



## Who Should Pay for Sediment Cleanup?

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June 2017

**10<sup>th</sup> International SedNet Conference**  
**“Sediments on the move”**  
**Palazzo San Giorgio, Genoa, Italy**



# Why Clean up the Waterfront?

Cities seek a waterfront that is a place of public enjoyment. They want a waterfront where there is ample visual and physical public access – all day, all year - to both the water and the land.

Cities also want a waterfront that serves more than one purpose: they want it to be a place to work and to live, as well as a place to play. In other words, they want a place that contributes to the quality of life in all of its aspects - economic, social, and cultural.

From: Remaking the Urban Waterfront, the Urban Land Institute

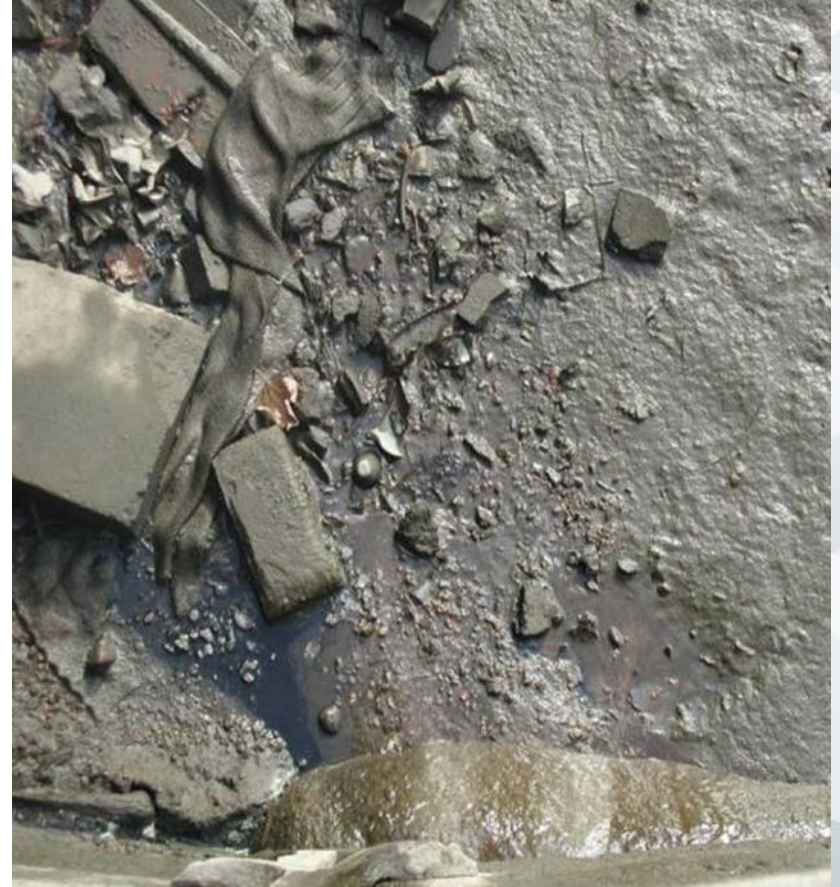
# Cleanup of Contaminated Sediments is More Important than Ever

- **Available Land:** Abandoned waterfront facilities led to depressed land values, ripe for ambitious redevelopment schemes
- **Cleaner Water and Land:** Environmental regulations and remediation, beginning in the 1970s and 1980s made the land again appealing along the waterfront
- **The Historic Preservation Movement:** Preservationists took to preserving historic structures, much of which were located along the waterfront and still standing because of a long period of abandonment
- **Citizen Activism and Leadership:** Citizen activism in reclaiming 'lost' waterfronts and historic regions pushed much redevelopment by city agencies
- **Urban Revitalization:** With the revitalization of urban downtowns and the construction of residential developments with supporting services, waterfronts have become prime real estate

From: Remaking the Urban Waterfront - the Urban Land Institute

# Current Status

- Cleanup technology has advanced
- Work at some sites (but not many) has progressed
- So if technology is not holding us back, what is?
- Our approach to the financial aspects of cleanup is the problem
- If we expect to make progress, we need to make a change



# Urban Waterways = Industrial Legacy



# Urban Waterways = Opportunity



# Why Not “Polluter Pay All”?

- While the forensic tools exist to identify sources, it is not always possible to force the historic polluters to pay
  - Legal limitations (e.g. time bars, permitted discharges, trans boundary pollution)
  - Previously nationalized industries
  - Orphans (polluters who no longer exist)
  - Non participants (polluters who avoid responsibility)
- This approach can result in lengthy and costly disputes over the liability for and allocation of clean up costs
- Historically externalized costs of war, economic growth and prosperity, and consumerism are the responsibility of everyone
- Stakeholders can make unreasonable demands because it is “someone else’s money”

# Cleanup Cost Allocation

## Gore Factors

- Volume
- Toxicity
- Contribution to Harm
- Involvement
- Care
- Cooperation

## Quantitative Factors

## Qualitative Factors

## Other Factors

- Economic Benefits
- Contractual Relationships
- Strength of Evidence
- Ability to Pay

***Guiding Principle: Cost Causation***  
***Common Obstacle: Orphan Shares***



# Economic Benefit



- In the past...
  - Industry, others

- In the future...
  - City
  - Port
  - Developer



# New Approach – Allocation Acknowledging Future Economic Benefit

- Participants

- The city
- The port
- The developers
- The public

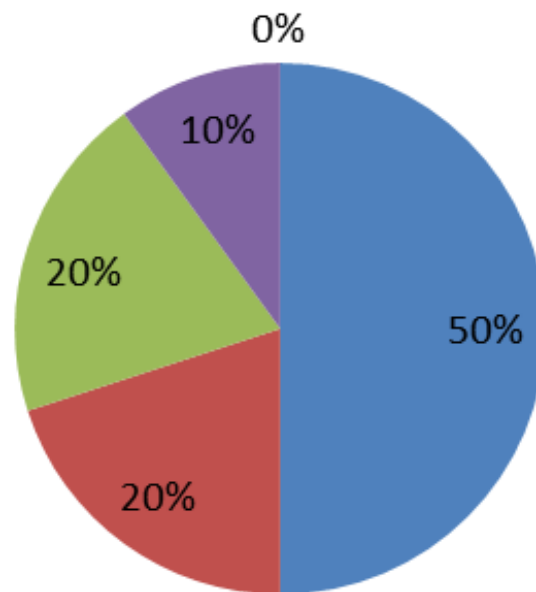
- Factors:

- Current ownership area
- Zoning change
- Public access or amenity
- Private financial gain



# Allocation by Chemical – Cost Causation

## Allocation based on connection to contamination



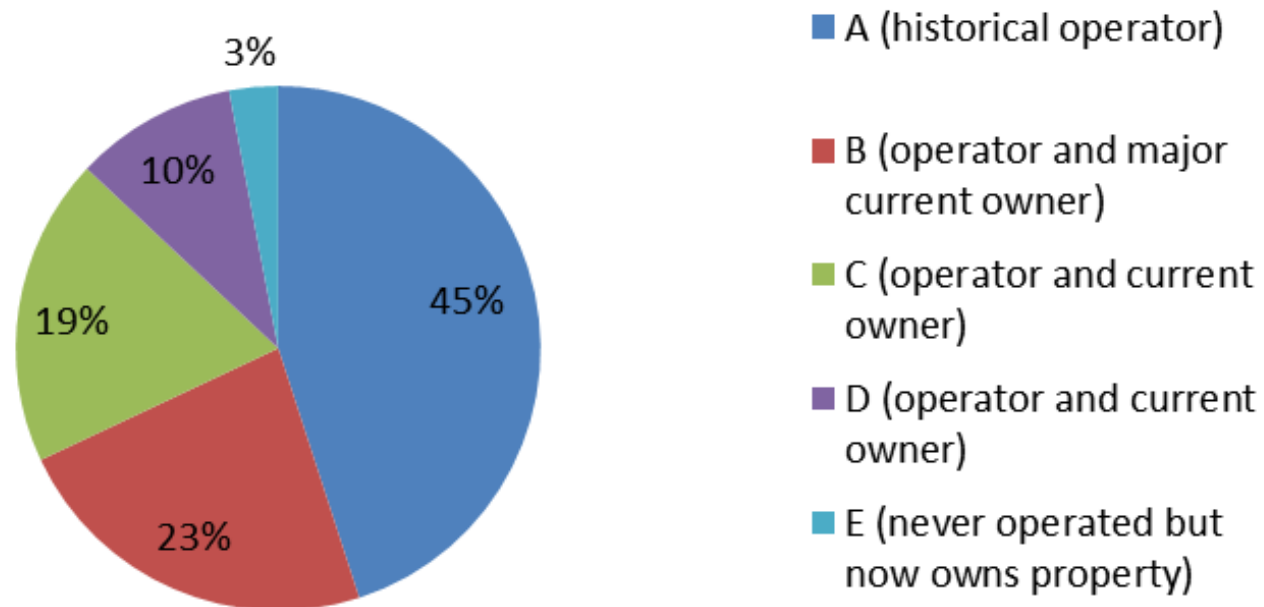
- A (historical operator)
- B (operator and major current owner)
- C (operator and current owner)
- D (operator and current owner)
- E (never operated but now owns property)

# Example

- \$10,000,000 cleanup allocated to four parties that were associated with contaminant releases (A, B, C, and D).
- Party E never released contaminants but will benefit if the area is cleaned up and property values increase.
- Party E could pick up a share of the cleanup and all other parties could be discounted accordingly.
- What share is reasonable?
- They own 30% of the property, but should be responsible for a lesser share of the cleanup since they never released contamination.
- Propose 10% of the total cleanup costs should be allocated based on future benefits, and the remaining 90% based on who released contamination.
- This percentage is applied to all parties.

# Allocation Including Current Land Ownership

## Allocation incorporating 10% share based on land ownership

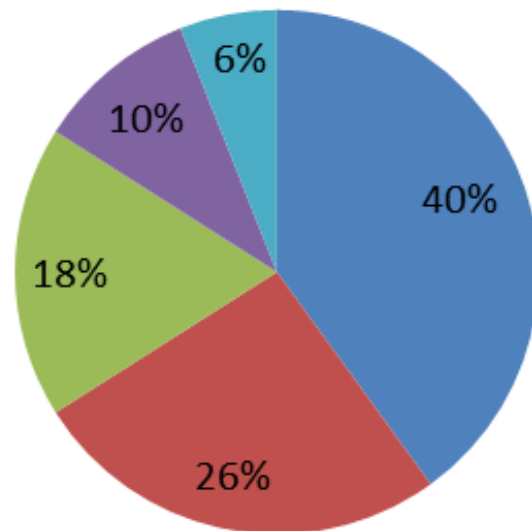


# Additional Modifications

- 10% is initial proposal; could be supported or modified based on with further research on economic benefits of brownfield redevelopment.
- Alternatively, could use a dollar value instead of a percentage, see example below.
- Estimate benefits to property values (for this example, use \$3,000,000).
- Allow owners to take 1/3 of that as benefit, and ask them to pay the remaining 2/3 (\$2,000,000).
- Allocate that \$2,000,000 based on ownership and the remaining \$8,000,000 based on contamination.

# Allocation Including Future Benefit

## Allocation incorporating \$2M share for land owner future benefits



■ A (historical operator)

■ B (operator and major current owner)

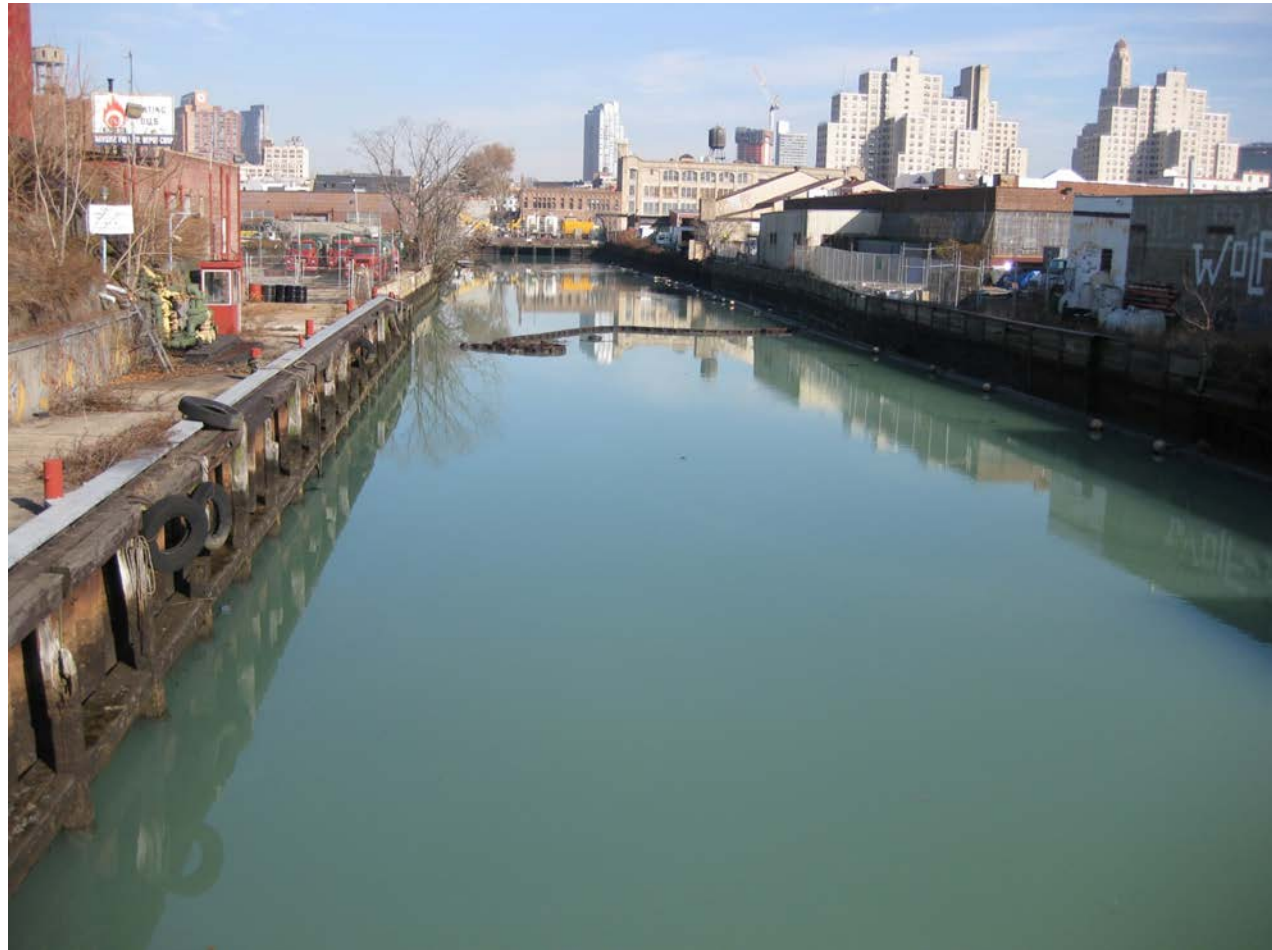
■ C (operator and current owner)

■ D (operator and current owner)

■ E (never operated but now owns property)

# Why Ask Others to Pay?

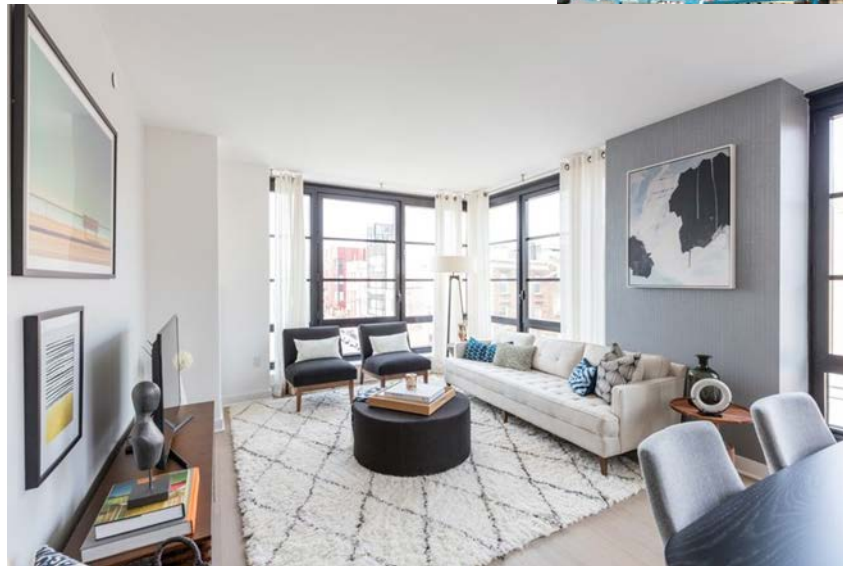
- The benefits of cleanup should be recognized
- Increased value of land
- More useful waterways
- Those who benefit from the cleanup should also pay





# Who Experiences These Benefits?

- Cities
- Ports
- Waterfront developers
- Waterfront communities



# What is the Role of the City or Port?



- Have a vision of your future waterfront
- Purchase land on the waterfront
- Prepare development and environmental master plans
- Lead the way in agreements to clean up the sediments in the waterway and the surrounding land
- Lead the way in upland cleanup and source control
- Create a Cleanup Development Authority with a strategic plan for redevelopment

# Conclusions

- The current model for cost allocation needs re-examination
- If we take the “polluter pays all” approach, fewer cleanups will occur
- Some costs can be legitimately passed on to those who benefit most from the cleanup
- Municipalities can play an important catalyzing role in cleanup
- Leadership and vision as expressed in development and environmental master plans, is critical
- Economic and social benefits are achievable with planning and follow-through effort



# Thank You

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# About the Presenter

Philip Spadaro – Senior Principal Scientist and Managing Director

- International expert in dredging, sediment cleanup, source control and waterfront development.
- Technically based in environmental chemistry with strong proficiency in forensics, hydrogeology, geology, regulatory affairs, and remediation technology.
- 33 years of experience applying his expertise and management skills to projects where sediment quality is a prominent issue.
- Expertise in the siting, design, permitting, and construction of confined disposal facilities for dredged material and in the fate and transport of contaminants in estuarine, riverine, and marine aquatic environments.
- Advisor to clients for dredging, sediment management, and remediation projects in North and South America, Europe, the Mid-East and Asia.
- Lately focusing on site strategy, remedial design, cost allocation, litigation support for construction claims, and cost-recovery actions and other matters related to sediment remediation.