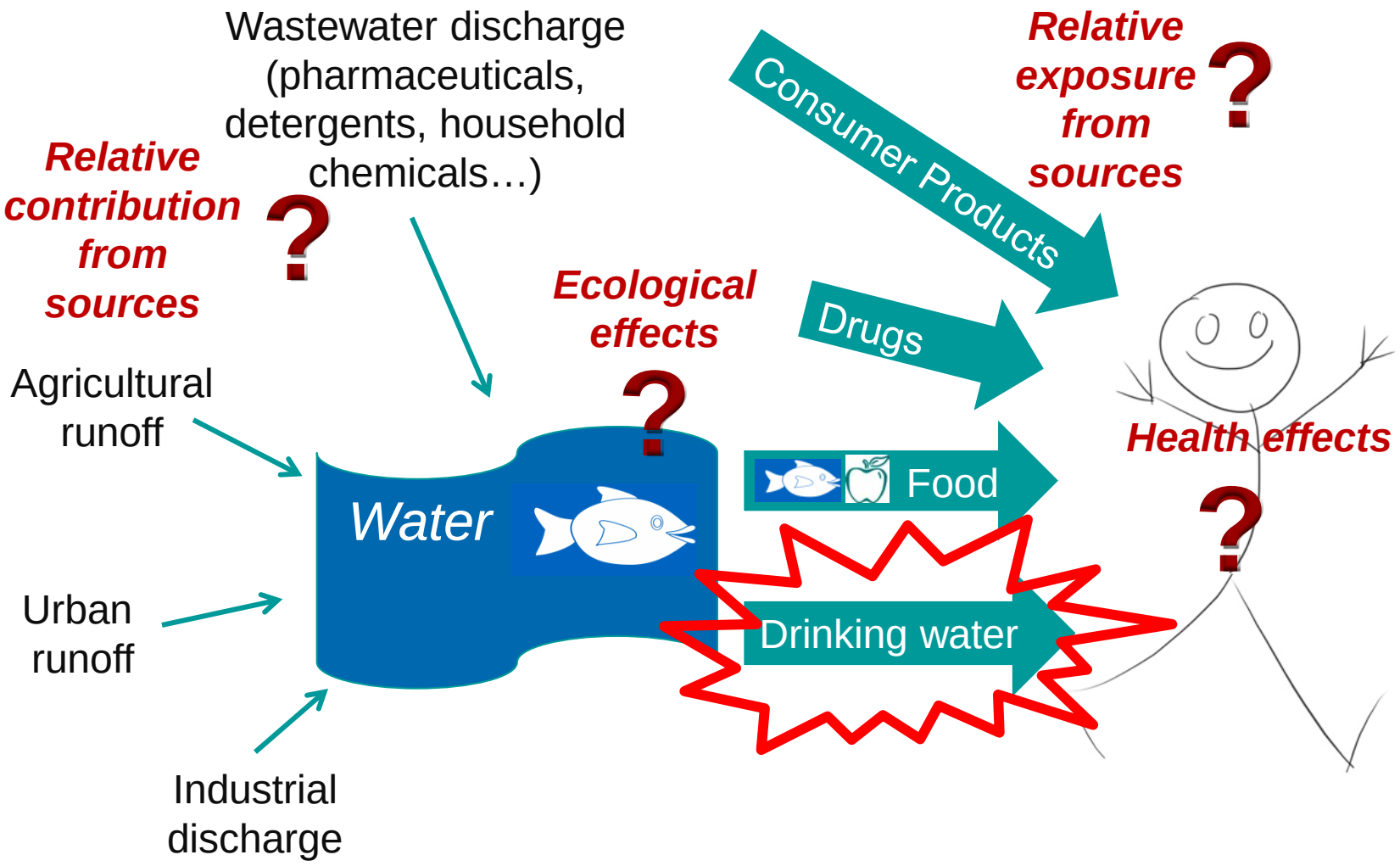
CECs In Wonderland

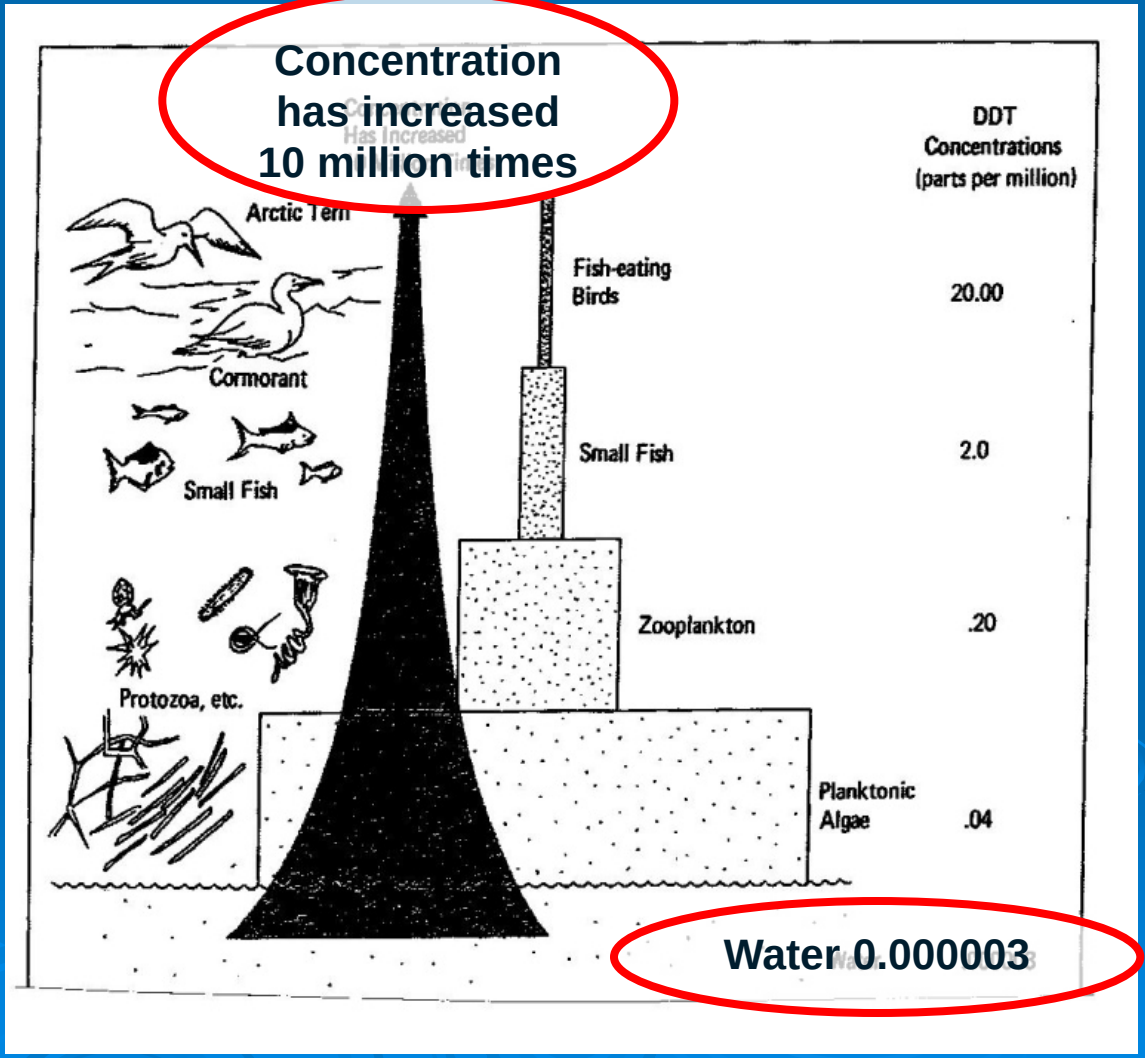
Searching a Way Out

CECs – The Big Picture



CECs – The Current Approach

- Fish intersex in the Potomac River as “a canary in the coal mine”.
- Ignoring major differences of fish and human exposure to CECs.
- Sole focus on drinking water and ignoring other exposure routes.



CECs – The Current Outcome

- A Silo-based approach not in par with the TBL
  - Environmentally inefficient

    ignoring source water pollution and its impacts on aquatic organisms.
  - Financially inefficient

    requiring very expensive and energy intensive additional water treatment.
  - Socially inefficient

    use of limited national financial resources

CECs – The Tip of an Iceberg? A 1976 Flawed TSCA

- 84,000 chemicals on the market, with 62,000 of them grandfathered
- 200 of the remaining have been reviewed and only five are regulated under TSCA
- 2005 attempt to fix TSCA failed
- A 2013 proposal on the table; but it died after its main author, Senator Lautenberg, passed away.
- FFD&C Act, another regulatory shortcoming?

CECs – Key TBL questions

- What is the most cost-effective way of reducing environmental and human health risks caused by CECs to acceptable levels?
- Do all benefits associated with specific CEC approaches (e.g. upgrading drinking water facilities) outweigh the financial, environmental & social costs?

CECs – The New Direction

A holistic approach in par with TBL is now being pursued by WaterRF:

- Project # 4494, a 24-month study:
- By 2015, evaluate and support the advancement of holistic control strategies for managing contaminants of emerging concern (CECs) in water.
- Well received and financially supported by water utilities world-wide

18 US Participating Utilities

- Examples include:
  - NY City Department of Environmental Protection
  - Greater Cincinnati Water Works
  - Philadelphia Water
  - Orange County Water District
  - Metro Water District of Southern California
  - Southern Nevada Water Authority
  - American Water, NJ
  - …

14 Participating Research/International/Government Agencies

- Examples include:
  - CA Department of Public Health
  - Bavarian Environment Agency, Germany
  - EAWAG, Switzerland
  - RIWA, Netherlands
  - UNSW, Australia
  - …

CECs – The New Direction

- Study Duration
  - 24 months
  - 3 phases

- Funding
  - WaterRF $ 400,000
  - In-kind support $ 233,928
  - Cost Share $ 60,038

CECs – The New Direction Phase 1

- Review current and proposed policies, regulatory and non-regulatory programs to control CECs in the U.S. and abroad.
- Identify current and proposed holistic management approaches
- Develop alternative holistic management strategies

CECs – The New Direction Phase 2

- Develop a list of representative CECs to be used for evaluation of strategies identified in Phase 1.
  - Compile available information on relative source contributions, ecological & health risks, treatment, and relative sources of exposure

CECs – The New Direction Phase 3

- Use a triple-bottom-line analysis or alternative framework to analyze and evaluate the relative financial, environmental, and societal costs and benefits (direct and indirect, tangible and intangible) of the various alternatives for managing the representative CECs in water.
  - Compare current paradigm vs. various alternatives from Phase 1 for managing CECs in water

CECs – The New Direction Overcoming Barriers

- Hold stakeholders workshops
- Publish Policy White Papers in high-profile, peer-reviewed, industry-relevant journals

CECs – The New Direction Study Team

- A Highly Qualified Study Team organized by Carollo Engineers, Inc.

- Key Investigators

Principal: Tanja Rauch-Williams, Ph.D., PE

Co-Principals: Shane Snyder, Ph.D.

Jörg Drewes, Ph.D.

Erick Dickenson, Ph.D.

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