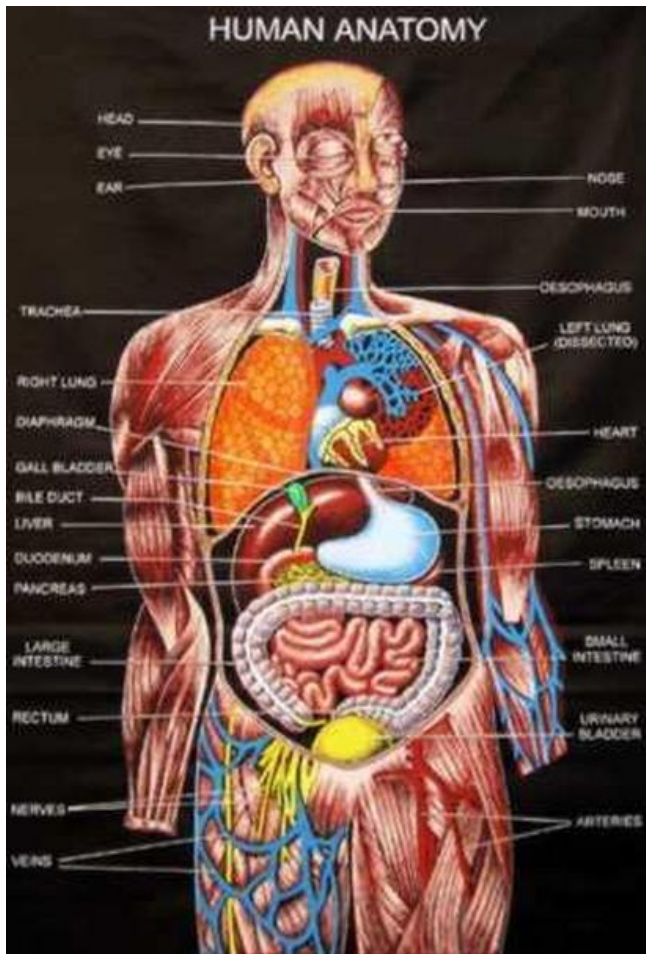


Challenges in modern rainbow trout aquaculture (Recirculation)

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The RAS as an organism

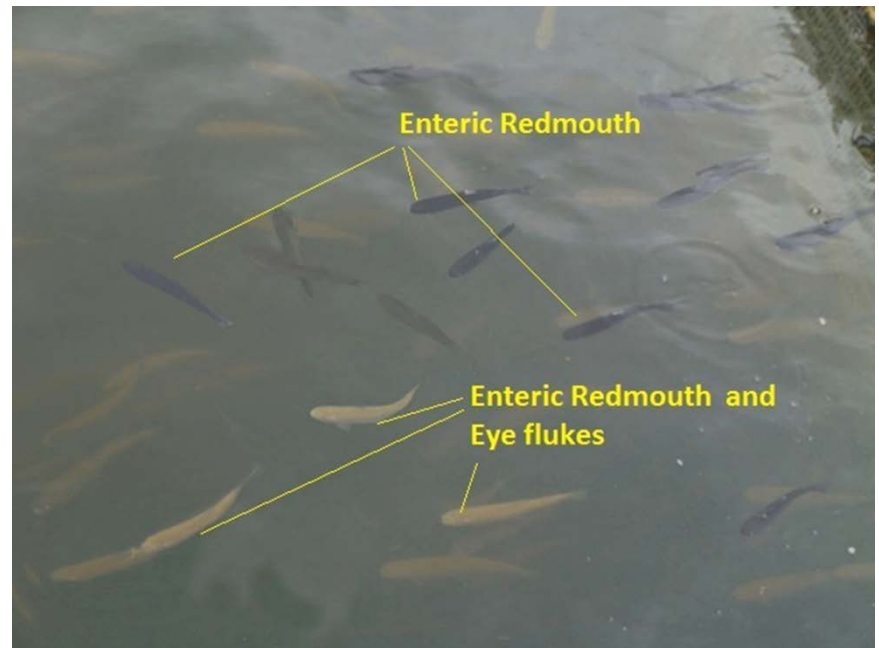


- A RAS is more than an ecosystem
- You need to manage both the system
- And the single units especially fish tank

Problems can relate to:

- Pathogens
 - Specific
 - Opportunistic
- Management
 - Biological
 - Physical/chemical
- Accidents

The clusterfuck of pathogens



Old virtues

- All in all out
- Desinfection between batches
- Status on fish in the units
 - Age
 - Disease
 - Immune
- Egg desinfection (avoid producing pathogens!)

Lymfosarcoma



Disinfection NaOH



Disinfection NaOH



Cleaning vs disinfection

1 x normal filter cleaning

pH 12+ for 3 days (NaOH)

Neutralisation (HCl)

1 x normal filter cleaning

pH 12+ for 2 days (NaOH)

Neutralisation (HCl)

1 x normal filter cleaning

H₂O₂ 25+ mg/l for 2 days

Draining

Result

