

A satellite view of the Earth showing the Americas and surrounding oceans, with the text "One World One Health" overlaid in white.

**One World
One Health**

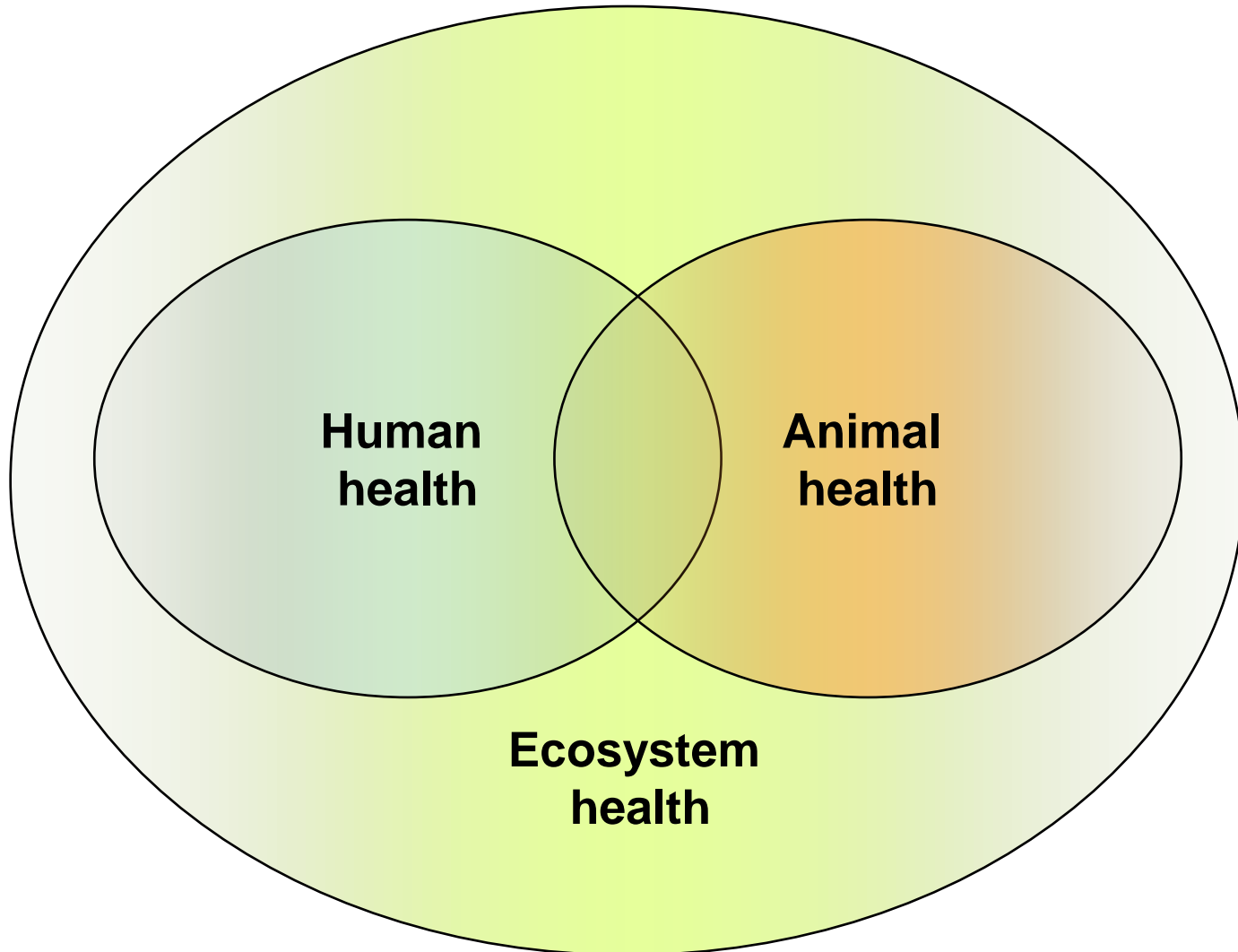
Outline

- What is OWOH?
 - The global context – global problems
 - EID and linking animal and human surveillance systems
 - The bigger picture
- Livestock policy and market failures
- Environmental “information for action”
- NZ in a Globalized world....

One World



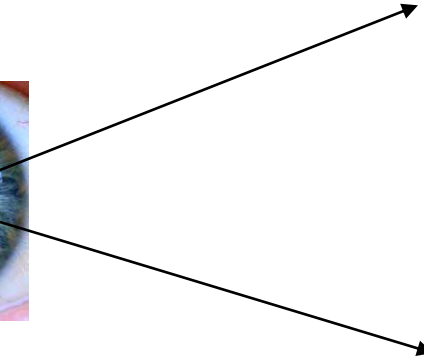
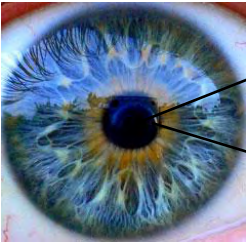
One Health



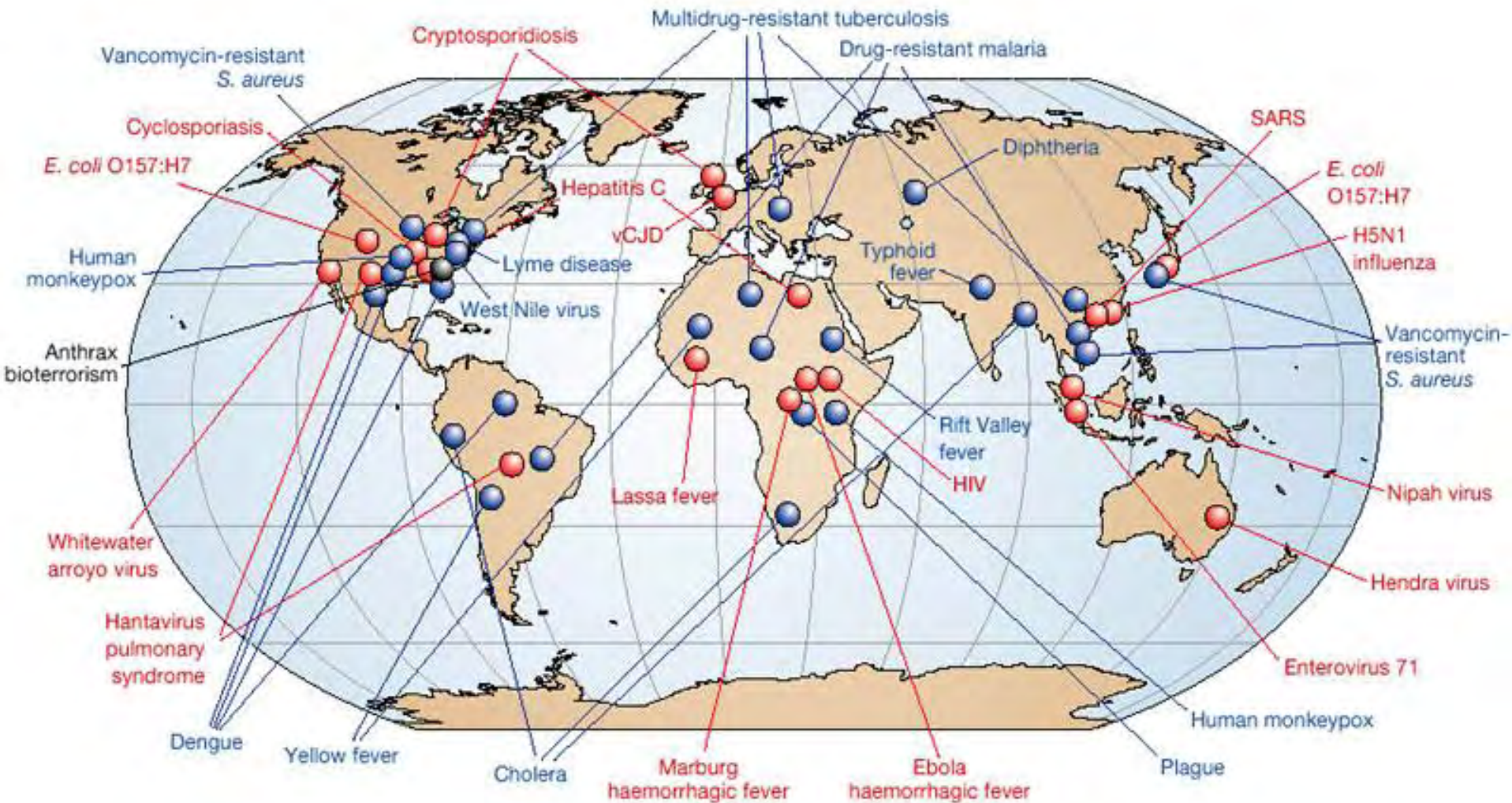


OWOH – whats new?

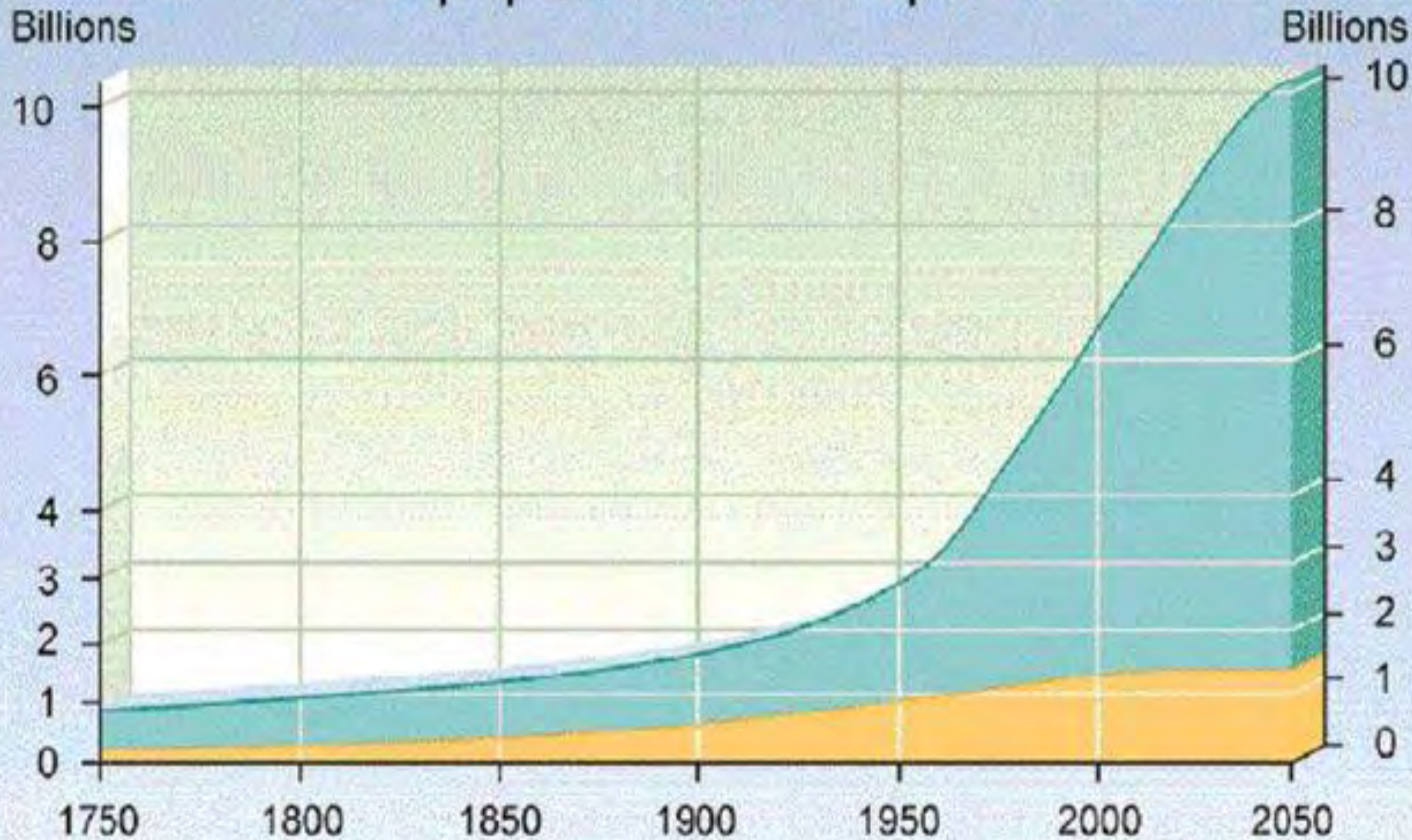
- Gaia hypothesis - circa 1960
 - Sustainability.....
 - Environmental health/medicine...
 - Ecosystem Health...
 - Conservation Medicine...
 - Think global act local.....
- OWOH – vet/OIE led



Emerging infectious disease



World population development



Developing countries

Industrialized countries



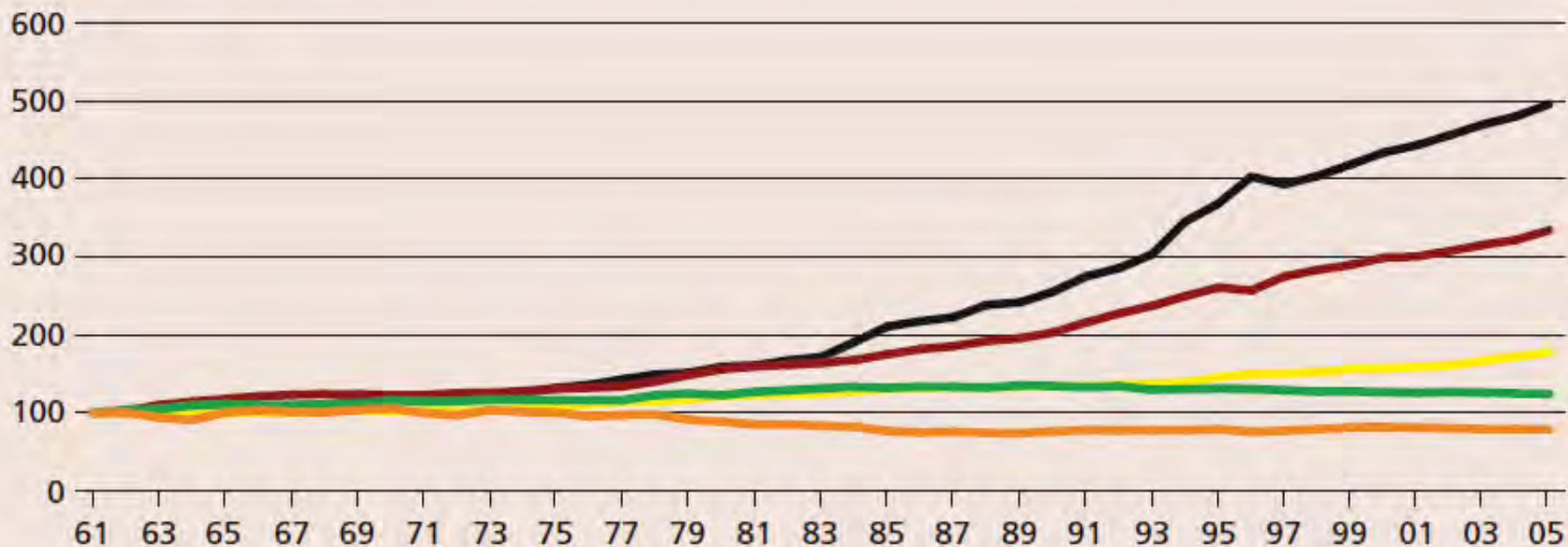
GRID
Arendal



FIGURE 1

Per capita consumption of major food items in developing countries, 1961–2005

Index (1961 = 100)



— Eggs

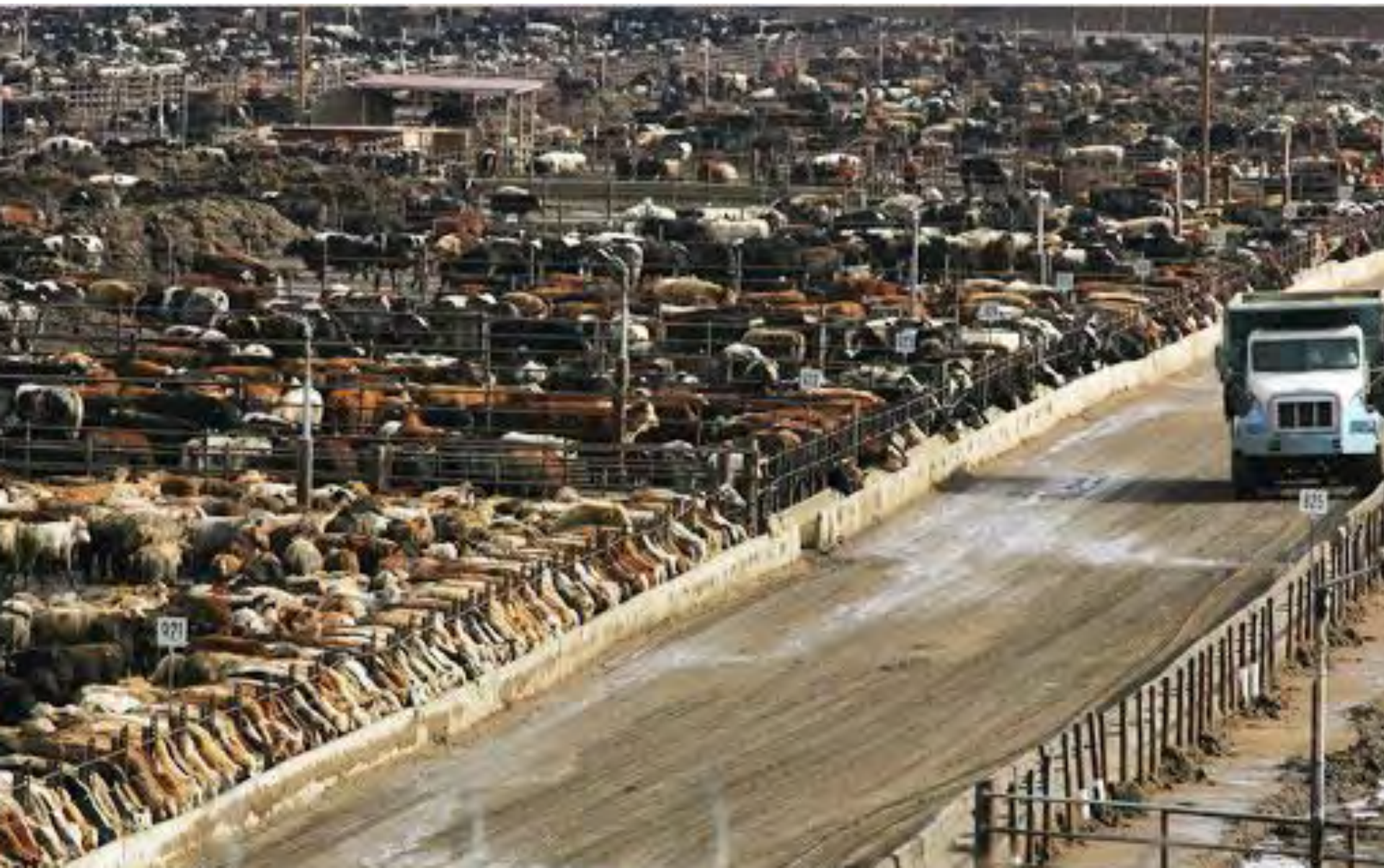
— Meat

— Milk

— Cereals

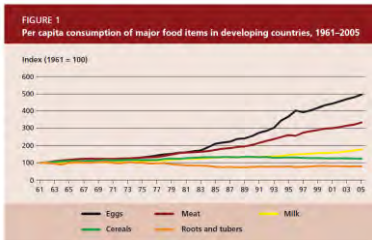
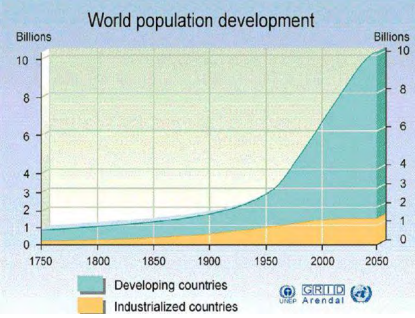
— Roots and tubers

Intensification



Habitat destruction





Food insecurity

Increasing inequalities

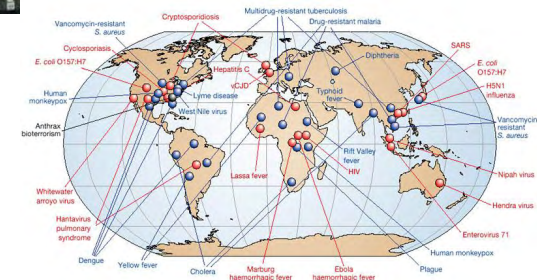


Animal welfare

Climate change



Biodiversity loss



Livestock production

- Policy failure
 - Decreasing food security
 - Urbanisation
 - Increased poverty / inequalities
- Market failure
 - Emissions to air water and land
 - Perverse incentives to pollute
 - Inefficient production

Valuing nature



Monitoring of the environment?

- Passive and unhelpful concept

REFRAME

- Surveillance = Information for ACTION

Inputs/insults

- Green house gas emissions
- Pollutants into waterways
- Biosecurity incursions
- Habitat and biodiversity loss
- Increased human population ++
- Intensification of production systems
- Excess animal protein consumption.

Thresholds

- 350 ppm – atmospheric carbon dioxide

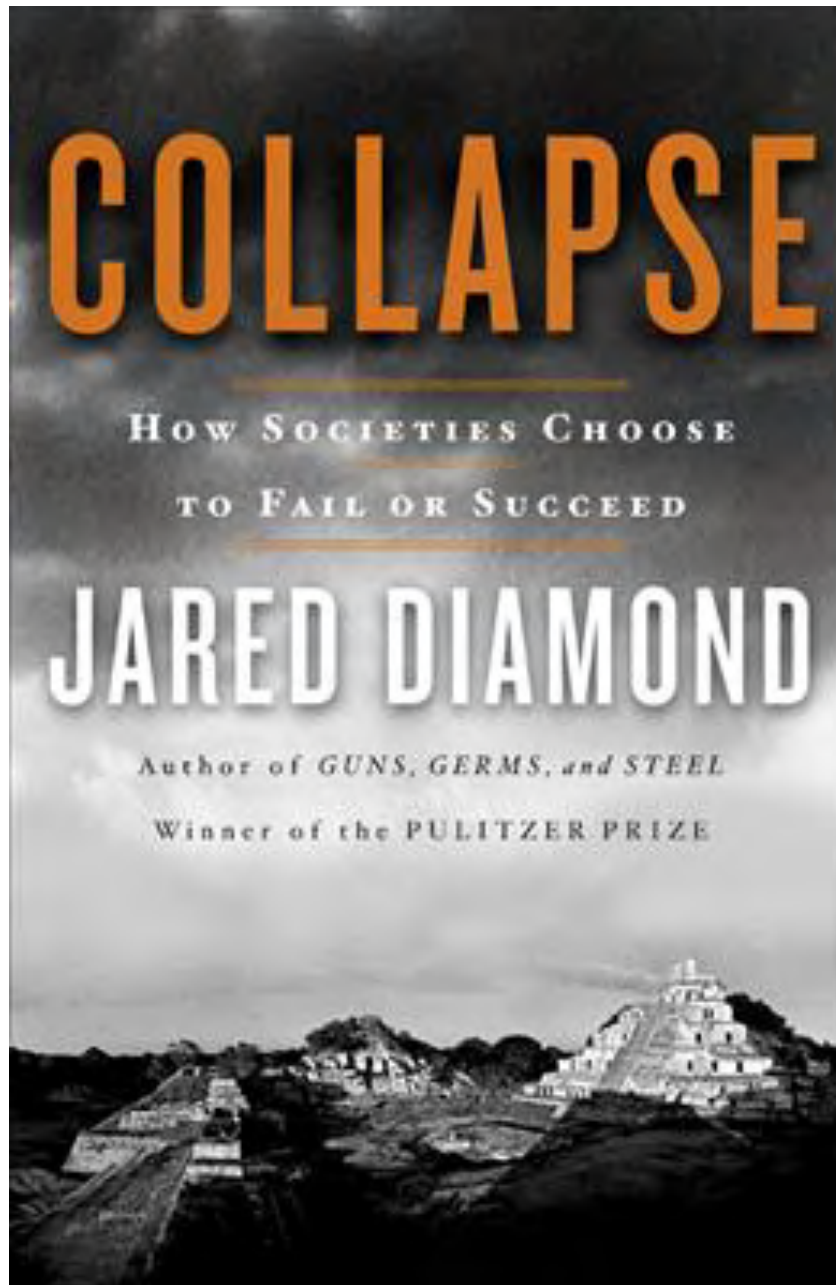
Ecosystem outcomes

Positive

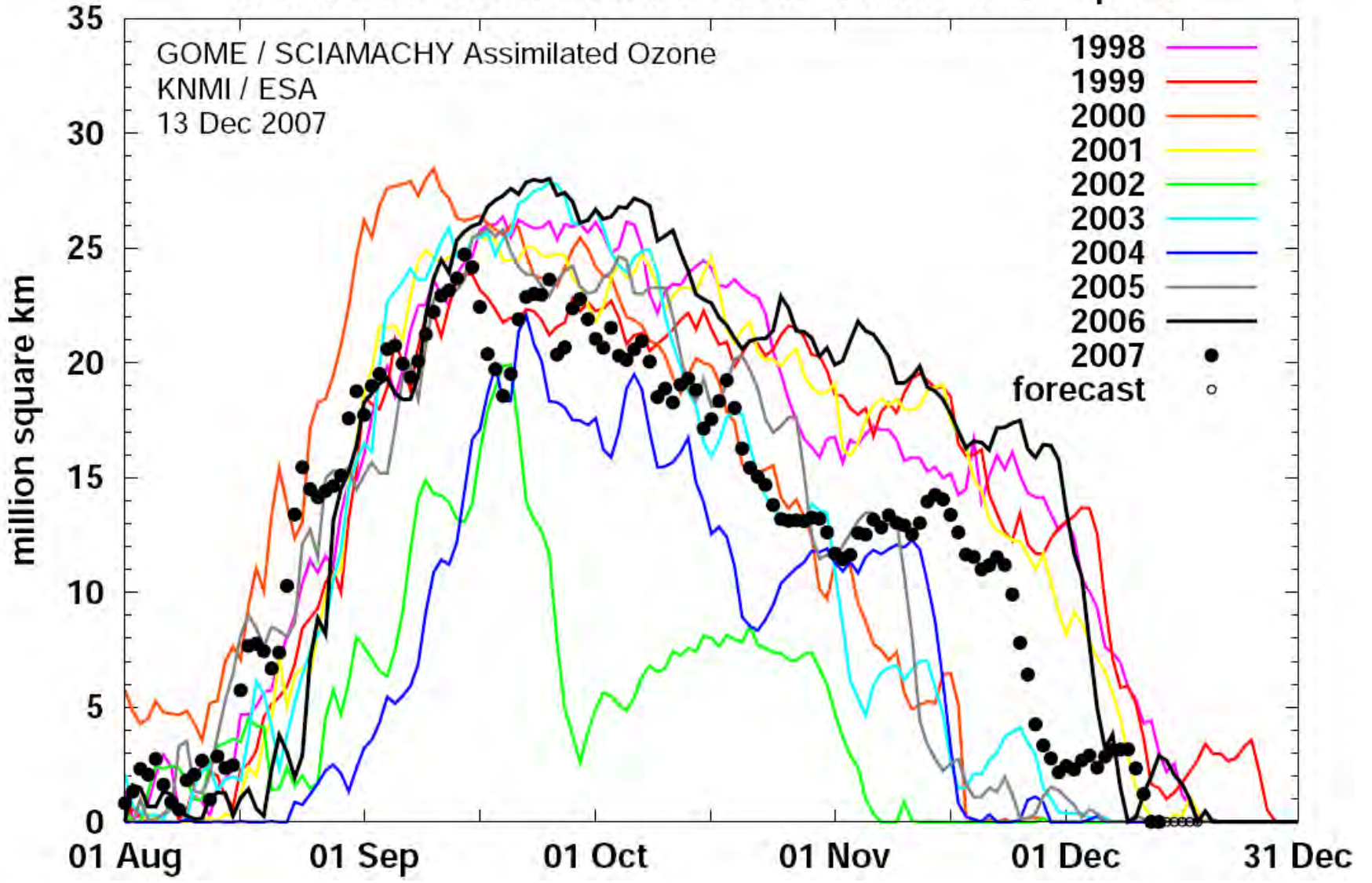
- Resilient ecosystems
- Increased biodiversity
- Ecosystem integrity

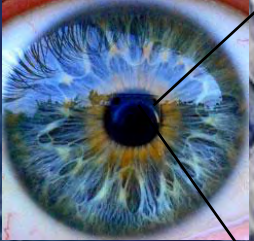
Negative

- Extinctions – biodiversity loss
- Ecosystem collapse
- Emerging infectious disease



Ozone Hole Area w.r.t. 220 DU in the Southern Hemisphere





OWOH surveillance

- Collaboration at interface
 - Hydatids, brucellosis,
 - Risk attribution - campylobacter....
- EPICENTRE
- NCBID
- MAF Biosecurity New Zealand
- Excellence in conservation and agricultural health

OWOH Challenges: surveillance

- Separate institutions / silos
- Linking of data across sectors
- Ecosystem health
 - Poorly developed integrated measures
 - Different time scales
- Failure of risk communication to drive behaviour change.

The way forward

- Information for action
 - Integrity of livestock production systems
 - Animal disease and animal welfare
 - Occupational health and welfare,
 - Food safety and food quality
 - Ecosystem impacts.
- Act with enlightened self interest.
 - Harness existing expertise
 - Close the ruminant nutrient cycle
 - Manage soil and water resources
 - Protect, enhance, and understand the balance between novel and natural ecosystems.

Summary

- There is only one world
- Convergence of global problems
- One health is a useful paradigm
- Link our **Actions** to ecosystem surveillance
- **Act** with enlightened self interest.

Thanks to....

- Erik Van Eyndhoven, MAFBNZ
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- Dave Slaney, ESR, Wellington
- Phil Weinstein, UQ, Brisbane
- Nick Jones, HBDHB

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