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To: NY/NJ HEP Habitat Workgroup
From: Marc A. Matsil, Chair, HEP Habitat Workgroup
Date: December 18, 2001
Subject: Minutes from the December 12, 2001 HEP Habitat Workgroup Meeting, Hudson River Foundation

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Next meeting: Thursday January 10, 2001
Hudson River Foundation Conference Room
10am-2pm

Present at last meeting:
Bob Alpern (NYCDEP), Bernard Blum (FOR), Megan Callus (Baykeeper), Charles deQuillfeldt (NYSDEC), Aleksandra Dobkowski-Joy (USEPA), Eugenia Flatow (CAC Coalition for the Bight, NYCSWCD), Steve Jandoli (NJDEP), Mark Jaworski (US Wetlands), Paul Katzer (NYC Parks), Paul Mankiewicz (NYCSWCD), Marc Matsil (NYC Parks), Nancy Niedowski (USFWS), Joyce Novak (NYCDEP), Eugene Peck (URS), Greg Remaud (Baykeeper), Manuel Russ (CAC, NYCDEP), Christina Scully (NYC Parks), Rosalie Siegel (PANY&NJ), Frank Steimle (NMFS-NEFSC), Dan Wright (Scenic Hudson)

Items requiring further action:

- **Lower Raritan River as area of Special Concern: Proposal to Habitat Workgroup from Lower Raritan Watershed Management Area Steering Committee (Steve Barnes, Rahway River Association)**
  CCMP Action H-11.4: Identify and protect locally significant habitats in the Harbor core area.

- **Arthur Kill Dredging: Responsiveness to multiple letters of concern by trust agencies and environmental organizations regarding environmental damage (Len Houston/Jon Seebode, ACE)**

- **Mitigation Ratios (Nancy Niedowski, USFWS)**
  CCMP Objective H-1: Develop a comprehensive regional strategy to protect the Harbor/Bight watershed and to mitigate continuing adverse human-induced impacts.
  CCMP Objective H-3: Manage coastal development
  CCMP Objective H-4: Manage shoreline and aquatic habitat modifications

CCMP Action H-4.4: Ensure that actions impacting habitat in the Harbor core area, in the aggregate, result in a net increase in the acreage and quality of aquatic habitat, where feasible and appropriate. Emphasize key habitat types such as submerged aquatic vegetation.
CCMP Action H-4.2: Ensure regulation of proposed actions involving less than one acres of fill in freshwater wetlands.

Minutes:

- **Mitigation Ratios (Nancy Niedowski, USFWS)**

Nancy Niedowski and the HWG have been progressing with the wetland mitigation literature search and study. This study encompasses inventory analyses of what the NAS, and Marjorie Kaplan's/NJDEP studies have concluded. Until recently, Niedowski, NRG and others have been exploring a mathematical equation for determining mitigation ratios on a site by site basis Individual site parameters could be plugged into the equation for a unique site mitigation ratio.

Eugenia Flatow (NYCSWCD) expressed apprehension to using a mathematical equation. Despite offering the ability to deduce ratios on regional and site by site basis, and having a scientific basis for ratio development, unknown parameters and site specific factors which cannot be accurately represented in an equation limit effectiveness. Additionally, the timeline solving for each site's particular ratio could limit our ability to mitigate wetland loss. The intricacies of the equation might not be worked out by property sell dates. Flatow went on to say that she is in favor of capturing natural sites that suggest themselves and developing resources to manage and monitor the sites over a long-term basis.

Flatow stated that monitoring specifications must be based on HEP endorsed goals, targets, and protocols established by the HWG. She emphasized the importance of monitoring and following up in relation to the National Academy of Science's recent publication "Compensating for Wetland Losses Under the Clean Water Act" (2001). Flatow also recommended writing a paper that addresses what type of mitigation should be made for different kinds of public infrastructure projects.

Marc Matsil (NYC Parks) began discussing the Arthur Kill salt marsh degradation. In order to minimize the severe erosion caused by channelization and waking, rock stabilization, buffer construction and marsh reconstruction should occur. Matsil went on to reference a pertinent article by Mark D. Bertness of Brown University detailing relative sea level rise and salt marsh consequences. As far as the mitigation offered for the Arthur Kill dredging, Matsil stated that it is insufficient and fails to compensate for the significant restoration already accomplished funded by Natural Resources Damages Claims, along with investment in time spent monitoring the project site.

Niedowski recommended a NYC pilot study on mitigation successes/failures. She pointed out that we need access to files or database or files and permits to begin making an inventory of NYC projects in conjunction with the ACE, NYCDEC, and other related agencies. She mentioned that the ACE has much of that information available and accessible.

Matsil pointed out that NYSDEC, DOS and Parks NRG are the only agencies that implement consistent five-year monitoring protocols and data collection. Another obstacle for follow up monitoring and measuring successes is that the unsuccessful, under-documented sites may not even be distinguishable from their surroundings.

Bob Alpern (NYCDEP) suggested developing a model following SEQR and SECRA guidelines. He suggested enlisting volunteer groups to follow easier protocols for monitoring and watch-dogging to combat the lack of follow-up.

Frank Steimle (NOAA) stated that he would like to make a provision for subtidal habitats so that they too are mitigated for.

Mark Jaworski (US Wetlands) recommended that the mitigation paper maintain its desktop nature. Unless the field component were impeccable, it would be criticized. He also recommended that the cost analysis for water budget planning/wetland hydrology restoration be done using NJDOT as a reference. They have cost information for many past projects.

Greg Remaud (Baykeeper) mentioned that the recent outrage at La Mer freshwater restoration/mitigation site be a potential case study for NJ. He also pointed out a trend in agencies taking their mitigation credit to the Hackensack Meadowlands because less potential freshwater mitigation sites exist in the Arthur Kill. Megan Callus (Baykeeper) volunteered to investigate this observation.

Jaworski offered more information about this process, saying that one does not have to go to the Hackensack Meadowlands for credit; it is one option. Rather, there is a tiered approach consisting of options in buying credits, mitigating on site, or purchasing property. For a site greater than 1.5 acres, it is advised to mitigate on site. US Wetlands is currently hiring someone to identify possible sites for mitigation. Matsil pointed out that HEP HWG has already done much of this work in designating priority and high priority sites.

In closing, Niedowski told the HEP HWG that she wanted comments, especially from regulatory and permitting branches, within 3 weeks as the projected date for distributing the paper is in late January.

- **Arthur Kill Dredging and Beneficial Reuse of Dredge Materials (Paul Mankiewicz, NYCSWCD, Gaia Institute)**

Paul Mankiewicz began by describing the Hudson River Estuary coastline as dramatically transformed from its natural intertidal marsh habitat. In the past 300 years, 45,000 acres of intertidal marsh has been filled around the City, a feat which required some 1-2 billion cubic yards of municipal garbage, incinerator ash, dredged material, etc.. The intertidal habitat around the City currently consists largely of manmade rocky to sandy to silty substrate. The historic marshes around what is now New York City would have stored 1-2 million cubic yards of silt each year, based on capture rates of 0.5 cm-1cm per year. Dredging requirements for the Harbor are around 6 million cubic yards per year

The remaining marsh has developed in sheltered areas where silty substrate is deposited and peat is allowed to develop because of low energy inputs. This peat/silt matrix is essentially a stabilized gel, with each year's sediment capture and root growth counterbalancing erosion. Adjacent dredging for boat traffic, however, has caused a large area of the surface to subside towards the channel of the Arthur Kill. Erosion may be expected to increase with continued or increased energy inputs from boat waking as well as sea level rise.

Mankiewicz presented the issue of maintaining a workable harbor while simultaneously increasing the once complicated subtidal, intertidal and creek habitat that

has been largely destroyed by urban development. The proposed dredging and bedrock cutting in the Arthur Kill presents a huge risk in potential disturbance to the present precarious equilibrium between the channels and the stabilized gel structure of the marshes, presenting a major obstacle to habitat improvement.

The first option Mankiewicz described is to build wave-blocking structures around the impacted area. The dredged rocky material could be deposited, both blocking waves and resulting in artificial reef habitat which would likely increase the secondary production of those areas.

Steimle warned against the idea of putting bedrock material around areas effected by boat waking. He argued that important quality habitat is covered in the process. Mudflats/sandflats are not of lesser value and are often sacrificed. Mankiewicz agreed that the flats are also essential, critical habitat which need to be preserved, but noted that there may be more value in integrated habitat conservation and restoration than in focusing on any single habitat type in isolation. He indicated that they have begun a biodiversity impact assessment for the region analogous to the one documented in the Pelham Bay Landfill, EIS produced for dredging Royal Marina in Eastchester Bay. He further noted that until it could be determined that a documentable habitat benefit would be likely to occur, no action would be recommended on such a project. Matsil pointed out that quite often, the littoral zone has been eliminated by erosion promoted by channelization and waking. What often remains is some fringe marshes juxtaposed by open water that was formerly littoral zone, eroded into the "drink".

Another option for dredged material is to deposit it around the city's landfills. Any harmful materials amenable to biogeochemical breakdown or sequestering by marsh development would need to be placed under a cap. It would also be valuable, as documented four years ago in the Pelham Project, to carry our fate and transport evaluation of chemicals of concern in dredged materials. A pilot study addressing part of this option is currently being conducted around Fresh Kills landfill.

Depositing the dredged materials into excavated mines is another option. However there are costs as well as potential risks involved. Firstly, the dredged material must be transported to the mines; in likely PA or VA. This transportation cost might be as low as $30/cu yd, but this could probably only be achieved with high volume processing. Then, there are geochemical properties of the dredged materials and potential interactions with mine tailings. Once deposited, highly reduced dredge material often oxidizes, transforming sulfides to sulfuric acid, leaching acidic output and mobilizing heavy metals, in the same way that acid mine drainage is produced. This would need to be stabilized with electron sinks and stabilizers (basic materials, often including fly ash and/or cement). Ultimately, a geomembrane would be needed to cap the dredge-filled mine at a cost of a few to more than $10 per square foot.

Avoiding the dredging altogether, another possibility lies in keeping larger boats at sea, and employing smaller ones for the journey into the Arthur Kill. This would bypass the need to dredge the area and minimize waking.

In closing, Mankiewicz said that HEP HWG needs to address the scale of marsh loss and habitat on the economy and ecology of the region, noting that full-scale marsh contributions to local and regional fisheries production as well as human health protection is not yet known. He added that the scale of salt marsh restoration should be substantial to lower the cost and to match historic and ongoing losses in Jamaica Bay and

elsewhere, and echoed his support for the proposed enhanced mitigation ratios. He recommended beginning extensive GIS mapping of the intertidal and subtidal Arthur Kill and surrounding areas.

- **Biodiversity Monitoring Portal (Paul Katzer, NYC Parks)**

Following up on the 11-13-2001 HEP HWG presentation of the "Seamless Habitat Map", Paul Katzer enhanced the project description and renamed it the "Biodiversity Monitoring Portal".

Katzer began by giving a demonstration of the interactive web-available Biodiversity Monitoring Portal. There will be a start page/map interface with municipality, watershed, and zip-code search options. Once the user focuses on a specific area, they can obtain monitoring information and toggle into aerial photos. Pop-up radio-boxes will enable the user to choose a monitoring subject (e.g. avian, amphibian, benthic, fish). Generic site descriptions, subject specific site descriptions, monitoring project lists and descriptions, references to organizations and investigators doing the monitoring, QAQC protocols, report locations, findings summaries, project site maps and photos will all be available through a simple interface.

In order to continue with this project, both hardware and software are needed. Staff time, an internet server for storage and development, Windows 2000, etc. are all budget considerations. The total anticipated cost excluding staff time, or compilation of materials is $56,300. Katzer said that he would e-mail HEP HWG with an estimated project budget.

- **Update on Acquisition and Restoration Progress for NY (Marc Matsil, NYC Parks)**

Matsil gave a presentation summarizing NYC Parks, Natural Resources Group's current and ongoing projects. He was recently invited to Kobe, Japan to speak of NRG's work in the science of restoring, funding and monitoring natural systems in New York Harbor.

NRG is currently managing $75 million (working cooperatively on several projects with NYSDEC/DOS, ACE, EPA, NJDEP, and others) in damages claims and grants to support natural area restorations. Current projects include forest, salt marsh, wetland and grassland restoration projects. By establishing habitat links and wildlife corridors, NRG projects have shown that wildlife will return to the restored areas. Areas for acquisition or restoration are chosen based upon several factors, including the presence of rare, endangered, and threatened species, ecological value, size, imminence of development and economic considerations (HEP priorities criteria).

Matsil stressed that the cornerstone of every restoration is monitoring, for which NRG does 5 year minimum on its projects. Monitoring protocols are adapted from salt marsh and forestry research and peer reviewed by scientists across the country (both protocols adapted by HEP). Aside from the typical protocols that measure vegetative biomass, humic development and sediment accretion, NRG's focus of post-restoration biological monitoring is on the use of sites by avian, amphibian, benthic, fish, and odonate species as well as vegetation established.

Matsil ran though ongoing projects of both NRG and HEP which include oil spill remediation (i.e. Exxon Bayway oil spill), salt marsh restoration (i.e. Pelham Bay Park),

forest restoration and non-point source pollution reduction (i.e. Inwood Hill Park, Bronx River Cement plant), rare plant propagation and others**,** and acquisition that includes more than 2000 acres acquired in HEP priority watersheds over the past 6 years (i.e. Teleport Magnolia Forest Preserve, 228 acres Arthur Kill)

Niedowski suggested working with NYS to do a wetland acquisition state grant project with the coastal wetland grant process in mind.

- **HEP Budget/NEP conference (Marc Matsil, NYC Parks)**

With an estimated $15K, HEP is planning on hosting a 2 day National Estuary Program conference at the AMNH for other NEP's focusing on land acquisition, restoration and preservation around the country. This will serve as a clearing house for ideas, and data/technology transfer amongst the various NEP's.

Many of the topics covered in the *NY/NJ HEP HWG 2001Status Report* will be part of the meeting's agenda. Ideas for sessions to be covered are encouraged from workgroup members. The two-day conference will review 1) restoration, monitoring, and research progress, funding and practice; 2) parklands' acquisition methodologies and cost-effective alternatives to land conservation and; 3) zoning mechanisms and creative programs for habitat protection.

In addition to contacting other Estuary Programs and related agencies, Flatow pointed out the importance of reaching out to the communities. She would like to have an Estuary Day celebration. By building support at the community level, HEP can more easily obtain funds from elected officials. She recommended doing this by showing for example, how HEP's water quality improvements benefit subsistence fisherman.

Remaud warned against having too many events similar to other programs. He stressed the importance of integrating overall themes so that volunteers are not burned out and information is disseminated most efficiently. HEP must be competitive, so that our goals are not confused with other programs'.

Mankiewicz suggested promoting how natural sites enhance neighborhoods and most specifically property values. He suggested that HEP's information distribution system gear up for such public outreach. The Biodiversity Monitoring Portal, previously known as the Seamless Map, is a good means to do this. Remaud agreed to advertising the direct benefits that HEP gives to communities as a way of increasing their involvement. He additionally remarked that such community outreach is a good opportunity to begin integrating and addressing issues of land use and sprawl.

- **HEP Targets and Goals (Marc Matsil, NYC Parks)**

Marc Matsil led the HEP HWG through the EPA's latest draft of HEP targets and goals. Various edits were made (attached). Aleksandra Dobkowski-Joy (USEPA) recorded them to pass on to Bob Nyman. An overall consensus of the HEP HWG was that the larger goals be divided up into subgoals. Without at-least annual accountability workgroup members including Flatow, deQuillfeldt (NYSDEC), Mankiewicz, Niedowski, etc. saw the long-term plans as rendered less significant.