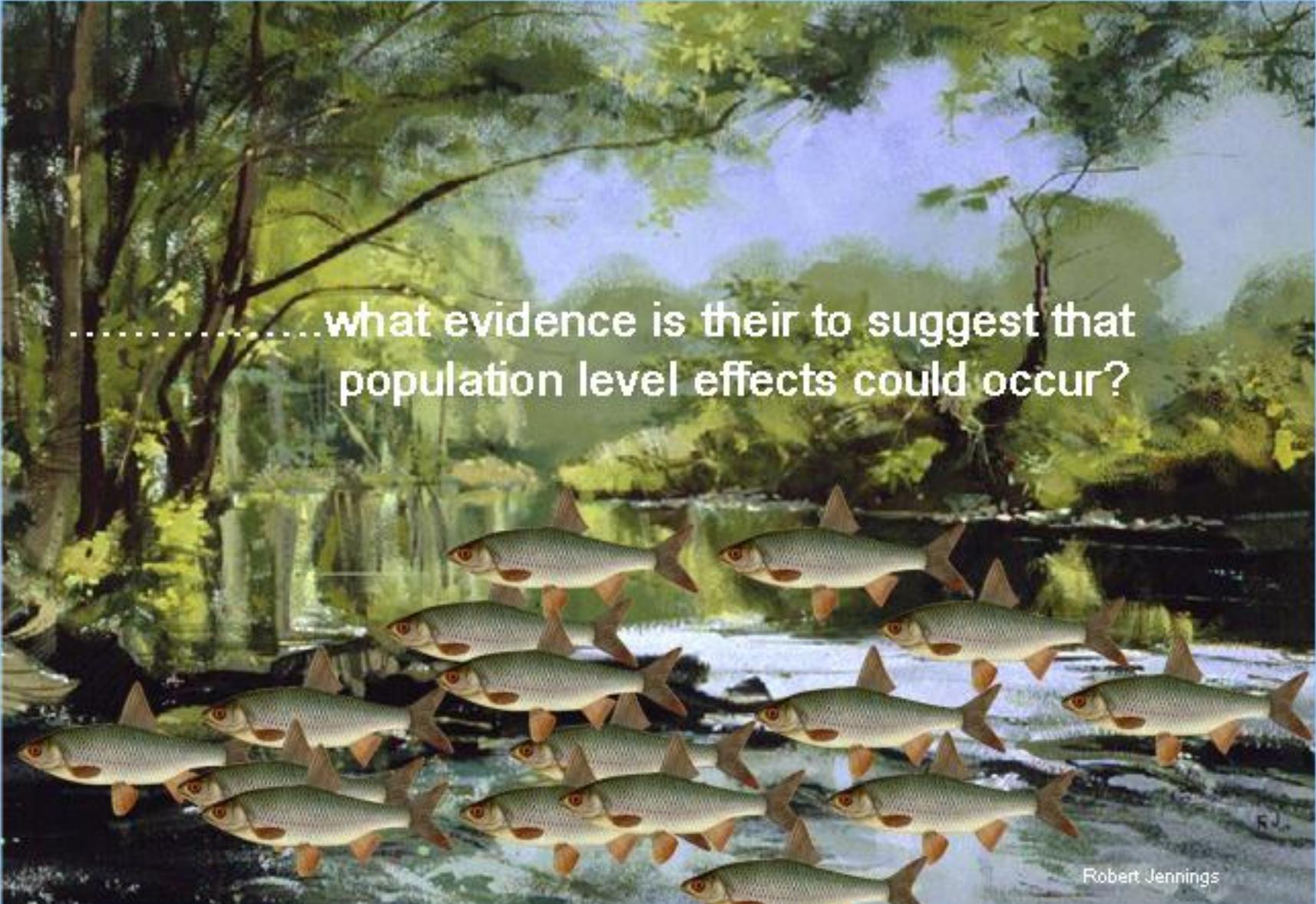


Population level impacts of Sexual Disruption n Roach

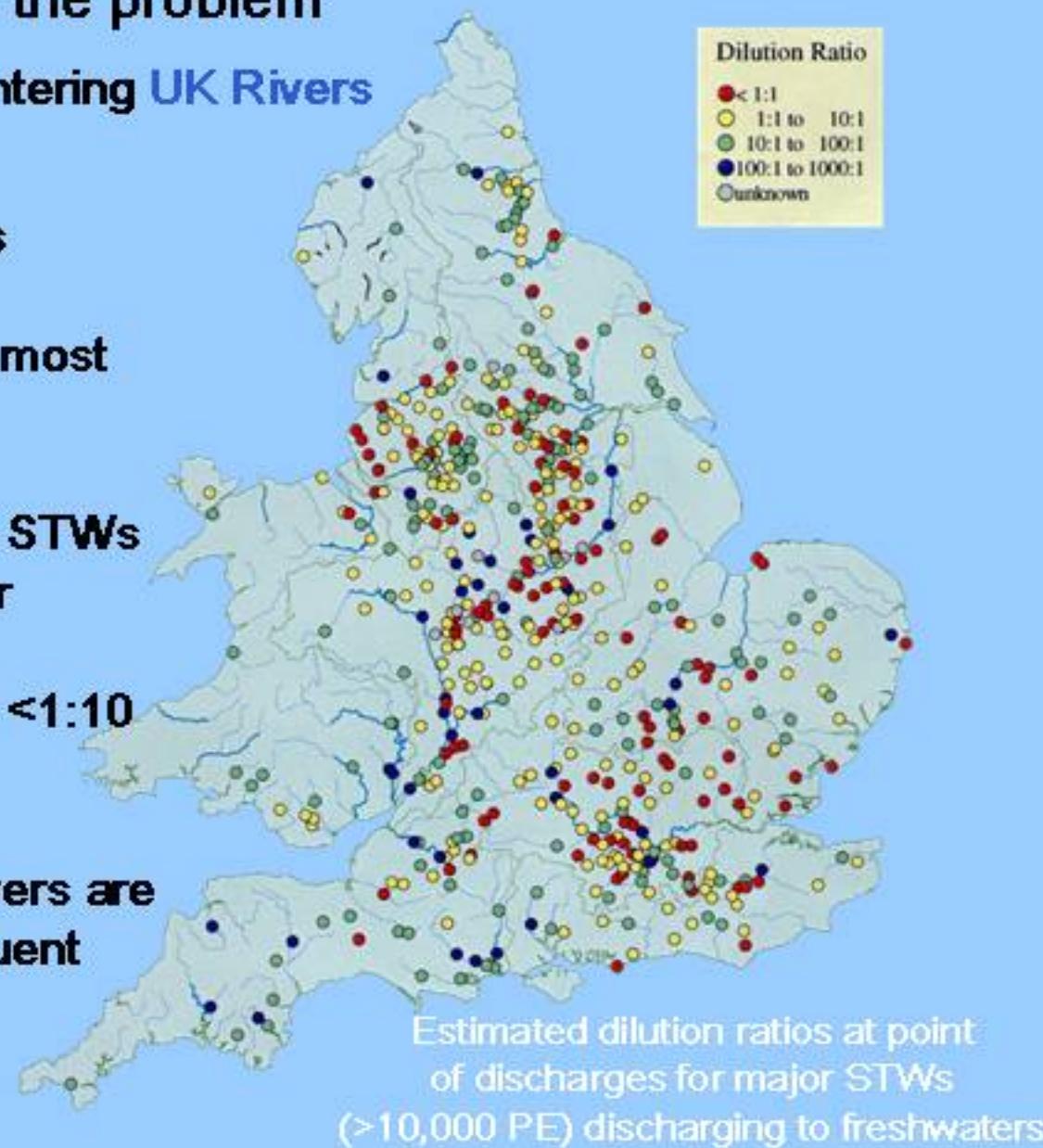
A photograph showing a large school of roach fish swimming in a river. The fish are silvery with distinct reddish-brown spots on their sides and dark fins. They are swimming in a dense, layered formation across the frame. The background features a lush green forest and a rocky riverbed.

what evidence is there to suggest that population level effects could occur?

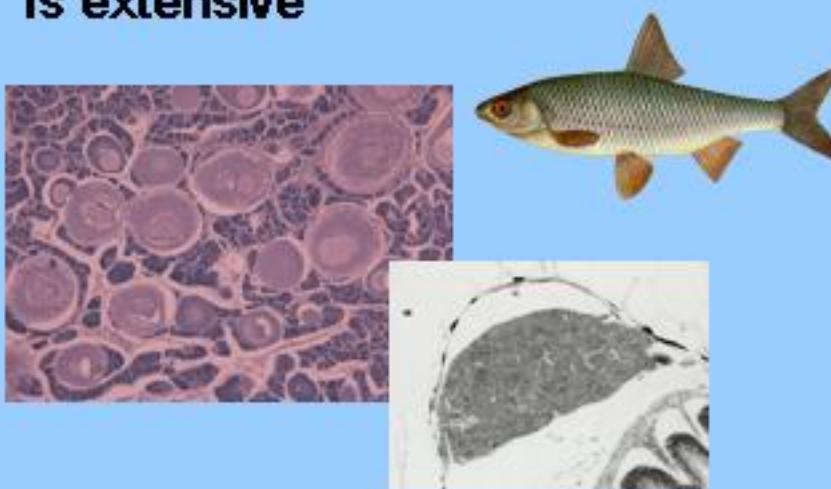
The scale of the problem

Treated Sewage Effluents entering UK Rivers

- 70 000 consented discharges
- 6500 from STWs..but for the most part treatment is good.
- 10 000ML water used daily in STWsand increasing 2% per year
- Many STWs effluents diluted <1:10 -in rivers
- At times of low flow some rivers are comprised of >80% STWs effluent



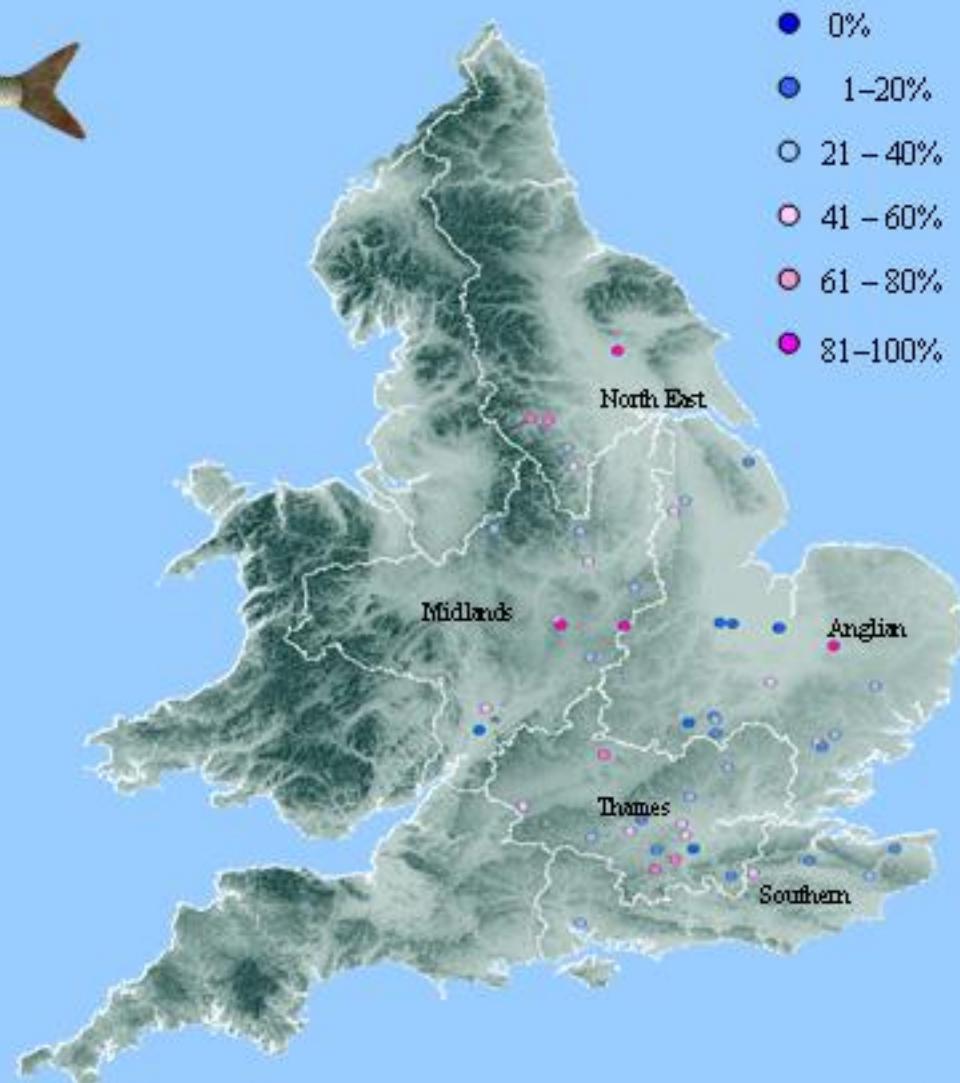
The 'problem' of sexual disruption in Roach in English Rivers is extensive



Synopsis of findings

1615 fish sampled - Intersex present at 44 (86%) of 51 sites

- 117 intersex fish with abnormal reproductive ducts
- 140 intersex with fish oocytes in testes



Jobling, S., Williams, R., Johnson, A., Taylor, A., Gross-Sorokin, M., Nblan, M., Tyler, C.R., van Aerde, R., Santos, E.M., and Brighty, G. (2005). *EHP In Press*