

# Rediscover the Treasure

## Money Point Revitalization



A 10-Year Plan



Money Point Revitalization Task Force



October 2006

Photo: Van White

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## Keepers of the Vision

Recognized October 19, 2006 as key leaders for implementation of the Money Point Revitalization.

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### Sediment Restoration made possible by:

*Living River Restoration Trust with mitigation funds from APM Terminals.*  
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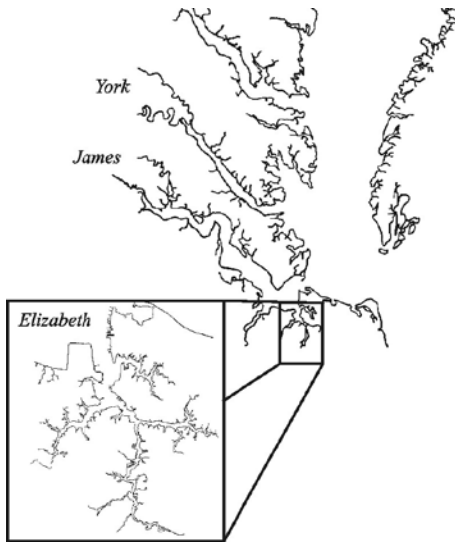


### Urban Design + Graphics by:

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*Vision: Money Point will be a model for the co-existence of thriving waterfront industry and ecological regeneration, while affirming community history, safety and aesthetics.*





The Elizabeth River is a critical estuary of the lower Chesapeake.



Money Point is a bend on the Southern Branch of the Elizabeth.

## Rediscover the Treasure: Summary

For decades, the Elizabeth River off Money Point has been a 35-acre biological dead zone. Little can survive along the river bottom, laced with some of the highest concentrations of cancer-causing polycyclic aromatic hydrocarbons (PAHs) in the world. Liver cancer, deformities, cataracts and lesions are found in the fish. Until 2005, the river bottom at Money Point was considered a lost cause. No one imagined it was possible to clean it up.

Back in history though, Money Point got its name, locals say, because of the jobs and wealth created during its heyday of flourishing shipping terminals, factories and wood treatment plants. Others say Money Point obtained its name from the pirate Blackbeard who buried his treasure along these shores.

This plan invites you to rediscover the treasure. Money Point, almost a mile of prominent waterfront at the gateway to Chesapeake, Virginia, will again be celebrated as a hub for maritime activities, this time co-existing with **one of the largest environmental restoration efforts on the Chesapeake Bay**, thanks to the five revitalization goals presented here.

The best sign of a strong plan is when implementation is rolling before the plan is finished. As we go to press, **more than \$6.5 million is already underway to implement actions under every goal in the Money Point Revitalization Plan**. These range from historic cleanup of the contaminated sediments through a new trust fund, to NOAA's help with the largest voluntary wetland restoration on the Elizabeth River, to virtually every waterfront industry doing its part through voluntary stewardship. The City of Chesapeake is

revamping stormwater controls. The US Environmental Protection Agency is focusing efforts here to ensure no recontamination of the river bottom – and the University of Virginia is designing an international first, a “Learning Barge,” to bring the public up close to this and other river restoration activities.

The plan was born when The Elizabeth River Project, a community-based non-profit leading restoration of the Elizabeth River, was contracted to oversee a sediment cleanup project at Money Point by a new sister organization, the Living River Restoration Trust. We believed the cleanup of the severe contamination at Money Point would not move forward unless every interest group was involved in setting the course and taking a role in ensuring the holistic revitalization of the entire Money Point corridor. Cleaning up the toxics in the river bottom alone would be short-lived if contamination continued to seep in from a degraded shore.

**The result is an uncommon accomplishment** which, when it happens, creates a special euphoria: industries, government and citizens, all agreeing to a common course of environmental action. The Money Point Revitalization Task Force met from January 2005 to August 2006, convened by The Elizabeth River Project and facilitated by University of Virginia's Institute for Environmental Negotiation. Nearly 100 participants came from groups as diverse as a Baptist church, the US EPA and one of the world's largest oil companies. They set the vision – to be the model to the nation for thriving waterfront industry that co-exists with ecological regeneration and yet affirms a residential community's history and safety.



The Task Force also set the 10-year goals, and led the charge to get them underway:

**Goal 1 – Clean up one of the most polluted spots on the Chesapeake Bay – the river bottom at Money Point. The task force selected its preference for the most feasible cleanup design,** presented by the engineering firm SAIC - under contract for the first phase of a \$5 million cleanup. A combination is prescribed that would carefully remove all of the most toxic hotspots, and enhance the habitat value of the southern portion of the site with placement of clean sand, anchored by oyster reef and new wetland grasses. The Living River Restoration Trust has most of the funds in hand for this cleanup, thanks to a mitigation payment from APM Terminals for impacts from a new port facility. The Trust is the first government-approved fund in the nation to offset impacts to healthy river bottom by cleaning up contaminated bottom.

**Goal 2 – Prevent upland pollution from entering the river at Money Point, improving and maintaining water quality.** Activities onshore at long defunct wood treatment facilities, including Eppinger and Russell and Republic Creosoting, created much of the toxic legacy at Money Point. Hess Corporation, current owner of the largest related site, is helping to fund the offshore cleanup while conducting a major, voluntary onshore cleanup of contamination on its property, the legacy of the defunct Eppinger and Russell wood treatment facility that operated through 1979. **Hess in 2005-06 pioneered use of native trees such as poplars for “phytoremediation”** of creosote remaining on its site. Hess planted more than 1,200 of the trees while also beginning the work of direct removal of some upland hotspots. Hess also plans to construct a large barrier

wall between its upland property and the sediment cleanup, to prevent seepage of any possible remaining contamination into the river.

Meanwhile, the main thoroughfare at Money Point, two-lane Freeman Avenue, was creating a hazard as well as stormwater runoff contamination due to a lack of virtually any stormwater controls. Large trucks carrying petroleum regularly travel the street, in winter navigating frozen puddles of standing stormwater and risking petroleum spills. **To implement this plan, the City of Chesapeake obtained a \$370,000 grant to begin the work of improving stormwater management at Money Point.**

**Goal 3 - Enhance community quality of life at Money Point and promote the co-existence of industrial, community and ecological health. “Pray Until Something Happens,”** read the marquee at First Baptist Church Money Point, when The Elizabeth River Project and University of Virginia first arrived to organize the revitalization. While only two dozen homes remain at Money Point, many more former residents return to reunions and services at First Baptist Church Money Point, remembering the proud history of the former independent city of Buell, Virginia, with its own Post Office, two grocery stores, a dance hall and night club. Today the small nucleus of remaining residents remember the explosion in 1963, when a fire burst a tank at Eppinger and Russell, adding to the pollution. They celebrate the cleanup plans. Community goals include a small park, “pervious” sidewalks that don’t contribute to runoff, and redevelopment of derelict sites. University of Virginia students conducted interviews and produced a history of Money Point during the planning process.



The Virginian-Pilot

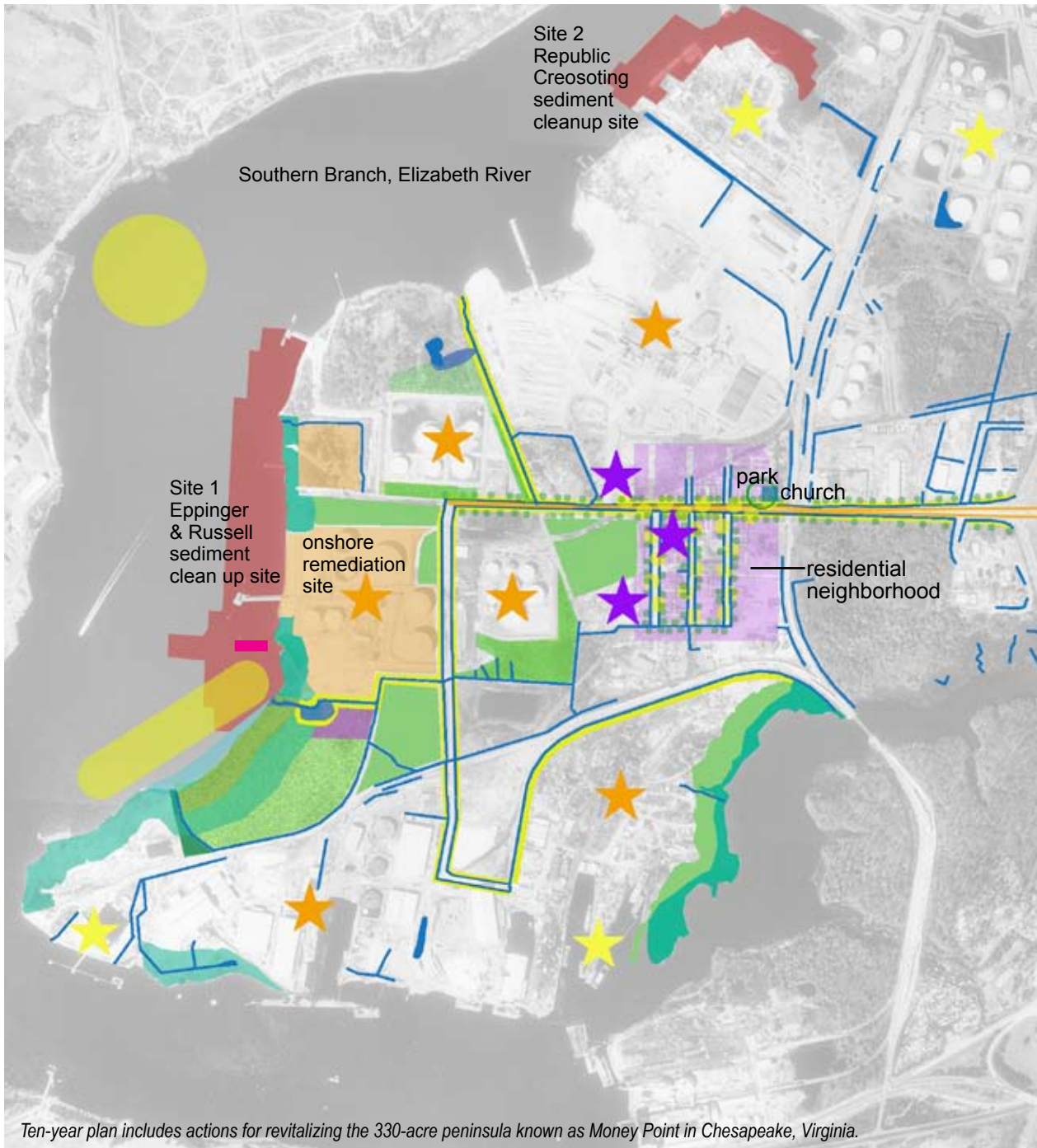
*Long defunct wood treatment facilities were a source of creosote pollution. At the former Eppinger and Russell facility, a fire ruptured tanks of creosote, contributing to routine industrial contamination.*



*SIMS, a metal recycling yard at Money Point, gets a new vegetated buffer on its shores. Before the plan was done, this facility had joined the majority of industries at Money Point in doing their part.*



*Joe Rieger, Elizabeth River Project, briefs potential bidders for the first wetland restoration at Money Point. The project will be the largest voluntary wetland restoration on the Elizabeth River.*



## Composite Map of Proposed Restoration Projects

 Sediment cleanup site

 Onshore cleanup site

### Stormwater Management

 Bioswales/habitat corridor


 Retention Ponds (BMPs)

 Pervious Paving

### Wildlife Habitat

 Riparian Buffers


 Tidal Wetlands Restoration


 No-mow+urban forest area

 Street Trees

 Shellfish restoration

### Community Quality of Life

 Public park/playground


 Learning Barge

 Pervious Sidewalks

 "Dark skies" Street lighting

 River Star Industries:

 Current

 In the making

 Future target



At the same time, University of Virginia Professor Phoebe Crisman, advising the planning effort as an expert in sustainable redevelopment, thought of a way to engage the larger community and make the revitalization process visible, despite Homeland Security restrictions to public access at industrial waterfront properties.

**Crisman has won a 2006 national award from the American Society of Landscape Architects for her students' design of a "Learning Barge," a floating classroom now in final design.** The Elizabeth River Project will use the 120-foot vessel to bring the public to view restoration efforts wherever they occur on the river.

**Goal 4 - Establish environmental stewardship as the industrial ethic at Money Point, primarily through the River Stars program.** The revitalization would not work unless **virtually every one of the industrial properties lined up along the shore agreed to become voluntary participants** – adding native trees, shrubs and wetlands where they could to filter runoff and restore habitat, assessing and improving their stormwater controls to prevent recontamination offshore, and adding new pollution prevention measures to become the prescribed "model" for industries co-existing with ecological regeneration. Southern Aggregates was the first Money Point industry to sign up with The Elizabeth River Project in its River Stars program, documenting voluntary stewardship results. Citgo, Kinder-Morgan, Hess Corporation, Elizabeth River Terminals and SIMS|Hugo Neu also came on board, with projects as significant in size as Elizabeth River Terminals setting aside 16 acres for active conservation, four of them for a major voluntary wetland restoration. As the plan goes to print, LaFarge Cement is a River Star in the making – hosting the public unveiling of the plan with a habitat planting on its shores.

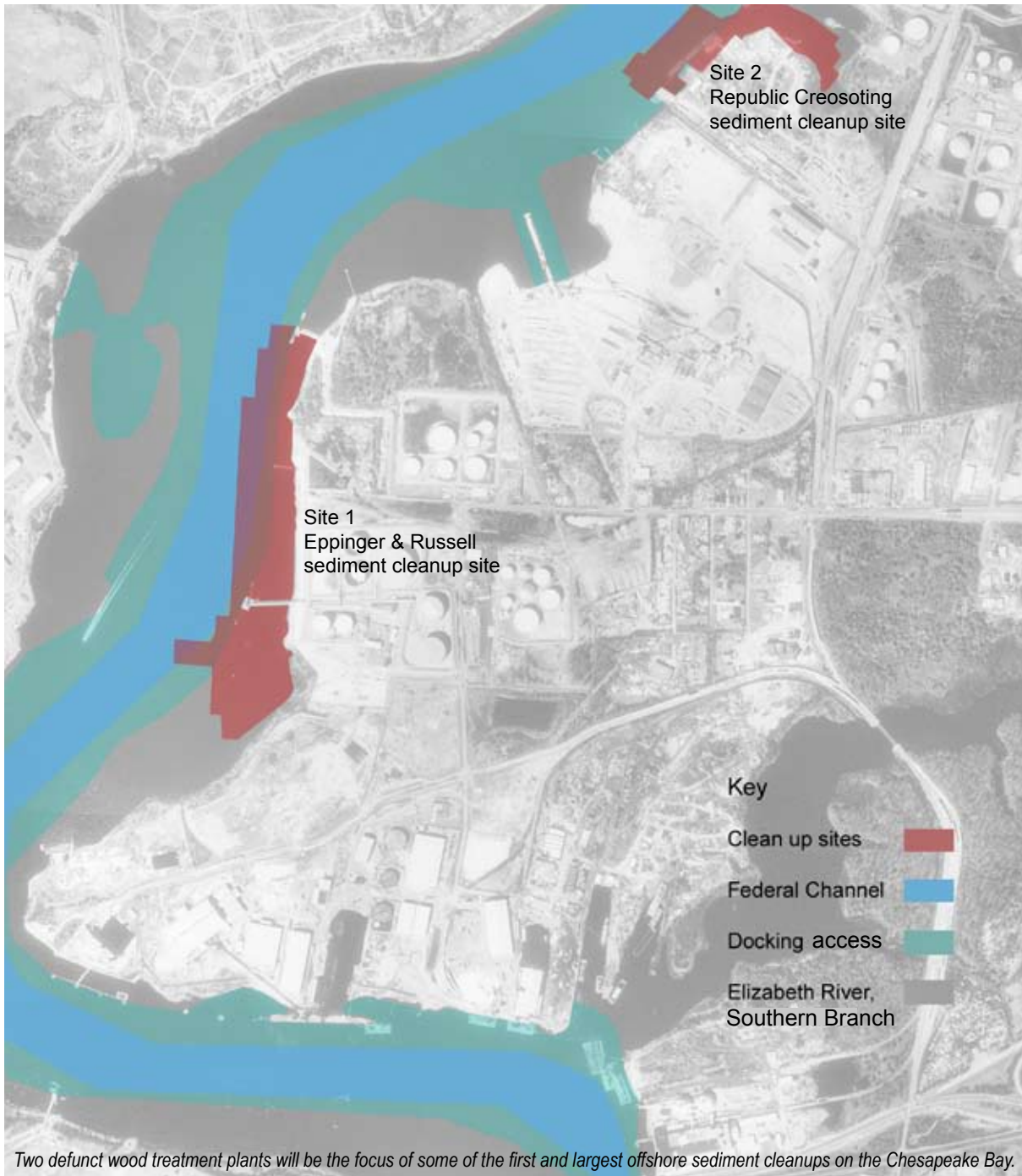
**Goal 5 – Restore and conserve wetlands, vegetated buffers, shellfish beds and urban forest, creating an integrated network of habitat for wildlife.** Much of the mile-long shore at Money Point is either concrete or rubble, scarcely the ideal nursery for wildlife that would be created by the wetlands and oyster reefs once there. The 10-year goals, including restoring 20 acres of tidal wetland habitat and five acres of oyster reefs, have been launched with one of the most ambitious projects already underway. A NOAA grant to The Elizabeth River Project, and the cooperation of landowner Elizabeth River Terminals, has allowed for design of **a four-acre wetland restoration at Money Point, the largest voluntary wetland in the history of the restoration of the Elizabeth River.**

**Implemented together,** these five goals will achieve comprehensive, integrated revitalization of one of the most severely contaminated stretches of river in the world. In the long effort to restore the Chesapeake Bay, one of the great estuaries of the world, the Revitalization of Money Point will remove a major source of toxins endangering Bay health. In the restoration of our home river in Hampton Roads, the Elizabeth, **no initiative is more important for achieving our vision - that a healthy ecosystem can be restored alongside a thriving port economy.**

The plan would make the late CBS commentator Charles Kuralt proud. "When the wetlands really come back," he said on the shores of the Elizabeth in 1996, launching our vision, "... when healthy fish and clams and oysters find a home in the Southern reaches of the river again, and the sun rises off the Atlantic in the morning to reflect itself in the serene, pure waters of the Elizabeth River, our children and grandchildren will know that we had them in mind." **His words once sounded like a far-off dream. But just keep watching at Money Point.**

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## Goal 1: Clean up one of the most polluted spots on the Chesapeake Bay - the river bottom at Money Point.

- By 2009, clean up contaminated sediments offshore of the former Eppinger and Russell facility, and by 2016, offshore of Republic Creosoting.
- Clean the sediments at these sites to no more than 45 parts per million of the contaminant, PAH (polycyclic aromatic hydrocarbons), correlated with cancer in fish. Contamination above this level shows harmful effects on river life.

## Summary

In a recent experiment, the popular sport fish, spot, survived for only two hours after being exposed in an aquarium to contaminated sediments removed from the Elizabeth River bottom at Money Point. This research by the Virginia Institute of Marine Science is only one of a series of studies documenting the effects of severe contamination in this stretch of waterway, intensely industrialized since the 1800s.

Now the powerful good news: to implement this plan, a \$5 million initiative is already underway to clean up the largest problem area at Money Point, offshore of the notorious former Eppinger and Russell wood treatment facility. Funds primarily from the new Living River





Restoration Trust in Portsmouth, Virginia, have allowed The Elizabeth River Project to obtain an engineering design for the cleanup that has the full support of the Money Point Revitalization Task Force, from industries along the shore, to residents, to government reviewers.

The engineering conceptual design, part of a comprehensive feasibility study for the Eppinger and Russell site, calls for carefully removing all the worst hotspots by dredging, then placing clean sand in the Southern area, where oyster reefs and wetlands will be added to enhance the habitat value and anchor the sand in place.

The plan calls for a second offshore cleanup project at another former wood treatment facility, Republic Creosoting, once the first is well underway. Together, the two will alleviate some of the Chesapeake Bay's highest levels of polycyclic aromatic hydrocarbons (PAHs). High levels of this contaminant have been correlated with elevated cancer in an indicator species, the bottom-dwelling "mummichog." The health of the mummichog will be tracked as we judge the success of cleanup efforts in reviving the "benthic" or bottom-dwelling community of the river - the foundation of the food chain.

## Action Steps

### Action 1 – Clean up Eppinger and Russell site.

- **DONE! Complete a focused sediment remediation feasibility study to locate highly contaminated sediment areas or "hotspots" near the defunct Eppinger and Russell facility at Money Point.** Determine which remedial alternatives would be effective, acceptable, and affordable to all

major stakeholders. Make sure that the strategy reflects the navigation and development needs of onshore landowners, as well as addressing regulatory agency and community concerns and interests.

- **Implement an agreed upon remediation strategy to eliminate toxic effects from contamination in the river bottom at Money Point.**

In Spring 2005 with funding from the Living River Restoration Trust, The Elizabeth River Project contracted with Science Applications International Corporation (SAIC) to conduct a study at Money Point to determine the full extent and nature of river bottom contamination and methods for cleanup. SAIC reviewed extensive historical data for the area and conducted a comprehensive survey with sampling of the site that included:

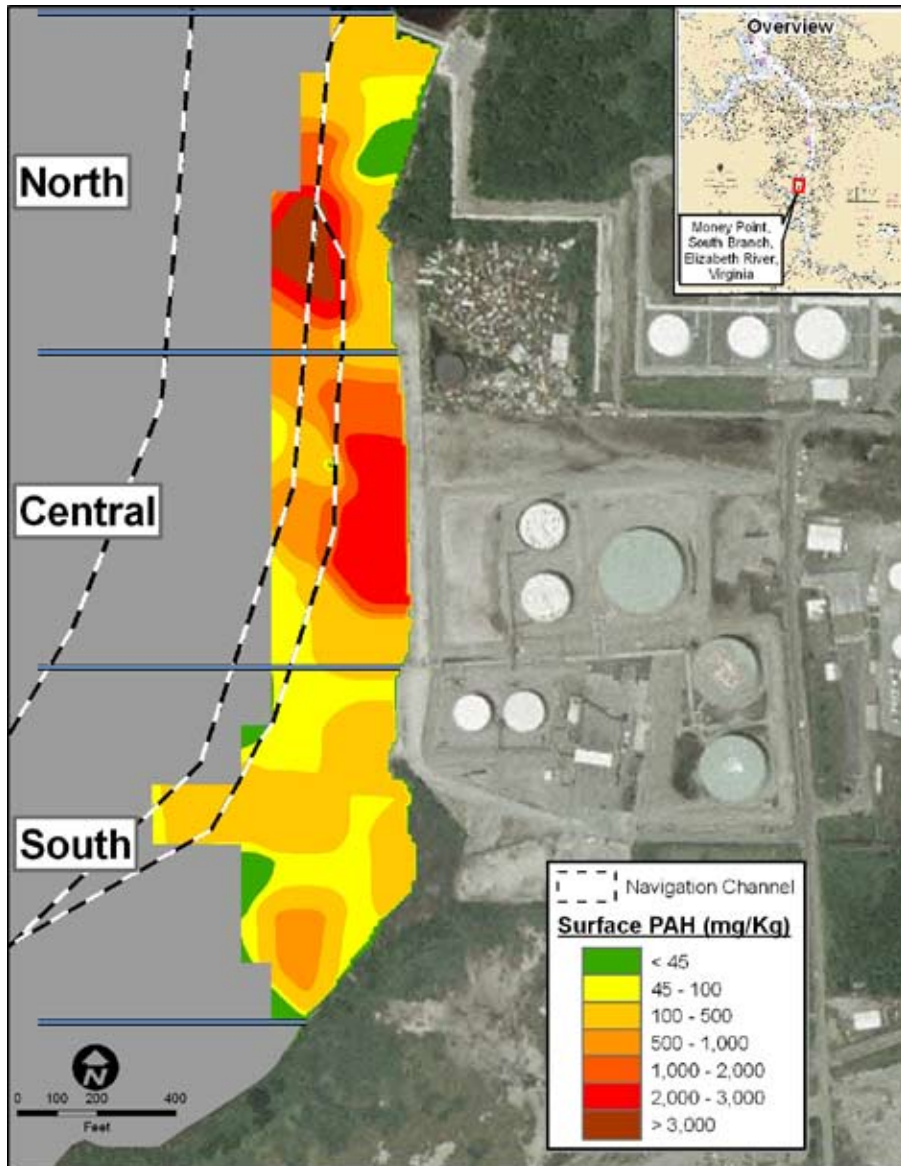
1) assessment of upland sources and controls; 2) a depth survey; 3) a survey for underwater debris; 4) a photo survey of the bottom sediments; 5) sediment sampling; and 6) the potential treatability of the contaminated sediments.

A Technical Advisory Committee to the Living River Restoration Trust advised SAIC. Results showed about 35 acres of river bottom impacted by PAHs, the primary contamination of concern. Three major sediment "hotspots" in the north, central, and southern areas of Money Point showed PAH levels exceeding 500 parts per million (maximum concentration observed was 6000 parts per million; acute harmful effects on aquatic life start at 45 parts per million).

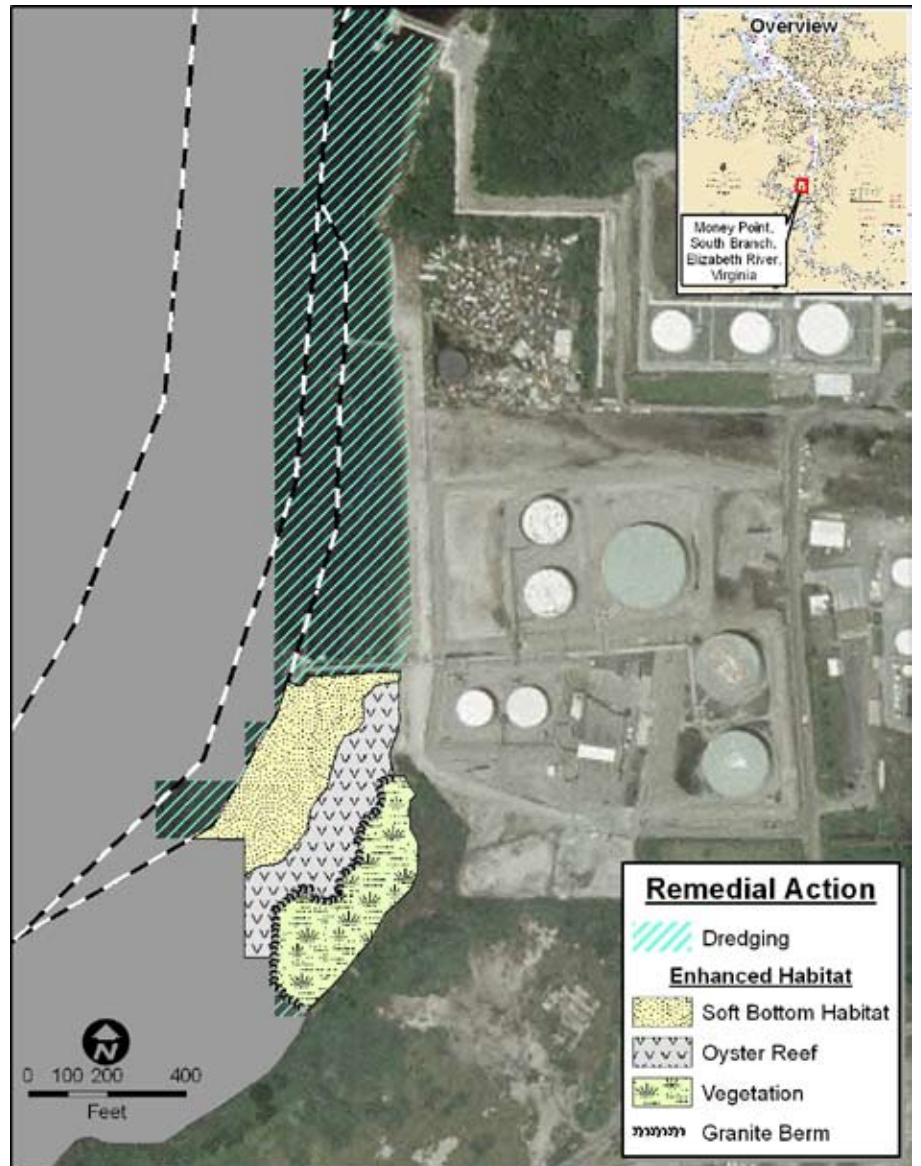


SAIC engineer lowers underwater camera as part of historic cleanup of toxics correlated with cancers.

SAIC presented four cleanup options to the Money Point Task Force and the Technical Advisory Committee in late 2005. The options ranged from dredging all sediments even mildly contaminated, to placement of clean sand on all contaminated sediments to isolate the toxics from marine life, to a combination of removal in some areas and habitat restoration in others. Stakeholders and technical advisors focused on a desire to remove all severely contaminated hotspots, the need to safeguard the option for future navigational dredging next to industrial facilities, and a preference for restoring maximum habitat value for river life. The Task Force recommended a hybrid, fifth option combining elements of the earlier four. The most "acceptable, effective and affordable" option evolved, as illustrated on the next page.



**Toxic River Bottom** – Contamination at Money Point shows three “hotspots” with polycyclic aromatic hydrocarbons (PAH) greater than 500 parts per million (at above 45 parts per million, harmful effects are seen in aquatic life).



**Maximum Restoration** - Cleanup will include dredging all three hotspots, as well as the lower contamination in the northern area. In a shallow southern area, habitat restoration will also include a layer of new sand and pending additional funds, an oyster reef and new wetlands.



- Remove all severely contaminated “hotspots” at the Eppinger and Russell site through dredging and treatment onshore with beneficial reuse of any suitable dredged material.
- Place clean sand along the less contaminated river bottom habitat on the southeastern shoreline - a shallow area where no future need for navigational dredging is identified.
- Further enhance the habitat value of this area with oyster reefs and wetlands.

As a final step, SAIC is working with the US EPA and upland sites to ensure that all possible sources of recontamination are addressed. The Eppinger and Russell cleanup project is expected to move to final design in 2007 and construction by 2009.

### **Action 2 – Explore potential synergy for cleaning up the channel while deepening it for navigation.**

- **Continue dialogue to explore a potential Army Corps of Engineers project to deepen the channel at Money Point**, if a “win-win” solution can be identified to address contamination in the river bottom while also deepening the channel to meet navigation interests. The channel is currently 35 feet deep but is authorized for deepening to 40 feet. Hampton Roads Maritime Association has convened a dialogue on this issue.

### **Action 3 – Clean up site two, offshore of the Republic Creosoting facility.**

- **Initiate a focused sediment remediation feasibility study at the former Republic Creosoting facility to locate highly contaminated sediment areas (“hotspots”)** and determine which remedial alternatives would be effective, acceptable, and affordable to all major stakeholders.
- **Complete a detailed design for sediment remediation offshore of the former Republic Creosoting facility.**
- **Implement a cleanup** project with stakeholders’ support.

### **Key implementers**

- The Elizabeth River Project
- Living River Restoration Trust
- Science Applications International Corporation (SAIC)
- Hess Corporation and other waterfront industries
- NOAA Office of Response and Restoration
- Navigation issue: Hampton Roads Maritime Association, Army Corps of Engineers, Chesapeake Port Authority, City of Chesapeake and Virginia Port Authority

### **Resources**

- The Living River Restoration Trust - \$5 million for sediment cleanup at Money Point
- Additional mitigation funds may be available from other large port projects

- NOAA Office of Response and Restoration
- Hess Corporation - \$100,000 toward feasibility study
- VA Dept. of Environmental Quality (DEQ) mummichog monitoring
- Navigational deepening could be cost shared by the federal government and local sponsors
- The Elizabeth River Project members and donors

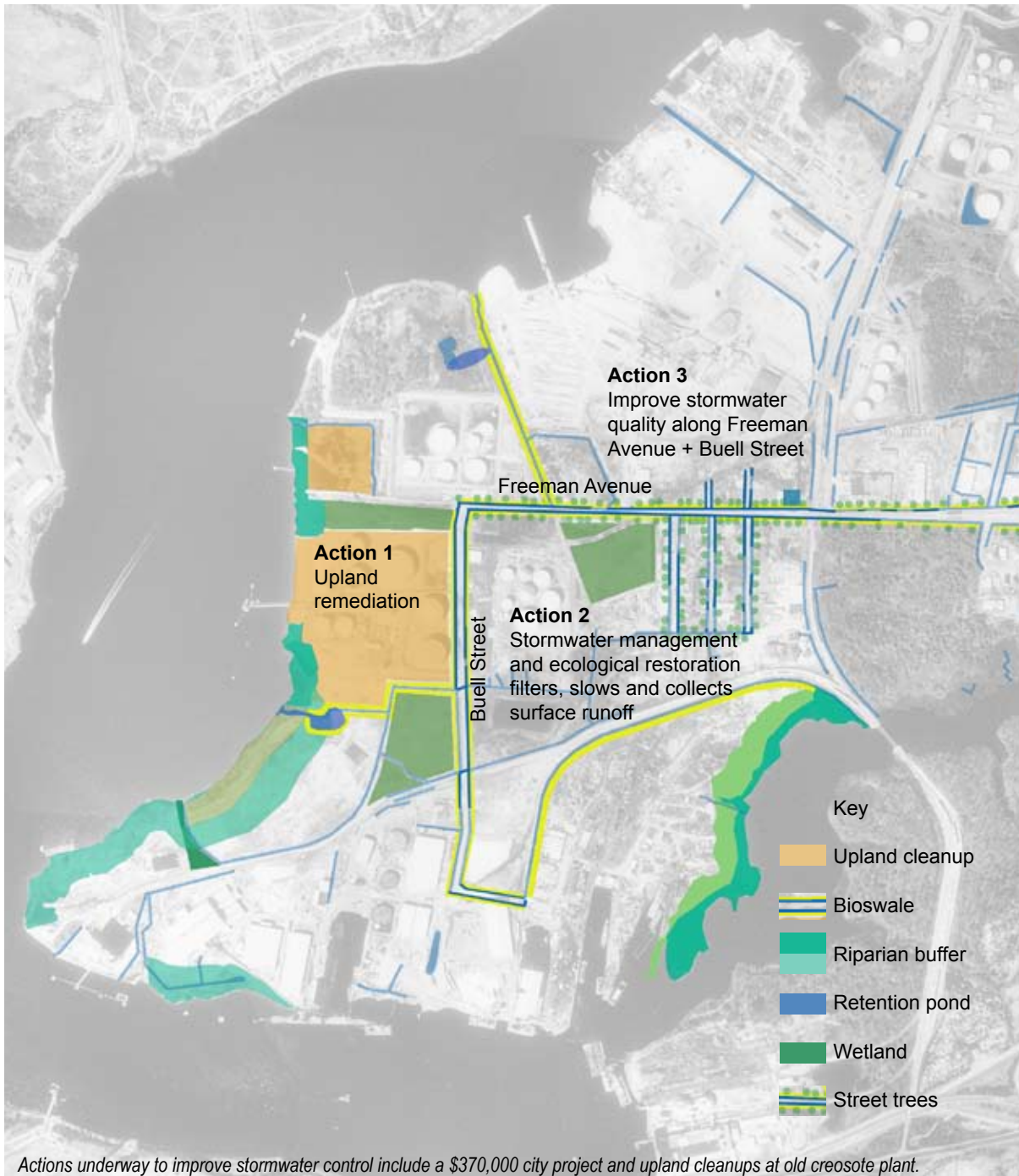
### **Milestones**

#### **Eppinger & Russell Site**

- Complete detailed design by 2007-2008
- Clean up sediments 2008-2010
- Monitor environmental conditions 2010-2015

#### **Republic Creosoting Site**

- Initiate feasibility study by 2008 and complete by 2009-2010
- Complete remediation project by 2016
- Monitor environmental conditions 2017-2020



## Goal 2: Prevent upland pollution from entering the river at Money Point, improving and maintaining water quality.

### Summary

The contamination in the river bottom at Money Point cannot be addressed until potential sources of recontamination onshore, within the 330-acre revitalization area, are fully identified and addressed. Currently, contamination washes into the river during each rain, carried as stormwater from the uplands. The uplands at Money Point are particularly challenging. The area has a long history of activities associated with creosote, a wood treatment material correlated with cancer in fish. A fire at the Eppinger and Russell site in 1963 ruptured large tanks of creosote.

Meanwhile, virtually no municipal control or treatment of stormwater runoff is in place at Money Point. In winter, freezing water on Freeman Avenue, the main thoroughfare, poses an additional risk - skidding trucks loaded with petroleum from the port terminals.

As with every other goal in the plan, however, the community took ownership and began implementation before the plan was finished. The City of Chesapeake, responding to the draft plan, landed a \$370,000 grant to begin improved stormwater controls at Money Point. Hess Corporation, the largest landowner of the former Eppinger and Russell site, launched a significant cleanup of its upland site as a participant in the Virginia



Voluntary Remediation Program. Hess' efforts include an ongoing phytoremediation initiative and the planned placement of a cutoff wall to stop river recontamination.

## Action Steps

### Action 1 - Achieve onshore cleanup of any contamination that poses the risk of recontamination to the river.

- Hess is implementing voluntary remediation plans, including isolation of contaminants, limited removal of onshore hotspots and phytoremediation (plants that take up pollutants via their roots) through the Virginia Voluntary Remediation Program.

- Work with state and federal agencies along with other land owners to ensure any soil or groundwater contamination is addressed prior to sediment remediation.

### Action 2 - Use a phased approach that integrates stormwater management and ecological restoration to slow, filter, and collect stormwater.

- Use a network of vegetated swales and Low Impact Development (LID) or conventional practices to reduce standing water and other stormwater hazards for pedestrians and vehicles on major streets, as well as provide habitat. Stormwater improvements on private property are encouraged and could connect with the public system.

### Action 3 - Improve stormwater quality along Freeman Avenue and Buell Street.

The sharp turn at these streets floods during rain events and standing water freezes during winter months, creating both a safety and environmental hazard as three large petroleum industries transport large volumes of gas and oil around this dangerous corner daily. The City of Chesapeake is studying and engineering the components along Freeman Avenue and Buell Street, and will implement them in partnership with The Elizabeth River Project. Initial plans include:

- Clean out the ditches along the northwest side of Freeman Avenue, including two 90-degree turns that are clogged and ineffective.



Existing transportation and industrial infrastructure, including extensive impervious areas



Proposed integrated biological network of stormwater management and habitat corridors



Co-existence: plan integrating the existing industrial and restored biological infrastructure



Standing stormwater along Freeman Avenue at Money Point.



By 2006, the cleanup was underway. Here workers for the US EPA remove creosote in old tanks, reducing the potential for recontaminating cleanup areas in the river bottom.

- Construct engineered swales, bioswales or conventional stormwater controls along Freeman Avenue to collect, filter and convey runoff to a stormwater wetland.
- Consider a stormwater wetland at the southeast corner of the Buell and Freeman intersection (with adjacent property owners). Consider adding additional practices downstream of the stormwater wetland, such as a treatment train process for further improvement of stormwater.

**Action 4 - Encourage additional stormwater treatment measures at other industrial sites** including SIMS, Elizabeth River Terminals, Hess Corporation and Southern Aggregates. Explore regional stormwater treatment in the 3-acre vacant, phragmites-infested field north of Citgo.

- Recruit and assist industries in achieving stormwater improvements through the River Stars program of The Elizabeth River Project.

**Action 5 - Introduce biostrips at parking areas to filter stormwater runoff.**

**Action 6 - Create a guide to sustainable redevelopment Best Management Practices for the Elizabeth River watershed, including Money Point.**

### Key implementers

- All property owners at Money Point, especially current owners of the former Eppinger and Russell site and adjacent landowners
- VA DEQ

- City of Chesapeake
- US EPA
- The Elizabeth River Project
- Crisman+Petrus Architects
- University of Virginia
- River Stars and other Money Point Industries

### Resources

- Hess and other industries conducting their own voluntary efforts
- US EPA - removal of contaminated uplands at some sites
- Living River Trust - engineering evaluation of potential recontamination from uplands
- The Elizabeth River Project members and donors
- Possible grants, EPA Brownfields assessment funds, EPA Targeted Watershed Grants, VA DCR Water Quality Improvement Fund, Small Watershed Grants Program
- City of Chesapeake - \$367,747 grant, VA Dept. of Housing and Community Development

### Milestones

- SAIC complete final evaluation of upland contamination, early 2007
- Clean up major upland sources of concern prior to offshore cleanup by 2008
- The City of Chesapeake complete stormwater project along Freeman and Buell by 2009
- Sustainable Development Guide for Urban Watersheds completed by 2007-2008

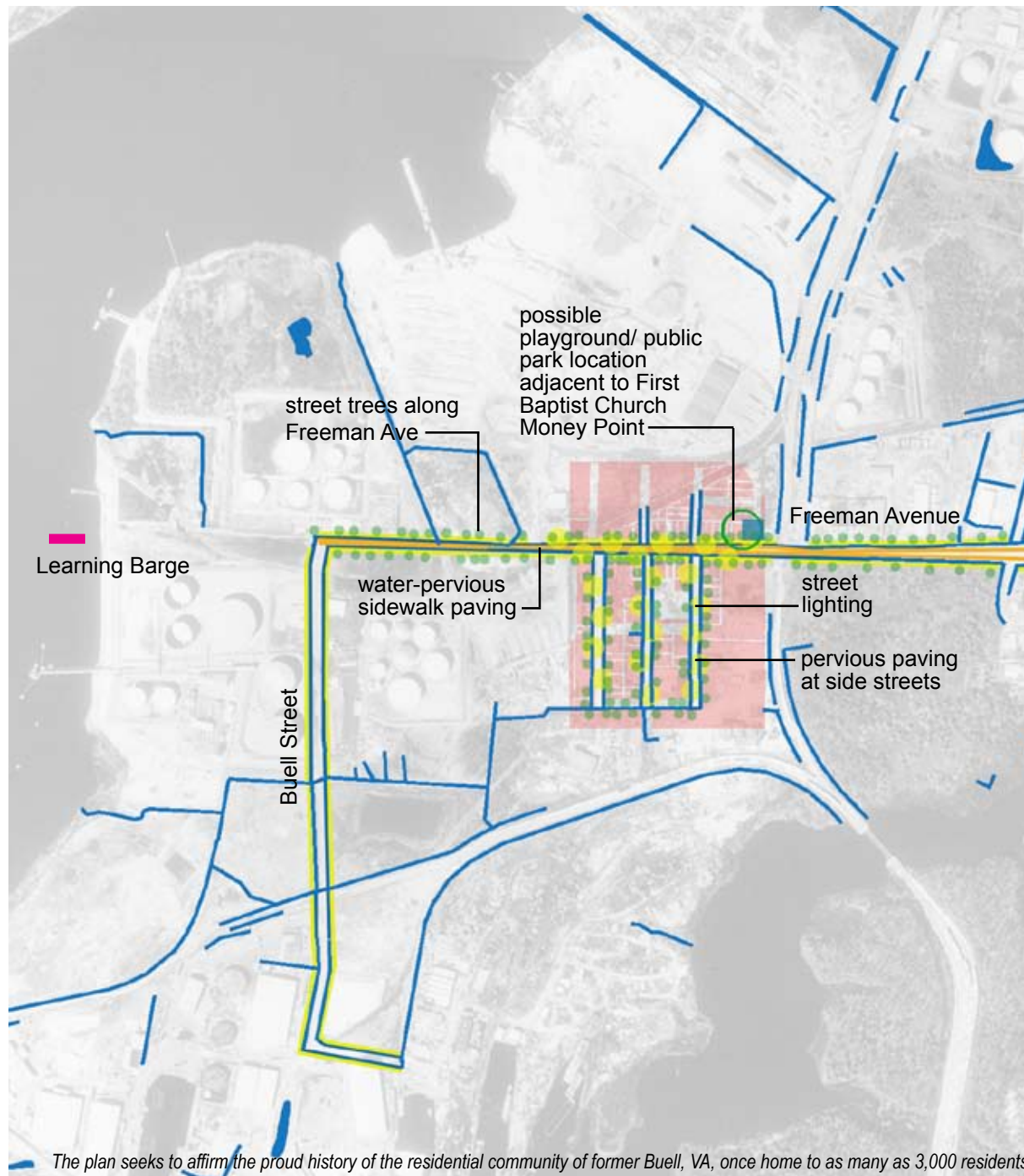


## Goal 3: Enhance community quality of life at Money Point and promote the co-existence of industrial, community and ecological health.

### Summary

Money Point received its name as the primary area of employment for much of what is now South Norfolk, Chesapeake. The area was once the independent town of Buell, with as many as 3000 residents, its own post office, dance hall and thriving wood treatment facilities as well as other large waterfront industries. Some of the largest employers are now defunct, while changes in road patterns and rezoning have been part of reducing the population to about two dozen remaining homes - a close-knit community in direct proximity to industry. The First Baptist Church Money Point, celebrating its 100<sup>th</sup> anniversary in 2006, continues to draw former residents back to the area as an historic social center and active church.

One of the challenges in formulating this plan was the need to achieve a balanced co-existence: ecological regeneration alongside thriving waterfront industries, while also affirming the proud residential history of the community. Part of the solution involves getting the Money Point story to the public.



The plan seeks to affirm the proud history of the residential community of former Buell, VA, once home to as many as 3,000 residents.

## Action Steps

**Action 1 - Construct the “Learning Barge,” a floating classroom for education about environmental revitalization initiatives such as Money Point.**

- The University of Virginia School of Architecture is designing the barge for use by The Elizabeth River Project to bring students and the public up close to restoration activities, especially where land access is restricted, as at Money Point’s industrialized shoreline. Use wind and solar energy to teach alternatives to pollution-causing forms of energy. Include a display on sediment contamination and a living wetlands garden with native plants to filter graywater. Move the barge to restoration sites around the river.

**Action 2 - Create a small picnic area or other small park that could be used by workers and Money Point residents.** Consider locating this community gathering and recreation place near the First Baptist Church Money Point. Convene dialogue involving residents and the City to discuss zoning issues.

**Action 3 - Consider constructing “pervious,” or porous sidewalks on Freeman Avenue that link Money Point to Portlock at Bainbridge Boulevard while absorbing runoff.** Potentially repave neighborhood streets and parking areas using pervious paving.

**Action 4 - Implement street lighting on Freeman Avenue** using a “dark skies”/down-lighting approach to improve safety while minimizing light pollution.



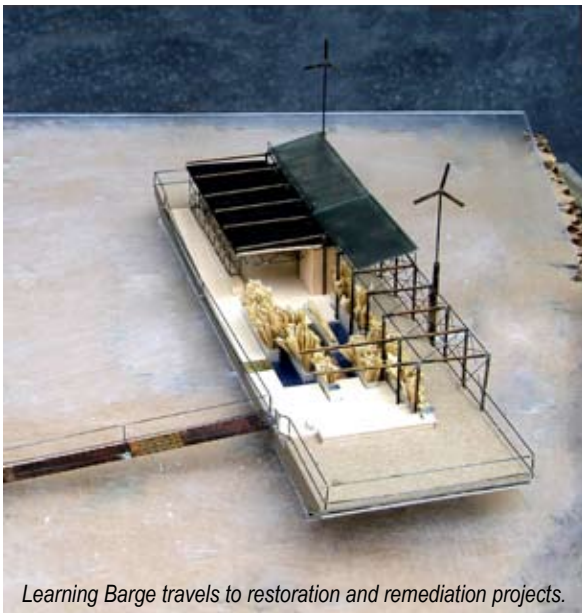
Visitors view ongoing restoration projects from the upper deck.



Visitors gather on outdoor theater steps at living wetlands garden.



Native plants purify rainwater used onboard before release into the Elizabeth River.



Learning Barge travels to restoration and remediation projects.





**Action 5 - Identify derelict buildings or sites where Brownfield Revitalization funds might be applied to redevelop the property for productive use.**

**Action 6 - Preserve and celebrate Money Point history.**

- List the First Baptist Church Money Point on national or regional historic register.
- DONE - Record and preserve the history of Money Point. Students from the University of Virginia conducted community interviews and historical research and prepared a booklet, "Brief History of Money Point," on UVA's website: [www.virginia.edu/ien/moneypoint](http://www.virginia.edu/ien/moneypoint).
- Distribute 100 "Brief History of Money Point" booklets around the Portlock and Chesapeake communities, at The Elizabeth River Project's Information Center and online at: [www.elizabethriver.org](http://www.elizabethriver.org).

**Action 7 - Publicize the Money Point "co-existence" strategy as an important model.**

Create a guide to Sustainable Redevelopment Best Management Practices for the Elizabeth River watershed.

- US EPA has funded The Elizabeth River Project to develop this guide in 2007-08.

**Action 8 - Remove debris from residential areas, especially at end of Robertson Road and Reid Street.**

**Action 9 - Plant street trees and native vegetation along streets at Money Point, particularly along Freeman Avenue.**

## Key implementers

- UVA School of Architecture (Learning Barge)
- Elizabeth River Project and partners
- First Baptist Church Money Point
- Money Point residents and property owners
- City of Chesapeake
- South Norfolk Library and South Norfolk Historical Society
- Hampton Roads Planning District Commission
- Virginia Commonwealth University
- Volunteers

## Resources

- Learning Barge Grants in-hand: EPA P3 and Virginia Environmental Endowment. Funds applied for: EPA Watershed Initiatives Grant, NOAA Ocean Literacy Grant, EPA Education grants, and private foundations. Donated barge and barge maintenance.
- University of Virginia
- Elizabeth River Project members and donors
- DEQ water quality loan
- City of Chesapeake
- Money Point residents, industrial neighbors
- VA Department of Conservation and Recreation Water Quality Improvement Fund

## Milestones

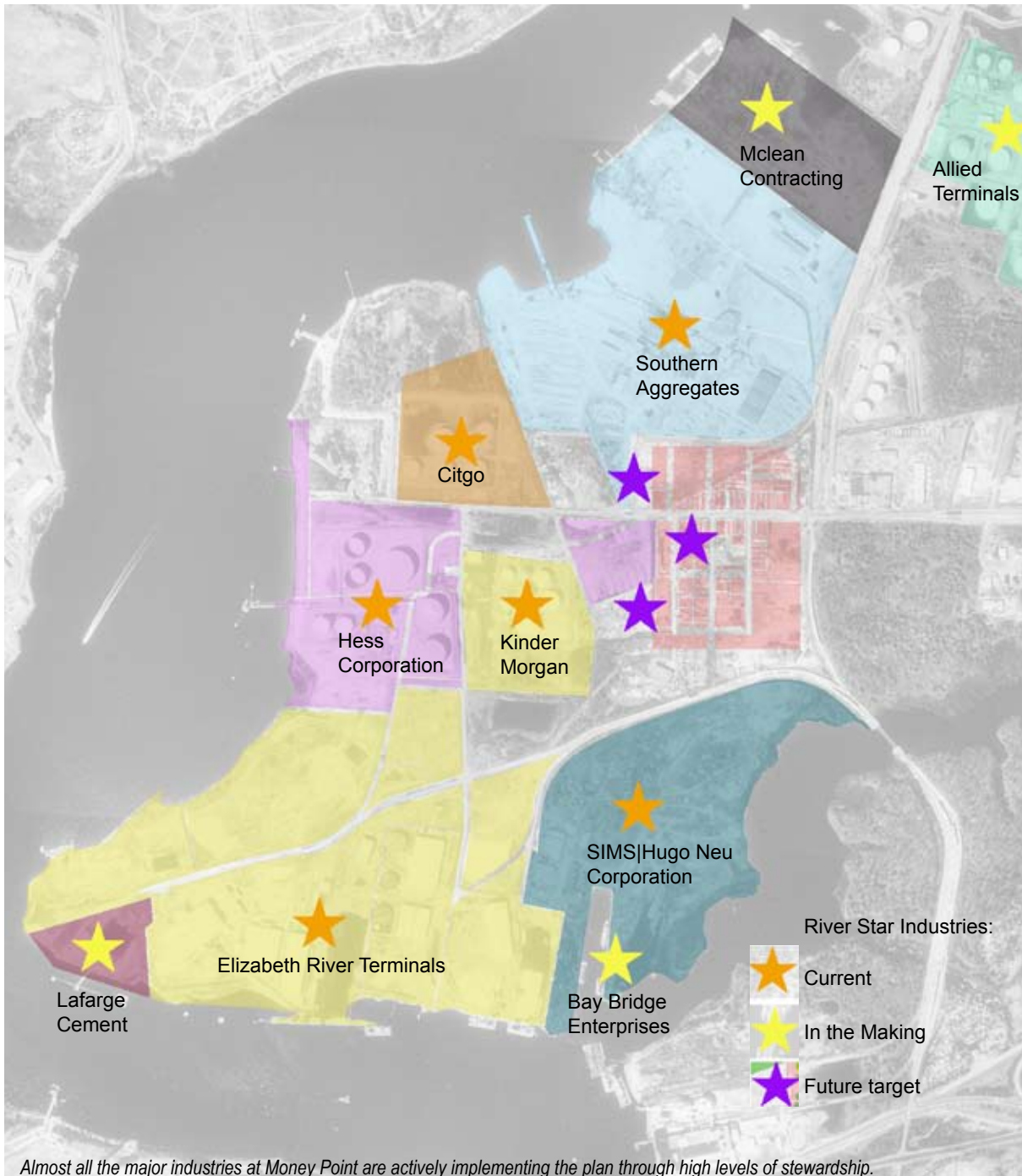
- Learning Barge construction by 2008-2009
- Sustainable Development Guide available by 2007-2008
- Identify derelict buildings by 2008
- Remove debris from residential areas and plant trees along streets by 2007-2010
- Construct impervious sidewalks and implement street lighting by 2011
- Establish small park by 2008



*First Baptist Church Money Point - site of community reunions for former residents.*



*Tree planting at the First Baptist Church Money Point celebrates birth of cleanup plan.*



*Almost all the major industries at Money Point are actively implementing the plan through high levels of stewardship.*

## Goal 4: Establish environmental stewardship as the industrial ethic at Money Point, primarily through the River Stars program.

### Summary

The entire waterfront at Money Point is owned by industrial or commercial companies, virtually all of whom actively use the shoreline. The participation of all industrial partners is key to achieving the Money Point vision of a thriving economic coexistence with ecological regeneration. The Elizabeth River Project's River Stars program offers a "win-win" approach for engaging the industries in a positive, voluntary partnership that typically results in measurable pollution prevention and habitat enhancements, while also benefiting the company through reduced costs, improved worker safety and public recognition. The program provides free technical assistance and public recognition for documented, significant results in voluntary stewardship.

Most of the major industries at Money Point have already achieved impressive progress as River Stars. Others are actively pursuing startup activities.



## Action Steps

**Action 1 - Recruit the majority of industries at Money Point as active River Star environmental stewards by 2016. Document achievements of 10 River Star industries at Money Point.**

- In advance implementation of this plan, **Elizabeth River Terminals, Citgo, Hess, Sims|Hugo Neu, Exxon (Kinder Morgan) and Southern Aggregates have already been recognized as River Stars** through peer review of achievements, based on The Elizabeth River Project focusing on Money Point for the past several years. Achievements range from a 16-acre conservation area to wildlife plantings, pollution prevention and osprey platforms (Kinder Morgan has a real-time camera watching the ospreys hatch!)

**Action 2 - Assist at least one industry at Money Point to achieve “Model Level” in the program within 5 years and two within 10 years.** Model Level is the highest level of recognition for facilities achieving exemplary results as environmental leaders in the community.

**Action 3 - Emphasize related goals, such as stormwater treatment, wetlands and forested areas, while developing River Stars recommendations.**

## Key implementers

- Industries now participating in The Elizabeth River Project’s River Stars program and high-opportunity industries to be recruited.

- Cooperating agencies such as VA DEQ and Chesapeake Bay Program’s Businesses for the Bay.

## Resources

- Current grantors to the River Stars program, including Chesapeake Bay Small Watershed Grants program, National Fish and Wildlife Foundation, US EPA, Chesapeake Bay Program, Hampton Roads Sanitation District, Ford Motor Company
- Potential grants such as EPA’s Targeted Watershed Initiatives Grant

## Milestones

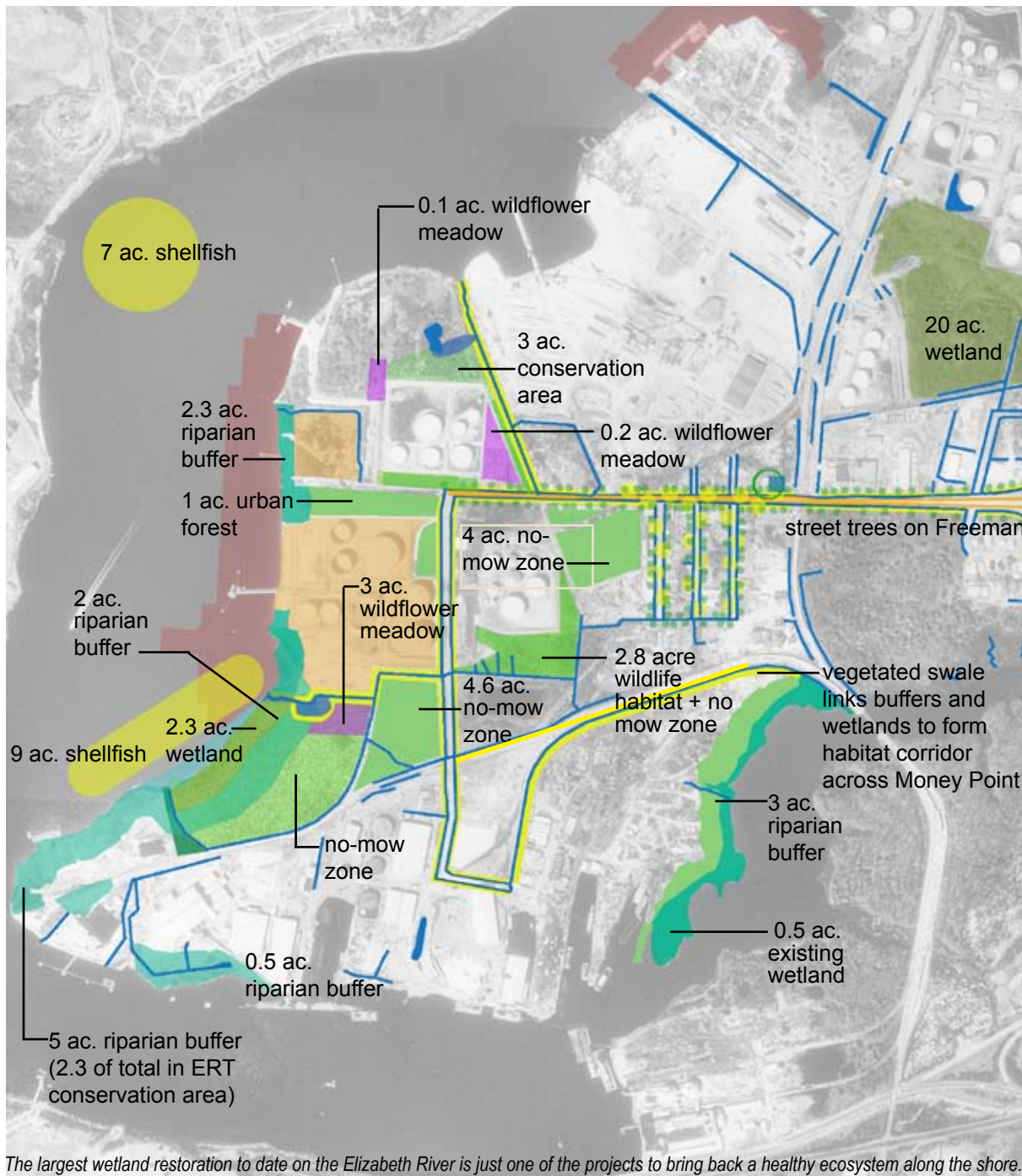
- Establish one Model Level River Star at Money Point by 2010; two by 2016
- Money Point River Stars restore/conserv 30 acres of wildlife habitat and reduce pollution to the river by one million pounds by 2016



*Before - CITGO is one of multiple industry plantings (planting day)*



*After - CITGO’s nearshore site flourishes in wildflowers. Industries are doing their part as River Stars.*



The largest wetland restoration to date on the Elizabeth River is just one of the projects to bring back a healthy ecosystem along the shore.

## Goal 5: Restore and conserve wetlands, vegetated buffers, shellfish beds and urban forest, creating an integrated network of habitat for wildlife.

### Summary

One of the major projects already underway, resulting from the momentum created by this Plan, is the largest voluntary wetland restoration on the Elizabeth - up to four acres along the Elizabeth River Terminals shore. Such efforts reverse a 50 percent loss of tidal wetlands in the Elizabeth River since World War II. Restoring wetlands and vegetated buffers along the shoreline are key steps that decrease and filter stormwater, support wildlife and improve the aesthetic experience for humans. A well-connected and integrated network of green spaces nested within an industrial area can allow the development of a productive ecosystem by providing wildlife with much-needed habitat in an industrial setting.

Although Money Point has a heavily industrialized waterfront, there are still a few areas of open green space that provide wildlife with habitat opportunities. The open space also provides for large scale landscape restoration - by restoring oyster, wetland, and vegetative habitats adjacent to one another. This type of restoration allows for a continuum of various habitats from the river to the uplands area. Due to the importance of these, The Elizabeth River Project has set long-range goals including establishing contiguous green corridors of wetlands, buffers and forest in priority areas including the Southern Branch from Scuffletown Creek to Great Bridge.



## Action steps

### Action 1 - Restore and/or conserve a minimum of 20 acres of tidal wetland habitat to maximize marsh habitat for living resources by 2016.

- Thanks to Elizabeth River Terminals and a grant from NOAA's Restoration Center to The Elizabeth River Project, a major project is under design to restore four acres of tidal wetlands and associated vegetated buffers. Elizabeth River Terminals has provided an appropriate site despite the industrial nature of most of the shoreline, otherwise typically concrete and debris. The proposed site is adjacent to high quality habitat, 16 acres of open space that Elizabeth River Terminals has placed in voluntary conservation with The Elizabeth River Project.
- Additional wetland restoration efforts should also focus on the corridor from Southern Aggregates to SIMS, the area of largest need and highest potential for wetland restoration. Recruit waterfront owner participation; design and construct as funds become available.
- Consider feasibility of a large wetland restoration project adjacent to Allied Terminals reconnecting a marsh that appears to have been severed by the railroad. Size the culvert beneath the railroad to improve flow and restore tidal wetland function upstream of the railroad track.

### Action 2 - Create habitat corridors across Money Point along the railroad right-of-way, extending from the Elizabeth River Terminals conservation area to Milldam Creek at SIMS.

- Further analyze 330-acre Money Point area as a whole, then focus on all restoration projects as part of a restored biological system.
- Design a viable network of water and habitat movement that integrates individual restoration projects, the river and Milldam Creek. The network would use elements such as bioswales and buffers.

### Action 3 - Restore and conserve riparian buffers along the Elizabeth River and Milldam Creek.

- Place a minimum of 25 acres in long-term conservation, including 19 acres already pledged by Elizabeth River Terminals and Citgo.

### Action 4 - Plant street trees on Freeman Avenue and augment trees on neighborhood side streets.

### Action 5 - Restore shellfish beds at Money Point.

- Request VA Marine Resources Commission to survey the Money Point area for potential sites for oyster, clam, and mussel replenishment.
- Restore a minimum of 5 acres of oyster reef, hard clam and mussel habitat. Potential sites are sandy areas off Elizabeth River Terminal and at mouth of Blows Creek.

## Key implementers

- Elizabeth River Project
- Waterfront Industries
- Money Point Community
- City of Chesapeake
- VA DEQ
- US EPA
- VA Marine Resources Commission
- Virginia Institute of Marine Science
- NOAA's Restoration Center

## Resources

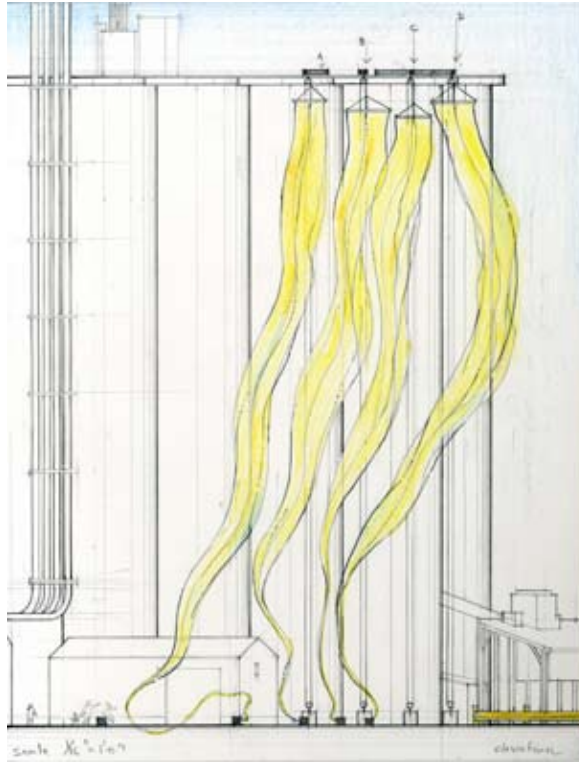
- Elizabeth River Project members and contributors, including funds from VA DEQ
- Grantors including: NOAA Community-based Restoration Program, Virginia Environmental Endowment, EPA Targeted Watershed Grant, VA Dept of Forestry, Fish America, Small Watershed Grants Program
- Consider establishing tidal wetland mitigation bank at Money Point

## Milestones

- Initiate first wetland project 2007-2008
- Implement 20 acres of wetland restoration by 2016
- Restore 5 acres of shellfish by 2016



Oysters show new growth on riprap at Elizabeth River Terminals shoreline. More oysters to be added at Money Point.



*Sanda Iliescu and Phoebe Crisman, UVA Professors of Art and Architecture, wanted to commemorate the positive power of the plan with a gigantic public art installation on the concrete silos at Lafarge Cement. Here, students craft elements of the 150 foot high piece, unveiled with the plan on October 19, 2006.*

*Back cover: Drawing by Sanda Iliescu for the public art project, Sixteen Silos, Sixteen Shades of Yellow.*

## Project Team

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**This plan depends on community involvement. To find out how you can get involved, contact:**

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**We welcome your support!**



## Money Point Revitalization Task Force

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 Pastor Kenneth Woodley, *First Baptist Church Money Point*  
 Jay Woodward, *VA Marine Resources Commission*



*Money Point Task Force members meet at Portlock Galleries.*

Art inspired by cement silos  
and wetland restoration at  
Money Point.  
*Sixteen Silos, Sixteen Shades  
of Yellow*, celebrates the  
power of this plan:  
industrial and ecological  
regeneration occurring  
together.

