

*Improving the Environmental Health of Vulnerable
Communities in North America*

CEC's Air Quality and Pollutant Releases Program

JPAC Workshop, New Orleans, La
June 9-10, 2012



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Tracking Pollutant Releases and Transfers in North America (North American PRTR Project)

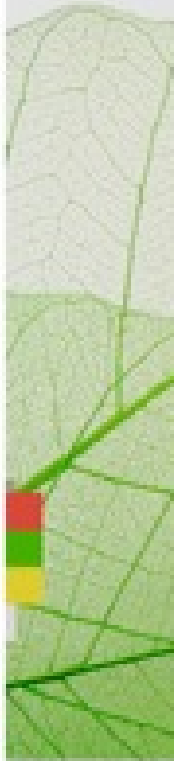
Objectives:

- ✓ Increase access to information, awareness and understanding of the sources and handling of pollutants of common concern across North America
- ✓ Improve the comparability of PRTRs in North America
- ✓ Support decision-making at all levels (communities, industry, governments) relative to pollution prevention and reduction

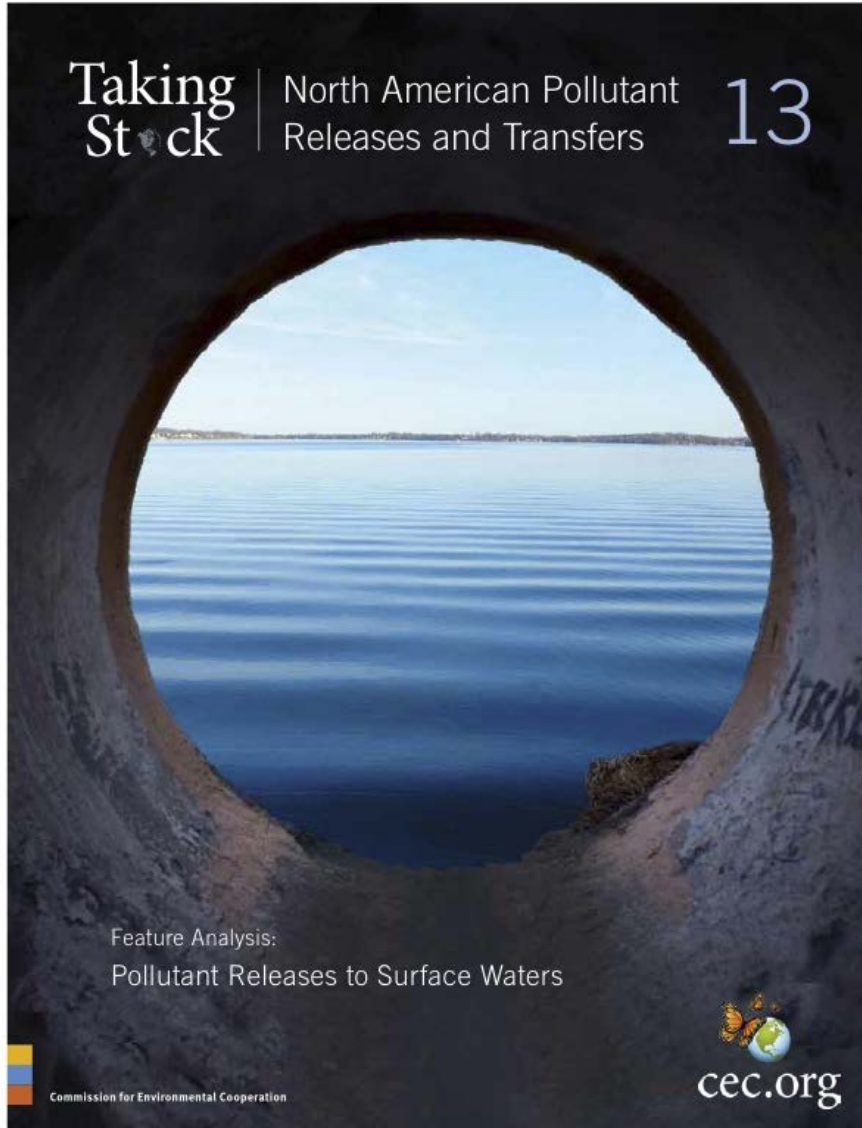
Approach:

- ✓ Development of an integrated online North American PRTR dataset and tools; and publication of the Taking Stock report with analyses addressing North American health and environmental issues
- ✓ Outreach and development of relationships with stakeholder communities, via Taking Stock and the annual public meeting
- ✓ Tri-lateral collaboration on comparability and consistency in the areas of data reporting, collection, and quality assurance of PRTR data

Pollutant Releases and Transfers Reporting Facilities



Taking Stock Report and Website



Louisiana Petroleum Refineries and Terminals (2009)

Taking Stock Online

Report By Facility [Show/Hide Table Columns](#)

#	Facility Name	PRTR ID	City	State/Province/Territory	Country	On-site air emissions	On-site surface water discharges
						2009 (kg) ▼	2009 (kg)
1	EXXONMOBIL REFINING & SUPPLY BATON ROUGE REFINERY	70805XXNBT4050S	Baton Rouge	Louisiana	United States	572,350.75	1,783,242.98
2	CITGO PETROLEUM CORP	70602CTGPTHIGHW	Westlake	Louisiana	United States	414,564.56	28,620.77
3	CONOCOPHILLIPS CO - ALLIANCE REFINERY	70037LLNCRHIGHW	Belle Chasse	Louisiana	United States	215,786.35	8,940.15
4	CHALMETTE REFINING LLC	70143TNNCL500WE	Chalmette	Louisiana	United States	202,586.60	274,465.57
5	MOTIVA ENTERPRISES LLC NORCO REFINERY	70079MTVNR15536	Norco	Louisiana	United States	191,145.48	994.27
6	CONOCOPHILLIPS LAKE CHARLES REFINERY	70669CNCLKOLDSP	Westlake	Louisiana	United States	157,611.75	376,186.80
7	MARATHON PETROLEUM CO LLC	70051MRTHNHWWY61	Garyville	Louisiana	United States	101,220.14	36,925.59
8	CONVE						219,797.25
9	MURPH						21,637.26
10	RAIN C						0
11	CALUM						18.60
12	VALER						8,649.08
13	ALON F						86,110.25
14	PLACID						9,360.79
15	CALUM						45.74
16	CALCA						64.41
17	ENTER						0
18	SHELL						0
19	MARTIN						0
20	ST ROM						0



Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America

Objective:

- ✓ Assist Communities in the identification of potential health risks posed by environmental contamination, and actions to mitigate them

Approach:

- ✓ Development of **Framework document** for building capacity among communities throughout North America (focus on vulnerable populations such as children and indigenous communities)
- ✓ Tri-national collaboration with stakeholders, building on existing tools and resources (e.g., Community Action for Renewed Environment Resource Guide, CEC's Taking Stock Online, SMOC monitoring initiatives, AirNow, etc.)
- ✓ Improving public dissemination of air quality conditions through the **implementation of AirNow-International** in Mexico

Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America

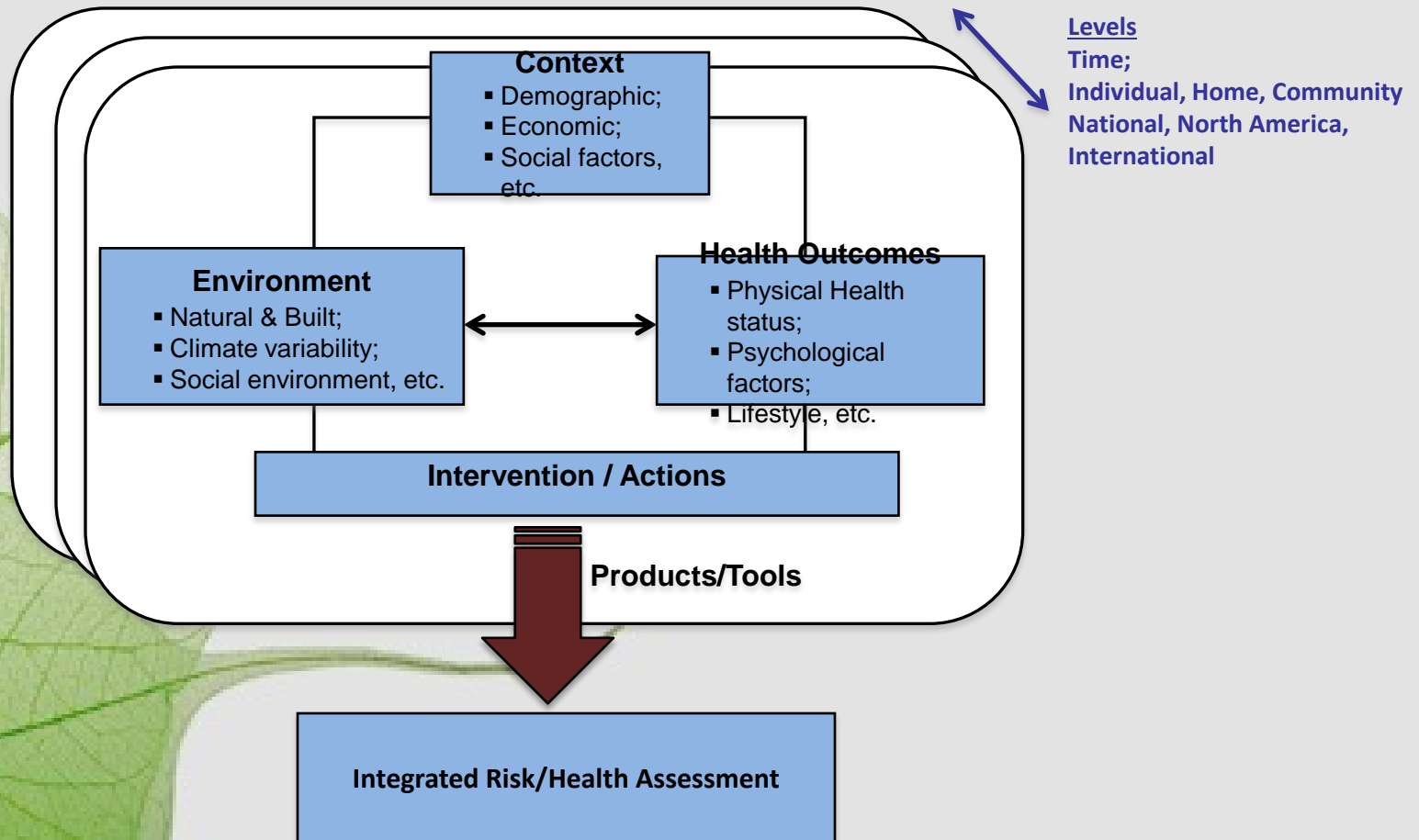
Annual Environmental Burden of Disease (selected health outcomes)

Country	Chronic Obstructive Pulmonary Disease (COPD)	Asthma	Cardiovascular diseases	Cancer	In-utero exposure and congenital affliction
Canada	714,000 affected ¹ 9773 deaths 256,461 hospitalizations EAF*: 10-30% ²	2.7 million affected ¹ 288 deaths EAF: 26-53% ²	1.3 million affected ¹ 72,743 deaths 447,218 hospitalizations EAF: 7-23% ²	850,000 affected ³ 68,322 deaths 215,493 hospitalizations EAF: 5-15% ⁴ (12-29% ²)	1700 infants deaths ⁴ 25,000 low birth weight 1900 stillbirths 6400-9600 serious congenital anomalies EAF: 2-10% ²
Mexico	5-10 million affected ⁵ 17,000 deaths 128,960 hospitalizations EAF (COPD): 37-47% ² EAF (Asthma): 26-53% ²		15.5 million affected ² 92,679 deaths 249,239 hospitalizations EAF:7-23% ²	86,554 deaths ⁶ 296,877 hospitalizations ⁵ EAF:12-29% ²	8946 deaths ⁵ 183,095 low birth weight 65,584 hospitalizations EAF: 3-25% ²
United States	COPD: 5-10% of population ⁷ Asthma: 26 million (7 million children) ^{7,8} 3447 deaths 456,000 hospitalizations EAF: 10-35% ⁹		81 million affected ⁷ 599,413 deaths 4 million hospitalizations EAF: 7-23% ²	19.4 million adults affected ^{9,10,11} 567,628 deaths 1.3 million hospitalizations EAF: 2-10% ⁹ (12-29% ²)	9883 deaths (5.319 < 1yo) 336,747 low birth weight 25,894 stillbirths ¹² EAF : 2-10% ²

*EAF: Environmentally Attributable Factor

Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America

Framework to Improve the Environmental Health in North America



Capacity Building to Improve the Environmental Health of Vulnerable Communities in North America

Draft Framework Outline

1. Introduction

1.1 Functional Criteria of a Framework document for improving the Environmental Health of Vulnerable Communities

2. Background

2.1 Environmental Health

2.2 Vulnerable Communities

2.3 Chemical Exposure

2.4 Environmental Burden of Disease

2.5 Environmental Health Indicators

2.6 Institutional Use of Environmental Health Indicators

2.7 Terminology

3. The Framework

3.1 Objectives

3.1.1 Specific Objectives

3.2 Extent

3.3 Pillars

3.4 Select or Develop Indicators that Characterize Vulnerability to Environmental Contamination

3.4.1 Environmental Conditions

3.4.2 Social Determinants

3.4.3 Biological Factors

3.4.4 Institutional Conditions

3.5 Application

3.6 Conduct Targeted Monitoring and Evaluation

3.7 Make Informed Decisions

4. Challenges

4.1 Community

4.2 Governments

4.3 Scientific

4.4 Knowledge Transfer

5. Conclusions

6. References

CEC Air Quality and Pollutant Releases

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Three countries. One environment.