

# PCBs in Bay Area Building Materials Fact Sheet

## Project Goals

- To obtain Bay Area-specific information about the presence of PCBs in building materials, so that management actions can be targeted specifically to the structures most likely to contain PCBs that threaten water quality
- To develop Bay Area-specific best management practices (BMPs) to prevent release of PCBs from building materials into urban runoff during renovation, maintenance and demolition of structures
- To contribute to a reduction in PCB stormwater loads to San Francisco Bay, implement portions of the recently adopted PCBs TMDL, and meet provisions of the Municipal Regional Permit (MRP) for stormwater

## Background

### ***Funding***

In November 2006, the State Water Resources Control Board awarded the Association of Bay Area Governments/San Francisco Estuary Project a Proposition 50 Coastal Nonpoint Source Pollution grant that includes several tasks to further implementation of Bay Area Total Maximum Daily Loads (TMDLs). One of these tasks involves PCBs used in historic building materials.

### ***Problem***

Elevated PCB levels threaten the health of people and wildlife consuming fish from San Francisco Bay. A TMDL to address PCB impairment of all segments of San Francisco Bay was adopted by the San Francisco Bay Regional Water Quality Control Board in February, 2008. The San Francisco Bay PCBs TMDL Project Report<sup>1</sup> found that urban runoff was one of the major sources of PCBs loads to the Bay and concluded that controlling PCBs sources in urban runoff was one of two top priorities for TMDL implementation. Based on this recommendation, the Clean Estuary Partnership (CEP) evaluated available data on sources of PCBs in urban runoff and recommended approaches for addressing two potentially significant sources, past PCBs releases that have contaminated soil and sediments and PCB-containing historic building materials, specifically uncontained materials like sealants, caulking and paint.<sup>2</sup> When the building materials fail or buildings are remodeled or demolished, PCBs may be released onto the ground and can be washed off by urban runoff. The peer-reviewed journal *Environmental Science & Technology* published an article in 2005 documenting a survey by the Swiss government of 1,348 buildings constructed between 1950 and 1980, which found that almost half of the buildings contained PCBs; almost 10% contained sealants with PCB concentrations exceeding 10% by weight; and that the total PCBs reservoir was an estimated 50-150 metric tons.<sup>3</sup> A less rigorous study was conducted in Boston with similar findings.<sup>4</sup> A Swedish study found that significant quantities of PCBs were released into soil and water runoff during building remodeling.<sup>5</sup> Both the Swiss and Swedish governments have developed active programs to manage PCB-containing building materials in response to public health concerns (related both

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<sup>1</sup> San Francisco Bay Water Board (2004). *PCBs in San Francisco Bay*, TMDL Project Report, January 8.

<sup>2</sup> Larry Walker Associates, TDC Environmental, and Ann Blake (2006). *PCB TMDL Implementation Plan Development*. Prepared for CEP. Final Draft.

<sup>3</sup> Kohler, M., J. Tremp et al. (2005). *Environmental Science & Technology* **39**(7): 1967-1973

<sup>4</sup> Herrick, R. F., M. D. McClean, et al. (2004). *Environmental Health Perspectives* **112**(10): 1051-3.

<sup>5</sup> Astebro, A., B. Jansson and U. Bergstrom (2000). *Organohalogen Compounds* **46**: 248-251.

to direct exposures and to the adverse effect of PCBs on Europe's fisheries).

### **Planned Actions for this Project**

Using the Swiss and Swedish management practices as a guide, the Taking Action for Clean Water Project will partner with the Bay Area Stormwater Management Agencies Association (BASMAA) and its member cities to develop Bay Area-specific best management practices (BMPs) to prevent release of PCBs from building materials into urban runoff. SFEP will coordinate development of the BMPs by completing trial implementation projects in cooperation with BASMAA and local municipalities. San Francisco Estuary Institute (SFEI) will obtain Bay Area-specific information about the presence of PCBs in building materials, so that management actions can be targeted specifically to the structures most likely to contain PCBs that threaten water quality.

The scope of work for this project includes the following:

- Obtain Bay Area-specific information on PCB loadings to urban runoff from historic building materials.
- Develop written Best Management Practices and a Model Implementation Program, including
  - Convene an implementation work group comprised of partner representatives, municipal staff, and regulatory agency staff tasked with providing guidance and review drafts of project deliverables.
  - Research existing regulatory controls/policies related to managing wastes and hazardous materials during building demolition/remodeling programs.
  - Develop proposed best management practices (BMPs) to reduce or prevent discharge of PCBs during building demolition/remodeling. The BMPs will focus on methods to identify, handle, contain, transport, and properly dispose of PCB-containing building materials.
  - Develop an implementation program. Define circumstances that would trigger BMP implementation and develop model municipal regulatory controls/policies.
  - Develop a program to train and deploy inspectors (e.g., municipal hazardous material or building inspectors) to ensure proper implementation of the BMPs and compliance with the program.
- Implement 3-5 trial projects using the BMPs and implementation program developed.
- Conduct phased region-wide implementation of BMPs in cooperation with partners.
- Conduct effectiveness evaluation.

### **Project Partners**

San Francisco Estuary Project (SFEP): project management

San Francisco Estuary Institute (SFEI): data collection and sampling phase

Consultant (TBD): BMP and model implementation program development

Bay Area Stormwater Management Agencies Association (BASMAA): technical and outreach assistance

TDC Environmental (Kelly Moran, Ph.D.): technical review

### **For More Information**

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