

- Nutrients in the environment
- The '*International Nitrogen Management System*' (INMS)

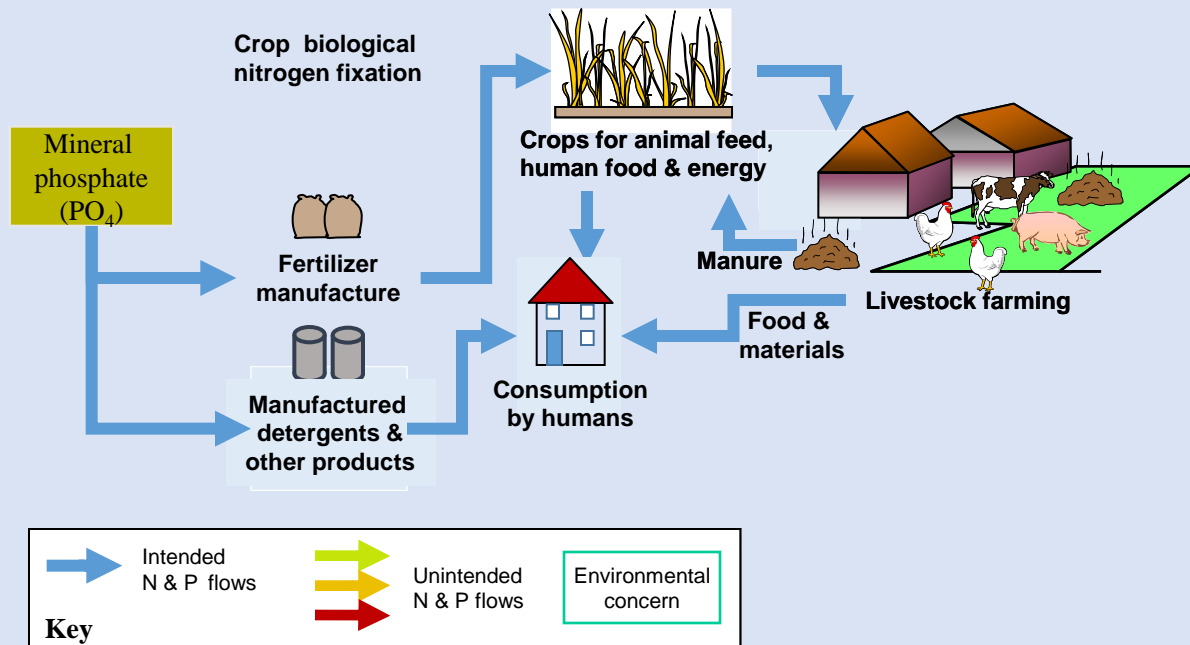
Photo: iStockPhoto

Will Brownlie

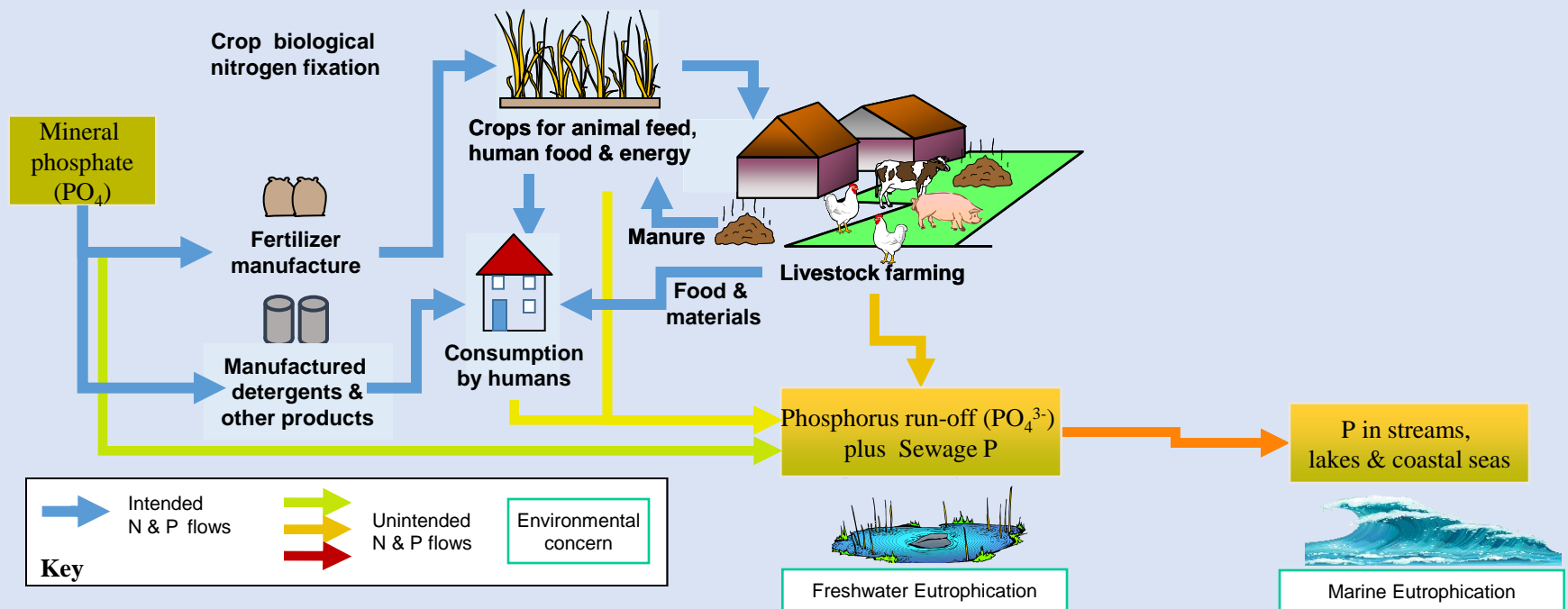
NERC Centre for Ecology & Hydrology, Edinburgh



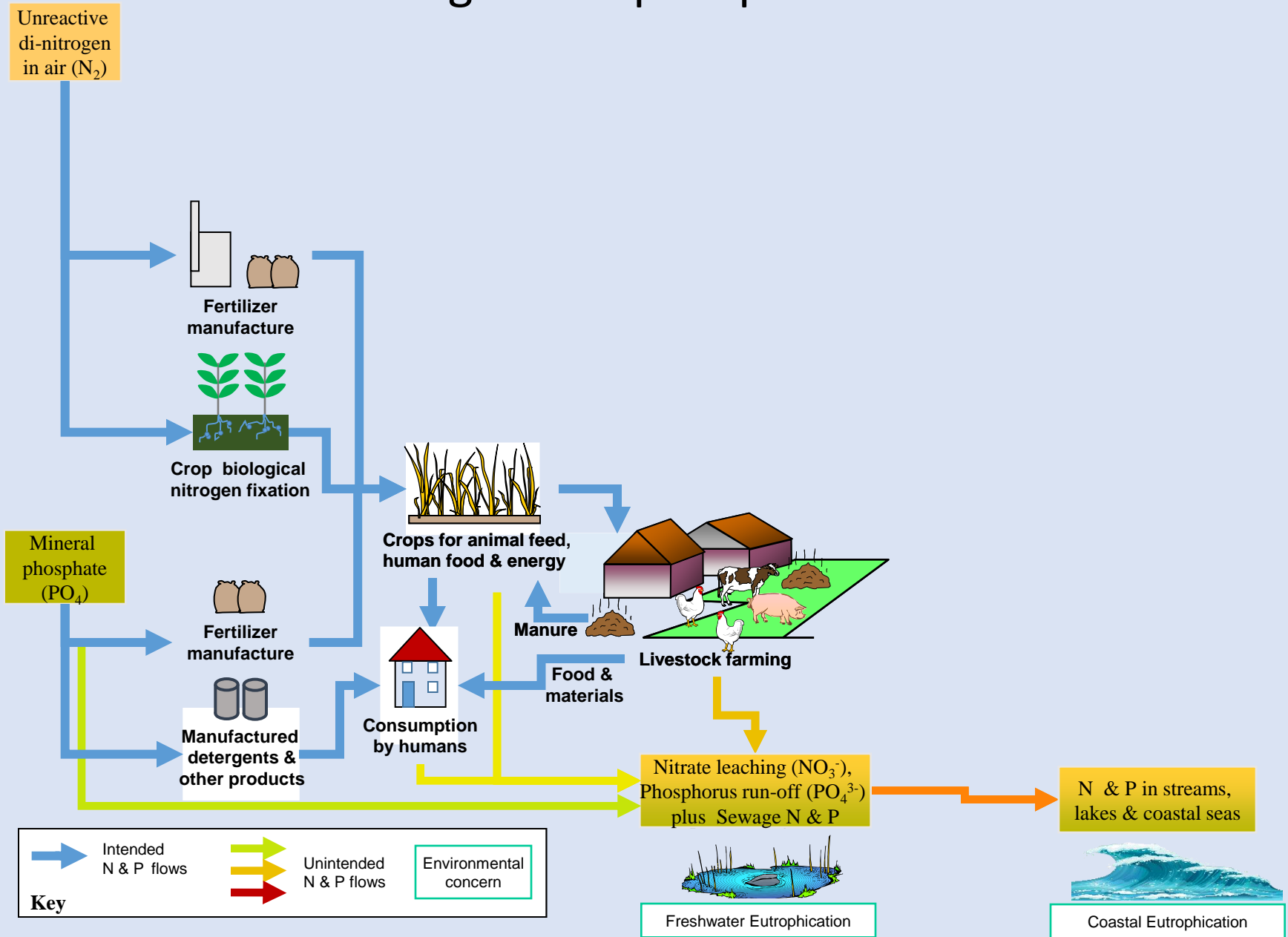
Nitrogen and phosphorus flows



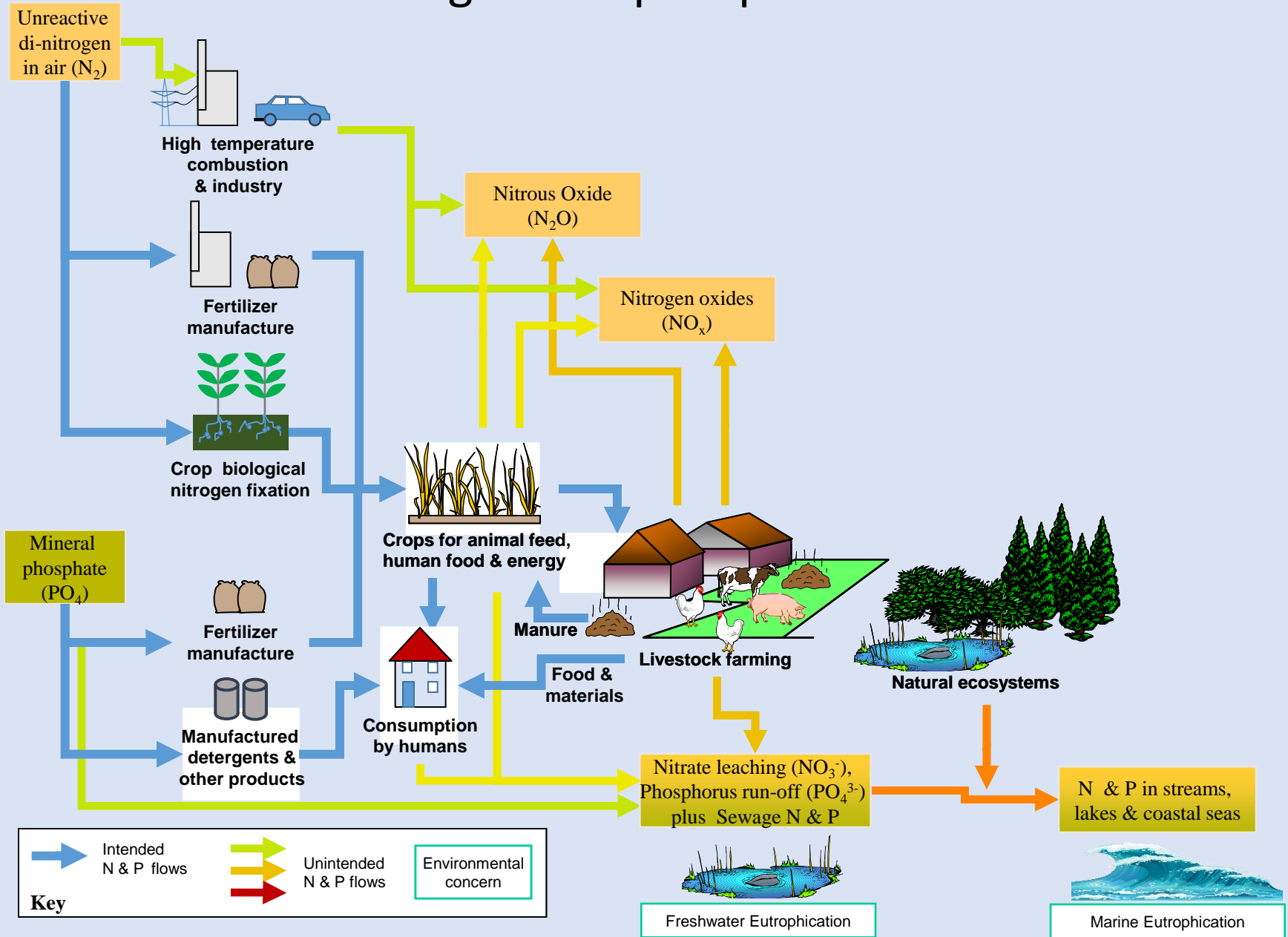
Nitrogen and phosphorus flows



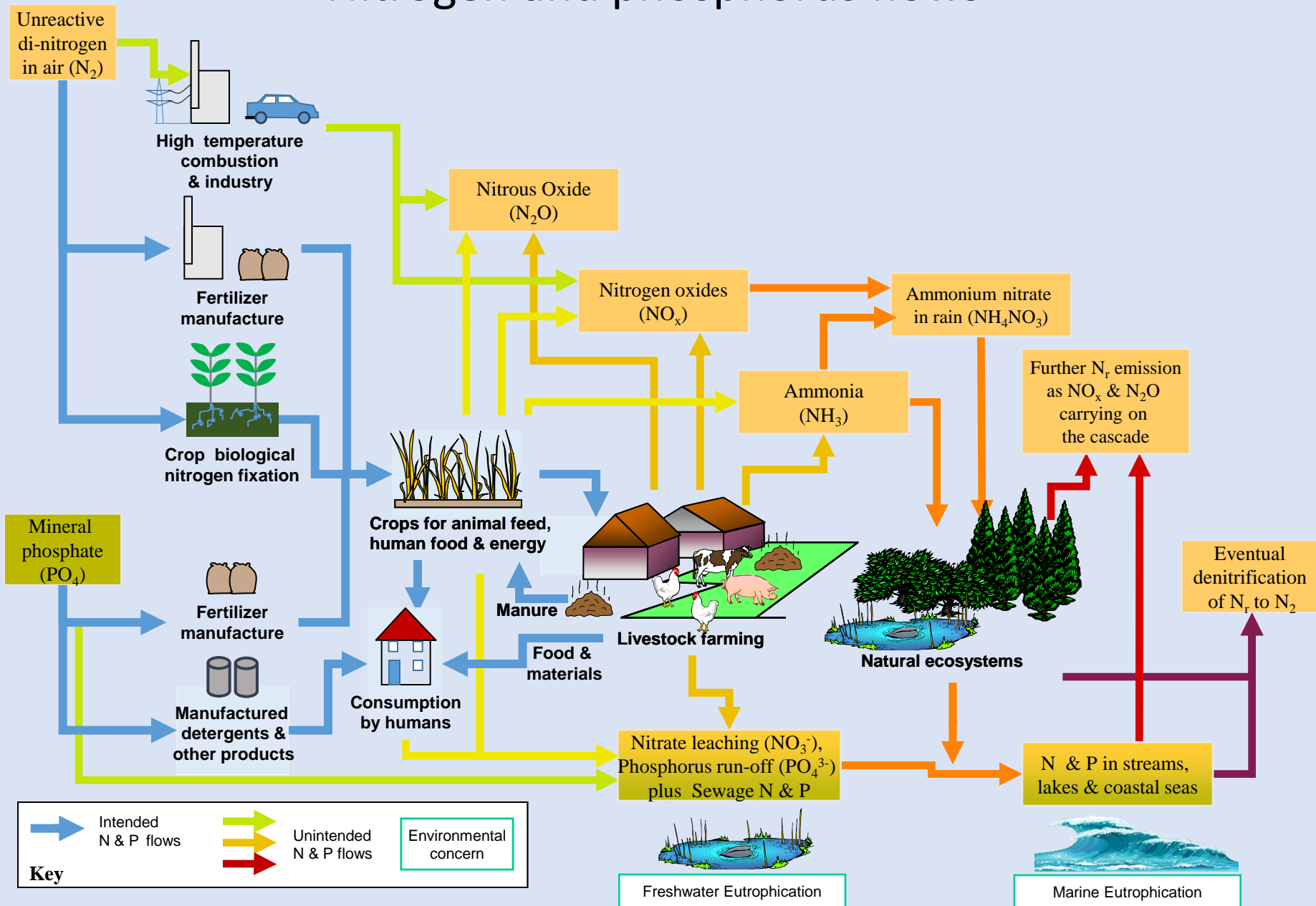
Nitrogen and phosphorus flows



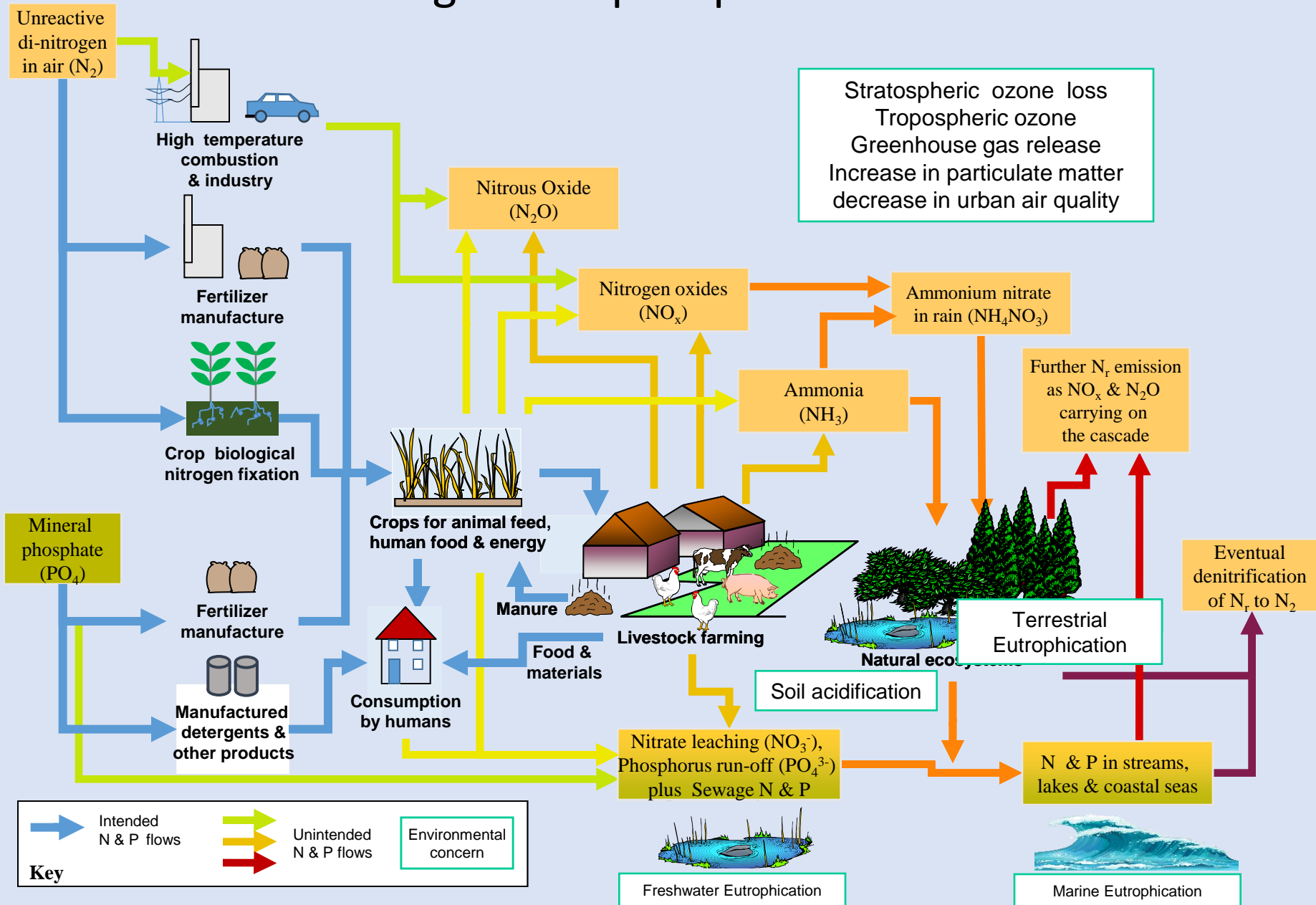
Nitrogen and phosphorus flows



Nitrogen and phosphorus flows



Nitrogen and phosphorus flows







Our Nutrient World

The challenge to produce more food and energy with less pollution



Prepared by the Global Partnership on Nutrient Management
in collaboration with the International Nitrogen Initiative

**UN says fertiliser crisis
is damaging the planet**

Scientists urge rich world to halve its meat consumption

**The shape of
nitrogen to come**

An analysis reveals the huge impact of human activity on the nitrogen cycle in China. With global use of Earth's resources rising per head, the findings call for a re-evaluation of the consumption patterns of developed societies.

Nature doi:10.1038/nature11954

More environment-friendly nutrient use could save \$170bn a year

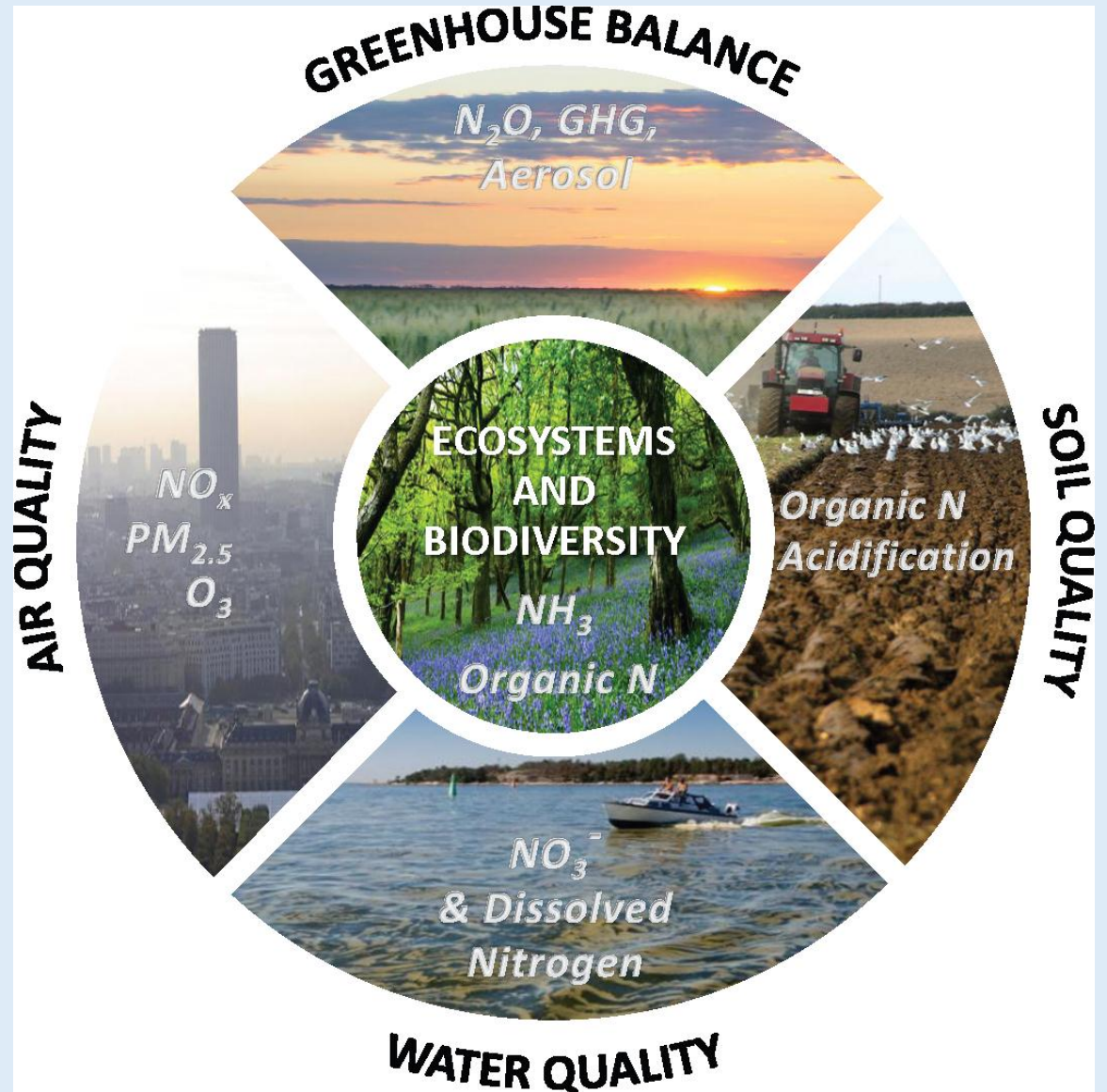
18 Feb 2013: *Independent*, *Guardian*,
Herald Tribune, *Times of India*
and **300 articles worldwide**

Five key threats

The WAGES of
too much nitrogen

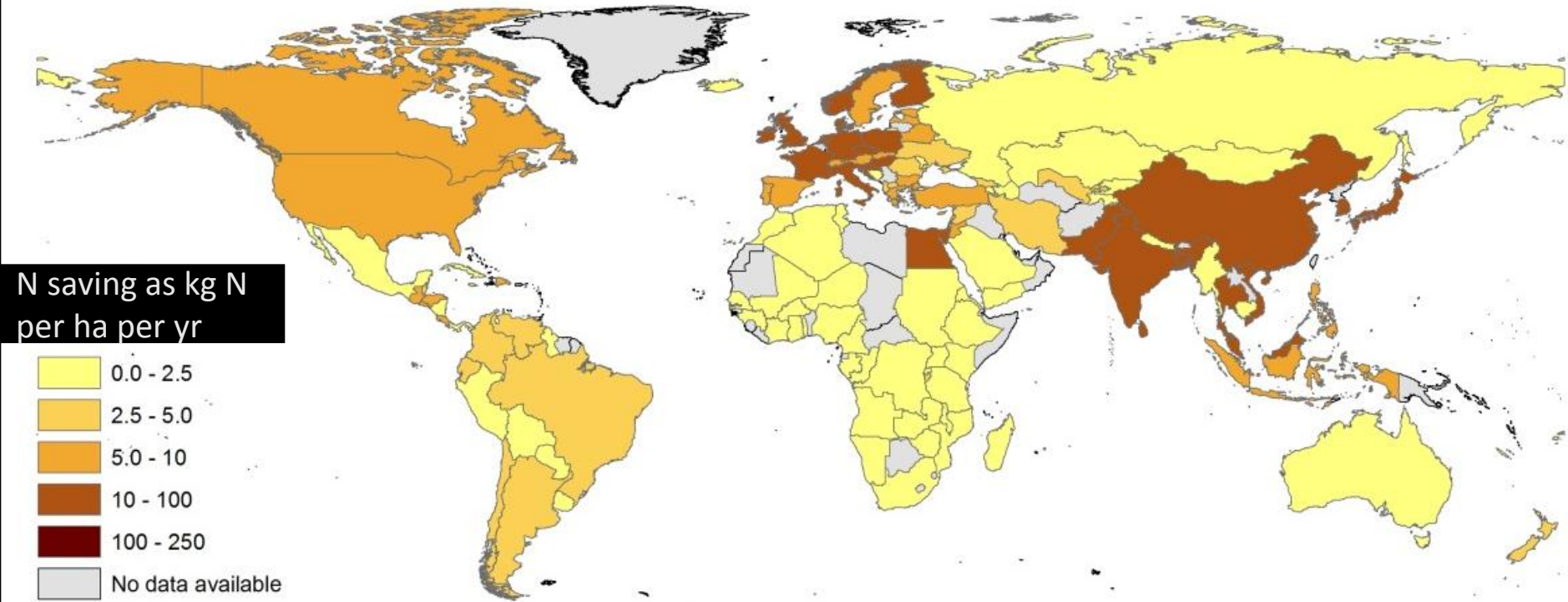
Water quality
Air quality
Greenhouse balance
Ecosystems
Soil quality

Plus better food &
energy supply



“20:20 for 2020”

20% better NUE: saving 20 Mt N per yr by 2020



Benefits expressed here as N saving / ha per year (Full-chain NUE)

Bottom line for the Green Nutrient Economy (\$billion/year)

Net Benefit 170 = Fert Saving 23 + Env+Health 160 – Implementation 12

There are no global treaties that links the many benefits and threats of the altered N and P cycle.

Where we are in developing the
international nitrogen
management system

International Nitrogen Management System (INMS)

The development of a better coordinated science-policy support process – gathering evidence to support decision makers

***\$6M core funding from GEF
+ \$40 M co-financing target***

- INMS project preparation grant phase

The big message is to count the co-benefits of a joined-up nitrogen approach; with the believe that joined up management of the nitrogen cycle would strengthen the common cause of international waters & other global challenges:



Questions to be answered by INMS

- What would a global science policy support process for nitrogen look like?
- What are the issues to connect?
- Who are the players that need to be involved?
- What are the main, research, demonstration and communication challenges?

Opportunities of INMS

- Indicator refinement, moving to operational delivery to support countries, inc benchmarking
- Sharing and development of mitigation and management practices – understanding barriers
- Understanding the context specific nature of nutrient threats