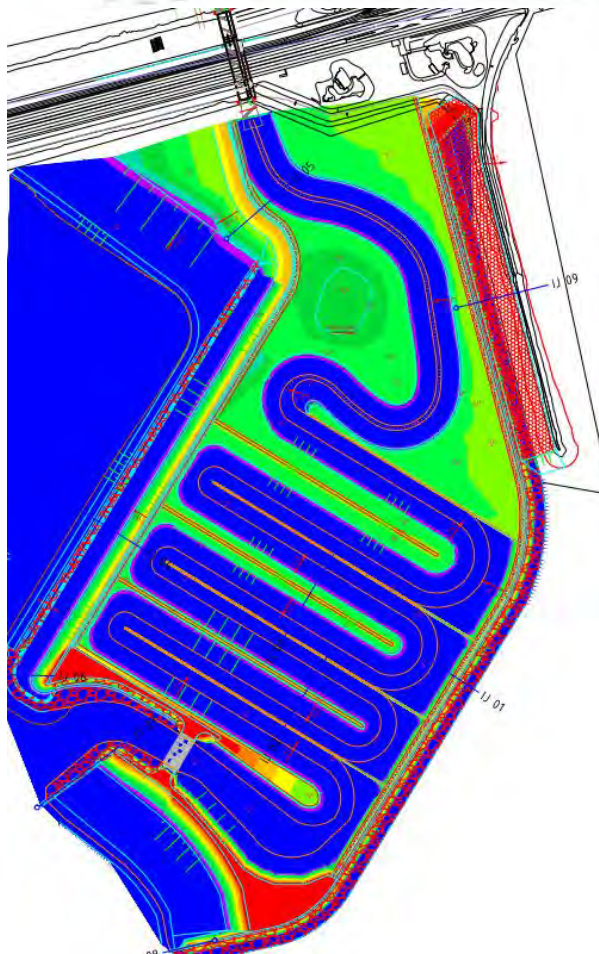
DESIGN: upcoming tide



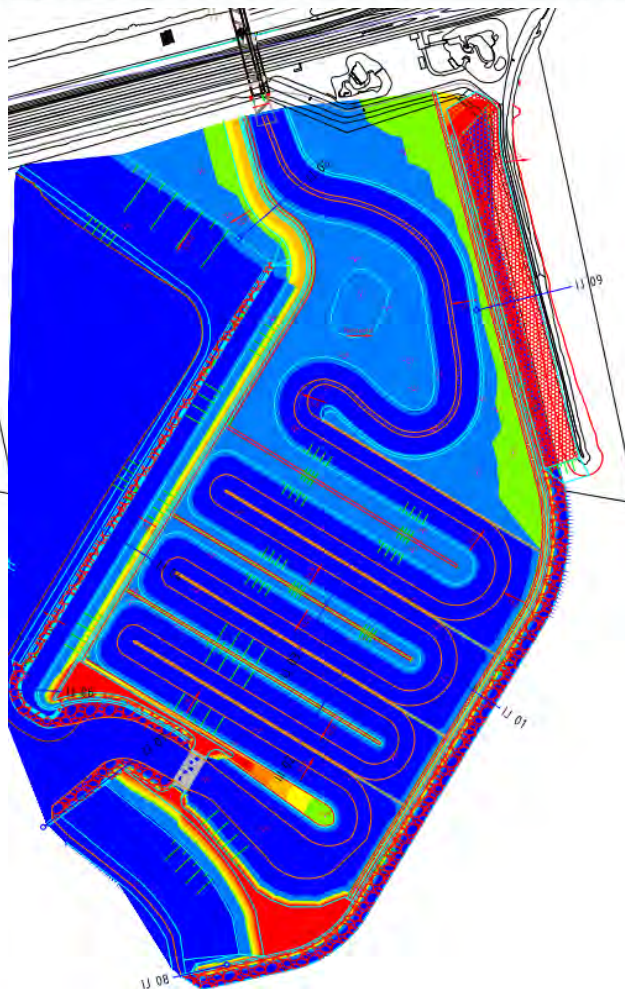
DESIGN: high tide



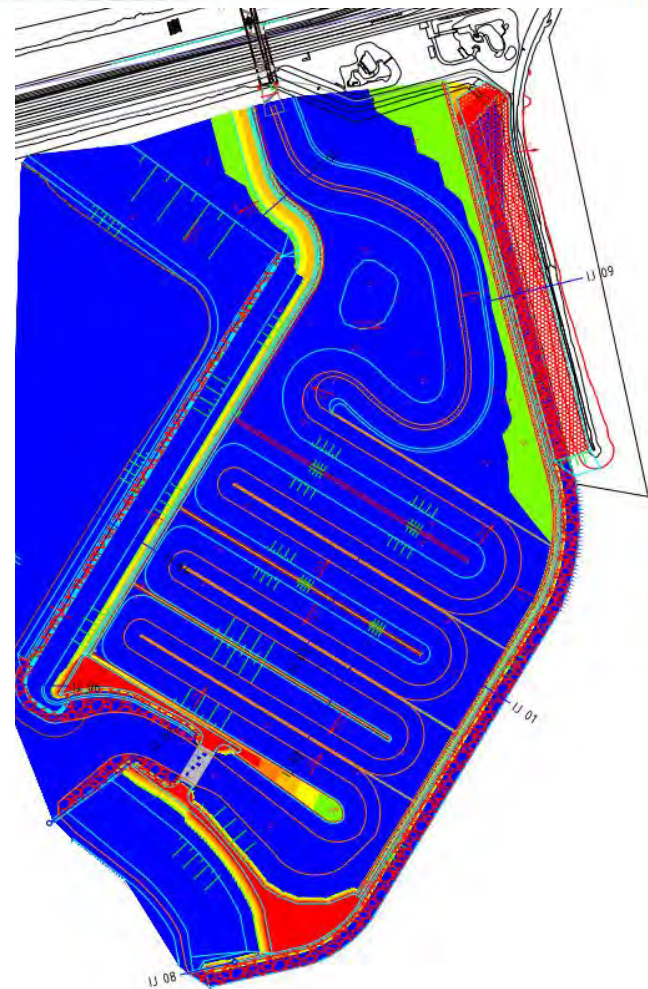
DESIGN: high tide



Low tide



Up coming tide



High tide

(INTER)NATIONAL EXPERTS



Specific output:

Multiple entrances

Open culvert

Flexible design & management

Good hydro & eco modelling

RECREATION

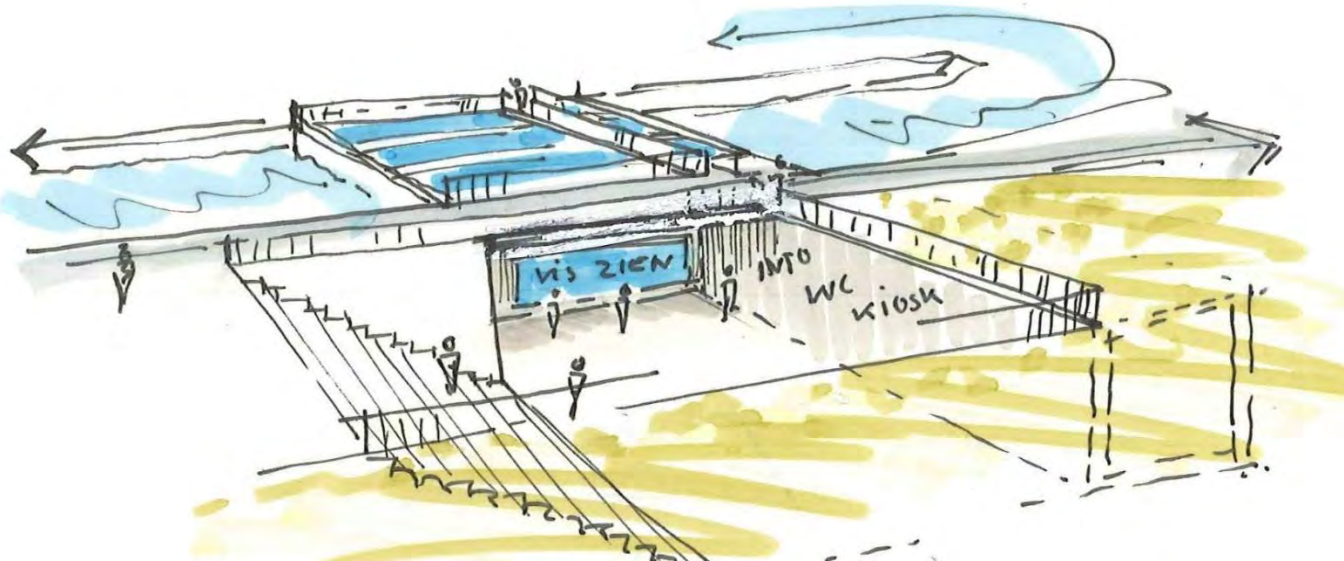


Mogelijke nieuwe invulling Kazematten: café



RECREATION

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PEOPLE & PARTNERS

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PEOPLE & PARTNERS

“For peace you need a partner. Not a plan”
Shimon Peres



PLANNING & FINANCE



Planning

Execute first phase: 2018

Finance:

- Total costs: 50 Mln. EUR
- Current status: 28 Mln. EUR
- DNA, Postcode Lottery, Ministry I&M, EZ, WFD, provinces, Wadden Fund, NGO's
- To be done: LIFE EU, Wadden Fund, ?

PEOPLE & PARTNERS

- Inspire each other. Happy fish to Basel?
- Use the momentum of renovation
- Involve internat. stakeholders at specific projects

Thank you

