

Department of the Interior

Alternative Toxicology Test Method Activities



DOI Mission

- Protects and manages the Nation's natural resources & cultural heritage
- Provides scientific & other information about those resources
- Honors trust responsibilities & commitments to American Indians, Alaska Natives & affiliated island communities



Some Toxicological Research

Very limited regulatory authority on “chemicals”

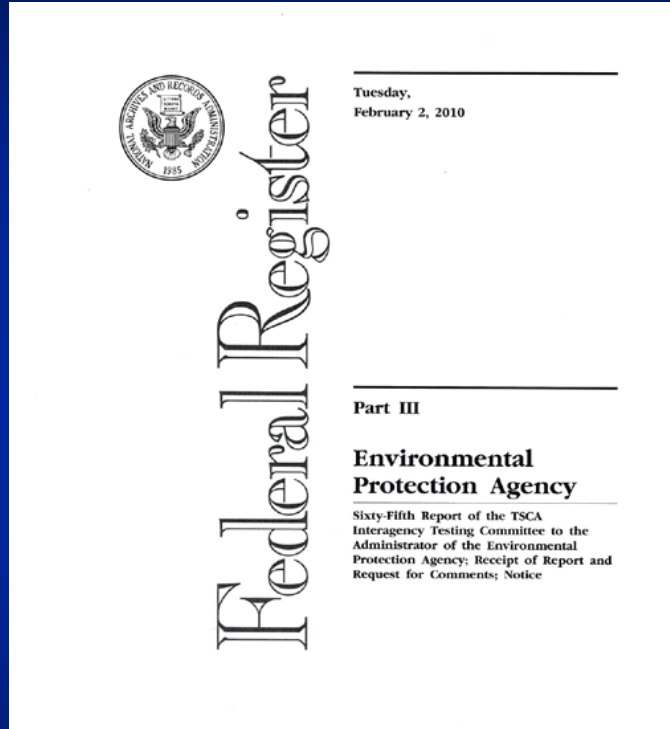
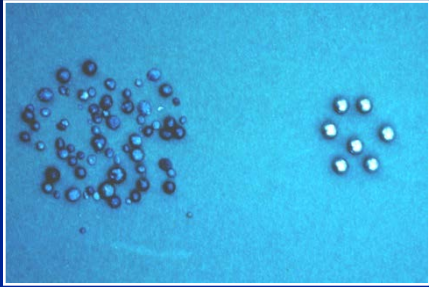
U.S. Geological Survey
U.S. Fish and Wildlife Service

1. Toxicological research (hypothesis testing)
2. Environmental contaminant biomonitoring
3. Natural Resource Damage Assessment
4. Registration of “shot” used in hunting
5. Registration of chemicals used in aquaculture

Embrace 3 R's



Registration of Non-toxic Shot



lead replacements:
steel
bismuth-tin
copper-clad iron
tungsten-bronze
tungsten-iron
tungsten-matrix
tungsten-nickel-iron
tungsten-polymer
tungsten-tin-bismuth
tungsten-tin-iron
tungsten-tin-iron-nickel

Bottom Line – many shot types registered using existing information, risk assessment and no toxicity test (harmonized with Canada)

Screening and Testing Candidate Fishery Management Chemicals

- Toxicants and therapeutics
- Developing a tiered approach:
 - Physiochemical data to identify SAR
 - Developing *in vitro* fish cell lines to replace *in vivo* testing
 - Genomic analyses attempting to identify biomarkers of toxicant-sensitive and resistant species

Adverse Outcome Pathway

