

Office of Research and Development

Human Health Risk Assessment Research Program



HHRA Charge Question 1
EPA Board of Scientific Counselors Review
October 6-8, 2015

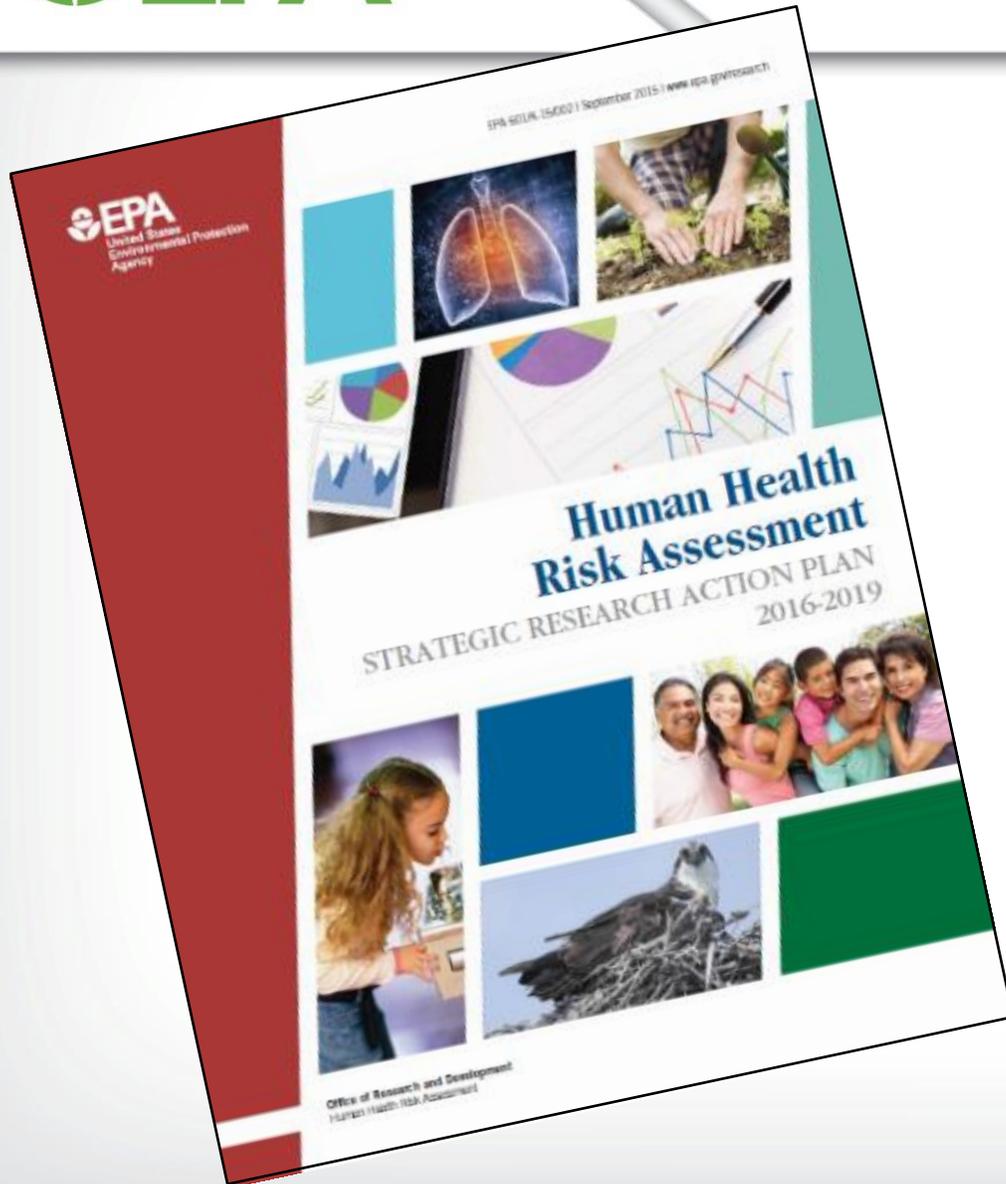
John J. Vandenberg, National Program Director (NPD)
Annie M. Jarabek, Deputy NPD





Charge Question I

- **Given the research objectives articulated in the StRAP, are the topics and project areas planned and organized appropriately to make good progress on these objectives in the 2016-2019 time frame?**



- **Program purpose and design**
- **Project portfolio**
- **BOSC focus is on Projects #5 - #9:**
 - **#5: Site-specific and emergency response**
 - **#6: Cumulative risk assessment methods**
 - **#7: Advancing hazard characterization and dose-response methods**
 - **#8: Applying emerging science**
 - **#9: Risk assessment support and training**

HHRA Addresses all Agency Priorities and Mandates

HHRA

- **Clean Air Act (CAA)**
- **Safe Drinking Water Act (SDWA)**
- **Food Quality Protection Act (FQPA)**
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
- **Resource Conservation and Recovery Act (RCRA)**
- **Toxic Substances Control Act (TSCA)**

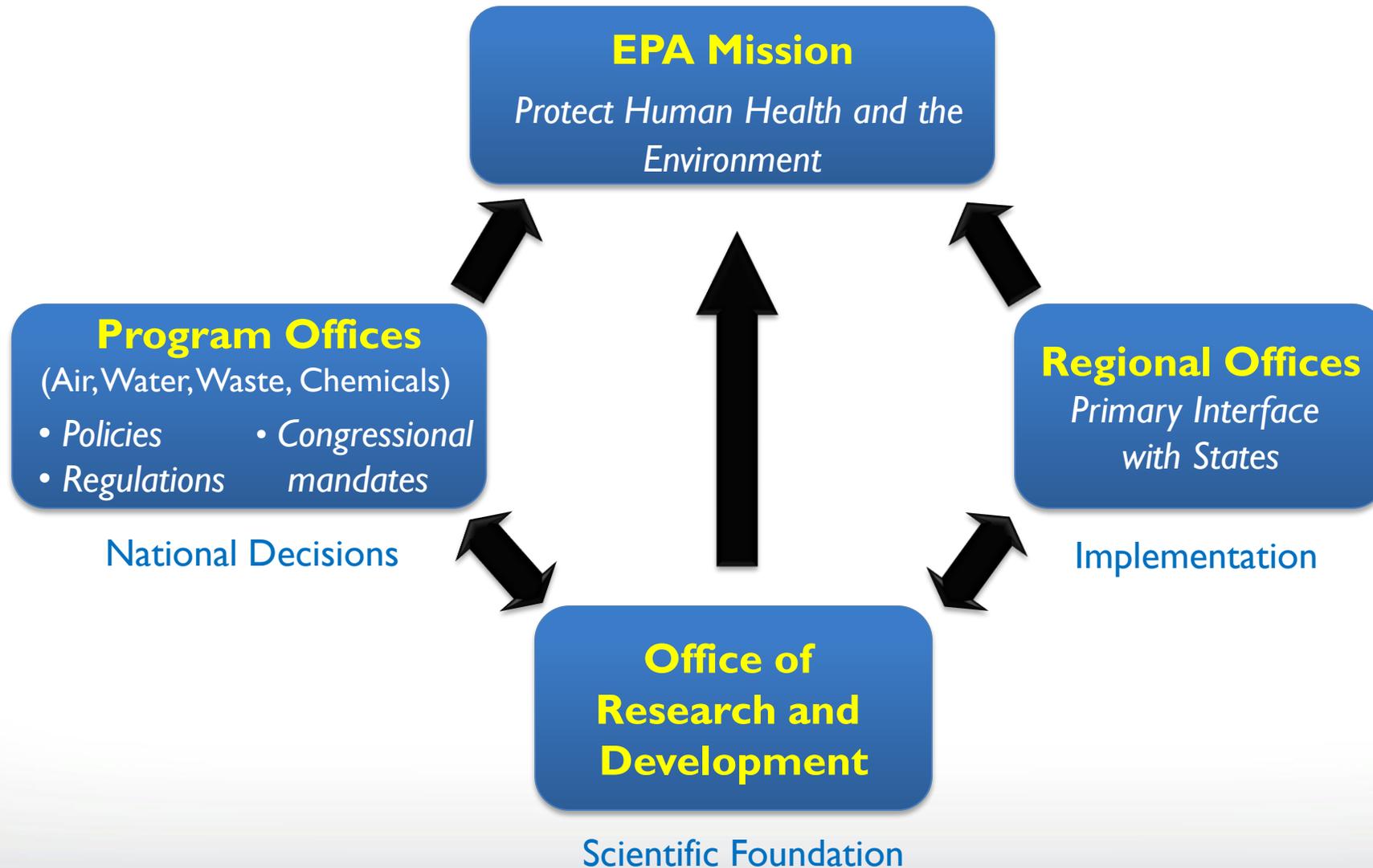
**Broad
Input to
Support**

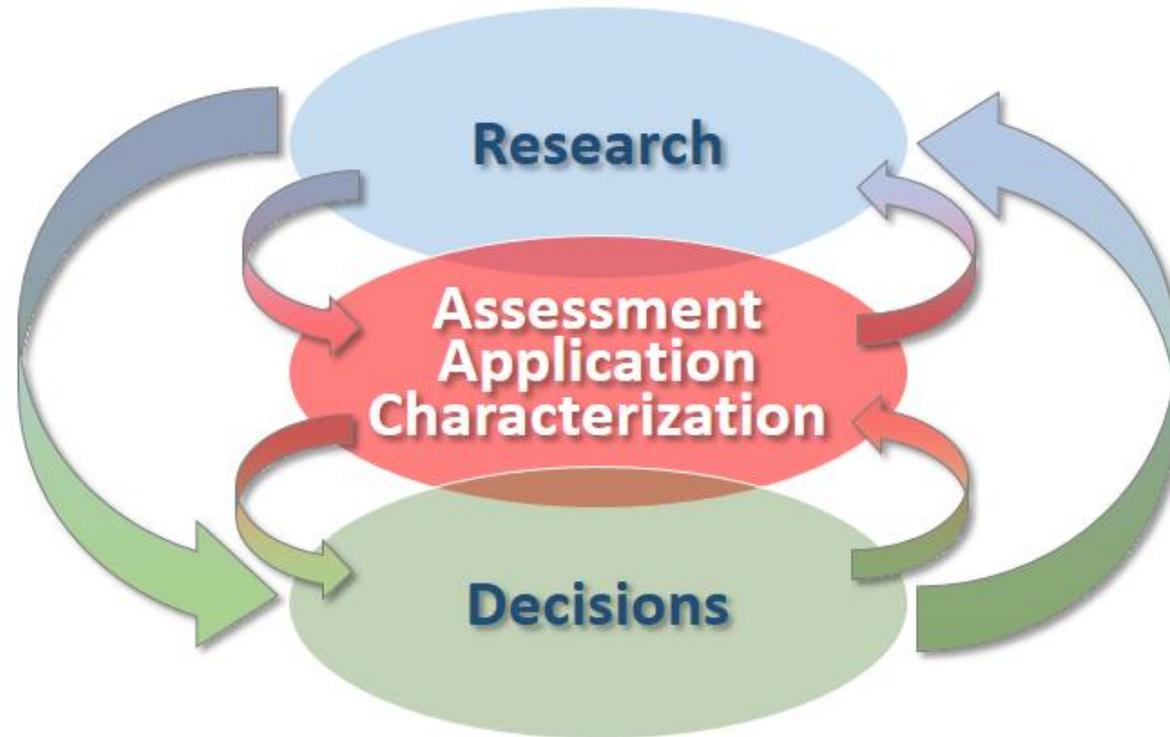


- **Agency Strategic Goals**
- **Children's Health, Environmental Justice,
Climate and Nitrogen Roadmaps**
- **Sustainability**

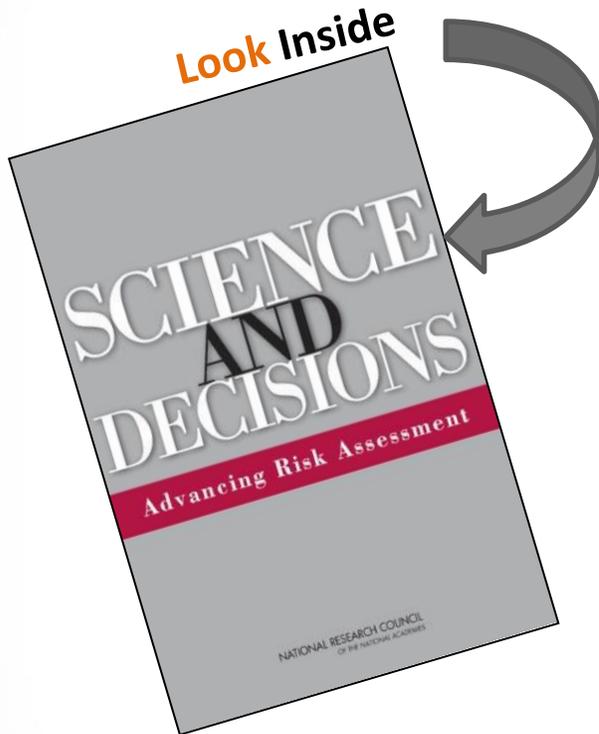


Science to Support EPA's Mission

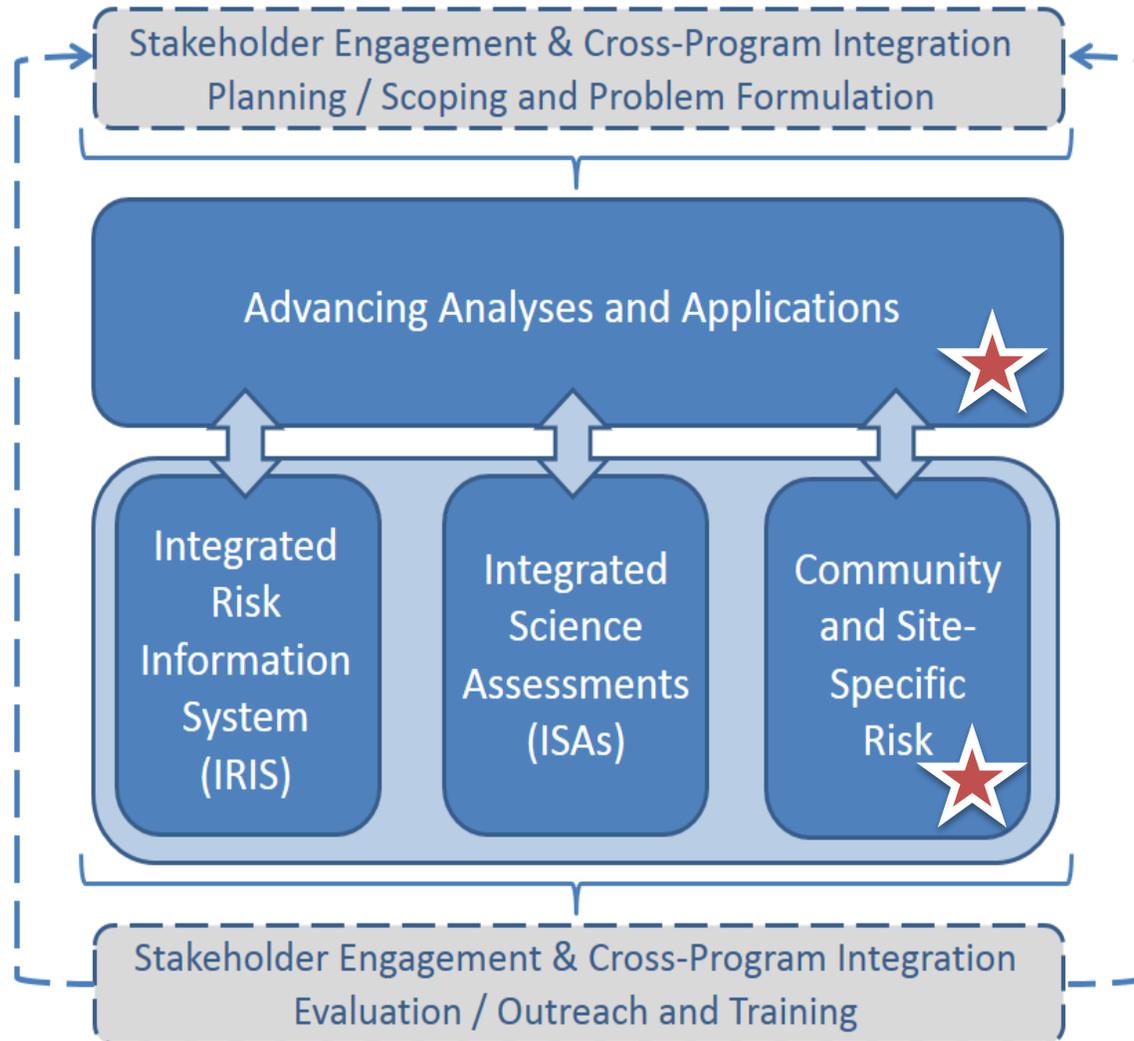




HHRA Vision: Risk-based decisions by the EPA, State/local/tribal agencies and the public to protect public health and the environment are based on reliable, transparent and high-quality risk assessment methods, models, and data.



Implemented recommendations for stakeholder engagement in scoping and problem formulation





HHRA FY 2016-2019 Research Objectives

1. Characterize risks *Efficiently support a range of decision making with an agile, fit-for-purpose portfolio of robust and responsive assessment products that characterize risks and potential impacts to human health and the environment.*

2. Advance and refine risk assessment approaches *Refine risk assessments by identifying critical issues and advancing analytical approaches and applications to incorporate new science, methods and technologies.*

3. Enhance and engage *Enhance data access and management systems to support transparency and efficiency; provide outreach and engage stakeholders to ensure support, training, and tailoring of assessment priorities and products.*



HHRA Topics and Projects

Objectives	Topics	Projects
Characterize risks with a portfolio of tailored assessment products	Integrated Risk Information System (IRIS)	1. IRIS Assessments 2. IRIS Update
	Integrated Science Assessments (ISA)	3. ISAs and Scientific/Regulatory Support
Advance new applications and refine risk assessment approaches	Community and Site-specific Risk	4. PPRTV Assessments 5. Site-specific and Superfund Regulatory Support 6. Cumulative Risk Assessment Methods and Applications
	Advancing Analyses and Applications	7. Advancing Hazard Characterization and Dose-Response Methods 8. Applying Emerging Science to Inform Risk Screening and Assessment 9. Risk Assessment Support and Training
Enhance data access and engage stakeholders to support decision making		

Topic 3 – Community and Site-specific Risk

- **Project 5: Site-specific and Superfund Regulatory Support**
 - **Task 5.1.** Quarterly Reports to Superfund Technical Support Center (STSC) and Ecological Risk Assessment Support Center (ERASC)
 - **Task 5.2.** Technical Support, Consultation and Review for Superfund and Other Agency Priorities
- **Project 6: Cumulative Risk Assessment Methods and Applications**
 - **Task 6.1.** Approaches to Cross-species Data Integration to Support CRA
 - **Task 6.2.** Incorporating Multiple Stressors
 - **Task 6.3.** Applying Genetic and Epigenetic Data to Inform Susceptibility
 - **Task 6.4.** Apportioning Multimedia Exposure and Risk across Human and Ecological Receptors

Topic 4 – Advancing Analyses and Applications

- **Project 7: Advancing Hazard Characterization and Dose-response Methods and Models**
 - **Task 7.1.** Advancing Methods for Systematic Review and Evidence Integration
 - **Task 7.2.** Advancing Quantitative Methods
 - **Task 7.3.** Advancing Methods for Benefits and Uncertainty Analysis
 - **Task 7.4.** Characterizing Determinants of Risk: Concentration, Duration and Timing of Exposure
 - **Task 7.5.** Science Workshops on Major Risk Assessment Methodology Issues
- **Project 8: Applying Emerging Science to Inform Risk Screening and Assessment**
 - **Task 8.1.** Disease-based Integration of New Data Types
 - **Task 8.2.** Characterization and Quantitative Application of High-throughput Screening (HTS) and Other Data-mining Derivations
 - **Task 8.3.** Dosimetry 21: Advancing Multi-scale Dosimetry Models to Incorporate AOP/MOA and Biomarker Data
 - **Task 8.4.** Evaluation and Application of New Exposure Data and Methods.
- **Project 9: Risk Assessment Support and Training**
 - **Task 9.1.** Development and Maintenance of Essential Software and Support Tools
 - **Task 9.1.** Development and Application of Risk Assessment Training

Information to Address Charge Question 1

- **HHRA StRAP**
- **Response to SAB/BOSC review (2014)**
- **Program partner comments**
- **Posters**
- **Software demonstrations**