



CONFERENCE PROCEEDINGS

RESTORING GREENSPACE: USING ECOLOGICAL ENHANCEMENTS AT REGIONS 2 & 3 CONTAMINATED SITES

PHILADELPHIA, PA
JUNE 23-24, 2004

PREPARED BY:
ECOLOGIX GROUP, INC.
410 ROWE BLVD.
ANNAPOLIS, MD 21401
(410) 216-6006

PREPARED FOR:
WILDLIFE HABITAT COUNCIL
8737 COLESVILLE RD., SUITE 800
SILVER SPRING, MD 20910
(301) 588-8994

TABLE OF CONTENTS

Sponsors and Exhibitors	2
Introduction	3
Conference Summary	4
Opening Remarks & Overview of Conference Objectives	4
Keynote: Making the Case for Ecological Enhancements: An overview of the WHC white paper	6
Panel: Using Ecological Enhancements	6
Panel: The Regions 2 & 3 Scene - What are the Opportunities and Obstacles?	7
Field Trips	9
Breakout Sessions	10
Lunch Presentation	14
Plenary: Making the Case for Ecological Enhancements	15
Closing Remarks	16
List of Attendees	17

SPONSORS AND EXHIBITORS

THE WILDLIFE HABITAT COUNCIL THANKS OUR SPONSORS FOR THEIR GENEROUS FINANCIAL SUPPORT, WHICH HAS MADE THIS CONFERENCE POSSIBLE:

- AIG Environmental
- BP
- Bridgestone Americas Holding, Inc.
- ChevronTexaco
- ConocoPhillips
- ExxonMobil
- National Oceanic and Atmospheric Administration
- Sunoco, Inc.

with additional Support from:

- Chemistry Council of New Jersey
- Pennsylvania Department of Environmental Protection
- Pennsylvania Environmental Council
- Rohm and Haas Company
- U.S. EPA Region 2
- U.S. EPA Region 3

in Cooperation with:

- Interstate Technology & Regulatory Council
- U.S. Department of Defense Office
Deputy Under Secretary of Defense for Installations & Environment
- U.S. EPA Office of Solid Waste and Emergency Response
- U.S. EPA Office of Underground Storage Tanks

and Facilitated by:

- EcoLogix Group Inc.

EXHIBITORS

- | | |
|--|---|
| ➤ Golder Associates | ➤ National Oceanic and Atmospheric Administration |
| ➤ Roux Associates, Inc. | ➤ Pennsylvania Environmental Council (space donated by ChevronTexaco) |
| ➤ The O'Brien & Gere Companies | ➤ Roux Associates, Inc. |
| ➤ AIG Environmental | ➤ Schnabel Engineering, Inc. |
| ➤ Bridgestone Americas Holding, Inc. | ➤ U.S. EPA Region 2 |
| ➤ CDM | ➤ U.S. EPA Region 3 |
| ➤ CH2M Hill | ➤ URS Corporation |
| ➤ Coastal America - Corporate Wetlands Restoration Partnership | |
| ➤ Five-Star Restoration Challenge Grant Program | |
| ➤ Interstate Technology and Regulatory Council | |

INTRODUCTION

This conference was the second in a series of regional conferences the Wildlife Habitat Council sponsors to encourage and enable site managers to incorporate ecological enhancements as remediation techniques or end uses in their Brownfield, RCRA, Superfund or Leaking Underground Storage Tank properties.

This regional conference aimed to identify strategic methods associated with the implementation of ecological enhancements on contaminated lands based on the white paper, *"Making the Case for Ecological Enhancements."* The white paper was prepared by a group of nationally known experts incorporates known benefits of using ecological enhancements, while relying on actual case studies to capture the lessons learned so far, and makes recommendations on next steps for increasing the number of success stories. Please refer to the Wildlife Habitat Council web site to download the white paper at: <http://www.wildlifehc.org/ewebeditpro/items/O57F3253.pdf>

An objective of this conference was to provide a sound foundation for moving forward toward the development of action plans specific to regions 2 & 3. These regions, with the strong leadership of EPA and the encouragement of communities and non-profit groups, have initiated many remarkable efforts to incorporate ecological enhancements into site remediation plans and as end uses. The Wildlife Habitat Council plans to form a regional steering committee to develop and implement a strategy for overcoming the obstacles for using ecological enhancements on contaminated properties in Regions 2 & 3. Interested parties are encouraged to participate. Please make your interest known to Lesley Kordella, Ecological Restoration Program Manager at 301-588-8994, and lkordella@wildlifehc.org

CONFERENCE SUMMARY

The conference kicked off with a special membership dinner, hosted by the Wildlife Habitat Council and Katie McGinty of the Pennsylvania DEP on the evening of June 22nd, 2004. The following is a brief summary of the conference sessions which began on the morning of June 23rd, and concluded in the afternoon on June 24th.

WEDNESDAY, JUNE 23, 2004

OPENING REMARKS & OVERVIEW OF CONFERENCE OBJECTIVES:

Welcome Session Speakers:

- William Howard, President, Wildlife Habitat Council
- Abraham Ferdas, Superfund Division Director U.S. EPA
- Kathleen A. McGinty, Secretary Pennsylvania Department of Environmental Protection
- Brad Campbell, Commissioner New Jersey Department of Environmental Protection

Summary:

Bill Howard opened the session of the conference focusing on the theme “Making the Case for Ecological Enhancements.” The objectives were to

- Highlight the white paper which the Wildlife Habitat Council developed in 2003; and
- Provide an overview of the efforts underway in EPA Regions 2 and 3 to implement ecological enhancements at contaminated sites.

Abraham Ferdas

Region 3 is pleased about the partnership it has developed with the Wildlife Habitat Council at New Beginnings- The Woodlawn Wildlife Area. This has been a successful venture. Thanks to everyone for attending the conference. EPA is very supportive of the reuse of contaminated sites.

Katie McGinty

The topic of brownfields has evolved from “hairshirt” to opportunity, with new and creative approaches being developed. Pennsylvania, which leads the country in farmland preservation, certification of green buildings, development of wind energy and remediation of brownfields, sees opportunity in the effort to create ecological enhancements as part of the strategy to clean up brownfields. She urged conferees to think about how ecological enhancements and storm water requirements might be paired, and she stressed that Pennsylvania wants to move projects quickly with an eye to combining environmental improvement with economic return.

Brad Campbell

We need to expand our concept of reuse of contaminated sites. Important ecological sites are sometimes located in the heart of populated communities, next to contaminated sites, like NJ's Meadowlands. One of the challenges is water supply, critical to economic growth, so recharge and wetland areas are especially important. New Jersey is the only state that reimburses for cleanup costs and that it has put a lot of money on the table. New Jersey has also promoted steps that protect water quality as well as quantity, and has expanded its definitions to include a wide array of end uses. The state urges partnerships with corporations as well as local governments, and it stresses money as well as standards and enforcement.

Perspective from EPA:

- ✦ Robert Springer, Director Office of Solid Waste
U.S. EPA, OSWER

Summary: Mr. Springer displayed a slide depicting the complicated “universe” of brownfields laws and programs, and indicated we need “sites in my community” to enable people to obtain a visual picture of what this concepts is all about. He also indicated that the federal interest in brownfields remediation includes action to correct the damage caused by the contamination. There are opportunities for greenscapes partnerships because the United States generates a large amount of organic material. He challenged conferees to identify properties that have reuse potential and to encourage and recognize companies that voluntarily develop the reuse potential of sites. OMB is looking for “measures of success” to prove the value of the dollars being spent. Mr. Springer foresees that by 2020 the cleanup of RCRA sites may be complete, but there will likely be an ongoing need for long term remediation.

Overview of Conference Objectives:

- ✦ Nicholas A. DiPasquale, Deputy Secretary
Office of Air, Recycling and Radiation Protection
Pennsylvania Department of Environmental Protection

The challenge in this effort is to look for opportunities for enhancements in all kinds of cleanup programs. We need to see the connection between pollution control and ecological enhancement and act on it. Mr. DiPasquale summarized the conference objectives and urged conferees to think about the need to restore ecological functions in urban areas where surfaces are hardened and the need to involve the affected communities. He recommended that conferees look at the disk that contains the WHC white paper, and pay special attention to the 24 case studies – these are wonderful examples of what can be done. The Wildlife Habitat Council can play an important role by being the neutral party which can track progress. He put forth two ideas for further discussion:

- 1- How can a training program for ecological enhancements be established?***
- 2- Can the Wildlife Habitat Council certification program be used as a benchmark in this process?***

KEYNOTE: MAKING THE CASE FOR ECOLOGICAL ENHANCEMENTS: AN OVERVIEW OF THE WHC WHITE PAPER

Speaker: Charles Johnson, Environmental Protection Specialist, Colorado Dept. of Public Health and Environment

Summary: The Wildlife Habitat Council and ITRC signed a partnership agreement in 2003. ITRC is currently developing technical guidance which will help to implement the WHC white paper. ITRC's goal is to achieve something more than clean dirt and clean water! He summarized the goals of the white paper and stated that there is currently no technical guidance on how to implement ecological enhancements. ITRC is attempting to separate out what is statute and regulation, what is policy and guidance, and what is business practice. He noted that there are certain disincentives to use of ecological enhancements now; these include lack of regulatory acceptance, lack of familiarity with techniques and concepts, need for site specific evaluation, no readily accepted valuation system, lack of remedial creativity. He urged conferees to watch for the ITRC technical guidance. He said there will be a need for training to deliver the message, and that training on the internet might be one way to meet this need.

PANEL: USING ECOLOGICAL ENHANCEMENTS

Moderator: Lori Miller, Senior Remedial Project Manager
USDA, Safety, Occupational Health and Environmental Staff

Panel Speakers:

- ✦ Dr. Lucinda Jackson, Environmental Team Leader
ChevronTexaco
- ✦ Dr. David Tsao, BP Remediation Management Function
BP
- ✦ Dr. Steven N. Handel, Professor and Director
Center for Urban Restoration Ecology

Summary:

Lucinda Jackson

Dr. Jackson provided four examples of sites ChevronTexaco has been involved with that demonstrate aspects of implementing ecological enhancements. The first goal is to manage habitat in such a way that one prevents the need to implement ecological enhancement after the fact. The first example was a pipeline in Louisiana, which ruptured. ChevronTexaco partnered with the Louisiana Coastal Wetlands Project whereby they created 31 acres of marsh. Remote sensing allowed comprehensive monitoring. The project cost initially was \$1 million, allowing \$2 million to be saved in long term costs. The second example was a refinery in Texas where 100 years of impacts caused contaminated sediments that required dredging. The dredged material was used to create "planting mounds" and to create 115 acres of wetlands. They succeeded in restoring both the open water area and an old dredge site, at a huge dollar savings. The third and fourth examples presented took place in Russia and Nigeria, where habitat protection is not valued as much as jobs and economic development. Therefore ChevronTexaco had special challenges to overcome in protecting

farmland and mangroves. Dr. Jackson suggested that WHC work with the Society for Ecological Restoration International to get the word out about ecological enhancements.

David Tsao

Dr. Tsao focused on phytoremediation of contaminated sites and emphasized several themes in his presentation. He stressed the use of native vegetation for remediating contamination; he said there are issues to deal with in achieving the desired outcomes of the white paper. For example:

1-How do we apply these concepts to small sites?

2-How do green alternatives compare with traditional technologies?

3-How can green end uses be combined with active operating facilities?

Dr. Tsao also presented a concept he calls “phytoscaping” whereby species are used onsite that remediate from day one, which is especially useful at small UST (underground storage tank) sites. Dr. Tsao indicated that a big question has emerged about what plants to use, so BP has been testing various plants onsite to see their effectiveness for remediation and also for leak detection. Many plants are hydrocarbon-tolerant and effective at removing them from the soil; some seem to have potential to detect problems early.

Steven Handel

Dr. Handel spoke about the need to improve environmental services on restoration sites in urban areas which are largely designed by engineers. He said that while these sites are often engineering successes they are also frequently environmental disasters. He posed the question: ***can we do better than this?*** Can we install biodiversity back on small sites? Using the example of the Fresh Kills landfill in New York City, he described a project which has resulted in ideal biodiversity. He presented on the importance of micro-sites and the ecological constraints one has to deal with when restoring them. These include seed dispersal, degraded communities, soil quality and biota, successional process, and invasives. He indicated that restoration projects have these needs: partners, buffers, supporting ecosystem processes, and habitat links and corridors.

PANEL: THE REGIONS 2 & 3 SCENE - WHAT ARE THE OPPORTUNITIES AND OBSTACLES?

Moderator: Joseph M. Manko, Manko/Gold/Katcher/Fox, LLP

Panel Speakers:

- ✦ Tim Bent, Director, Environmental Affairs
Bridgestone Americas Holding, Inc.
- ✦ Paul W. Will, Brownfields Program Manager
Department of Natural Resources and Environmental Control
- ✦ Joe Seebode, Assistant Commissioner
New Jersey Dept Environmental Protection
- ✦ Patrick Starr, Vice President
Pennsylvania Environmental Council
- ✦ Thomas Fidler, Environmental Program Manager
Pennsylvania DEP

- ✦ Joel Hennessy, Geologist,
U.S. EPA Region 3
- ✦ Charles Nace,
U.S. EPA, Region II

Summary:

Tim Bent

The biggest opportunity is that a sense of optimism has replaced the sense of fear that used to permeate this business. The factors that have created optimism include community involvement, education, shared decision making, timely results, and needed technical skills and expertise. Regions 2 and 3 have a need for greenspace. Several remaining challenges, including attitudes (*we have always done it this way!*), the difficulty of reaching consensus, making science understandable, and vision. He urged conferees to be willing to take risks, saying that less expensive methods achieve win/win solutions.

Paul Will

Brownfields redevelopment is exploding in Delaware, producing more work that they can deal with. Mr. Will identified these obstacles: ***uncertainty in the cleanup process; cost; time to complete; liability fears; and public acceptance.*** There are four geographic areas in Delaware that present special opportunities: Christina riverfront; the Wilmington Urban Wildlife Refuge; City industrial sites throughout the state down to Lewes; and the I-95 salvage yard corridor. Mr. Will stressed that there is a need for programs that can ***remedy contamination, provide incentives for redevelopment, and preserve greenspace.***

Joe Seebode

New Jersey is in the forefront nationally with its smart growth plan which includes brownfields. A major tool is the Natural Resources Damages program, which brings money to the department to address remediation. The state has a bill, S.277, pending; this bill would provide 100% grants for brownfield renovation. One of the innovative things New Jersey is trying to do is to cluster brownfields sites with a single case manager, to get enough land together to be able to do good enhancements. Mr. Seebode said NJ has resolved 25% of its brownfields sites but has 3000 remaining sites. New Jersey is using dredged material to renovate some sites.

Patrick Starr

The Pennsylvania Environmental Council (PEC) is interested in reinvesting in Pennsylvania communities, as they see this as a win/win opportunity. The segment of the “reuse” debate is struggling is the “green infrastructure” piece. Mr. Starr noted that even though Pennsylvania is a “slow/no growth” state, that for every new person an average of 4 acres of land is consumed. Most urban greening programs are about aesthetics, not habitat. PEC is working on a major project on the north Delaware waterfront which will address some of these issues. Mr. Starr sees the following roadblocks: ***lack of vision, lack of a strong real estate market, lack of funding, intrinsic community characteristics like desire to walk to work, and community suspicions.***

Tom Fidler

Mr. Fidler indicated that he was encouraged by the morning's speakers- especially the emphasis on prevention. He described Pennsylvania's land recycling program and its incentives. There are many opportunities, with techniques like phytoremediation, the use of set-asides, and land use controls which can preserve habitat. Growing Greener 2, a Pennsylvania funding initiative, will target watershed planning, mine reclamation and better planning. There are opportunities to interface with permit programs like stormwater, making it possible to tie all the whole process together into one consolidated approval process. The Department of Environmental Protection for the Commonwealth has a brownfields action team to expedite permit reviews and remediation.

Joel Hennessy Mr. Hennessy's division of Region 3, the Waste and Chemicals Management division, has not been involved to date in habitat restoration projects. He sees the following obstacles: *timing and the need to characterize sites*, and *institutional controls to maintain use after restoration*. Region 3 has 380 active sites which can be found on their web page with a fact sheet about each.

Charles Nace

Mr. Nace characterized the obstacles this way: A large amount of remediation is done to serve regulatory requirements; there is little talk about wildlife; people don't consider habitat as part of site remediation and they need training. The opportunities include the case studies which show that it works, as well as the benefits of greater communication.

Joseph Manko

As panel moderator, Manko closed the session with these observations: we've come a long way since 1973, when we began trying to manage growth via the Clean Water Act and treatment plants. We have evolved past "command and control", to today where agencies are talking about coordination and Pennsylvania has a \$3 billion loan fund called PennVest for hard infrastructure which might be able to be expanded to include green infrastructure.

FIELD TRIPS:

Conference participants each chose and participated in one of three concurrent field trips which are described below:

- ✦ **Camden – The Remaking of a City-** Attendees visited redevelopment and ecological enhancement projects from small to large, with a variety of end uses, such as a gas station converted to a pocket park and constructed wetland on a brownfield. Also seen was the revitalized Camden waterfront with new greenways and baseball stadium creating a fresh destination for the community.
- ✦ **North Delaware Riverfront – Renovating a Post Industrial Landscape-** Attendees toured the north Philadelphia riverfront featuring brownfields redevelopment and learned about an incremental clean-up strategy, including phytoremediation. The long-term vision for renewal converts industrial sites to useful urban landscapes and a parkland corridor with bike trails and recreational amenities.
- ✦ **Philadelphia's Hidden River – The Master Plan for the Schuylkill River-** Attendees explored redevelopment projects and planned sustainable greenway communities along the Schuylkill River, from boathouses to industrial

redevelopment, emphasizing the connection of green spaces that provide public access to the river.

THURSDAY, JUNE 24TH, 2004

BREAKOUT SESSIONS:

The morning of June 24th was devoted to participants attending concurrent breakout sessions. The sessions included case studies where participants could learn the particulars of three different sites where ecological enhancements had been incorporated into site reuse. Other sessions were devoted to specific ecological enhancement issues. A summary of each breakout session is summarized below.

Case Studies: (Abstracts provided in the Conference Workbook)

FIRST SET OF MORNING BREAKOUT SESSIONS

✦ **Regulatory Issues in Regions 2 and 3**

Speakers from PA, DE, MD, of Region 2 and Region 3 spoke about how they approach the issue of brownfield remediation across multiple programs, and where they find opportunities for ecological enhancements. One of the themes from all speakers was the need to achieve better coordination across the spectrum of programs – brownfields, RCRA, superfund etc that each has to administer. States and Commonwealths offered examples of projects where ecological enhancements have been successfully incorporated. They spoke about management efforts to group projects together and use other techniques to streamline the process.

Questions were raised about whether the States and Commonwealths are encouraging ecological enhancements in lieu of enforcement actions, and whether additional testing is required when ecological enhancements are employed. There was also discussion about eco-receptors; often they are not considered early enough in the planning process. Concerns were raised about transfer of impacts to eco-receptors, and questions were raised about whether additional testing would be required if it were decided to reuse a site as a park after remediation took place.

This session demonstrated the progress each jurisdiction is making in moving toward more use of ecological enhancements, and it also showed the huge regulatory and administrative hurdles which must be overcome to take full advantage of green technologies and green end uses.

✦ **Department of Defense Case Studies**

This session focused on Army and Navy presentations of case studies. Lisa I. Yeutter, E.I.T., an Environmental Engineer and Jason A. Speicher, a Biologist from the Engineering Field Activity Northeast, Naval Facilities Engineering Command in Lester, PA discussed several case studies whereby ecological re-use and habitat restoration have been integral components of remediation design on navel bases and managed lands. In addition, Keith

Williams, an Environmental Scientist with the U.S. Army Center for Health Promotion and Preventative Medicine's Health Risk Assessment Program discussed case studies in ecological re-use of army facilities and the incorporation of ecological enhancements into remedial design at hazardous waste sites.

The Army has difficulty using green approaches to remediation because the Defense Environmental Restoration Act includes a policy of "no resource restoration as part of a DERA cleanup." The Navy implements a "natural resources injury policy" that allows incorporation of natural approaches and native species as part of site cleanups.

Many questions were raised, including how the military interacts with state and federal regulators; how they resolve disputes between trustees, state regulators and EPA; whether DOD has used mitigation banking approaches to saving resources, remediating sites and paying for cleanup; which risk assessment methods were used; and how future timeframes and likelihood of ecosystem recovery are projected.

Several issues and examples of the difficulty of the approach were offered. One focused on wetlands mitigation banking where a third party is attempting to gain credits for another project. Another focused on the long term ecosystem damage from an EPA decision to dredge contaminated sediments. The last focused on the need to reconcile DOD active facility future uses competition between wildlife and defense needs. Participants agreed on the importance of considering long term ecological impact of site remedies and recognized the cost-effectiveness of using green technologies in site remediation.

✦ **Woodlawn – From Toxic Dump to Community Asset**

Tim Bent of Bridgestone Americas Holding, Inc., Lesley Kordella of the Wildlife Habitat Council, and Anthony Iacoboni of EPA Region 3 presented a case study on the Woodlawn Wildlife Area. The Woodlawn Wildlife Area is a former landfill in Cecil County, MD listed on the U.S. Environmental Protection Agency's National Priorities List due to groundwater contamination. Working closely with the EPA and state agencies, Bridgestone Americas Holding, Inc. implemented a clean up action that includes adding two-foot soil cap and groundwater monitoring. Bridgestone assumed responsibility for the remediation of the site, and as part of their management approach is implementing a wildlife habitat enhancement program in association with WHC and community groups. Purchasing 50 acres of land adjacent to the landfill, Bridgestone in collaboration with the Wildlife Habitat Council has focused on this area for community involvement and environmental education.

Principal aspects of this discussion included the involvement of the community in the discussion about future use of the site, and the economics of using natural attenuation to clean up the site. Bridgestone saved money by using bioremediation and natural restoration techniques at the site.

An ongoing major issue at the site is the problem of invasive species. Invasives are a problem at many disturbed sites and they are being actively managed at Woodlawn. An outstanding question is whether the site should be considered a model if after 5 years the invasives problem persists. Consensus was that invasive species management needs to be part of the long term management and monitoring plan. The Woodlawn site is an ideal

example of effective community outreach and how the landowner can work with the community to educate and involve. In this case the process of natural attenuation was successfully explained to the community.

✦ **Paulsboro, N.J. – Restoring a Site for Economic Development**

Steve Pause of BP and Mayor John Burzichelli presented a case study on the town of Paulsboro NJ. A former tank farm, the site is being renovated for economic development to bring much needed jobs to the town.

The major theme that emerged during this session was that partnerships and open communication are critical to cleaning up and redeveloping sites like Paulsboro. In this case partnerships were developed between BP and the community as well as with elected officials. Key to the trust that eventually developed was the provision of information in an open and accessible manner. BP won the trust of its partners by making personnel available almost 24/7, and by posting all information on a project website. BP hired a consultant to work with the community to come up with a master plan; this process involved the community and resulted in a recommendation that part of the site be developed as a deep water port. That process is underway now.

One of the main issues was maintenance of property values in the town. BP developed a value protection plan and conducted a benzene study to assure safety. They guaranteed fair market value to property owners via an agreement. Mayor Burzichelli praised BP for its openness and willingness to work with the community to get an end result that meets the company's obligations as well as providing significant economic development opportunities for Paulsboro.

✦ **Schuylkill River Master Plan**

Tracy Childress of the Schuylkill River Development Corporation presented an overview of the master plan. The tidal Schuylkill master plan provides a framework for the creation of a sustainable strategy for the long term physical, social and economic redevelopment of the most urbanized segment of the Schuylkill River. This is critical to the economic revitalization of the city. Many of the sites in need of redevelopment are brownfields. There is also an effort to develop a river trail which would be connected with the much larger east coast greenway under development in other places.

SECOND SET OF MORNING BREAKOUT SESSIONS

✦ **Turning Contaminated Sites into Golf Courses**

Dr. David Tsao of BP presented profiles of three golf course projects where major contamination issues were remediated while a new end use was being created. In each case the source of contamination was different, presenting unique challenges. In all three cases signature projects have developed that bring recreational and economic value to the communities where they are located.

The major theme of these case studies was that green technologies can supplement traditional treatment and can have special benefits when the end use is a recreational amenity like a golf course.

Dr. Tsao presented some research on plants such as buffalo grass which appear to be effective in remediating hydrocarbon contamination. He fielded many questions about the effects of phytoremediation and conveyed to the participants a message that it can be a very satisfactory remedy in some situations. He also encouraged participants to look at golf courses as amenities rather than as sources of pollution as is so often the case.

✦ **Underground Storage Tanks**

Steven McNeely of EPA convened a session with Michael Macrander of Shell and Jeff Flynn of Delaware DCNR to present examples of UST remediation. The major themes developed by the two presenters were: ***creativity is needed to encourage ecological enhancement at small sites like service stations, partnerships with government and private contacts are needed to secure resources and technical support, and success needs to be documented and shared to encourage others to aspire to comparable accomplishments.*** Examples need to convey implementation hurdles and approaches used to surmount them.

The session highlighted the importance of coordination and creativity to foster ecological enhancements. The private sector needs more creative thinking and the public sector needs more flexibility and coordination among agencies. There was agreement that people need easy access to more examples and case studies which provide insight into remediation challenges and approaches.

✦ **From Landfill to Asian Garden – A Community Success Story**

Bob Gallagher and KK Wu presented a case study of the Buzby landfill in Voorhees, N.J. The session focused on the redevelopment of a portion of the landfill into a community resource featuring an Asian garden, a cultural environmental center and some commercial redevelopment.

Participants asked about the use of Asian vs. native plants, maintenance, the use of chemicals on the garden, and long term monitoring to determine what effect the plants are having. They also asked about whether a non-profit organization has been formed to manage the project.

Major themes in this session included the importance of community involvement from the beginning of a project, and how to engage General Electric to deal with the rest of the landfill that has been capped and fenced but not reclaimed.

✦ **A New Look at Landfills**

Kris Hallinger of BBL consultants presented three landfill case studies. The session theme was that a variety of ecological enhancements offer viable alternatives to the standard “cap

and fence” approach to landfill closure. He reported on studies that illustrate positive effects from the use of ecological enhancements in place of standard caps.

“E-Cap”, a method discussed in the session, is designed to initiate forest succession and promote diversity. “Living fences” around the perimeter also work but require some replanting. Questions raised pertained to monitoring for groundwater impacts and other long term effects. Examples were given of alternative landfill covers including use of hybrid poplars to create a dense tree cap, wetland restoration, and the development of 2 community ball fields on a landfill. The importance of community involvement in the discussion of remediation ideas was stressed. Questions were also raised about many of the technical aspects of alternative landfill covers as well as whether there are more habitat enhancements realized with “e-caps” than with golf courses as the end use.

NOAA Case Studies

Simeon Hahn and Eli Reinharz of NOAA presented two case study examples to illustrate the approach being developed by the National Oceanic and Atmospheric Administration to the remediation of damaged sites. NOAA is actively involved in the Natural Resource Damage Assessment effort. They focused on issues related to the inability to determine who the PRP is as well as the challenges related to lack of solid baseline data on historic site conditions. NOAA’s goal is the restoration of coastal marine resources impacted by damage such as oil spills.

The discussion revealed consensus on several themes: there needs to be *less litigation*; there should be *fewer value-based claims* and *more restoration based on cost*; there also needs to be *better cooperation with PRP’s*; and *more expedited approaches*. Participants agreed that NOAA’s involvement offers an effective way to cooperatively restore damaged areas.

LUNCH PRESENTATION:

Speaker: Barry N. Breen, Principal Deputy Assistant Administrator, U.S. EPA, Office of Solid Waste and Emergency Response

Summary: Barry Breen stressed the challenge presented by Marianne L. Horinko, former Assistant Administrator for the Office of Solid Waste and Emergency Response to the Wildlife Habitat Council and its members; this challenge entails an evaluation of a company’s environmentally impacted sites followed by an identification those properties where enhanced habitat is a possible reuse. From there, a company can develop a strategy for enhancing habitat at least one, and possibly more, of those sites. Then by the following year, begin habitat enhancement projects on at least one property, and on at least 10 percent of their properties each year after that. Mr. Breen stressed an importance of building partnerships and thinking about reuse from the very beginning of a project, while consulting with community interests every step of the way. This collaborative approach used at New Beginnings- The Woodlawn Wildlife Area, a case study examined in this year’s breakout sessions, earned Bridgestone America’s Holding, Inc. a special certificate of recognition from EPA. This honor distinguished the site for continued wildlife habitat efforts, use of recycled materials, strong community involvement and innovative cleanup technology. Barry Breen

presented the honor to Tim Bent, Director of Environmental Affairs, Bridgestone, during the lunch presentation.



Tim Bent seen accepting the certificate from Barry Breen (left) and Abe Ferdas (right).

PLENARY: MAKING THE CASE FOR ECOLOGICAL ENHANCEMENTS:

Moderator: Randy Pomponio, U.S. EPA Region 3

Panel Speakers:

- ✦ Nicholas DiPasquale, Deputy Secretary
Office of Air, Recycling and Radiation Protection, PADEP
- ✦ Jon Edelstein, Brownfields Manager, City of Philadelphia
- ✦ Steven N. McNeely, EPS, Petroleum Revitalization Team Leader
U.S. EPA, OSWER, Office of Underground Storage Tanks
- ✦ Joan Wales, Vice President, Global Strategy and Planning
BP Remediation Management

Summary: This panel, chaired by **Randy Pomponio** of EPA Region 3, closed the conference. Mr. Pomponio kicked off the panel by stating that the effort is all about three things:

1-Outcomes, 2-Measurement, and 3-Partnerships

Nick DiPasquale

Mr. Pasquale presented several examples of regional projects that he believes are ideal examples for regulators. The first was the PSEG plant in Salem on the Delaware Estuary, where the state offered the company the opportunity to resolve long term issues related to fish impingement in the intake water as permit condition. Instead of spending \$1 billion on cooling towers, the utility spent \$100 million creating 20,000 acres of wetlands, the largest restoration of its kind in the world. The finished project includes 13 fish ladders, biomonitoring, upgraded fish protection techniques, and studies on fish diversion and artificial reefs. The 'jury is still out' on whether total mitigation is actually taking place. The second was a connective project where the power company created 109 acres of wetland and 12 acres of upland habitat to mitigate; this became the Peterson Urban Wildlife Refuge. The third was an abandoned mine reclamation project where streams were being impacted. Concluding observations were that this concept works if there are regional initiatives and partners in place; public costs are reduced when the project contributes positive outcomes

like clean water; opportunities should be available for public education, and alternative sources of funding are available.

Jon Edelstein

Mr. Edelstein said he feels as though this is the ‘great unfunded mandate.’ The City is wholly dependent on the Commonwealth and the federal government to implement brownfields redevelopment programs. He brings passion to the effort but recognizes many challenges. Philadelphia has focused effort on the Schuylkill with an eye to creating a greenway that links to a larger network of river greenways. Mr. Edelstein believes the position of the brownfields program within the City’s Dept. of Commerce is appropriate given the effort to get sites back into productive use.

Steven McNeeley

Mr. McNeeley emphasized the need for success stories and for case studies. He challenged the Wildlife Habitat Council to obtain additional examples of projects that worked and place them on their web site. He also called on the Wildlife Habitat Council to develop an awards program to highlight success stories and good examples, including ones that demonstrate coordination across program lines as well as local and private partnerships.

Joan Wales

Dr. Wales presented BP’s philosophy and strategy for looking at green technologies to remediate brownfields. She emphasized that BP does good things for the environment because it also makes good business sense. Dr. Wales indicated that BP prefers ‘carrots to sticks’, and asks itself a number of questions when making decisions about sites. Remedies are selected based on the urgency of action, on the options for site development, and on the strategy for a remediation action plan. Dr. Wales also said that the corporate goal is always to get the best outcome at the lowest possible life cycle cost. She noted that green technologies are NOT the easy option, and stressed the importance of partnerships in site development decisions.

CLOSING REMARKS: BILL HOWARD, PRESIDENT OF THE WILDLIFE HABITAT COUNCIL

Bill Howard closed the conference by noting a few of the interesting ideas he heard mentioned at the conference. For example, the mayor of Paulsboro, N.J. indicated his goal is to leave the community better than he found it; the **PASSION** and **COMMITMENT** heard from many speakers; the stretch to **reach new goals** set forth by Mr. Steven McNeeley and Bob Springer; Barry Breen’s notion of the sense of power implicit in the idea of ecological enhancements; and the **importance of regional action**. Mr. Howard expressed appreciation to ITRC for taking the concept to the next stage with their guidance document, and he thanked all in the audience for attending.

ATTENDEES

Jerry Amber · Ford Motor Company, Retired
Patty Barthel · Waste Management, Inc.
Tim Bent · Bridgestone Americas Holding, Inc
Gregory Biddinger · ExxonMobil
John Blevins · DE Dept. of Natural Resources & Environmental Control
Arthur Bogen · Valley Arts Council
Barry Breen · US Environmental Protection Agency
Steve Brown · Rohm and Haas Company
Peter Brussock · Environmental Liability Management, Inc.
Marjorie Buckholtz · US Environmental Protection Agency
Heather Budzich · Parsons
Megan Callus · NY/NJ Baykeeper
Brad Campbell · NJ Dept. of Environmental Protection
Mark Case · Golder Associates, Inc.
Tara Casella · New Jersey Tree Foundation
Charles Chelotti · Pennoni Associates Inc.
John Cherry · MD Dept. of the Environment
Tracy Childress · Schuylkill River Development Corporation
Dawn Coughlin · Amerada Hess Corporation
Kari Anne Czajkowski · Langan Engineering
Robert Day-Lewis · PA Dept. of Environmental Protection
Stephanie Dehnhard · US Environmental Protection Agency
Nicholas DiPasquale · PA Dept. of Environmental Protection
Angela Dowd-Burton · Rohm and Haas Company
Kevin Easley · US Environmental Protection Agency
Jon Edelstein · City of Philadelphia
Abraham Ferdas · US Environmental Protection Agency
Tom Fidler · PA Dept. of Environmental Protection
Spencer Finch · Urban Engineers, Inc.
Michael Fitzpatrick · US Environmental Protection Agency
Fran Flanigan · Ecologix Group
Jeff Flynn · City of Wilmington
Dan Forger · US Environmental Protection Agency
Kristeen Gaffney · US Environmental Protection Agency
J. Robert Gallagher · Envex Engineering Company
Carol Ann Gross-Davis · US Environmental Protection Agency
Maureen Gushue · Student, Community College of Philadelphia
Simeon Hahn · National Oceanic and Atmospheric Administration
Kris Hallinger · BBL
Benjamin Hamm · US Environmental Protection Agency
Steven Handel · Rutgers University
Meredith Harris · Roux Associates, Inc.
Joel Hennessy · US Environmental Protection Agency
Kevin Hess · PA Dept. of Environmental Protection
Steve Hill · Interstate Technology and Regulatory Council
William Hoehlein · Golder Associates, Inc.
Michael Holder · TRC
Andrew Hopton · CDM
Daniel Hunter · ConocoPhillips
Anthony Iacobone · US Environmental Protection Agency
Lucinda Jackson · ChevronTexaco
Richard Jacobs · PPG Industries, Inc.
Charles Johnson · CO Dept. of Public Health and Environment
Marine Julliand · TOTAL
Swiat Kaczmar · O'Brien & Gere
Dave Kitts · Mannington Mills, Inc.
Joe Koch · Perdue AgriRecycle
Colleen Kokas · NJ Dept. of Environmental Protection
Ted Korth · New Jersey Audubon
Andrew Kredier · US Environmental Protection Agency
Mark Laska · Great Eastern Ecology, Inc.
Irwin Lourie · PA Dept. of Environmental Protection
Amanda Ludlow · Roux Associates, Inc.
Steve Luftig · Stephen Luftig, P.E.
Michael Macrander · Shell Global Solutions
Joseph Manko · Manko, Gold, Katcher & Fox
Marc Matsil · NJ Dept. of Environmental Protection
Cristine McCollum · City of Philadelphia
Brian McGinnis · FMC Corporation
Kathleen McGinty · PA Dept. of Environmental Protection
Donna McGowan · US Environmental Protection Agency
Steven McNeely · US Environmental Protection Agency
Lori Miller · US Department of Agriculture
Humberto Monsalvo, Jr. · US Environmental Protection Agency
Charles Nace · US Environmental Protection Agency
Laura Napoli · ExxonMobil
Patmarie Nedelka · Corporate Wetlands and Restoration Partnership
Tom Nowland · O'Brien & Gere
Karen O'Reilly · AIG Environmental
Phillip Page · US Environmental Protection Agency
Dwight Pakan · US Environmental Protection Agency
Stephen Pause · BP
Stephen Petron · CH2M Hill
Bruce Pluta · US Environmental Protection Agency
Matt Polsky · Student, New Jersey Institute of Technology
Randy Pomponio · US Environmental Protection Agency
Willard Potter · de maximis, inc.
Jaycee Pribulsky · United Technologies Corporation
Sara Rasmussen · US Environmental Protection Agency
Eli Reinhart · National Oceanic and Atmospheric Administration
David Riggs · Charles G. Koch Charitable Foundation
David Rosoff · US Environmental Protection Agency
Geri Rush · Waste Management, Inc.
Peter Schaul · US Environmental Protection Agency
William Schew, Ph.D. · O'Brien & Gere
Glen Schultz · Waste Management, Inc.
Joe Seebode · NJ Dept. of Environmental Protection
Robert Sokolove · Environmental Restoration, LLC
Mary Sorensen · Environ International Corporation
Jason Speicher · Naval Facilities Engineering Command
Robert Spiegel · Edison Wetlands Association
Robert Springer · US Environmental Protection Agency
Patrick Starr · Pennsylvania Environmental Council
Todd Stell · Stell Environmental Enterprises, Inc.
Mark Stevens · US Environmental Protection Agency
Barbara Stratton · US Environmental Protection Agency
William Street · National Wildlife Federation
Sheryl Telford · DuPont Corporate Remediation Group
Christopher Thomas · City of Philadelphia
Karen Tomimatsu · US Environmental Protection Agency
Arati Tripathi · US Environmental Protection Agency
David Tsao · BP
Eric Van Dellen · Alticor
Murray Wade · CDM
Joan Wales · BP, p.l.c.
Jonathon Weier · CH2M Hill
Vic Wieszek · Office of the Deputy Under Secretary of Defense
Paul Will · Dept. of National Resources and Environmental Control
Emily Won, Esq. · Kirkpatrick & Lockart LLP
Leah Yasenchak · City of Trenton

THE WILDLIFE HABITAT COUNCIL IS COMMITTED TO WORKING WITH A VARIETY OF GROUPS TO PROMOTE EFFECTIVE PARTNERSHIPS IN RESTORATION EFFORTS INVOLVING ECOLOGICAL RE-USE OF CONTAMINATED SITES.

WE LOOK FORWARD TO EXPLORING NEW OPPORTUNITIES WITH YOU IN REGION 6 AS WE MOVE TO NEW ORLEANS FOR THE 2005 RESTORING GREENSPACE CONFERENCE.



WILDLIFE HABITAT COUNCILSM

HEADQUARTERS

8737 Colesville Road, Suite 800
Silver Spring, MD 20910
Telephone: 301-588-8994
Fax: 301-588-4629
www.wildlifehc.org



**SPONSORED BY THE U.S. EPA
OFFICE OF SOLID WASTE & EMERGENCY RESPONSE
OFFICE OF UNDERGROUND STORAGE TANKS**