

US EPA ARCHIVE DOCUMENT

C-FERST

EPA's Community-Focused Exposure and Risk Screening Tool

Community Case Studies

March 2012



What is C-FERST?

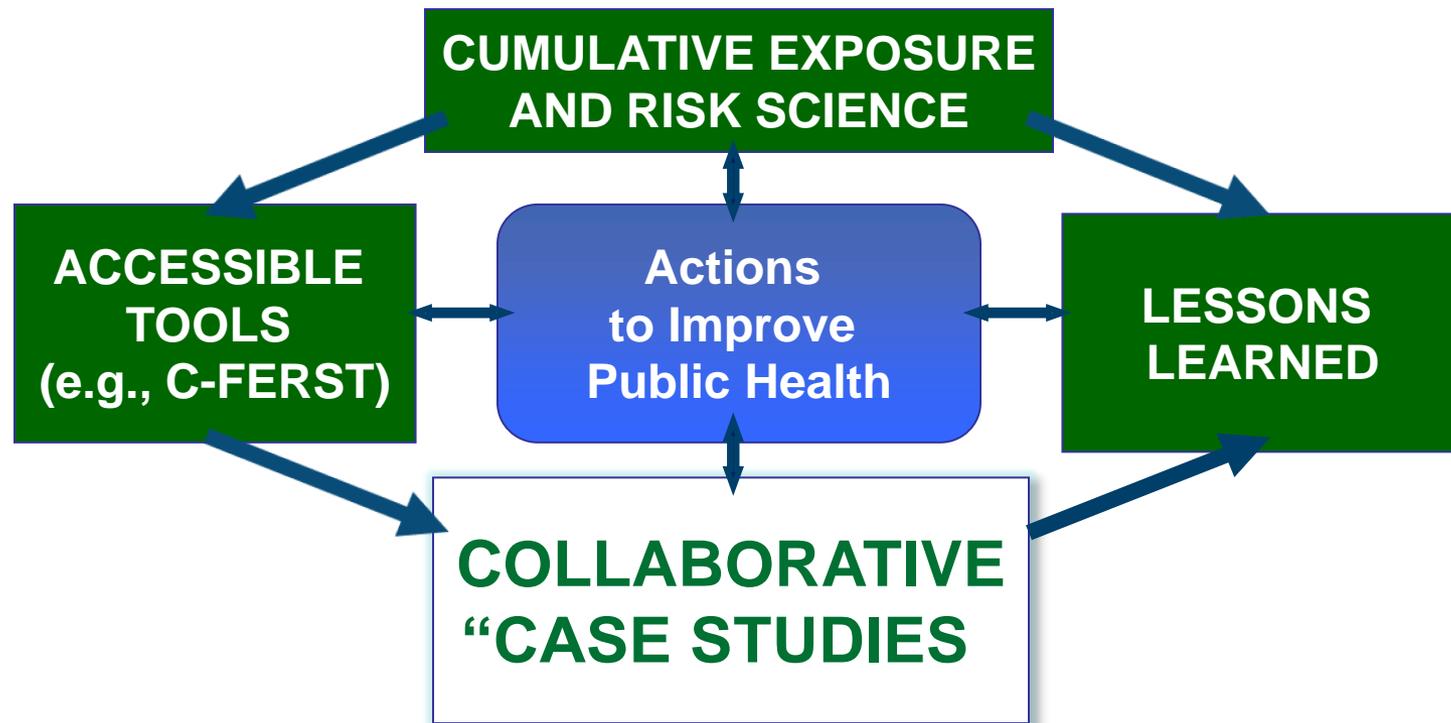
Community-Focused Exposure and Risk Screening Tool:

C-FERST is EPA/ORD/NERL's GIS and information access Web tool for conducting cumulative human exposure and risk screening assessments, to support decision-making for sustainable and healthy communities.

For more information visit:
<http://www.epa.gov/head/c-ferst>



C-FERST in the Context of ORD Science & Tools for Public Health





Pilot Community Case Studies

- **Assessed Other Tools to Inform C-FERST**
 - Detroit, MI and Holyoke, MA
 - Milwaukee EJ communities
 - several publications
- **2010-12 C-FERST/CARE Community Case Studies**
 - **Portland, ME**
 - **Springfield, MA**
- **Potential Future Collaborations**
 - Minneapolis, MN – CARE
 - Durham, NC – SHCRP
 - NIEHS PEPH volunteers
 - NC Children’s Center – NCER
 - EPA/HUD/DOT Sustainable Communities Partnership cities



Goals of Community Case Studies

Provide CARE Level 1 Partners with useful information to identify and prioritize Issues

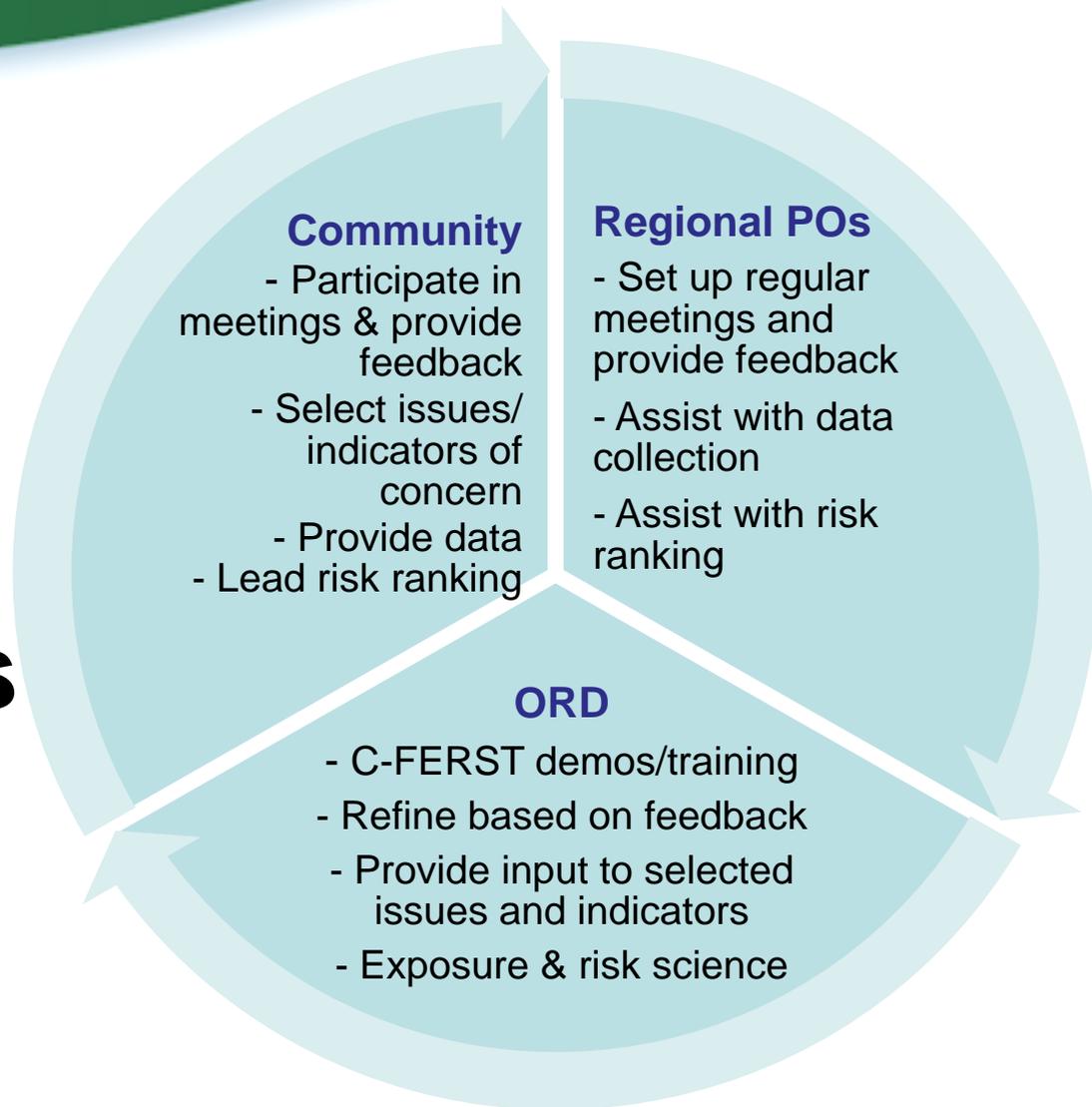
Enhance C-FERST usability for future use by Project Officers, CARE partners, and others

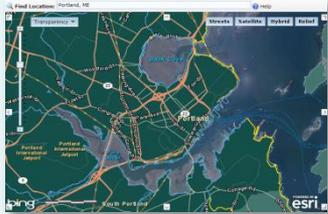
Provide transferable, generalizable methods to identify and prioritize issues

Enhance cumulative exposure and risk science to inform decision-making

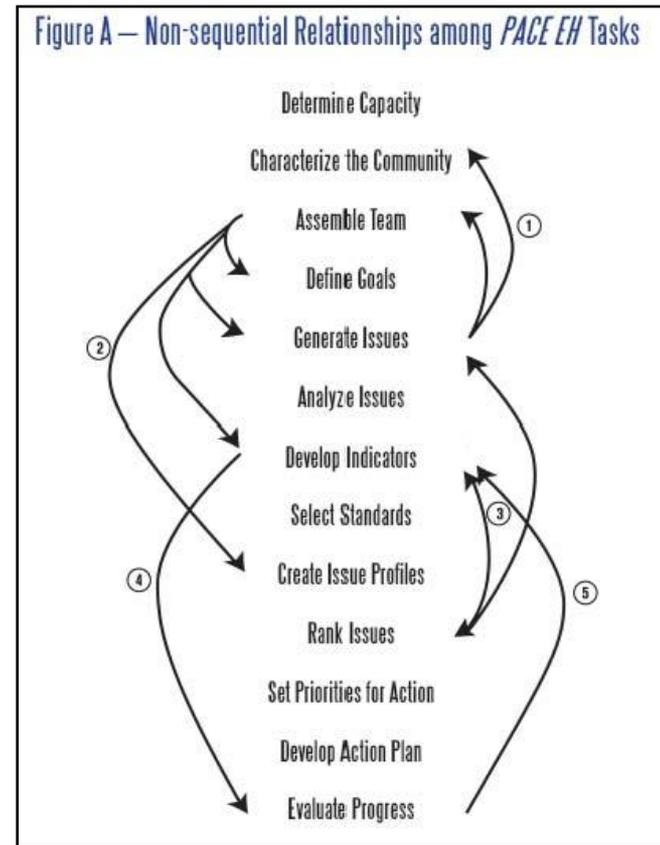
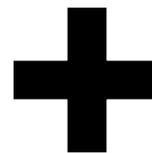
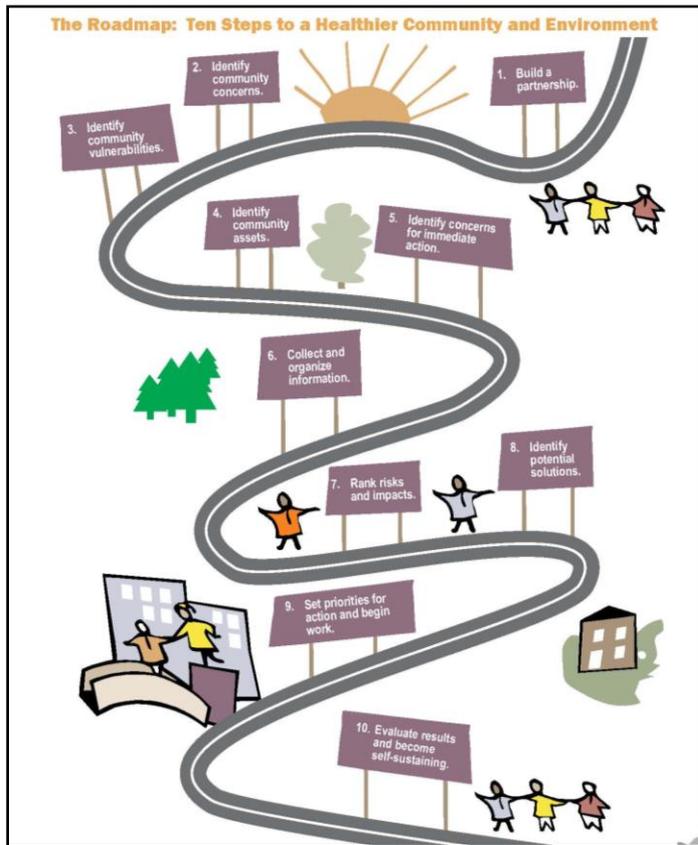
Roles &

Responsibilities



	Portland, ME	Springfield, MA
Initial Issues Considered	 <ul style="list-style-type: none"> • outdoor air pollution • water quality • lead in old homes & soil • elevated childhood BLL • bike & pedestrian safety 	 <ul style="list-style-type: none"> • ambient air quality • home & school IAQ • lead • health disparities
Additional Issues Identified	<ul style="list-style-type: none"> • waste/litter • brownfields • public housing conditions • exposure to common chemicals 	<ul style="list-style-type: none"> • debris/waste/litter • abandoned homes/ brownfields • violence • tornado damage
Local Data Collected	<ul style="list-style-type: none"> • turnpike traffic • ozone • green space • blight • waste collection 	<ul style="list-style-type: none"> • school asthma rates • air pollution • water quality • brownfield sites

Community Assessment Process





Community Assessment Process

I. Plan for Assessment

- Build a diverse partnership
- Characterize the community & identify existing issues & concerns
- Formulate a plan for identifying/prioritizing issues to address

II. Collect & Organize Information

- Find & gather information on community issues from local, state, and federal sources
- Identify gaps in existing information
- Organize information for use in upcoming steps in process

III. Rank & Prioritize Risks & Impacts

- Develop a plan/method for ranking risks
- Apply method to information gathered in previous steps
- Decide on priority issues to address

IV. Action Plan & Evaluation

- Develop a plan to address top priority issues (e.g., through mitigation, outreach, filling data gaps, etc.)
- Continually evaluate performance & sustainability of your partnership, plan, & actions



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Community-Focused Exposure and Risk Screening Tool

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You are here: [EPA Home](#) » [C-FERST](#) » Use C-FERST following Community Guidance

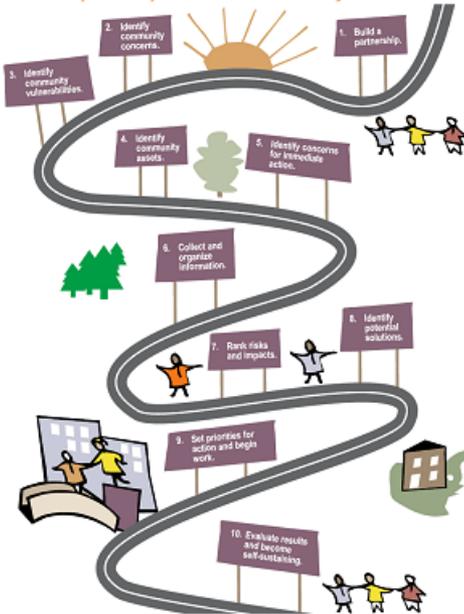
Use C-FERST following Community Guidance

These cross-walks with C-FERST are under development - we welcome your input.

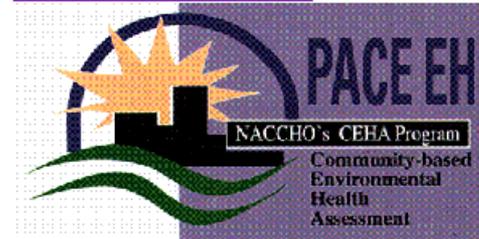
C-FERST is designed to be used in conjunction with community guidance documents. The pages below guide the user through four protocols and show how C-FERST can assist in each step.

CARE Roadmap with C-FERST

The Roadmap: Ten Steps to a Healthier Community and Environment



PACE-EH with C-FERST



C-FERST Home

USE C-FERST FOLLOWING COMMUNITY GUIDANCE

-- OR --

SELECT INDIVIDUAL OPTIONS:

Consider/Identify Environmental Issues

Access Factsheets for Issues of Concern

Visualize Exposure / Risk-Related Maps

Generate Environmental Issue Profiles

Prioritize Your Community's Issues

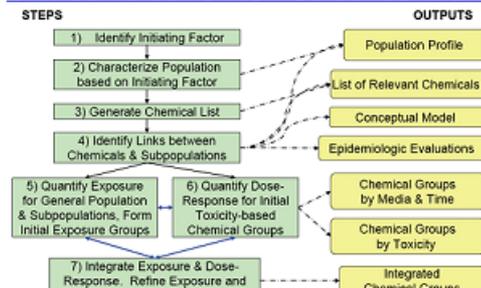
Explore Potential Solutions

Access Other Community Tools

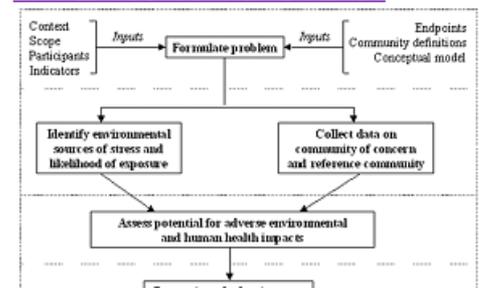
Provide Feedback / Contact US

About C-FERST

EPA Cumulative Risk Guidance with C-FERST



EPA EJ Toolkit with C-FERST





Community-Focused Exposure and Risk Screening Tool



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You are here: [EPA Home](#) » [C-FERST](#) » Consider/Identify Environmental Issues

Consider/Identify Environmental Issues for Your Community

View Guidance Developed By Other Groups

- [EPA's CARE \(Community Action for a Renewed Environment\) Roadmap](#)
Step 2, "Identify Community Concerns: Identify the environmental, health, and related social and economic concerns of the community," pp. 9-10.
- [NACCHO's PACE-EH \(Protocol for Assessing Community Excellence in Environmental Health\)](#)
Task 5, "Generate a list of community-specific environmental health issues", p.24.
- [EPA's 2007 Cumulative Risk Guidance Document](#)
Section 2.1, "Initiating Factors For Cumulative Risk Assessment", pp. 2-1 to 2-4.
- [EPA's 2004 Toolkit for Assessing Potential Allegations of Environmental Injustice](#)
Phase 1, "Problem Formulation", pp. 58-63.

What are other communities concerned about?

- [EPA CARE Community Profiles](#)
View all community projects undertaken through EPA's CARE Program, organized by year with links to descriptions of the projects.
- [EPA CARE Level 2 Project Solutions](#)
Search EPA CARE Level 2 Project Reports by issue.
- [EPA Environmental Justice Grant and Program Projects](#)
View summary of EJ community projects being conducted through grants, cooperative agreements, and other programs.
- [EPA Community-based Air Toxics Projects](#)
View reports on community-based air toxics projects (searchable by issue) and access other links to strategies on improving air quality.
- [EPA Case Studies in Local Source Water Protection](#)
View examples of local source water protection programs compiled by EPA's Office of Ground Water and Drinking Water.

Learn about Environmental Issues

- [Access Federal Factsheets](#)
Access Federal factsheets and web links organized by general information, sources, concentrations and exposures, risk and effects, and risk reduction categories.
- [Environmental Issues Categorizes by Resource](#)
View a table of issues categorized by EPA reports and community documents.
- [Environmental Issues Categorized by Type, Media, and Pathway](#)
View a table showing media, exposure pathways, health endpoints, and chemicals associated with each issue.
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View an archive of weather data to consider vulnerabilities in the physical environment.

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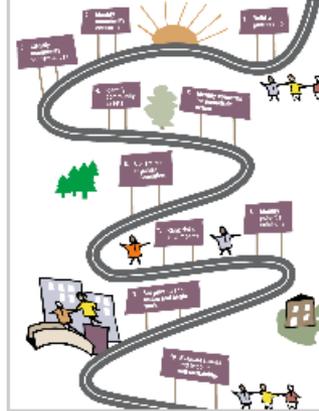
You are here: [EPA Home](#) » [C-FERST](#) » CARE Road Map

Using the [CARE Road Map](#) with C-FERST

- "Build a Partnership:** Build a collaborative partnership representing a broad range of interest that is able to identify environmental risks and impacts, build consensus, and mobilize all the resources necessary to achieve community goals."
-In C-FERST you can...
 - view [guidance developed by other groups](#) and
 - explore [community reports](#) and [community profiles](#) for ideas.
- "Identify Community Concerns:** Identify the environmental, health, and related social and economic concerns of the community. "
-In C-FERST you can...
 - view [guidance developed by other groups](#);
 - explore [community reports](#) and [community profiles](#) for ideas;
 - view [tables of environmental issues](#) for potential sources and routes of exposure;
 - explore [factsheets](#) on environmental issues; and
 - access [other links to health, social and economic information](#).
- "Identify Community Vulnerabilities:** Identify community vulnerabilities that may increase risks from environmental stressors."
-In C-FERST you can...
 - view [guidance developed by other groups](#);
 - explore [community reports](#) and [community profiles](#) for ideas;
 - access [weather and climate information](#) to understand vulnerabilities in the physical environment;
 - access [health status indicators](#), [chronic disease indicators](#), and [behavioral risk factors](#) for information on health vulnerabilities; and
 - access [demographics](#), [housing patterns](#), and [health resource shortage areas](#) for social and economic vulnerabilities.
- "Identify Community Assets:** Develop a list of community assets in order to build on the existing strengths of the community."
-In C-FERST you can...
 - view [guidance developed by other groups](#) and
 - explore [community reports](#) and [community profiles](#) for ideas.
- "Identify Concerns for Immediate Action:** Identify and begin to address immediate concerns and vulnerabilities. "
-In C-FERST you can...
 - access [factsheets and links on risk reduction](#) and
 - consider [promising practices for solutions implemented by other communities](#).
- "Collect and Organize Information:**
 - Collect and Summarize** available information on stressors, concerns, and vulnerabilities."
-In C-FERST you can...
 - generate [Environmental Issue Profiles](#);
 - create [maps](#) identifying environmental stressors and vulnerabilities; and
 - access [links to other community assessment tools](#) for additional information.
 - "Identify Gaps** where the information on stressors, concerns, and vulnerabilities is missing or inadequate. "

Source: EPA CARE Program (<http://www.epa.gov/care>) The CARE Roadmap: 10 Step Plan to Improve Community Environment and Health (20pp, 3MB, About PDF)

The Roadmap: Ten Steps to a Healthier Community and Environment



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About C-FERST



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Feedback

- C-FERST's role is more prominent in the later stages of the assessment
- Consider tailoring for different end users
- Roadmaps good idea, but currently very circular, need to be enhanced
- One community printed out and used as a "checklist" to follow progress

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Community-Focused Exposure and Risk Screening Tool [Share](#)

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You are here: [EPA Home](#) » [C-FERST](#) » [CARE Road Map](#)

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You are here: [EPA Home](#) » [C-FERST](#) » Access Factsheets for Issues of Concern

Access Factsheets for Issues of Concern

Click on the hyperlinked issues below to view factsheets and web links currently available in C-FERST. These are organized by general information, sources, concentrations and exposures, risk and effects, and risk reduction categories. Note: Some of the concerns below appear under multiple categories.

View Alphabetical List of Issues

- [1,3 Butadiene](#)
- [Acetaldehyde](#)
- [Acrolein](#)
- [Arsenic](#)
- [Asbestos](#)
- [Auto body Shops](#)
- [Benzene](#)
- [Brownfields](#)
- [Childhood Asthma](#)
- [Childhood Lead Poisoning](#)
- [Chromium](#)
- [Diesel Exhaust](#)
- [E.coli at Beaches](#)
- [Environmental Tobacco Smoke \(ETS\)](#)
- [Fine Particulates \(PM 2.5\)](#)
- [Fish Consumption](#)
- [Formaldehyde](#)
- [Hazardous Waste/Pharmaceuticals in Water](#)
- [Healthy Homes](#)
- [Land Use/Smart Growth](#)
- [Lead](#)
- [Mercury](#)
- [Methamphetamine Labs](#)
- [Microbes in Water](#)
- [Mobile Sources](#)
- [Mold](#)
- [Naphthalene](#)
- [Non-chemical Stressors \(Risk Modifying Factors\) TBD](#)
- [Outdoor Air - Near Roadway](#)
- [Ozone](#)
- [Polychlorinated biphenyls \(PCBs\)](#)
- [Polycyclic aromatic hydrocarbons \(PAHs\)](#)
- [Ports](#)
- [Radon](#)
- [Recreational Water Quality](#)
- [Residential Pesticides](#)
- [Runoff](#)
- [Schools](#)
- [Solid Waste Disposal/Recycling](#)
- [Stationary Sources](#)
- [Ultraviolet \(UV\) Radiation](#)

-- OR View By: --

+ Specific Toxic Substances of Concern

+ Media

+ Health Effects of Concern

C-FERST Home

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You are here: [EPA Home](#) » [C-FERST](#) » View Exposure/Risk-Related Maps

To add your local data to the map, see the "Add Local Data" tab to the right of the map.

Example: [Local Maps](#) | [Methods for Measuring Local Exposures](#)

Find Location:

Transparency

Menu Legend

View Concentrations, Exposures, and Risks

Please select an environmental issue to map:

- AIR
 - Cumulative Cancer Risk
 - Estimated Cancer Risk
Estimated Cancer Risk (per Million)
 - < 1
 - 1 - 25
 - 25 - 50
 - 50 - 75
 - 75 - 100
 - > 100
 - Cumulative Non-Cancer Risk
 - Acetaldehyde
 - Acrolein*
 - Arsenic
 - Benzene
 - 1,3-Butadiene
 - Chromium
 - Diesel PM
 - Formaldehyde
 - Lead

Quantitative data supplied by the [2005 National Air Toxics Assessment](#) (outdoor sources only)

* Note: Acrolein 2005 NATA estimates in southern CA (Compton airport area) have been revised and will be updated in a future version of C-FERST.

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View Concentrations, Exposures, and Risks

Please select an environmental issue to map:

- AIR
 - Cumulative Cancer Risk
 - Cumulative Non-Cancer Risk
 - Estimated Non-Cancer Neurological Risk
 - Estimated Non-Cancer Respiratory Risk
 - Acetaldehyde
 - Acrolein
 - Arsenic
 - Benzene
 - Estimated Concentration
 - Estimated Exposure
 - Estimated Cancer Risk
 - 1,3-Butadiene
 - Chromium
 - Diesel PM
 - Formaldehyde
 - Lead
 - Naphthalene
 - PAH

- Fine Particulates (PM 2.5)
 - PM 2.5 (1997 Standard)
 - PM 2.5 (2006 Standard)
- Ozone
 - Radon
 - Environmental Tobacco Smoke (ETS)
 - Near Roadway
- WATER
 - Arsenic
- FOOD
 - Mercury From Fish Consumption
- MULTIMEDIA
 - Lead
 - Residential Pesticide Exposure
- CUMULATIVE HEALTH RISKS
 - Asthma
 - Lung Cancer
 - Early Neurotoxicity Effects

View Sources

Air | Water | Food | Multimedia

- All National Emissions Inventory Points
- NEI Points Filtered By Issue
- Air Quality Monitors (AQS)
- AIRS Facility Sites (AFS)

Air | Water | Food | Multimedia

- Water Quality Inventory Report (305b)
- Combined Sewer Overflows (CSOs)
- Impaired Waters with TMDLs
- Beaches
- Major Permitted Water Discharge Sites (PCS Majors)
- All Permitted Water Discharge Sites (PCS)

Air | Water | Food | Multimedia

- Fish Consumption Advisories
- Fish Tissue Samples

Air | Water | Food | Multimedia

- Superfund National Priority List Sites (NPL)
- Brownfields Sites (ACRES)
- Large Quantity Hazardous Waste Sites (RCRA)
- Toxic Release Inventory Sites (TRI)
- Density of EPA Registered Facilities

View Health Data

- [CDC NCEH database](#)

Link to Data Information

View Demographic Data

U.S. Census 2000 Data by Tract

- Percent Minority
- Percent Below Poverty Level
- Percent Age Less Than 6 Years Old
- Percent Age Less Than 18 Years Old
- Percent Age Greater Than 64 Years Old
- Percent Housing Units Built Before 1950
- Percent 25 Years And Over With Less Than A High School Degree
- Percent 25 Years And Over With A High School Degree
- Percent Linguistically Isolated Households
- Population of American Indian and Alaskan Native
- Population of American Indian and Alaskan Native Below Poverty Level
- Tribal Census Tracts (Census 2000)

Add Local Data

Click on the map to get the coordinates for a location, or enter them in the boxes below. Be sure to enter a title and description for your point before clicking save.

Address:

Latitude:

Longitude:

Title:

Description:

In C-FERST's Map menu, we list the ORD human exposure science issues we intend to incorporate as research progresses. This list will be expanded to include ecosystems services (e.g., Urban Atlas) and sustainability indicators.





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[Save page to PDF](#) [Print this page](#)

LOCATION

- Local Hampden, MA 01103

ISSUE

- Diesel Exhaust

GENERAL INFORMATION

- Relevant Web Links:
 - EPA Links:
 - [Non-Road Engines and Air Pollution \(PDF\)](#) (2pp, 16KB, [About PDF](#))
 - [Diesel Particulate Matter](#)
 - External Links:
 - [NTP 11th Report on Carcinogens Substance Profile: Diesel Exhaust Particulates](#) [EXIT Disclaimer](#)
 - [NLM ToxTown: School Buses](#) [EXIT Disclaimer](#)
 - [NLM ToxTown: Diesel](#) [EXIT Disclaimer](#)
- For more information
 - [EPA's Office of Air and Radiation](#)

EXPOSURE AND RISK REDUCTION ACTIONS

- Relevant Web Links:
 - EPA Links:
 - [Diesel Exhaust and School Bus Idling \(PDF\)](#) (2pp, 442KB, [About PDF](#))
 - [Voluntary Diesel Retrofit Program](#)
 - [Clean School Bus USA National Idle-Reduction Campaign](#)
 - [Clean School Bus Idle Reduction Pledge \(PDF\)](#) (6pp, 390KB, [About PDF](#))
 - [Tomorrow's Buses for Today's Children \(PDF\)](#) (8pp, 880KB, [About PDF](#))
 - [What You Should Know About Reducing Diesel Exhaust from School Buses \(PDF\)](#) (4pp, 171KB, [About PDF](#))
 - [National Clean Diesel Campaign State and Local Toolkit](#)
 - [Diesel Exhaust in the United States \(PDF\)](#) (4pp, 412KB, [About PDF](#))
 - [NEJAC - Reducing Air Emissions Associated With Goods Movement: Working Towards Environmental Justice](#) (48pp, 1.9MB, [About PDF](#))
 - External Links:

SOURCES

- Relevant Web Links:
 - EPA Links:
 - [Air Toxics from Motor Vehicles \(PDF\)](#) (4pp, 21KB, [About PDF](#))
 - [Emission Facts: Idle Vehicle Emissions \(PDF\)](#) (4pp, 17KB, [About PDF](#))
 - [Non-Road Engines and Air Pollution \(PDF\)](#) (2pp, 16KB, [About PDF](#))
 - External Links:
 - [Partial List of Chemicals Associated with Diesel Exhaust](#) [EXIT Disclaimer](#)
 - [NLM ToxTown: School Buses](#) [EXIT Disclaimer](#)
 - [NLM ToxTown: Diesel](#) [EXIT Disclaimer](#)

ENVIRONMENTAL CONCENTRATIONS

Quantitative data supplied by the [2005 National Air Toxics Assessment](#) (outdoor sources only): [Disclaimer](#)

- Estimated Local average concentration = 1.5 µg/m³
 - estimated background concentration = 0 µg/m³ ■
 - estimated contribution from major point sources = 0 µg/m³ ■
 - estimated contribution from area and other sources = 0 µg/m³ ■

Estimated Concentration

- Background
- Major
- Area
- On Road
- Non Road

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- Identify gaps in existing information
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Feedback

• Factsheets

- Need to consolidate; improve connection between maps, fact sheets, solutions
- One community used information from EPA factsheets and C-FERST maps to develop outreach materials

• Maps

- Most popular feature in C-FERST
- Maps informative, but need risk communication language for community end users
- Add more data and more functions!

• Issue Profiles

- Need to incorporate or better connect to community data table

The screenshot displays the 'Community-Focused Exposure and Risk Screening Tool' interface. The top navigation bar includes the EPA logo and the tool title. Below the search bar, the 'Access Factsheets for Issues of Concern' section is active, showing a 'View Alphabetical List of Issues' dropdown menu with 'Diesel Exhaust' selected. The main content area is divided into three sections: 'LOCATION', 'ISSUE', and 'GENERAL INFORMATION'. The 'LOCATION' section shows 'Local Hampden, MA 01103'. The 'ISSUE' section shows 'Diesel Exhaust'. The 'GENERAL INFORMATION' section provides relevant web links, EPA links, and external links, including reports on Diesel Exhaust Particulates and National Clean Diesel Campaign materials. Below this, the 'EXPOSURE AND RISK REDUCTION ACTIONS' section lists relevant web links and EPA links for reducing Diesel Exhaust exposure. The 'SOURCES' section lists relevant web links and EPA links for Diesel Exhaust sources.



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Community-Focused Exposure and Risk Screening Tool



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You are here: [EPA Home](#) » [C-FERST](#) » Prioritize Your Community's Issues

C-FERST Home

USE C-FERST FOLLOWING COMMUNITY GUIDANCE

-- OR --

SELECT INDIVIDUAL OPTIONS:

Consider/Identify Environmental Issues

Access Factsheets for Issues of Concern

Visualize Exposure / Risk-Related Maps

Generate Environmental Issue Profiles

Prioritize Your Community's Issues

Explore Potential Solutions

Access Other Community Tools

Provide Feedback / Contact US

About C-FERST

Prioritize Your Community's Issues

View Your Community Data Table

* City is still under development.

	State	County	City *	Zip Code
Your Community	<input type="text" value="- Select State -"/>	<input type="text" value="- Select County -"/>	<input type="text" value="- Select City -"/>	<input type="text"/>

You may also specify reference community(ies); however, note that differences from one community to another do not necessarily mean that those are the most important issues for public health impact. For example, one issue can have a much greater health impact than another issue in the table for a given community

	State	County	City *	Zip Code
Reference Community (optional)	<input type="text" value="- Select State -"/>	<input type="text" value="- Select County -"/>	<input type="text" value="- Select City -"/>	<input type="text"/>
Reference Community (optional)	<input type="text" value="- Select State -"/>	<input type="text" value="- Select County -"/>	<input type="text" value="- Select City -"/>	<input type="text"/>

*

* You can export your Community Data Table to Excel for entering your own additional issues/indicators, local data for these issues, and weighting factors

Access examples of risk ranking approaches

Below are links to resources for ranking the relative exposures and risks associated with different environmental issues. Inclusion of these in C-FERST does not necessarily imply endorsement of their use.

- [NACCHO's Protocol for Assessing Community Excellence in Environmental Health \(PACE-EH\) \(PDF\)](#) (111pp, 964KB, [About PDF](#)) [EXIT Disclaimer](#)
- [Task 10, "Rank The Issues", pp50-56.](#)
- [CARE Detroit Best Practices](#)
- [CARE Pueblo Best Practices](#)

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Data Metrics	Your Community 01107	National Average	Standard ¹	Data Info/Notes ¹	Reference Community MA	Reference Community Hampden MA
Environmental Concentration Estimates (µg/m³)						
Outdoor Air - Acetaldehyde	1.9	1.9		2005 NATA	1.6	1.7
Outdoor Air - Acrolein ²	0.1	0.05		2005 NATA	0.07	0.08
Outdoor Air - Arsenic	0.0007	0.0006		2005 NATA	0.0005	0.0006
Outdoor Air - Benzene	1.3	1.06		2005 NATA	1.04	0.9
Outdoor Air - Butadiene	0.10	0.07		2005 NATA	0.08	0.07
Outdoor Air - Chromium	0.001	0.0009		2005 NATA	0.0006	0.0007
Outdoor Air - Diesel PM	1.3	0.9		2005 NATA	0.6	0.7
Outdoor Air - Formaldehyde	2.1	2.09		2005 NATA	1.8	1.9
Outdoor Air - Lead	0.002	0.002	1.5 µg/m ³ (Quarterly Avg)	2005 NATA	0.002	0.002
Outdoor Air - Naphthalene	0.1	0.07		2005 NATA	0.07	0.08
Outdoor Air - PAH	0.1	0.02		2005 NATA	0.1	0.1
Outdoor Air - Fine Particulates (PM2.5)				(under development)		
Outdoor Air - Ozone			0.075ppm (2008 std) 0.08ppm (1997 std)	(under development)		
Outdoor Air - Near-Roadway				(EPA Research Underway)		
Indoor Air - Radon (pCi/L)		1.3	2-4 pCi/L (action level)	http://www.epa.gov/radon		
Indoor Air - ETS				(EPA Research Underway)		
Drinking Water - Arsenic				(EPA Research Underway)		
Food - Methyl Mercury in Fish Consumption				(EPA Research Underway)		
Human Exposure Estimates (µg/m³)						
Outdoor Air - Acetaldehyde	1.5	1.5		2005 NATA	1.3	1.4
Outdoor Air - Acrolein ²	0.08	0.03		2005 NATA	0.05	0.06
Outdoor Air - Arsenic	0.0004	0.0003		2005 NATA	0.0003	0.0003
Outdoor Air - Benzene	1.2	0.9		2005 NATA	0.9	0.8
Outdoor Air - Butadiene	0.09	0.06		2005 NATA	0.07	0.06
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III. Rank & Prioritize Risks & Impacts

- Develop a plan/method for ranking risks
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Feedback

- Access to CARE examples and best practices useful
- Consider both science-driven risks and community risk perception
- Would like to ability to assess future scenarios

U.S. ENVIRONMENTAL PROTECTION AGENCY

Community-Focused Exposure and Risk Screening Tool

Search: All EPA This Area

You are here: EPA Home > CARE > Prioritize Your Community's Issues

Prioritize Your Community's Issues

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Your Community: State: County: City: Zip Code:

C-FERST | Community Data Table | Export to Excel

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Community-Focused Exposure and Risk Screening Tool



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Explore Potential Solutions

- [Access Fact Sheets on Exposure/Risk Reduction Actions](#)

Promising Practices for Solutions Implemented by Communities

This is a partial list (not in any particular order) of links to solutions implemented by communities.

- [EPA CARE Promising Practices to Improve Community Performance and Sustainability \(PDF\)](#) (29pp, 3.9 MB), ([About PDF](#))
- [EPA CARE Level 2 Project Solutions Searchable by Issue](#)
- [EPA CARE Resource Guide \(Risk Reduction/Mitigation\)](#)
- [CARE Detroit Best Practices](#)
- [CARE Pueblo Best Practices](#)
- [EPA Office of Air and Radiation: Improving Air Quality in Your Community](#)
- Others TBD

Guidance on Building Sustainable Communities

- [EPA's Sustainable Design and Green Building Toolkit for Local Governments](#)
Addresses the local codes of ordinances that affect the design, construction, renovation, and operation and maintenance of a building and its immediate site to help identify and remove barriers to sustainable design and green building.
- [Leveraging the Partnership: DOT, HUD, and EPA Programs for Sustainable Communities](#)
Guide to help communities identify federal resources that can support their efforts to promote more sustainable communities.
- [ICLEI USA – Local Governments for Sustainability USA](#)
ICLEI-Local Governments for Sustainability (ICLEI) is a membership association of local governments committed to advancing climate protection and sustainable development. On their website you will find programs, tools, guidance and other resources.

Future Plans

Please provide input via CFERSTmail@epa.gov on other practices you would like to see listed here.

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-- OR --

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Exposure/Risk Reduction Actions

Click the + signs to view factsheets and links on exposure and risk reduction actions. If you would like to view additional factsheets please visit the [Access Factsheets](#) page

- + 1,3 Butadiene Risk Reduction Actions
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- + Benzene Risk Reduction Actions
- + Brownfields Risk Reduction Actions
- Childhood Asthma Risk Reduction Actions

EPA Links

- [IAQ Tools for Schools Action Kit - Reference Guide: Appendix D - Asthma](#)
- [Managing Asthma in the School Environment](#)
- [Clear Your Home of Asthma Triggers](#) (3pp, 244KB, [About PDF](#))
- [Help Your Child Gain Control Over Asthma \(PDF\)](#) (36pp, 1.18MB, [About PDF](#))
- [Clearing the Air of Asthma Triggers: 10 Steps to Making Your Home Asthma-Friendly \(PDF\)](#) (1pp, 36/53KB, [About PDF](#))
- [Dusty the Asthma Goldfish & His Asthma Triggers Funbook \(tool for parents and kids to learn about asthma triggers\)](#) (8pp, 1.28/1.41MB, [About PDF](#))
- [Protect Your Children: Take the Smoke-Free Home Pledge \(PDF\)](#) (4pp, 579KB, [About PDF](#))
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- [Care for Their Air: Promoting Smoke-free Homes for Head Start Families](#)

External Links

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USE C-FERST
FOLLOWING
COMMUNITY
GUIDANCE

-- OR --

SELECT INDIVIDUAL
OPTIONS:Consider/Identify
Environmental IssuesAccess Factsheets for
Issues of ConcernVisualize Exposure /
Risk-Related MapsGenerate
Environmental Issue
ProfilesPrioritize Your
Community's IssuesExplore Potential
SolutionsAccess Additional
Tools for
CommunitiesProvide Feedback /
Contact US

About C-FERST



IV. Action Plan & Evaluation

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Feedback

- Risk reduction fact sheets helpful
- Want more info about impact of actions
- Would like to see measures of cost and effectiveness of alternate decisions

Community-Focused Exposure and Risk Screening Tool

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- + **Land Use/Smart Growth Risk Reduction Actions**
- + **Lead Risk Reduction Actions**
- + **Mercury Risk Reduction Actions**



General Feedback

“C-FERST is an extremely powerful tool, and there are things we can do to make it more so.”

–Springfield, MA CARE
Grantee Project Officer

“I think C-FERST is a very ambitious, comprehensive and powerful tool and has great potential.”

–Portland, ME CARE
Grantee

“C-FERST can help communities stay on track and identify gaps.”

–Senior Project Officer,
Region 1

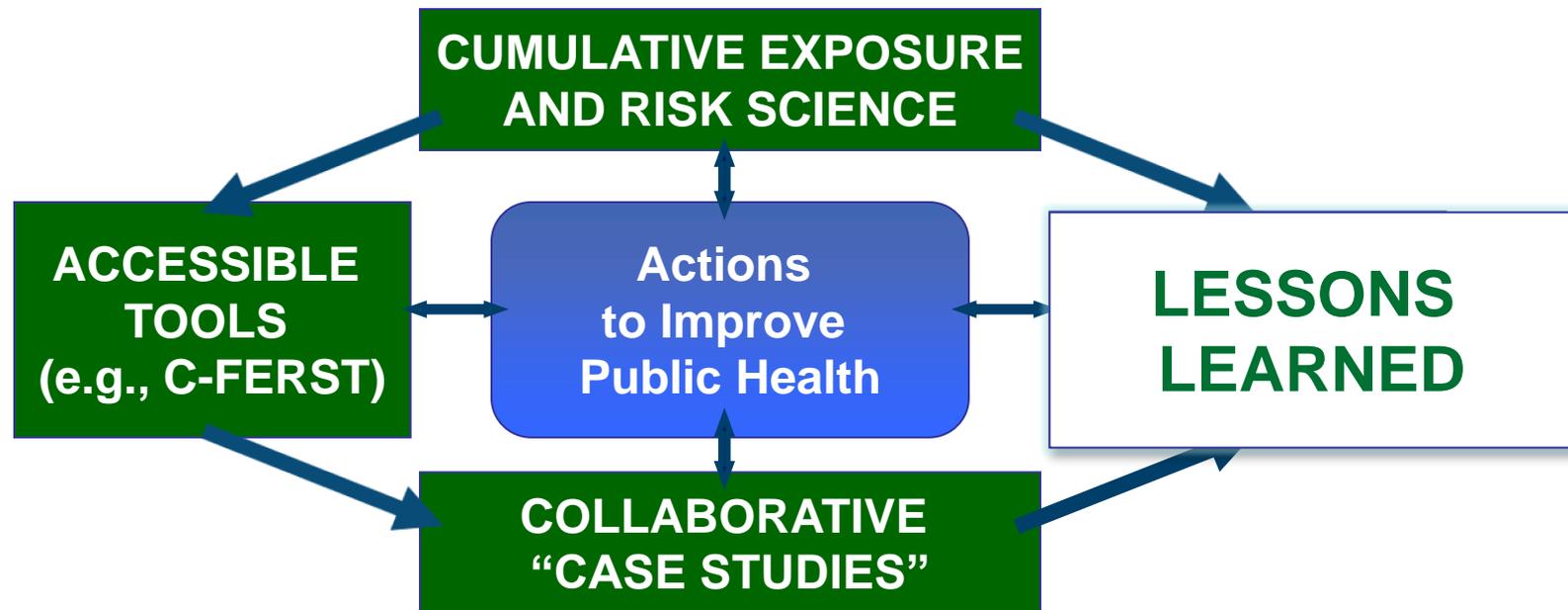
- **Potential, potential, potential**
- **Simplify, simplify, simplify**
- Difficulties with login and access to C-FERST are a major frustration; need to fix a.s.a.p.
- Consider tailoring the tool for different end users

Response

- Continually developing updates based on end-user and EPA feedback
- Developed C-FERST Access guide and Troubleshoot guide; continuing contact with EPA IT Support to improve accessibility
- Considering tiered organization for different end-users and purposes for next set of updates
- Expanding C-FERST steering committee to continue improvements and bring more scientific expertise



C-FERST in the Context of ORD Science & Tools for Public Health





Overarching Lessons Learned about C-FERST

C-FERST is useful now for:

- Visualizing environmental information
- Providing content for outreach materials
- Following step-by-step community guidance interactively
- Learning about community issues of concern

C-FERST needs more:

- ***Simplification & Flexibility*** – Different users will use the tool for different purposes, in different order, at different levels of complexity
- ***Direction*** – Crosswalks could play a larger role in the directing organization/flow of the site, but need enhancements
- ***Interaction*** – Ability to add local data, save maps and tables, etc.
- ***Risk Science & Communication*** – “What does this mean to me?”
- ***Decision Support Functionality*** – “What if?” scenarios to inform decisions for sustainable and healthy communities



Overarching Lessons Learned about Community Tool Development

Expectations:

Communicate, refine if needed, repeat

Easy access and user-friendliness critical to success:

Usability & IT challenges can make or break a public-facing tool

Community Tool development is a balancing act:

Provide valuable information & science tools
for complex, multi-step community assessment process while also

- keeping it simple and streamlined
- avoiding bias in the process
- avoiding bias in the information provided
- respecting community empowerment



Future Vision for C-FERST

- **Expand cumulative exposure and risk science**
- **Integrate with other tools**
- **Expand sustainability aspects**
- **Broaden use of tool for community applications**



Acknowledgements

- **C-FERST Development Team**
 - Collaborators in ORD
 - Collaborators in CARE Program (EPA project officers, community grantees), Regions, Program Offices
 - EPA Region 1 GIS and Technical Team
 - National Computing Center
 - Contractors (CSC; Alion; student service contractors)
- **EPA/ORD Management for C-FERST Support**