

Final Generic Environmental Impact Statement

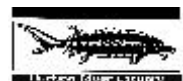
For the
**Hudson River Estuary
Action Agenda 2005-2009**

In Celebration of the 2009
Hudson-Fulton-Champlain Quadricentennial



The Hudson River Estuary Program
New York State
Department of Environmental Conservation

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George E. Pataki, Governor



December 2005

Final Generic Environmental Impact Statement

Cover Sheet

Title: Final Generic Environmental Impact Statement for the Hudson River Estuary Action Agenda 2005-2009 In Celebration of the 2009 Hudson-Fulton-Champlain Quadricentennial

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Date of Completion: December, 2005

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Final Generic Environmental Impact Statement

Summary

This *Final Generic Environmental Impact Statement* (FGEIS) has been prepared to assess the impacts that may be associated with the development and implementation of the *Hudson River Estuary Action Agenda 2005-2009* (the *Action Agenda*). The environmental setting for the *Action Agenda* is the Hudson River Estuary, from the Troy dam south to the Verrazano Narrows, and the surrounding watershed (known as the Hudson River Valley or the valley). This includes approximately 150 miles of the main stem of the lower Hudson River, upper New York Harbor, the Hudson's tributaries, as well as upland areas. The Hudson River Estuary Program (the Estuary Program, or the program) also gives consideration to pertinent issues in the upper Hudson, lower New York Harbor, the New York/New Jersey Bight, and the waters of Long Island Sound, as they influence the estuary and its resources.

Beneficial Impacts of the Action Agenda:

The *Action Agenda*, when implemented, will further the Estuary Program in its mission to conserve the estuary's natural resources, promote full public use and enjoyment of the river, and clean up pollution that affects our ability to use and enjoy it. Many of the program's projects will contribute to meeting the Governor's recent goals of protecting one million acres of open space in the state, ensuring adequate access to the river, and making the river swimmable from its source high in the Adirondack Mountains all the way to New York City. Other projects will ensure that New York State maintains compliance with regulatory and planning programs such as the Clean Water Act, the Atlantic States Marine Fisheries Commission, the Endangered Species Act, the NYS Open Space Plan, the Hudson River Valley Greenway, and the State's Comprehensive Outdoor Recreation Plan.

Implementation of the *Action Agenda* can be expected to achieve a variety of **cumulative benefits**. Taking an ecosystem approach to management of the estuary and the valley will ensure, for future generations, the continuation of the rich assemblage of plants, animals and habitats that have been documented in the Hudson Valley. Activities of the Estuary Program will result in an overall improvement in ecosystem health for the entire Hudson River watershed, including water quality in the estuary, its streams and tributaries, groundwater recharge areas, stormwater/flood management, and erosion control. A continued decline in the potential for exposure to contaminants of concern is expected as sources are identified and cleaned up and potential new sources are prevented through implementation of environmentally sound management practices. Proposed educational programs will create a more aware, pro-active community. Protection of the valley's scenic and visual resources will preserve the area's sense of place, its historic high quality of life and will contribute to the preservation of habitats.

Adverse impacts of the Action Agenda:

Any course of action involving the management of natural resources may result in altered conditions that could be construed as having adverse effects. For example, management for some species may create conditions not favorable for other species. Increased human use as a result of improved access to and improved environmental condition of the river, may stress resources, resulting in negative impacts on the very resources being managed and conserved. This may create conflict within the program's goals that aim to protect and restore critical habitats and species while improving access to and enjoyment of the river. Likewise, increased human activity in and along the estuary increases the potential for the introduction of invasive species. Habitat restoration activities may have unanticipated results, giving preference to some community types over others. Some actions, such as dam removal, have the potential to release contaminated sediments downstream if not properly planned. Protecting the environmental integrity of the uplands of the Hudson Valley may create a double-edged sword; while making the area a more desirable place to visit and live, the protection of the valuable resources of the valley may result in increased development pressure on other lands in the area.

To **mitigate** any adverse impacts that may result from *Action Agenda* activities, projects will incorporate a variety of best available management practices and technologies. Appropriate training will be provided to Estuary Program partners involved in the stewardship of the area's natural resources. *Action Agenda* activities that involve other existing programs will comply with criteria set forth in these existing planning efforts, i.e., the Open Space Plan, the Hudson River Valley Greenway, and the State Comprehensive Outdoor Recreation Plan. Additional project-specific environmental review and assessment, as required under SEQRA, may identify more detailed mitigation measures to be implemented with respect to a particular project's needs.

Alternatives to preparation of the *Action Agenda* considered in this FGEIS are: no action, and use of the existing Estuary Program goals and priorities adopted in 1996 and updated in 1998 and 2001.

The FGEIS also recognizes that certain commitments may result in specific projects that may require additional environmental review. Where necessary these site-specific projects will undergo separate environmental assessment and review under SEQRA.

A. Introduction

The development of the *Hudson River Estuary Action Agenda 2005-2009* by the New York State Department of Environmental Conservation (DEC) is an action subject to the State Environmental Quality Review Act (SEQRA). This FGEIS document, together with the *Hudson River Estuary Action Agenda 2005-2009*, constitutes the FGEIS on the Program.

This FGEIS includes alternatives and impacts associated with implementation of the program. As a generic document, this environmental impact statement provides a broad-based assessment of the

potential impacts for the group of actions proposed in the *Action Agenda* and is more conceptual in nature than a site-specific environmental impact statement would be. It is recognized that certain projects that may be undertaken as a result of implementing this *Action Agenda* will require additional site-specific environmental review under SEQRA.

Some of the issues identified in this FGEIS have been previously addressed in one or more earlier environmental impact statements including: *Final Programmatic Impact Statement on Public Use Development Activities of the DEC Division of Fish and Wildlife*, January, 1979; *The Hudson River Estuary Management Plan Final GEIS*, December 1994; *The Hudson River Estuary Boating Access Needs and Opportunities Plan, Supplemental GEIS*, November 1998; *The New York State Open Space Conservation Plan 2002 and GEIS*, September 2002. Reference is made to these documents where applicable.

The *Draft Hudson River Estuary Action Agenda 2005-2009 and Draft GEIS* was made available for public review and comment. A summary of comments and responses is included as part of this final report.

B. Description of the Proposed Action

The action for review in this FGEIS has been defined as the development of the *Hudson River Estuary Action Agenda 2005-2009* by DEC, and use by DEC and other partner agencies and organizations, following approval of the final *Action Agenda* by the Executive. For the purposes of compliance with SEQRA, this document addresses the action and its implementation on a generic level.

In 1987, the Hudson River Estuary Management Act was enacted, requiring DEC to develop a management program for the Hudson River Estuarine District (the estuary) and its associated shorelands. The program was intended to coordinate the many areas of natural resource management that apply to the estuary under the umbrella of the Hudson River Estuary Program.

In 1996, the *Hudson River Estuary Management Plan* (a strategic document) and the first Estuary Action Plan were released. The Action Plan was then updated in 1998 and 2001. The Action Plan identified priority commitments that combine scientific research, active resource protection and management, public involvement, and education in an integrated ecosystem management approach to the resource. During every update, public input and review have been crucial to the program's evolution and maturation.

During 2002, the Estuary Program undertook an extensive re-evaluation of the program's progress, effectiveness and applicability to present needs. Several day-long meetings were held at the Norrie Point Environmental Center where project managers and members of the Hudson River Estuary Advisory Committee assessed and redefined the mission and goals of the program. As a result, the program has undergone some revisions in an attempt to make the process more accountable to the

public by identifying time-sensitive targets that link specific projects to broader long-term goals. The document has been shortened considerably, focusing more on what the program will do to achieve quantitative targets, rather than on previous accomplishments and detailed issue statements. The program's time frame has also been expanded to include budget estimates for four years. The results of this endeavor are reflected in the *Action Agenda*. The Estuary Program continues to address the major areas of concern that were previously defined as the program's "20 commitments." These commitments are now combined into the following mission statement and 12 goals:

Mission: The mission of the Hudson River Estuary Program is to conserve the natural resources for which the Hudson is legendary; promote full public use and enjoyment of the river; and clean up the pollution that affects our ability to use and enjoy it. Our program is founded in science and implemented in ways that support the quality of life of the Hudson Valley's citizens.

Goals:

- 1. Signature Fisheries:** Restore the **signature fisheries** of the estuary to their full potential, ensuring future generations the opportunity to make a seasonal living from the Hudson's bounty, and to fish for sport and consume their catch without concern for their health.
- 2. River and Shoreline Habitats:** Conserve, protect, and, where possible, enhance **critical river and shoreline habitats** to assure that the life cycles of key species are supported for human enjoyment and to sustain a healthy ecosystem.
- 3. Plants and Animals of the Hudson River Valley:** Conserve for future generations the rich diversity of **plants, animals and habitats** that are key to the vitality, natural beauty and environmental quality of the Hudson River Valley.
- 4. Streams and Tributaries of the Hudson River Estuary Watershed:** Protect and restore the **streams**, their corridors, and the watersheds that replenish the estuary and nourish its web of life -- a system critical to the health and well-being of Hudson Valley residents and the estuary.
- 5. The Landscape:** Conserve key elements of the **human, pastoral landscapes** that define the character of the Hudson River Valley and its setting of history and mystique.
- 6. River Scenery:** Conserve the key features of the world-famous **river scenery**—the inspiration for the Hudson River School of American painting and for the tales of Washington Irving—and provide new and enhanced vistas where residents and visitors can enjoy Hudson River views.
- 7. Public Access:** Establish a **regional system of access** points and linkages so that every community along the Hudson has at least one new or upgraded access point to the river for fishing, boating,

swimming, hunting, hiking, education, and/or river-watching.

8. Education: Promote **public understanding of the Hudson River**, including the life it supports and its role in the global ecosystem, and ensure that the public understands the challenges the Hudson River faces and how they can be met.

9. Waterfront Revitalization: **Revitalize all the waterfronts** of the valley so that the Hudson is once again the “front door” for river communities, where scenery and natural habitats combine with economic and cultural opportunity, public access, and lively “green ports” and harbors to sustain vital human population centers.

10. Water Quality: Ensure that the **Hudson River will be swimmable** from its source high in the Adirondack Mountains all the way to New York City.

11. Pollution Reduction: Remove or remediate **pollutants** and their sources so that all life stages of key species are viable, and people can safely eat Hudson River fish, and so our harbors are free of the **contaminants** that constrain their operation.

12. Celebrate Progress and Partnerships: Track our progress and celebrate our successes!

For each of these goals, the *Action Agenda* outlines the challenges posed in meeting the goal, specifies target objectives, and identifies actions that will be undertaken to reach those targets. Cost estimates for each goal are provided.

Following approval by the Executive, the final *Action Agenda* will serve as a guide for the management, protection and restoration of the Hudson River Estuary for four years. A primary strategy for implementing the Hudson River Estuary Program is for state government to work cooperatively and in partnership with local governments, the federal government, not-for-profit organizations, the private sector and individual property owners for the benefit of the Hudson River ecosystem, around which all New York State residents can build better and more rewarding lives.

C. Environmental Setting

The environmental setting for the Estuary Program is the Hudson River Estuary, from the Troy dam south to the Verrazano Narrows, and the surrounding watershed, also known as the Hudson River Valley. This includes approximately 150 miles of the main stem of the lower Hudson River, upper New York Harbor, the Hudson’s tributaries, as well as upland areas. The Estuary Program also gives consideration to pertinent issues in the upper Hudson River, lower New York Harbor, the New York/New Jersey Bight, and the waters of Long Island Sound as they influence the estuary and its resources.

The Hudson River Estuary has long been recognized as a valuable state and local resource, as well as an integral part of the North Atlantic coastal environment. The estuary serves as a spawning and nursery ground for important fish and shellfish species, such as striped bass, American shad, Atlantic and shortnose sturgeon and blue crab. The estuary contains the only significant acreage of tidal freshwater wetlands within the state. These wetlands, along with the river's brackish tidal wetlands and stands of submerged aquatic vegetation, contribute essential nutrients that support the Hudson's rich and biologically diverse web of life. More than 16,500 acres of river habitat, along the stretch from the Troy dam to the southern Rockland-Westchester County line, have been designated "significant coastal fish and wildlife habitat" by DEC and the New York State Department of State. The New York Natural Heritage Program has identified numerous sites where rare plant and animal species and exemplary natural communities occur. The Hudson Valley is particularly important globally for its diverse assemblage of turtles. Recently, bald eagles have successfully nested and raised their young for the first time in over 100 years along the shores of the river. The estuary also serves as an important resting and feeding area for other migratory birds such as osprey, a variety of songbirds and waterfowl.

The Hudson Estuary serves one of the most densely populated areas in the country. The estuary's north end is flanked by the cities of Albany and Troy. Numerous smaller communities are located along both banks of the river to the southern Rockland-Westchester lines. From here south, the greater New York Metropolitan area, with its estimated population of 8 million, dominates the landscape. Nearly one-half of the population of New York State lives within the 15 counties bordering the estuary, the largest proportion being located in the New York City area. Part of New Jersey's major metropolitan area, likewise, borders the estuary.

Human use of the estuary dates back 8,000-10,000 years before European settlement. Today the estuary is used for commercial navigation, recreation (including boating, fishing, swimming, and wildlife observation), commercial fishing, municipal drinking water supplies, and as a source of inspiration. Several major power generating facilities, manufacturing plants, petroleum terminals, cement and aggregate plants, resource recovery facilities, and various mining operations are located along the banks of the estuary. Railroad tracks hug the shores of the river on the east from Riverdale, Westchester County, to Rensselaer County and on the west from Haverstraw State Park in Rockland County to central Ulster County.

D. Significant Environmental Impacts

The *Action Agenda* will be used by DEC and its cooperating partners to implement actions designed to reach time-sensitive targets that, when met, will move the program forward in meeting the greater goals set for restoring, preserving and conserving the natural resources of the estuary. The environmental impacts described below focus on the impacts associated with the overall implementation of the *Action Agenda* and include both general and goal-specific impacts. This FGEIS, being generic in nature, recognizes that site-specific projects may require additional environmental assessment and review under SEQRA.

D.1. Beneficial Impacts - general

The overall benefit of implementing the *Hudson River Estuary Action Agenda 2005-2009* will be improved environmental quality of the Hudson River Estuary and enhancement of the benefits it provides for human use and enjoyment. This will be achieved through management that takes an ecosystem approach to the resource. Management of the estuary's natural resources is a complicated task. As the understanding of scientific and environmental processes deepens, and technological advances abound, the environmental stresses impacting the estuary are becoming better understood. At the same time, however, financial and administrative resources of both public and private entities are being stretched to their limits. This will require that future management of the estuary be done in the most coordinated and integrated way possible. It is not enough to manage water quality, for example, without considering the other parts of the ecosystem, including the human component.

The goals, targets and actions proposed in the *Action Agenda* have been designed to allow DEC and others to address the most pressing challenges facing the Hudson Estuary and its surrounding watershed areas. By expanding the program's horizon to four years, the planning process can better identify the tasks needed to achieve the targets set out by the program over an extended period of time.

Implementation of the *Action Agenda* can be expected to achieve a variety of cumulative benefits as well. Taking an ecosystem approach to management of the estuary and the valley will ensure for future generations, the continuation of the rich assemblage of plants, animals and habitats that have been documented in the Hudson Valley. Activities of the Estuary Program will result in an overall improvement in ecosystem health for the entire Hudson River watershed, including water quality in the estuary, its streams and tributaries, groundwater recharge areas, stormwater/flood management, and erosion control. A continued decline in the potential for exposure to contaminants of concern is expected as sources are identified and cleaned up and potential new sources are prevented through implementation of environmentally sound management practices. Proposed educational programs will create a more aware, pro-active community. Protection of the valley's scenic and visual resources will preserve the area's sense of place and historically high quality of life and will contribute to the preservation of habitats.

D.2. Adverse Impacts - general

As with any undertaking that looks to satisfy a diverse set of goals, if all parts of the *Action Agenda* are implemented to reach the program's intended targets, there may be some adverse impacts that cannot be avoided. Implementation of the *Action Agenda* may result in increased use and demand for the estuary's resources as conditions improve, resulting in additional stresses and impacts on those very resources that the program strives to protect, conserve and or restore. Overall, the positive effects to be gained by implementing the Action Agenda are expected to far outweigh any adverse impacts that may occur.

D.3. Specific Impacts for Each Goal: Beneficial and Adverse

The following discussion further examines potential beneficial and adverse impacts that might be expected to occur as a result of implementation of actions that are designed to meet the more specific goals and targets of the *Action Agenda*. The goals are repeated here and the targets set for each goal have been summarized.

D.3. Goal 1. Signature Fisheries: Restore the **signature fisheries** of the estuary to their full potential, ensuring future generations the opportunity to make a seasonal living from the Hudson's bounty, and to fish for sport and consume their catch without concern for their health.

Summary of Targets: Includes targets for Atlantic sturgeon, striped bass, American shad, black bass, blue crab, oysters, American eel, and other resident and migratory forage fish species (river herring, white perch, Atlantic tomcod, killifish, silversides and bay anchovies); contaminants in fish and blue crabs; and minimizing fish mortality at water withdrawals.

Beneficial Impacts: The fisheries resources (including fin fish, shellfish and crustaceans) of the estuary have long been recognized as an important component of the area's commercial and recreational economies. Management of these resources varies, depending on the jurisdictional range of each species and their historic importance. The *Action Agenda's* program to restore the signature fisheries of the estuary brings together this diverse group of management needs under one common mission for the estuary. Together the targets proposed for this goal are expected to provide the following benefits:

- The state will maintain compliance with the Atlantic States Marine Fisheries Commission (ASMFC) regulations and management requirements, allowing continued beneficial use, both for commercial and recreational interests, of the estuary's fisheries resources while ensuring that populations are sustained for future generations.
- Management of the estuary's key species will be responsive to changing conditions.
- Overall species diversity and ecosystem health will improve.
- Mortality from catch-and-release fisheries will be reduced through improved information and education.
- Access to high-quality, locally produced fish will bring economic benefits to Hudson Valley communities, foster a sense of place and pride in the valley, leading to improved quality of living, enhanced environmental awareness and stewardship among valley residents.

Contaminants found throughout the Hudson River Estuary that are known to be present in fish and blue

crabs in concentrated amounts include: PCBs, mercury, PAHs, dioxins and dibenzofurans and cadmium (in blue crabs). By reducing contaminant levels in water and sediment and by continuing to issue consumption advisories through the NYS Health Department, human exposure to contaminants will be reduced. Reducing contaminants throughout the entire ecosystem will benefit all aspects of the Hudson River Valley environment.

Reducing fish mortality associated with water withdrawals will allow for beneficial commercial and industrial use of the estuary's water resources while minimizing impacts to the river's aquatic organisms. All life stages, including fish eggs, larvae, juveniles and adults serve important roles in the functioning of the river's ecosystem. Improving fish survival will support the overall health and ecological resiliency of the estuary and will ensure the availability of greater numbers of fish. This will provide better opportunities for the recreational and commercial use of the estuary's fisheries by providing balanced populations of forage and predatory fish for future generations. In addition, the use of mitigative technologies to reduce the intake volume of non-contact cooling water may result in a reduction of heat discharged to the estuary because less hot water would be used and discharged back into the river.

Adverse Impacts: Focusing fisheries resource management on the few species that are considered the most significant in the estuary, both commercially and for recreational use, could result in conditions that favor target species over others, possibly skewing the balance of the natural ecosystem. The impact of this possibility is considered to be negligible because all of the fish being managed under this program are indigenous to the estuary. Sustaining these populations requires sustaining the function of many components of the ecosystem, including other species of fish in the food chain. The potential loss of any one of these species would incur adverse effects on the ecosystem by the elimination of significant links in a complex food web that has taken thousands of years to establish. Promotion of the recreational fisheries that have become so popular in recent years may lead to overfishing. In addition, the increase in the recreational fishery could increase the risk of exposure to potentially harmful chemicals by anglers and those who may consume fish caught in this manner who may not be aware of the health advisories annually issued by the NYS Department of Health for certain species caught in specific reaches of the river.

Conducting research, in and of itself, will cause some unavoidable stress-induced mortality to fish that are caught during sampling procedures. However, this impact is considered negligible compared to other factors affecting these populations. Although substantial reductions in fish mortality are anticipated by meeting the target for water withdrawals, implementation of some mitigative technologies for minimizing impacts from cooling water withdrawals may make small areas of the estuary unavailable to aquatic organisms (i.e., physical barriers that exclude organisms from cooling water intake structures.) There may also be an increased loss of river water to evaporation if closed-cycle cooling systems are used. These losses are not expected to be substantial and would be outweighed by potentially large reductions in fish mortality.

D.3. Goal 2. River and Shoreline Habitats: Conserve, protect, and, where possible, enhance **critical river and shoreline habitats** to assure that the life cycles of key species are supported for human enjoyment and to sustain a healthy ecosystem.

Summary of Targets: Targets include: the restoration/enhancement of key habitats including tidal wetlands, access to historic fish habitat on tributaries with man-made barriers; the potential re-creation of shallow water habitat on the main stem; and the development of methods for restoring or enhancing natural shoreline and shoreline habitat. Much of this will be addressed through mapping of submerged habitat and the development of a habitat restoration plan for the estuary, one of the activities planned under this *Action Agenda*.

Beneficial Impacts: The estuary contains a wide variety of habitat areas that support a myriad of plant and animal species. Understanding the relationships between these assemblages of species and their habitats, and protecting these habitat conditions is essential to the maintenance of the valley's environment. The targets set for the *Action Agenda* will ensure that management efforts provide essential habitat requirements for entire communities as well as for rare, endangered and ecologically significant species of the estuary. The development of a habitat restoration plan is proposed and will set out a process for identifying opportunities and methods that will ensure restoration projects with the least ecological risk and highest probability for success. Additional benefits include:

- Baseline studies will document current conditions and allow for future trends analysis.
- Restoration of degraded resources, including functions lost due to dredging and filling of shallow water and intertidal habitats, will promote functioning communities, natural assemblages of indigenous species, (i.e., spawning, nursery and forage habitats for fish, birds, waterfowl and mammals), improvements in water quality, increased primary production, restored nutrient and chemical cycling, and preservation of regional biodiversity.
- An aquatic invasive species program will enable early detection, prevention, and where possible, the combat of and mitigation of invasive species which have the potential to alter water chemistry, native species, community composition, and sedimentation patterns.
- The removal of barriers, including poorly maintained dams and outdated culverts, will restore historic conditions for resident and migratory species, reestablish historic sediment transport regimes, restore instream fish communities, and improve water quality conditions. Planned removal or breaching of dams can allow for the controlled management of sediments that have collected upstream of these barriers over time.
- Public outreach to resource managers, decision makers and other Hudson Valley residents and officials regarding best management practices for habitat protection, conservation, and restoration.

Adverse Impacts: While the overall goal to conserve, protect and increase critical river habitats is

expected to bring great benefit to the river, some management strategies and related activities may affect how the river and its resources are currently used. In many cases, the actions that have caused the need for restoration (filling of tidal wetlands, dams, culverts, and bulkhead construction) have resulted in the creation of less desirable habitats. Restoration of historic conditions will often result in loss of these habitats that exist because of the environmental alteration. Examples would be loss of an impoundment and wetlands upstream of a dam removal, or loss of upland forest as a result of fill removal for tidal wetland restoration. Additional adverse impacts may include:

- Activities involving physical alterations may bring about unexpected results - (i.e., more aggressive invasive species may out-compete newly planted indigenous species, sedimentation/erosion patterns may be altered at the site or downstream of restored area.)
- Preferences for certain habitat types may give advantage to some species over others, including invasive species.
- If not properly planned, removal of man-made barriers may release contaminated sediments downstream; likewise access to upstream habitats may expose fish to contaminant sources not previously accessible to them and result in an expansion of areas subject to fish consumption advisories.
- Removal of barriers may result in loss of wetland areas that formed as a result of the barrier's construction, and cause temporary erosion issues when low-velocity impoundments are restored to historic flowing conditions.
- Measures implemented to protect newly restored areas may result in losses related to commercial, industrial, and recreational activities (i.e., boating, water skiing, use of personal watercraft).
- Temporary adverse impacts during construction and recovery of restoration sites could include increased sedimentation, depressed water quality, and unsightliness.

D.3. Goal 3. Plants and Animals of the Hudson River Valley: Conserve for future generations the rich diversity of **plants, animals and habitats** that are key to the vitality, natural beauty and environmental quality of the Hudson River Valley.

Summary of Targets: Targets for biodiversity include: promoting partnerships to conserve 50,000 acres (by 2009), 150,000 acres (by 2020), of target habitats for exemplary species; and promoting use of best development practices, incentives, education and other voluntary measures, to improve overall habitat quality.

Beneficial Impacts: Maintaining the rich assemblage of plants, animals and habitats currently found in the Hudson Valley on both public and private lands using a variety of cooperative techniques, can be expected to have the following benefits for the estuary, the valley, and area residents:

- Awareness and appropriate management practices will protect species that are rare globally as well as those significant in the Northeast, in New York State and in the Hudson Valley.
- The natural heritage that is unique to this area will be conserved.
- Integrating biodiversity conservation at the local level through training and planning will help minimize environmental impacts related to the rapid growth and development this region has experienced over the past 20 years and that is expected to continue.
- A variety of secondary benefits that could be realized include: improved water quality in streams and reservoirs, protection of groundwater recharge areas, improved stormwater/flood management, erosion control, and air quality, protection of genetic diversity (for medicine, food and fiber), pollution reduction, and pest and disease control.
- State/local partnerships will increase opportunities for residents to experience, and take an active role at the community level, in protecting the environment within which they live and depend on.
- The biological elements that support the web of life and Earth's ability to support mankind will be maintained to the best of our ability.

Adverse Impacts: Potential adverse impacts associated with conserving the area's diversity of plants and animals are considered to be few. There may be the potential for management or restoration of priority habitats to result in a reduction of non-priority habitats (i.e., managing for grassland prevents reforestation.) In addition, where areas are conserved for wildlife habitat, limitations might be placed to varying degrees on other land uses. However, the greater risk for adverse impact to the Hudson Valley will be if the area's biological resources are allowed to be lost or significantly diminished due to lack of attention to their significance.

D.3. Goal 4. Streams and Tributaries of the Hudson River Estuary Watershed: Protect and restore the **streams**, their corridors, and the watersheds that replenish the estuary and nourish its web of life - a system critical to the health and well-being of Hudson Valley residents.

Summary of Targets: Targets for stream restoration include: completing intermunicipal watershed agreements for selected tributaries; developing sustainable water use plans and policies to address competing needs for water resources; protecting and restoring 750 miles of forest buffers and flood plains; restoring 25 miles of new free-flowing rivers currently impacted by barriers; and restoring "precluded" or "impaired" waters listed on the state's Priority Waterbodies List.

Beneficial Impacts: The protection and restoration of the estuary's tributary streams and associated watersheds has been an area of expanded focus for the Estuary Program. By fostering the development of intermunicipal watershed agreements and by partnering with a wide range of local watershed groups,

the *Action Agenda's* targets will support conservation of critical water resources needed by humans. It will also support related biodiversity goals, providing habitat for turtles, salamanders, river otter, and birds. Activities will result in the following benefits:

- Overall water quality throughout the watershed will improve and water quality will be sustained. This, in turn, will protect groundwater recharge resources and potential future drinking water supplies, fish and wildlife habitat, and recreational opportunities.
- Sediment loading, contaminant transport, nutrient enrichment, and property loss will be reduced as a result of management practices that reduce soil erosion, siltation, stormwater runoff, stream bank erosion, and extreme fluctuations in stream flows.
- Programs will create local watershed steward constituencies and help provide local governments and involved groups with the necessary tools for related regulatory programs (i.e., Stormwater Phase II Program).

Adverse Impacts: Targets related to stream restoration, stormwater management, re-establishment of free-flowing streams and rivers, and related demonstration projects will require onsite construction to varying degrees. The following potential adverse impacts may be related to these kinds of projects:

- Restoring free-flowing rivers and streams through the removal of dams and culverts or other impoundments can release contaminated sediments, change hydrology patterns and preclude future opportunities for hydroelectric power generation, (see Goal 2, Aquatic Habitat, for more discussion).
- Stormwater treatment facilities, if not properly designed, may impact the life cycles of certain amphibians and reptiles, (i.e., detention/retention ponds sited within wetland or breeding areas may pose a hazard to migration or movement). Similarly, there may be unrealized or documented impact to bird species using created stormwater ponds or wetlands.
- Construction projects related to stream restoration, such as instream restoration, CSO abatement, stormwater retrofitting, and other Best Management Practices on private and agricultural lands, could impact other natural resources or community assets, if projects are not properly constructed, operated and maintained.

Demonstration projects will aim to work with residential and commercial developers to minimize, as much as feasible, the impacts of development on water resources and wildlife habitat and promote better awareness of site designs that do not have these adverse impacts. Ideally, environmental impacts to natural resources will be lessened, but likely not completely avoided.

D.3. Goal 5. The Landscape: Conserve key elements of the **human, pastoral landscapes** that define the character of the Hudson River Valley and its setting of history and mystique.

Summary of Targets: Targets for conserving landscapes of the Hudson River Valley include: ensuring that at least 50 percent of Hudson River Valley communities develop and implement local open space protection programs; protecting 40,000 acres in the valley for wildlife-related recreation, and for conservation of biodiversity and landscape character.

Beneficial Impacts: The intentions of the *Action Agenda* with regard to open space protection are derived from *New York State's Open Space Conservation Plan*. A complete generic environmental impact statement accompanies the Open Space Plan and investigates the full range of impacts that can be expected from related activities. In addition, meeting the *Action Agenda* landscape protection targets will offer the following benefits:

- The *Action Agenda* supports the Governor's goal of protecting 1,000,000 acres of open space in the state over the next 10 years.
- The *Action Agenda* supports private forest management practices and promotes partnerships with cooperative and voluntary programs, respecting and preserving the region's unique patchwork of state/private land ownership within the valley and Catskill Park.
- Targets for landscape conservation further support the agenda's targets for biodiversity and stream/watershed protection.

Adverse Impacts: The potential adverse impacts that could be encountered through activities designed to protect open space have been addressed in the Generic EIS for the Open Space Plan, 2002.

D.3. Goal 6. River Scenery: Conserve the key features of the world-famous **river scenery**—the inspiration for the Hudson River School of American painting and for the tales of Washington Irving—and provide new and enhanced vistas where residents and visitors can enjoy Hudson River views.

Summary of Targets: The targets for scenic resources include: conserving the key viewsheds from publicly accessible parks and historic sites; permanently conserving 25 vistas painted by the Hudson River School of Painters.

Beneficial Impacts: The most significant benefit to be recognized by this goal is the protection of the valley's visual resources, unique sense of place and historic quality of life. Open space conservation will be the key strategy for achieving this and will have the benefits described above.

Adverse Impacts: Restoring historic vistas and or creating new scenic viewpoints may require the clearing of trees and periodic maintenance of vegetative growth to maintain vistas. Clearing in forested lands may result in fragmentation of the forested landscapes and may impact habitat requirements of some species, especially birds.

D.3. Goal 7. Public Access: Establish a **regional system of access** points and linkages so that every community along the Hudson has at least one new or upgraded access point to the river for fishing, boating, swimming, hunting, hiking, education or river watching.

Summary of Targets: Targets include: providing additional access for swimming in the Hudson; the establishment of a network of fishing access sites, including at least one new or upgraded recreational boating access site per county and one shore fishing access per 10 miles; creating five or more new shoreline access points across the railroad tracks and; relying on voluntary agreements, complete the Hudson River Valley Greenway Land Trail and promote use of the Greenway Water Trail.

Beneficial Impacts: Getting people to the river has been a consistently high priority of the Estuary Program, holding to the belief that greater public access to the resource will heighten public awareness and concern for the ecosystem. In 1998, the Estuary Program released the *Final Hudson River Estuary Boating Access Needs and Opportunities Plan and Generic Environmental Impact Statement* as a supplement to the 1995 Generic EIS for the original Estuary Management Program. This document helps guide the Estuary Program's boating access activities and addresses relevant issues such as needs and opportunities for new launching capacity, assessing carrying capacity, and addresses related potential impacts.

The target set for the *Action Agenda* is designed to provide a planned, managed, and equitably distributed system of access to the river to be developed at locations that are environmentally compatible with public use. Achieving this target will help meet the growing demand for a variety of access opportunities including hiking, picnicking, wildlife observation, fishing (from shore and by boat), as well as small craft access in areas of greatest need. The *Action Agenda's* targets will also help meet goals set forth in the New York State Open Space Plan, the State Comprehensive Outdoor Recreation Plan as well as those set for the legislatively mandated Hudson River Valley Greenway.

Adverse Impacts: Development for access may have some local environmental impacts associated with conditions at individual locations. Any site considered for access development will undergo its own site specific environmental assessment and review. Site-specific concerns will be addressed at that time. In general, potential negative impacts that may occur as a result of developing public access include:

- Increased use of existing sites and development of areas not currently used for public access may create localized concerns regarding littering, trail and site erosion, site disturbance during development of access roads, parking lots, and shoreline disturbance related to the installation of boat launch facilities, adverse impacts to plants, animals and habitats.

- Some areas of the river may reach estimated carrying capacities for recreational boating periodically, in specific stretches of the river at certain times of the year.
- Expanding recreational boating opportunities may increase the potential for the introduction of invasive species, and may cause harmful impacts on submerged aquatic vegetation, wetlands and other sensitive habitat areas.
- Competition between communities may result in the over-development of facilities.
- Expanded use of the river by all interests may increase incidences of user conflicts between differing constituencies.

D.3. Goal 8. Education: Promote **public understanding of the Hudson River**, including the life it supports and its role in the global ecosystem, and ensure that the public understands the challenges the Hudson River faces and how they can be met.

Summary of Targets: Targets for education include: working in partnership with the Rivers and Estuaries Center, establish the Hudson as a national model for education; and ensure new opportunities for the public to experience, learn about and enjoy the river.

Beneficial Impacts: Increasing the public’s awareness of the importance of the Hudson River Estuary, its relationship to the surrounding watershed, and to our lives, is a key aspect of managing the estuary as an ecosystem. The development and delivery of an integrated education program will create an informed resident population who can become actively involved in the stewardship and protection of the estuary. The program will provide opportunities to disseminate information about specific natural resources to targeted audiences whose behavior may potentially impact those resources. Developing a curriculum, compatible with and complimentary to New York State Education Department learning standards, will instill sound environmental principles and an understanding of the significance of the estuary in today’s students, who will become tomorrow’s leaders.

Adverse Impacts: No significant adverse impacts are anticipated related to education activities undertaken as part of the *Action Agenda*. The only impact that might occur could be that concentrated use of a given site for educational purposes could degrade habitat values or impact species at that particular site.

D.3. Goal 9. Waterfront Revitalization: Revitalize all the waterfronts of the valley so that the Hudson is once again the “front door” for river communities, where scenery and natural habitats combine with economic and cultural opportunity, public access, and lively “green ports” and harbors to sustain vital human population centers.

Summary of Targets: The target for this goal calls for a variety of enhancements to riverfront sites in

support of existing programs such as the State's Coastal Management Program and the Hudson River Valley Greenway initiative.

Beneficial Impacts: This portion of the *Action Agenda* recognizes the collective efforts of many ongoing programs targeted toward revitalizing the region's many economic centers through a variety of approaches. Programs involved include: the Governor's Quality Communities Initiative, the Department of State's Local Waterfront Revitalization Program, The Hudson River Valley Greenway, and the Brownfields Opportunity Areas Program, a partnership between DEC and the Department of State, as well as ongoing efforts between the Estuary Program and other local, state and federal agencies, and the private sector, to assist local marinas and boat clubs with environmental issues.

All of these efforts are geared towards supporting the redevelopment of local waterfront areas, including the repair and/or replacement of deteriorated infrastructure, the cleanup of industrial waste site areas, facilitating the reuse of notable industrial structures (or demolition of those beyond repair), promoting the cleanup and reuse of contaminated 'brownfield' sites, and providing public attractions that will draw people to the waterfront as well as to urban amenities in adjacent areas.

Adverse Impacts: Revitalization of the area's existing waterfront lands, through the programs mentioned above, most often involve situations where some level of environmental degradation has already occurred. The end result desired is improvement of environmental conditions at these sites. Therefore, the overall expectation for these restoration efforts is one of beneficial impact. Adverse impacts expected as a result of revitalizing the region's waterfronts, "brownfield" sites and existing ports are those associated with armoring the shoreline, particularly with steel bulkhead, which adversely affects fish and wildlife habitat. Also, new expanses of mowed lawn may prove attractive to Canada geese--a species that is overabundant. These manicured grassy areas may replace riparian plant and tree species which provide more diverse wildlife habitat. Site-specific concerns for any particular project will be addressed through additional environmental review and assessments conducted as part of the planning efforts done through the appropriate initiatives mentioned above.

D.3. Goal 10. Water Quality: Ensure that the **Hudson River will be swimmable** from its source high in the Adirondack Mountains all the way to New York City.

Summary of Targets: Includes target to: disinfect municipal discharges where needed to achieve swimmable water quality from the Troy dam to New York City.

Beneficial Impacts: Maintaining and building on the successes that have been achieved over the last 30 years in improving the water quality of the estuary will affect the entire range of goals set for the river. Meeting the *Action Agenda's* targets to achieve swimmable waters will improve overall water quality conditions in the river and expand the potential for more contact recreation, increase the potential for restoration of the recreational and commercial fishery and other related benefits.

Adverse Impacts: No significant long-term adverse impacts are anticipated as a result of improving

water quality, and reducing contamination of the estuary. As water quality improves, some areas of the river may experience issues regarding the balancing of conflicting uses, such as new opportunities for recreational swimming conflicting with existing commercial shipping/transportation uses. In addition, increases in recreational use may result in some additional water quality impacts. However, these are considered relatively minor when compared to existing sources of pollutants that the program proposes to address.

Short-term, more localized impacts associated with individual construction projects may occur. These project-specific concerns will be addressed under environmental assessments undertaken as part of the review process for each proposed project.

D.3. Goal 11. Pollution Reduction: Remove or remediate **pollutants** and their sources so that all life stages of key species are viable, and people can safely eat Hudson River fish, and so our harbors are free of the **contaminants** that constrain their operation.

Summary of Targets: Includes targets to track down and begin remediation of key contaminants; to reduce the quantity of sediments entering the New York Harbor system from controllable sources; and to assure that newly deposited sediments in New York Harbor are free of contaminants that limit dredging and disposal options and contaminants that adversely affect aquatic organisms.

Beneficial Impacts: Until there is resolution of the major contaminant problems that continue to threaten the estuary, the Hudson River will not be able to fully realize its ecological and economic potential. Contaminant reduction will reduce toxic stress on the estuary's food web, enhance the safety of people eating fish and wildlife, potentially increase the numbers of people who can safely consume fish and wildlife from the river, and reduce the costs of dredging, especially in the New York Harbor area.

Reducing sediment loading to the estuary can be expected to reduce the transport of contaminants such as mercury, PCDD/Fs, PCBs, and DDT that are physically bound to and transported on sediment particles. Implementing practices that reduce erosion of sediments containing these substances will further reduce ecological and human exposure. In addition, taking steps to address sediment loading will help reduce loss of topsoil, thus preserving soil fertility of valuable agricultural lands, and reduce other problems associated with high sediment concentrations in waterways such as the smothering of benthic species (i.e., oysters) and increased dredging costs.

Adverse Impacts: Reducing chemical contaminants will have no adverse impacts on the environment. New chemicals introduced as replacements will need evaluation. Improvements in water clarity through reduced sediment loads may enhance growth of rooted aquatic vegetation that may be perceived as a nuisance by boaters or swimmers.

D.3. Goal 12. Celebrate Progress and Partnerships: Track our Progress and **Celebrate** our successes!

Summary of Targets: Includes targets to develop an ecosystem-based monitoring program and educational efforts to establish public support through partnerships as well as celebrating the Hudson-Fulton-Champlain Quadricentennial and other special events.

Beneficial Impacts: The development of a monitoring plan will provide DEC and the public with a measure by which the effectiveness of the Estuary Program can be followed, assuring that funds are allocated efficiently, and tangible results are achieved. This will enable adjustments to be made to management actions over time to improve success in meeting targets. The development of additional outreach programs will further solidify partnerships between the Estuary Program and Hudson Valley communities and will further support the Estuary Program's education goal and targets.

Adverse Impacts: No adverse impacts are anticipated with regard to developing a monitoring plan and promoting collaborative efforts through partnerships.

E. Adverse Environmental Effects that Cannot be Avoided if the Project is Implemented

As discussed in the mitigation portion of this FGEIS (see section H), most of the potential adverse impacts that could occur as a result of implementing the *Action Agenda* can be mitigated using a variety of measures. As with any undertaking, implementation of the *Action Agenda* may cause some adverse impacts that cannot be avoided including:

- Energy and fossil fuels will be consumed, resulting in emissions/discharges related to a wide variety of activities including the operation of vehicles, motor boats, refrigeration and/or freezing of samples, mechanical equipment, and modifications to power generating facilities and other municipal facilities.
- Mortality of some individuals of a species related to sampling and research projects will occur. Mortality could be the result of actual sacrifice of individuals for analysis or stressed induced mortality occurring sometime after catch-and-release procedures have been performed.
- Localized, short-term disturbances to waterfront and habitat areas may occur during development of access facilities, water quality improvement projects, and revitalization and habitat restoration activities.
- Localized impacts from human activities may increase as access to the estuary and its associated shorelands is increased. These impacts could include litter, traffic, related trail and site erosion, site disturbance during development of access roads and parking lots and shoreline disturbance because of installation of boat launch facilities.

F. Alternatives

F.1. No Action

Programmatically, the No Action alternative is not considered a viable option since the Hudson River Estuary Management Act, 1987 mandates that DEC establish the Estuary Program, implement the program, and report on its progress on a regular basis.

If there were no *Action Agenda*, there would be no clear and organized strategy to guide DEC and others towards an integrated approach to management of the natural resources of the Hudson River Estuary. Management decisions would be made independently by individual divisions within agencies, with much less awareness and consideration of the needs and concerns of other divisions trying to implement programs geared toward different but related resources. There would be no structure in place to assist local governments and not-for-profits through programs such as the Estuary Grants Program and the biodiversity and watershed protection initiatives focused on local implementation of conservation strategies.

F.2. Use of Previous 20 Commitments and Action Items

This option would mean continuation of the status quo. To continue to work under the structure of previous estuary action plans would hinder the natural growth and evolution of the program that is taking place as projects are completed, information is assimilated into management decisions and new directions of inquiry are formulated. In addition, the establishment of time-sensitive targets for the *Action Agenda* offers a level of accountability not present in prior action plans.

G. Irreversible and Irretrievable Commitments of Resources

Implementation of the *Action Agenda* will result in irreversible and irretrievable commitments of time, funds and energy resources. Some aspects of the *Action Agenda* may result in the commitment and designation of lands and/or water resources for public purposes. This, in turn, may lead to a commitment on the part of the state to future actions related to the protection, enhancement, interpretation, and use of these resources.

H. Mitigation Measures to Minimize Environmental Impact

All activities undertaken as part of the *Action Agenda* will be implemented in ways that will minimize any adverse impacts that may be associated with a given activity, to the maximum extent possible. It is the intent of the *Action Agenda* to achieve a significantly positive end result for the estuary and its surrounding uplands. To insure that any negative impacts are minimized, the following precautions will be followed for all goals:

- Projects will use state-of-the-art sampling techniques, equipment, and best available procedures.
- Project leaders will coordinate field work, data collection, and other monitoring activities to reduce duplication of efforts.
- Training will be provided at the local level to provide best management practices to promote conservation, stewardship, provide incentives and further strengthen partnerships through exposure to other voluntary measures.
- Public education will be provided to assure long-term support of program efforts, encourage citizen stewardship and monitoring of estuarine-related resources.
- Financial assistance will be offered to localities through grants, revolving loan funds, and other sources as available.
- Expertise of partnering agencies will be coordinated to address concerns during initial planning.
- Energy-efficient construction techniques and technologies will be used for projects that involve physical alteration, revitalization, and/or development in or along the estuary.
- Small-scale demonstration projects will be used to determine the effectiveness and sustainability of proposed restoration methods prior to large-scale commitments.
- Programs will promote use of low-impact development techniques which infiltrate stormwater, avoid sensitive areas, and provide wildlife corridors.
- Projects will use existing criteria set forth in the Open Space Plan, as well as guidelines set forth in the Estuary Program's Boat Access Needs and Opportunities Plan, the NYS Outdoor Recreation Program, and the Hudson River Valley Greenway.

I. Growth-inducing Aspects

The Hudson River Valley is one of the fastest-growing areas in the state. This is due in part to its close proximity to New York City and to major interstate highways. It is also a result of the natural attractiveness of the area itself. As environmental conditions improve, and as more lands are secured for open space purposes, the popularity of the Hudson Valley as a place to live and visit will continue to grow, encouraging immigration to the area and discouraging emigration. The following growth-inducing factors have been identified for the *Action Agenda*:

- Improved environmental conditions and access to natural resource areas will encourage more people who live in the area or come to visit to recreate near or on the river, contributing positively to

ecotourism, benefitting local businesses in the region.

- Improved environmental conditions will increase pressure on the river, its uplands and on the area's local governments. Development pressures on the landscape will increase and could, without a program in place, impact the watershed and the river.

- Program goals will promote "smart" growth as new development incorporates best management practices from the onset. This does not preclude, however, that potential cumulative impacts of development may occur.

- Program goals will help direct future growth to locations that have adequate facilities in place to handle water supply and wastewater needs, and avoid known biological "hotspots."

J. Effects on the Use and Conservation of Energy

The overall effect of the *Action Agenda* on the use and conservation of energy is not expected to be significant. There may be some increases in recreational usage of boats as improved or new boat launch facilities become available. Vehicle traffic may increase, as more people come to the area to recreate. The overall consumption of gasoline may decrease, however, for area residents, as people living in the valley choose to seek out the river and surrounding areas for their recreational pursuits rather than traveling further distances to fish, boat, and hike.

Overall, the effect on energy usage is expected to be a positive one; its is much more cost-effective to protect and conserve natural resources and prevent pollution from occurring in the first place, than it is to clean up and restore an ecosystem out of balance.

K. Evaluation of Coastal Zone Policies

The *Action Agenda*, in its approach to ecosystem management, as well as the specific actions proposed within, are found to be consistent with the intent of the Coastal Zone Management Program and with those coastal policies that relate to proposed actions in the program. The *Action Agenda* provides DEC and others with a comprehensive approach toward management of the estuary's natural resources. As set forth in its goals, the *Action Agenda* provides a balance between resource protection and sustaining a wide array of present and future human uses of the estuary and its surrounding uplands. Continued intra- and inter-agency coordination have been identified as important implementation components, further supporting the intent of the coastal program to coordinate decision-making within and among all levels of government.

A discussion of the Coastal Program's policies was included in the *Final Generic Environmental Impact Statement for the Hudson River Estuary Management Program*, 1994. As this program is an outgrowth of the 1994 management program, the generic discussion of compatibility between the

intent of the Estuary Program and the coastal program's policies continues to be germane and is not repeated here. The reader is referred to the 1994 Generic EIS for further details.

L. Exceptions - Project-specific Reviews

Except as may be articulated in the findings, additional environmental review and assessment as required under SEQRA will be undertaken for any site-specific project, or group of projects, proposed as part of the *Action Agenda*. This Generic EIS is intended to consider, in generic terms, the environmental considerations that may be realized as a result of implementing the *Action Agenda* as a broad, ecosystem management approach to the Hudson River Estuary. It is not intended to exempt specific actions from further SEQRA review.

M. Responsiveness Summary

The *Draft Action Agenda and DGEIS* was made available for public comment beginning on April 18, 2005 and ending June 20, 2005. Two public meetings, the State of the Hudson Summit, on April 18, 2005, and a meeting of the Hudson River Estuary Advisory Committee on June 15, 2005, focused on the *Draft Action Agenda*. Two hundred people attended the Summit meeting and sixty people attended the June 15 Advisory Committee meeting. Public comments were received and recorded during these meetings. Additional comments were received during the comment period via mail, fax and through the Estuary Program's website e-mail address; www.dec.state.ny.us/website/hudsn/hrep.html . These comments and the Department's responses are included as Appendix A. to this Final Generic Impact Statement. Corresponding changes have been made to the *Action Agenda* as indicated in these responses.

N. Related Reports, Management Plans, and Environmental Impact Statements

The *Action Agenda* is not intended to stand alone in its approach to management of the estuary and its resources. Rather, it is an approach that combines the unique features of itself, with the activities of many other planning efforts. Many actions included in this program, in fact, will rely on the implementation of these other initiatives as the primary activity that will achieve the program's targets and goals. Many of these programs have undergone their own extensive SEQRA processes which may address in further detail issues pertinent to proposed actions under this program. The following is a listing of reports, management plans and environmental impact statements that have relevance to the actions proposed in this *Action Agenda*.

Hudson River Valley Greenway, *Community Planning Guide*, Albany, N.Y. 2002.

Hudson River Valley Greenway, *Hudson River Valley National Heritage Area Management Plan*,

Albany, N.Y. June 2002.

Hudson River Valley Greenway, www.hudsongreenway.state.ny.us/ , accessed 4/04. Current Greenway documents and plans can be found here.

Low Impact Development Center, www.lowimpactdevelopment.org , accessed 4/04. Current guidelines and management practices promoted by the Action Agenda's stream and tributaries program can be found here.

Lower Hudson Coalition of Conservation Districts, *Non Point Source Assessment of Lower Hudson River Watersheds*, Greenville, N.Y. 2001-2002.

New York - New Jersey Harbor Estuary Program, *Final Comprehensive Conservation and Management Plan, Including the Bight Restoration Plan*, U.S. Government Printing Office: 1997-511-527. March 1996.

New York- New Jersey Harbor Estuary Program, *Comprehensive Conservation and Management Plan Appendix 5: Environmental Monitoring Plan*, Hudson River Foundation, N.Y. January 1996.

New York State Department of Environmental Conservation, *Draft Hudson River Estuary Wildlife and Habitat Conservation Framework; an Approach for Conserving Biodiversity in the Hudson River Estuary Corridor*, New Paltz, N.Y. 2002. (in prep.)

New York State Department of Environmental Conservation, *New York Standards and Specifications for Erosion and Sediment Control*, at www.dec.state.ny.us/website/dow/toolbox/escstandards/index.html , accessed April, 2004.

New York State Department of Environmental Conservation, *Final Generic Environmental Impact Statement for Acquisition of Lands by the Department of Environmental Conservation*, Albany, N.Y., March 1988.

New York State Department of Environmental Conservation, *Final Hudson River Estuary Boating Access Needs and Opportunities Plan and Generic Environmental Impact Statement; Supplemental to the 1995 Generic Environmental Impact Statement for the Hudson River Estuary Plan*, New Paltz, N.Y. November 1998.

New York State Department of Environmental Conservation, *Final Hudson River Estuary Management Plan*, New Paltz, N.Y. July 1996.

New York State Department of Environmental Conservation, *Final Programmatic Impact Statement on Public Use Development Activities of the Department of Environmental*

Conservation Division of Fish and Wildlife, Albany, N.Y. January 1979.

New York State Department of Environmental Conservation, *Hudson River Estuary Action Plan 1996, 1998, and 2001*, New Paltz, N.Y. February 2002.

New York State Department of Environmental Conservation, *New York State Stormwater Management Design Manual*, Albany, N.Y. October 2001.

New York State Department of Environmental Conservation, *Nonpoint Source Management Program*, www.dec.state.ny.us/website/dow/npmgt.pdf accessed 4/04.

New York State Department of Environmental Conservation, *Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program*, Albany, N.Y. February 2003, revised August 2003.

New York State Department of Environmental Conservation, *Overview of the SPDES General Permit for Stormwater Discharges from Construction Activity, A Summary of the Phase II Permit Requirements*, Albany, N.Y. February 2003.

New York State Department of Environmental Conservation, *Recommendations for Improving Public Recreational Access to the Hudson River*, Albany, N.Y. November 1984.

New York State Department of Environmental Conservation, *Unified Watershed Assessment and Watershed Protection and Restoration Priorities for New York State*, www.dec.state.ny.us/website/dow/uwa/uwarpt98.htm accessed 4/04.

New York State Department of Environmental Conservation, *1994 Hudson River Estuary Management Program Final Generic Environmental Impact Statement*, New Paltz, N.Y. November 1998.

New York State Department of Environmental Conservation, New York State Department of State, et al., *Local Open Space Planning Guide*, Albany, N.Y. 2004.

New York State Department of Environmental Conservation, Office of Parks, Recreation and Historic Preservation, *Swimming in the Hudson River Estuary Feasibility Report on Potential Sites*, New Paltz, N.Y. 2005.

New York State Department of Environmental Conservation, Office of Parks, Recreation and Historic Preservation, *2002 New York State Open Space Conservation Plan*, Albany, N.Y. September 2002.

New York State Department of State, www.dos.state.ny.us/index.html , accessed 4/04. Information can be found here for New York State Coastal Management Program, Quality Communities Initiative, Waterfront Rediscovery Program, and Local Waterfront Revitalization Program and Grants.

New York State Office of Parks, Recreation and Historic Preservation, *Statewide Comprehensive Outdoor Recreation Plan 2003*, Albany, N.Y. www.nysparks.state.mu.us/scorp/ accessed 4/04.

United States Army Corps of Engineers, New York District, *Hudson River Habitat Restoration Hudson River Basin, New York Reconnaissance Report*, New York, N.Y. February 1995.

Appendix A: Responsiveness Summary

**Responsiveness Summary
Hudson River Estuary Action Agenda 2005-2009 and FGEIS**

Draft Plan Goal #	Comment	Response
General Comments/ All Goals:		
	General support for the goals and targets (numerous comments)	Acknowledged and appreciated.
	Include a narrative in the front of the plan that explains the overall plan for the general public that captures the spirit of the project.	Acknowledged. Foreword will be added.
	Address the Cross-cutting compatibility of goals. Clarify that some goals will be achieved through implementation of other goals.	Agree. Addressed in several places.
	Need to do baseline tracking. What projects will be counted toward achieving goals, i.e., will HREP take credit for municipal projects?	Baselines and tracking criteria will be developed for each set of targets. This will become the basis for the monitoring program.
	Human effects positive and negative need to be addressed.	Added where appropriate.
	Need to define key terms.	Definitions will be addressed in work plans for each target.

Goal #	Comment	Response Appendix A:
	5-15 year targets: Insure measurable long term objectives: Some 5-15 year targets lack a measurable component.	Targets adjusted to be more measurable.
	Plan lacks an action component. Need to identify strategies, attach plans to get to the targets.	Strategies will be addressed in work plans for each goal and target. The purpose of this document is to establish goals and objectives.
	Add reference to tourism and visitors being able to enjoy the river and the tributaries.	Addressed in appropriate sections.
	Revisit the mission of the program and define the study area in explicit terms so that the boundaries and influences to be considered will be made clear.	Definitions clarified where appropriate. The mission and geographic area are determined by state law.
	Challenges are too vague. Change language in ‘challenge’ section to reflect known problems frankly to inform public perception and concern and willingness to act.	Added more specifics where possible.
	Acknowledge human habitat as a key component. Proposed new goal “Restore and enhance key human habitats with adequate economic and cultural opportunity to sustain healthy, vital population centers and protect essential watershed lands.”	The human benefits of the program have been further emphasized in several places. The Waterfront Revitalization goal has been revised to incorporate some of this wording.
	Number the goals.	Agree.
	Address effects of climate change/ global warming.	Sea level rise has been added to the habitat targets.

Goal #	Comment	Response Appendix A:
	Consider establishing a protected areas designation for the estuary and its watershed, including all Federal, state, local and private lands and waters managed for conservation purposes.	The Access targets have been revised to address the need for better inter-agency coordination of management objectives for these lands.
	Need to incorporate a periodic evaluation process part way though the 4 year time frame of the Agenda to allow for adjustments to programs as may be necessary.	This can be done as needed along the way. Monitoring will be a continuous process.
Goal 1. Signature Fisheries		
	Background statement is too vague. Clearly state the status of the fisheries, specify specific populations goals and how goals will be measured. Clearly identify the sources and magnitudes of the threats. Separate biological and cultural goals where needed.	Acknowledged. These specifics will be addressed in supporting documents including work plans and indicators for the fisheries section of the agenda.
	Explicitly list the significant fisheries.	Addressed in challenge statement, also work plan will specify.

Goal #	Comment	Response Appendix A:
	<p>The gains that will be achieved by meeting water quality criteria by achieving reduction in contaminant loads. State the water quality standards needed for fisheries management. Define the level of acceptable contamination. Contaminant reductions should be based on human health and consumption</p>	<p>Agree - see Goal 11, Pollution Reduction. DEC water quality standards already reflect fish needs. Acceptable contaminant levels are determined by the Dept. of Health and are based on human health. Harvest goals are based on fish population goals. These issues are addressed through annually reviewed health advisories and commercial harvest restrictions.</p>
	<p>A priority of the agenda should be to reduce fish kills in the estuary, clearly specifying the amounts of reduction and if goal is to reduce kills of all fish species or a specific group. Language in the Agenda is inconsistent with Part 316B standards, which sets policy. Change “reduce” mortality to “minimize”. The target , “2007,....”, is inconsistent with goal. BAT is defined to minimize fish kills at power plants. All new power plants are going to dry cooling, while existing plants are looking at closed cycle systems. Need to define BAT, how it will be applied. Main priority here should be to eliminate power plants as a cause of mortality.</p>	<p>The Department agrees that a priority of the Department's agenda is to reduce mortality of aquatic species, including all finfish and shellfish, from cooling water intake structures at existing power plants by requiring 'best technology available' in accordance and consistent with the requirements of federal Clean Water Act section 316(b), its implementing regulations for power plants, and New York's own cooling water intake regulation at 6 NYCRR section 704.5. Because these provisions of law and regulation are already specifically referred to in the agenda, there is no need to repeat the express language from them in the agenda.</p>

Goal #	Comment	Response Appendix A:
	The shortnose sturgeon is not listed with the other fish species.	Added to the signature fish section.
	<p>Proposed word changes:</p> <ol style="list-style-type: none"> 1. Clarify that ‘seasonal living’ really means commercial fishing. 2. Questioned wording of goal “gourmet delicacy” as an indirect indicator of success. Do we really want to stand behind this? 3. Recommend rephrasing objective 1 for clarification and separate the update and implementation steps into two objectives. 4. Define “trophy size” for striped bass. 5. Recommend replacing “black bass” with “smallmouth and largemouth” – this more clearly communicates to the public what you are referring to. 	<ol style="list-style-type: none"> 1. Commercial aspect of ‘seasonal living’ is implied. Goal will remain unchanged. 2. Yes, we stand behind this. 3. Staff has reviewed. Will remain as is. 4. Target has been revised. 5. Has been addressed in targets.
	Track PCB and cadmium levels as well as response of organisms. Are these the only contaminants that will be tracked?	Acknowledged. Addressed in revised 2009 targets.
	By 2009, it would be good to have some concrete work product to announce, i.e. State of the River report.	Added as a 2009 objective.
	How to offset impacts of zebra mussels on achieving the goals? Need a more aggressive approach.	It is not clear that anything can be done to deal with zebra mussel. Prevention of new invasive and exotic species is the key for the future.

Goal #	Comment	Response Appendix A:
	Under remediation of contaminants, identify the PCB clean-up project.	This is part of our Pollution Reduction goal. Appropriate text has been added.
Goal 2: River and Shoreline Habitats		
	We need to protect what is left in addition to looking at restoration projects. “No net loss” is a bad idea.	The first guiding principle in the Hudson River Habitat Restoration Plan, derived from Restore America’s Estuaries guidelines, is that protection of existing habitat is critical to restoration success. It is the highest priority.
	Add a habitat target to reflect SWG work on oyster reefs that will be done under a State Wildlife Grant.	Change has been made in targets.
	Keep the goal but rephrase to look at feasibility. The 2012 goal - may not be possible due to logistical problems, science not done. Need to define priorities for what areas to restore. Measure and conduct post restoration monitoring	Agree. Target changed to emphasize feasibility phase. The habitat restoration plan will identify priority areas for restoration, based on a number of criteria. The Estuary Program’s habitat restoration program includes goal setting, identification of success criteria, and both pre- and post-restoration monitoring

Goal #	Comment	Response Appendix A:
	Add target to educate developers and riverfront municipalities that have/could have new waterfront development. River habitat not on their radar screen .	Training objective has been expanded to be explicit about this activity.
	Climate change: Wetland habitat projections should include projections for wetland response to changes in sea level.	Change made in targets.
	The only key species mentioned in the actions are fish and crabs.	Changes made to reflect that some actions are species-specific, and others benefit broad range.
	Define terms such as ‘protect’ and ‘conserve’ so that success is more easily measurable.	Will address definitions in work plan.
	How does the 200 acre goal relate to the existing areas of these habitats? Wouldn't these amounts be better determined after the 2006 mapping is complete?	The 200-acre goal is focused on restoring a fraction of the upper 50 miles of the estuary that were destroyed, primarily due to dredging and dredge spoil disposal. These areas provide critically important functions. Language has been modified to reflect the larger benefit.
	There should be some criteria as to how much additional spawning area is needed to enhance populations.	Will address in the restoration plan.
	Remember that hydroelectric power is a very clean source of energy. If any of these dams offer opportunities for low-impact hydro, these possibly conflicting values should be carefully considered	Will address in restoration plan, as well as during site-specific restoration planning.

Goal #	Comment	Response Appendix A:
	Why are only shad singled out for specific restoration? Expand definition of shad spawning habitat.	Target language changed to identify other species-specific actions. Work is underway to better define the attributes of shad spawning habitat in the Hudson Estuary. Restoration of aquatic habitat lost to channel dredging and spoil disposal will benefit a wide range of species, as provided for in revised text.
	Usable methods of shoreline restoration surely exist already. A better goal might be to evaluate and implement appropriate methods.	Shoreline surveys are underway. Shoreline restoration methods do exist, however these need to be piloted to determine how well they will withstand the Hudson’s winter ice and bi-directional flows. Also, there is a need to develop shoreline treatments that can be used to make hard shorelines more “habitat friendly” .
	Expand the NYS Wetlands delineation from 12.4 acres or more, to those of one acre or more, as proposed in the Clean Water Protection and Flood Prevention Act (A.2048/S.2081).	Comment noted. This would require an act of the Legislature.
	Add a habitat target to reflect oyster habitat work that will be done under a State Wildlife Grant.	Targets revised to reflect this.
	Suggested language to address multiple invasive species not just ones mentioned in river habitat section.	Target modified. Also see plants and animals section.

Goal #	Comment	Response Appendix A:
Goal 3: Plants and Animals		
	Demonstrate cross-cutting compatibility between goals.	Addressed in challenge statement and new target to “Identify practices that can be adopted by municipalities, builders, businesses, non-profits, and individuals to manage their lands for habitat conservation as part of model partnership agreements “ which help achieve targets for many of the estuary goals.
	Note human effects positive and negative on the resource.	Addressed in new goal statement, additions to challenge statement and in targets.
	Identify baselines. Make sure all targets have a measurable component, and are consistent across and within all goals.	A regional (HRV) baseline for land cover and predicted habitat is completed as part of the HRV-GAP. We have a target to develop a wildlife monitoring plan that will establish a baseline and monitor trends against the baseline. See a revised target to “Develop efficient methods to gather and provide updated information to local conservation partners.”
	Define the study area in explicit terms so that boundaries and influences to be considered will be clear.	Study area is the 10 counties bordering the Hudson River estuary north of New York City with an emphasis on the estuary watershed

Goal #	Comment	Response Appendix A:
	Name the animals that we want to conserve. People react to specific animals, but not to 'biodiversity'.	Representative plants and animals and their habitats appear under 2009 targets.
	Work with Greenway as a partner to establish model partnership agreements and educate officials on the importance of protecting biodiversity on both regional and local levels.	We are committed to continuing our work with Greenway to meet our local planning targets.
	Support for invasive species goal : Suggested language to address multiple invasive species not just ones mentioned in river habitat section.	The work plan for this project will include a focus on invasive species, especially purple loosestrife control, for which maps and management guidance have been developed. We will continue to partner with non-profit and state invasives initiatives.
	Improve our understanding of wildlife migration corridors in the valley as related to both climate change and human land use patterns.	Target added to identify and conserve wildlife migration corridors at local scales by 2009 and landscape scale by 2020. This target is an opportunity to coordinate with landscape and scenery goals.

Goal #	Comment	Response Appendix A:
	Have a plan to mitigate impact of recreation, especially for sensitive habitats.	We added a target to “Develop information and train public land managers to incorporate biodiversity into management plans.” This is compatible with the River and Shoreline Habitat target to annually provide training to user groups and decision makers on how to adopt best management practices.
	Set priorities for land protection. Ensure that the land conserved is selected not just by willingness of owners but by priority areas for the target habitats.	Targets are in place to develop and implement techniques that identify priority habitats. Significant areas are also incorporated into the NYS Open Space Plan.
	Clearly define the target habitats. Also, recommend adding “seasonal” to ‘woodland pools’, or replacing with “vernal pools.”	Target habitats will be defined in a supporting work plan. The word “seasonal” has been added to all references to woodland pools.
	Set acre goals by habitat, in relation to the appropriate sizes and proportions of those habitats within the valley.	There is not sufficient information to do this at this time. We will begin a discussion about relative sizes and proportions of different habitat types in the Hudson Valley over the coming year.

Goal #	Comment	Response
	Recognize Hudsonia biodiversity assessment work and work being done by Eastern NY Chapter of The Nature Conservancy."	The targets strongly emphasize the role of partnership in achieving conservation goals. While we would like to acknowledge the outstanding programs and efforts of all our partners, space does not allow it. The Biodiversity Project steering committee is composed of 40 organizations that reach out to many additional partners throughout the Hudson Valley.
	Support the return of the Bald Eagle population by minimizing impacts due to train collisions.	We will consult with the Endangered Species Unit about a course of action.
	Add a target to encourage participating Local Waterfront Revitalization Program communities to incorporate biodiversity information in their planning and practices efforts.	This is a high priority under our existing target to "Help 60 willing communities to identify biological resources..."
Goal 4: Streams and Tributaries		
	This goal was especially well-thought out and well articulated.	Acknowledged.
	Identify inventory and assessment in the GOAL statement. It is missing.	Acknowledged and incorporated into baseline development target.

Goal #	Comment	Response Appendix A:
	Stress stewardship ethic. Improve collaborations with builders and developers. Develop a recognition program for estuary friendly businesses. With the assistance of the private sector, do demonstration projects.	Added the stewardship ethic in the accomplishments description. Added partnerships in targets. Added demonstration projects in targets.
	Add a target to define the mass balance of inputs and outputs of the estuary, address mass loadings for key contaminants from major tributaries.	Incorporated as part of revised baseline/monitoring target. Will be addressed through baseline framework and monitoring plan.
	Determining baseline is very important. Considerable data exist. Real progress could be made by accumulating and organizing existing information.	Incorporated into baseline and monitoring targets.
	Proposed modification to the 2009 “baseline” target: - By 2007, establish a conceptual model of a monitoring network which will establish baselines and identify future trends of key tributary exports and indicators of water quality and by 2009, implement this conceptual model.	Incorporated into monitoring/baseline target as appropriate.
	Consider adding a new target to indicate an ongoing partnership involving the USGS and others to collect data quantifying stable reach characteristics for tributaries of the Hudson River Estuary.	Will be considered in development of monitoring plan.
	Establish a baseline for the 200 miles of free flowing rivers.	Changed target to be more clear and easily tracked

Goal #	Comment	Response Appendix A:
	For programs to preserve headwater streams, revise way County Soil and Water Districts are described.	Incorporated into watershed group and stormwater targets.
	Increase the emphasis on tributary ecological health vs. water quality.	Acknowledged and incorporated into challenge statement.
	Identify/mention the use of some prioritization process to guide the work on this goal. All tributaries are not created equal. A classification system is needed.	Adjusted text on accomplishments and related targets. Through the work planning process, watershed priorities will be considered and evaluated.
	Agenda should explicitly address in-stream flow and/or flow policy, water use and supply. Issue is not only about free-flowing rivers, but also about the management of water within regulated rivers and the impacts of development	Acknowledged and incorporated into the public/aquatic water needs target. Specific methods for evaluating instream flow needs will be designed in the monitoring plan.
	Encourage municipalities to adopt goals and incorporate objectives into municipal comprehensive plans. Proposed New Target to train 100 educators and 150 community leaders by 2009	Acknowledged and incorporated in the accomplishments section and new target. Training target added.
	Target: By 2015, “protect and restore 750 miles of forest buffers and flood plains...” Protected in what way? Address appropriate buffer width.	HRE’s current approach is to provide appropriate scientific information to communities when they are considering buffer protection. This will be further considered in the work plan and monitoring plan.

Goal #	Comment	Response Appendix A:
	<p>“By 2009: Assist eight inter-municipal watershed groups ...”How will eight inter-municipal watershed groups be selected?</p>	<p>Targeted watersheds will be selected by existing and future grant applications to the HRE grant program. We can encourage watersheds to apply, but application is voluntary.</p>
	<p>Consider Decentralized wastewater management alternatives: see Goal for Water Quality.</p>	<p>Text added to challenge statement.</p>
<p>Goal 5: Landscape</p>		
	<p>Several comments on this goal. Some like the word “pastoral” because it includes people, others suggest using the words “natural or rural” instead of pastoral or inserting the words “human habitat”. Several suggest that we stress that people are part of the landscape in the valley.</p>	<p>We have adjusted the “Landscape” goal to add the word “human.” However, we note that term “pastoral” was selected because, by definition, it is a human landscape, relating to the rural countryside. Other goals focus on preserving natural habitats.</p>

Goal #	Comment	Response Appendix A:
	<p>Open space targets are good but need to be much more aggressive. Targets should commit that in the next 4 years, an additional 40,000 acres should be protected, of which 5,500 acres be on the river, with an overall goal by 2020 being closer to 200,000 acres within the watershed, of which there would be 10,000 acres protected along the river. Also, some confusion is noted with the open space goals on page 10 and page 12. Suggest they all be put into the “Landscape” targets not splitting them up into “Landscape” and “Scenery.”</p>	<p>Agree, revised to adopt higher acreage targets , but also to recognize that this may not only be using acquisition as the conservation method. A 2,000 acre goal on the river is more realistic in the short tem than the proposed 5,500 acre goal, given that Hudson River lands are relatively expensive. The targets for acquiring lands on or in sight of the river have been moved from “Scenery” to “Landscape” for consistency with other open space goals.</p>
	<p>Include a goal of reducing land fragmentation, protecting large blocks of land of habitat, agriculture, forestry and recreation</p>	<p>This is addressed in the habitat targets. The agriculture and forestry targets also help achieve this purpose.</p>
	<p>Link “Landscape” targets to “Education” goal. Get kids out. Add language to allow for more place-based education along the river, not just education centers.</p>	<p>We have added this into the “Education” targets.</p>

Goal #	Comment	Response Appendix A:
	Multiple comments indicate that a target on tax policy is needed, including suggested donor and tax incentives for land conservation (both property tax and income tax benefits), application of the 480A forest tax act program and making sure that people can afford to keep their land and be able to pay their taxes. Support real estate transfer tax being proposed in the Legislature (Community Preservation Act) will provide municipalities with 2% of transfer for open space activities. Need comprehensive planning funds.	New target added .Governor Pataki has introduced the Community Preservation Act, which would provide communities with a new revenue source for local open space programs and is urging enactment of this legislation in the 2006 session. The 2005 EPF includes \$3 million for planning assistance to local government to be administered by NYSDOS.
	Need a goal for farmland protection/preservation to stabilize base land uses.	Comment acknowledged . The “Landscape” targets include this already.
	Need \$150 million over the next 15 years to achieve the open space targets.	We acknowledge that this will be expensive and will require using resources from multiple sources and developing partnerships to reduce the cost.
	Consider supporting development of fuel corps - farm economy, energy independence.	NYS has undertaken a major bio-fuels program which is designed to address this issue.
	Address light pollution that affects migrating animals. People/scenery. See http://www.selene-ny.org/	DEC will continue to assess such impacts.
	Integrate estuary program goals into local land use codes. Tie into grants program.	The “landscape” target has been revised to make it clear that this is considered part of the grant program.

Goal #	Comment	Response Appendix A:
	Form a working group to look at ways to offset development pressures with an expanded and enhanced knowledge base, e.g. regional economic modeling, taxation and labor studies.	The state Quality Communities program is addressing sprawl issues through an interagency working group.
Goal 6: Scenery		
	HRE program should develop staff expertise and devote resources to assisting municipalities in assessing potential visual impacts of development projects.	Added “technical assistance” to the targets for “Scenery”
	A well-articulated goal, except for the weakness of the word “conserve.”	Conserve is a strong word that takes into account that different protection strategies will be needed for different specific situations.
	Need to inventory and map the entire riverfront, determine who owns what land; which most critical to conserve? Municipalities should be encouraged to develop and strengthen their LWRPs.	This inventory and mapping is being done by DEC, other state agencies and our non-profit and academic partners. DOS continues to provide funds for willing local governments to update their LWRPs.
	Note that the the HRVNHA will be developing an inventory of vistas painted by the HR School of Painters to be completed by 2006. Greenway has received a grant to explore potential for system of byways in the HRV.	The role of Greenway, HVNHA, DOS and DOT has been added to the accomplishments statements.

Goal #	Comment	Response Appendix A:
	Important to link progress toward this goal with progress toward other goals.	Agree- the purpose of the HR Estuary Program is to provide such integration. To acknowledge this, we have added a sentence to the challenge statement
Goal 7: Public Access		
	General support for regional system of access points.	Acknowledged and appreciated.
	Clearwater initiated the public access discussion on the river 35 years ago. Enthusiastically support the goals of increased access, including developing new shoreline access points across railroad tracks, but also believe that increased access should promote sustainable use. Anglers should be informed about fish advisories. Preference should be given to low-impact non-motorized watercraft for recreational use over motorized vehicles. The public should be educated about the impacts of jet-skis and 2-stroke engines and the value of switching to biodiesel fuel.	The Estuary Program is committed to access for all uses while balancing the impacts to the resource. Boating safety and health advisory signs are posted at public access points. We acknowledge the benefits of low impact non-polluting watercraft and the value of partnerships encouraging their use.
	Need to make sure that this goal does NOT compromise other goals in the plan that are directly related to the ecological health of the river. Think about a conflict resolution process before the situation arises.	New target added to coordinate objectives of all state-owned land to balance the needs of habitat and recreation.

Goal #	Comment	Response Appendix A:
	Need to define key terms: –what does “restore” mean, “excellent condition. Define Access: to the river, touch it, see it, swimming, boating, fishing, hiking along side it.	Work plan, will contain definitions See goal for definition of Access.
	Protect existing public access.	Agree.
	Scale back restore to “Excellent”, to “upgrade to handle or to provide service to the public”.	Comment accepted and change made.
	How will the additional four beach sites be selected?	Based on local interest.
	Develop a target to address siltation. The lower river marinas are silting in at a phenomenal rate and are in need of dredging. Need to help both private and public access sites.	Target in section on Pollution Reduction addresses siltation.
	Specify whether a baseline exists for access.	Work plan will contain baseline.
	Make it a priority to complete the projects that have been started/ funded.	Agree.
	Identify areas lacking in access and distribute access. ID gaps.	Baseline under development now.
	We do not need new boating access sites for motorized vessels.	Some communities have expressed a need for additional access. Much of our work to date has been to renovate existing boat launches.
	Is it safe to swim in the river? Address CSOs and nutrient inflow infrastructure to address swimmable issue.	DEC is providing disinfection in Class C waters under the WQ grant program.

Goal #	Comment	Response Appendix A:
	Note: under accomplishments: Greenway has designated 196 miles of Greenway Riverside trail.	Noted.
	Limit the additional construction of bulkheads, docks and marinas. An inventory of hardened vs. natural shorelines should be used to assess the extent of impact, and natural shorelines preserved wherever possible, especially in areas that provide critical habitat.	Agree. Estuary Program strongly supports the habitat values of softened shoreline.
	Acknowledge and commend the work that Hudson River Valley Greenway and Scenic Hudson have done to promote public access.	We acknowledge and appreciate their work and value our partnership and cooperation.
	Think about establishing fishing and public access to the tributaries as part of getting public to celebrate and protect the tribs. Need to improve building community support for protection of tribs and making sure that public have first-hand opportunities to experience them.	Agree in principle, but cannot extend our efforts at this time due to limited resources.
Goal 8: Education		
	Expand region from Hudson River to entire watershed (including upper Hudson and Mohawk Rivers), reflect watershed theme when developing field sites within the watershed.	Our enabling legislation establishes our focus is on the watershed south of the Troy dam. We already include the watershed in the field site component.

Goal #	Comment	Response Appendix A:
	Goal statement – you can measure the “public” – but you need to invest in the appropriate survey techniques to do so.	Agree.
	5-15 Year Target: How does anyone get the information on the Hudson that they need? A clearinghouse function? Proposed action: Hold an international conference to bring to the Hudson the external expertise on this issue. Promote from outside, and not from within.	A conference is worth considering. This will be addressed in the work plan.
	2009 Target- Language lists just Hudson River Estuary Program, HRNERR, and Rivers and Estuaries Center seems to exclude other organizations doing work on Hudson. Change to “Hudson River Estuary Program and its partners...” Change “the public” to “estuary partners.” Focus on coordination and integration of partner efforts of organizations in the Hudson watershed.	Target modified to address some of these concerns.
	Monitor the effectiveness of curricula and ed programs. Track number of workshops, number of schools and classes using curriculum.	This will be part of the monitoring program.
	Emphasize the “get wet”, outdoor classroom opportunities, part of your work. Support and foster place-based educational programs to build public support in addition to education centers	Target broadened to include place based emphasis.

Goal #	Comment	Response Appendix A:
	By itself, an access point for riverfront field education sites is not enough. Must offer facilities (bathrooms, ramps, parking,, pavilions). Should establish watershed field education sites in addition to those on the estuary itself.	This will be fleshed out in the work plan. Added the word “facilities” to target.
	“ Through Grants Program, continue to support... river environment. “Lacks clear indicators for measuring success. Suggest : "Use Hudson River Estuary Grants to ensure <u>20 new</u> opportunities per year for the public to experience, learn about and enjoy the Hudson River Valley’s abundant and diverse natural resources."	Since the grant program depends on receipt of qualified applications, we cannot commit to funding a certain number per year. Through the work plan we will identify ways to establish indicators of success.
	“20 New opportunities” should be broadly defined to include many initiatives: programming, signage, exhibits, and web/media efforts, for example. Add adult audiences, non traditional, business	Agree. Details will go into the work plan.
	Tie education to the quadricentennial and weave education into all other goals.	Agree. Ways of doing this will be fleshed out in the work plan.
	Contact Summer Schools Dutchess Co.. Organize a 2-wk. Summer program for kids based on estuary. See as an example the program run by DC BOCES with funding from Senator Saland.	We will look into this.

Goal #	Comment	Response Appendix A:
	ID and address barriers to participation. I.e. ranging from economic limitations (program fees, bus fees) to teacher idiosyncrasies.	Agree. Ways of doing this will be fleshed out in the work plan.
Goal 9: Waterfront Revitalization		
	General support for waterfront revitalization in conjunction with access.	Comment acknowledged.
	Work with developers to create model projects so we aren't just saying "NO". Encourage attractive higher-density living in waterfront communities to protect outlying habitat from fragmentation and support other goals.	Through a DOS EPF grant, it is anticipated that Scenic Hudson, in partnership with the City of Kingston, will develop <i>Guidelines and Standards for Hudson River Waterfront Development</i> . This will allow communities to be proactive in planning for appropriate waterfront development on the Hudson River.
	Add revitalizing abandoned and underutilized sites.	The text has been amended to reflect this.
	Assist small villages with handling development pressures. (Link with need to help municipalities with scenic resource evaluation?)	The text has been amended to reflect this.

Goal #	Comment	Response Appendix A:
	Expand the number of coastal communities participating in NYSDOS LWRP planning process, HRV Greenway, OPRHP, DOS, DEC)	The text has been amended to reflect this.
	Add support of harbor management plans, commercial shipping here.	Added to the Challenge statement.
	Correct 1 st para to read: “Currently, 91 of 94 eligible riverfront communities and 223 of 259 total eligible riverfront and “	The text has been amended to reflect this.
	Add marinas to revitalization goal to address siltation issues at existing marinas: “...lively greenports, marinas, and harbors”. See related comment on marina issues under access goal.	The text has been amended to reflect this.
	Update strategies to develop waterfront plans to include current relevant information of climate change.	Targets for other goals address this.
	Recognize opportunity for new development to employ energy efficiency.	This is a statewide issue and is being addressed by several agencies as a statewide opportunity.
Goal 10: Water Quality		
	Include upper Estuary	While much of the current activity re: Swimmable Hudson focuses on the Albany Pool, the entire river (including above the Troy dam) is the scope of the goal.

Goal #	Comment	Response Appendix A:
	Extend southern boundary of the ‘swimmable goal’ to include the greater New York City area (“to the Verrazano”).	This raises concerns whether it is physically safe to swim. Focus of targets has been broadened to be more inclusive of entire river community.
	Include drinking water issues.	Acknowledged that although this section of the plan is specific to swimming use, it is important to recognize other uses (water supply and aquatic life) and strike balance.
	Add “effects on key habitats” as a phrase to follow “the characterization of sediment loading...”	Incorporated.
	Have a target or indicator that directly relates to CSOs.	Targets modified to reflect specific efforts/actions to address particular sources of impairment to swimming use.
	Consider the application of alternative approaches to waste water management, i.e. decentralized waste water management, to support smart growth.	Not sure this is significant source of limitations on swimming use.
	Pollution goals need updating, modification. List target for contaminants similar to sediment loadings: targets need sharpening too, add dates, locations.	Targets revised.
	Use data and modeling to develop targets by end of 2006 to get at specific reduction of contaminants in fish and sediment by 2009, 2020.	This will be fleshed out in the work plan.

Goal #	Comment	Response Appendix A:
	Targets are too short a time frame for some issues; Include 2020 targets too.	Target adjusted.
	Need to establish baseline and monitor at appropriate level.	Agree. This will be done for all targets through the monitoring plan and program.
	Create a simple, color-coded system, “grades” associated with beach or swim sites. Tell the public where they can and should not swim.	If a beach is open to the public, it is considered safe to swim. The Health Department monitors local conditions to advise the public of any concerns at any point in time.
	Recommend that enforcement of existing standards be mentioned specifically in the plan.	Enforcement is one of many tools used.
	Add to third bullet: “Identify and reduce...”, the following: Identify and characterize stormwater runoff to the Hudson River and opportunities to retrofit existing stormwater drainage systems.	Goals rewritten to include these comments in a wet-weather/stormwater bullet.
Goal 11: Pollution Reduction		

Goal #	Comment	Response Appendix A:
	Support municipal planning and capital projects that will account for sea level rise due to climate change that may increase flooding and impact sewage treatment facilities, CSOs, and storm drains. Insure that outflows are designed to accommodate rising water levels.	Worth considering . Will evaluate in work planning process.
Goal 12: Celebrate Progress and Partnerships		
	ID baselines, or needs. Make sure all targets have a measurable component, and are consistent across and within all goals.	Baseline information will be collected for each target. Indicators will be developed for each of the targets and will be assessed for consistency across and within goals.
	Focus on celebration! Strengthen this section. Exploit passion for the river. Get partners to help regarding place-based celebrations. Engage advertisers and marketers to get simple, sustained message to general public.	We hope to continue to develop new and creative ways to highlight the contributions of our partners and encourage more communities to get involved in our programs.
	Measure stewardship as an accomplishment. Need to give ourselves more credit for this awareness.	Development of indicators will include measures of stewardship in the watershed.

Goal #	Comment	Response Appendix A:
	Organizations that advocate for low income and under-served communities often times have a difficult time entering into partnership agreements with local municipalities.	The Estuary Program acknowledges that environmental organizations serving low income and under-served communities face unique challenges. Target language will be changed to reflect our desire to partner more closely with organizations serving urban and diverse ethnic communities. We also offer free technical assistance to organizations doing work related to the Hudson River that help us meet Action Agenda goals.
	National Estuary Day is already celebrated on the Hudson. No need to “establish” it.	Reference removed. National Estuaries Day at the end of September will be celebrated locally with Hudson River activities, such as the Hudson River Ramble.
	Comments on Monitoring/ Information Management:	
	Target #3 is too ambitious. Goal of monitoring the general condition is too large.	Monitoring targets have been revised to clarify that our objective is to track progress on goals, not ecosystem monitoring.
	Target 5-language confusing	Target has been modified.

Goal #	Comment	Response Appendix A:
	Determine audience needs. Explore appropriate venues to get information beyond DEC. Need a State of the Hudson Report that gives graphic interpretation of data that would be easily understood by the public.	Agree. The State of the Hudson report has been added and will use graphics and interpret data.
	5-15 year targets: Identify gaps in funding and monitoring. consider inviting NY Sea Grant to conduct research on particular aspects of the plan where gaps have been identified.	The identification of gaps in funding be part of the development of the monitoring plan. We hope to work with a variety of partners to help us identify and fill gaps in monitoring data collection on the Hudson and the funding sources to support it.
	Concerned that real-time monitoring may provide sufficiently-detailed information and lead to unsustainable harvesting of fish or crustacean species, or damage to habitat.	Protocols will be developed to insure that sensitive information will not be released to the general public. We believe the benefits of collecting monitoring data to aid management decisions outweigh the potential risks.
	Challenge: The Hudson River ecosystem... In the watershed, the patterns (<i>pace</i>) of development are changing (<i>is increasing</i>), with the potential to affect water quality and habitats. The challenge is...	Changes incorporated.

Goal #	Comment	Response Appendix A:
	<p>- By 2005, partner with the Rivers and Estuaries Center to develop real-time, internet accessible feedback on the "State of the Hudson," <i>(and)</i> support the efforts and share findings of multiple partner organizations to <i>(track progress on)</i> monitor indicators of ecosystem health and share their findings.</p>	<p>This target has been split into two targets to clarify distinction between partnership with the Rivers and Estuaries Center and development of the State of the Hudson report.</p>
	<p>- By 2006,<i>(complete planning for systems, that)</i> develop information and data management strategy to ensure that <i>(information)</i> ongoing results generated by Estuary Program projects are is readily <i>(made)</i> available to our partners and the public generated by Estuary Program projects is readily made</p>	<p>Some of the language in targets have been modified to reflect this comment.</p>
	<p>“By 2006, report on 10 years of progress since the first Hudson River Estuary Action Plan was adopted in 1996.” Create mechanism to biennially update progress on implementation of Action Agenda goals and targets. Make this information available to the public.</p>	<p>A simplified version of the recommended text was included.</p>
	<p>- By 2008 2007, complete <i>(coordinate)</i> the development of a comprehensive long-term ecosystem monitoring program for the entire Hudson River Estuary.<i>(Work with partners to assess gaps in current monitoring of ecosystem indicators on the Hudson and complete planning for new pilot programs to fill these gaps.)</i></p>	<p>Monitoring targets have been revised to clarify that our objective is to track progress on goals, not ecosystem monitoring. Date has been moved up to reflect our goal to finish planning for monitoring program by 2006. Language on pilot programs was kept to indicate goals for implementation.</p>

Goal #	Comment	Response	Appendix A:
	By 2010, develop the funding mechanism for ecosystem monitoring and education in order to establish a long term base of scientific information to support management decisions and develop public support for carrying them out. (<i>Scale up the implementation of previously established pilot programs.</i>)	Comment addressed in targets.	
Budget:			
	General support for continued and increased funding support for the program.	Acknowledged.	
	Increase allocation to EPF for land protection each year.	Funds for this are included in the EPF and are negotiated as part of the annual budget process.	
	HREP should get its own dedicated funding source in the state budget.	We already receive funding through the EPF.	
DGEIS :			
	Include Endangered Species Act in 2 nd paragraph of DGEIS.	Done.	
	What would constitute a reliable threshold for triggering an additional site-specific environmental impact statement?	This is evaluated through the individual EIS processes.	
Grants:			

Goal #	Comment	Response
	Add more money for land acquisition and increase the grant cap from \$100,000 to \$200,000 to allow communities and land trusts to step up the pace and make meaningful contributions to overall conservation goals. Land prices continue to escalate, the sooner land is protected, the cheaper it will be.	Acknowledged.
	Use grant program to provide municipalities with \$\$ to update their codes.	We do this already.
	The grant program provides initial funding for start-up programs/projects. The (HREP) currently does not allow for continued funding for existing programming. This makes it difficult maintain consistent programs and measure outcomes.	The Estuary Program provides start up funding for new initiatives. Organizations can use it to leverage other funds for long-term program maintenance. While our grant resources preclude our program from offering funds for long-term maintenance, we offer free technical assistance to organizations doing work related to the Hudson River that help us meet our goals.