

V. NO ACTION ALTERNATIVE

Environmental regulations require the consideration of a No Action Alternative in all EIS. For the proposed Croton WTP project, the No Action Alternative is defined by the terms of a federal Court Consent Decree. If the City is not successful in siting and constructing a proposed WTP and its Related Facilities at the Mosholu Golf Course Site, the City is legally obligated to continue to search for a viable site and to ultimately construct the proposed WTP facility. Therefore, for the purpose of this No Action Alternative, it is assumed that, while this additional site selection process would take place, the current operating procedures for the Croton water supply would be continued.

The only other legally permitted No Action Alternative to filtration would be removal of the Croton system from service. Although the Croton system is the smallest of the City's three water supplies, it is a vital component, particularly during drought. Computer simulation of the entire water supply system using the hydrology of the period from 1927 to 1993, with the Croton system periodically taken out of use (as is the current practice, due to seasonal water quality variations), indicates that drought emergency frequency would be increased from an average of once every ten years (7 drought emergencies in 67 years) to approximately once every five years (13 in 67 years). In addition, operation of the Chelsea Pumping Station, discussed in Section II.4, would be necessary three times more often than with the Croton system in use (during 20 years out of 67 instead of 6 years out of 67). The Croton system also facilitates major maintenance in the other systems. (See Chapter II of this document for further discussion on the need for the Croton System.) Removal of the Croton system from service is therefore not feasible. Because of the importance of the Croton supply, the No Action Alternative considers only the continued utilization of this system.

Under the No Action Alternative a search for a suitable site would continue. The Croton system would continue to be operated with the intake at the Croton Lake Gate House at New Croton Reservoir, with conveyance of treated water via the New Croton Aqueduct (NCA) to Jerome Park Reservoir, and with chlorination, corrosion control, and distribution from the gate houses around Jerome Park Reservoir. The NCA would undergo planned rehabilitations. The Jerome Pumping Station and Mosholu Pumping Station would undergo maintenance and equipment upgrades, if necessary to continue operations.

The No Action Alternative would likely include the practice of taking the Croton system off line during periods of poor water quality, such as those that typically occur in the early fall of each year. When the recently promulgated Stage I Disinfection Byproduct (DBP) standards take effect, the City may be in violation for much of the year, especially with respect to haloacetic acids (HAAs), if predictive modeling holds true. Under such circumstances, notices would have to be issued advising the public of the violations and possible health risks. This situation would soon become even more critical with the subsequent promulgation of Stage II DBP rules, after which it is predicted that Croton water may be in violation most of the time, for both HAAs and trihalomethane levels.

| In addition to the above water quality concerns, the City would have to pay substantial monetary penalties (and could face criminal penalties) if it does not meet the deadlines for the design, construction, and commissioning
| of a filtration plant, as defined in the federal Court Consent Decree.

VI. NONFILTRATION/WATERSHED PROTECTION

When the USEPA developed regulations that required the filtration of surface waters as part of the Surface Water Drinking Act, a waiver system was set up for natural waters of exceptional quality. This program elapsed in 1991. The City of New York successfully pursued this waiver for the Catskill Delaware system but did not apply for the Croton system because of the known water quality problems in the Croton system. Subsequently, the City has investigated the potential to meet water quality goals through an Extended Special Study Program that concluded in November of 1997. This evaluation investigated the ways in which certain combinations of watershed management practices, in-reservoir actions, chemical addition alternatives, combinations of disinfection processes, and system operational constraints could eliminate or reduce the need to filter Croton water by meeting specific, defined water quality goals. The study was conducted in several phases, including:

- definition of non-filtration water quality goals for the Croton system and problems experienced by the Croton system in meeting the defined goals;
- identification of existing and future water quality problems and their possible causes;
- screening of 23 watershed management practices, in-reservoir actions, chemical addition alternatives, operational constraints and combinations of disinfection processes (including "no action") for technical feasibility with respect to their ability to improve water quality and their implementability;
- grouping of feasible technologies and practices into eight Non-Filtration Plans, based on their feasibility, effectiveness, and ability to enhance each other in meeting non-filtration water quality goals;
- evaluation of the eight Non-Filtration Plans using a computerized hydrodynamic/reservoir eutrophication model (H/REM) specifically developed for the Muscoot and New Croton Reservoirs;
- identification of an Optimal Non-Filtration Plan (and possible options for its implementation), based on the results of the modeling effort; and
- development of conceptual layouts and cost estimates for the Optimal Non-Filtration Plan and its options.

This program developed an Optimal Watershed Plan that showed promise of meeting water quality goals and included: 1) hypolimnetic aeration, 2) alum addition, and 3) engineered wetlands and Best Management Practices. Costs and principal components of this Plan are summarized in Table 48.

The Optimal Watershed Plan would be associated with potential environmental impacts. For example, construction of wetlands and other watershed-based technologies could impact existing natural areas. Environmental impacts of hypolimnetic aeration are summarized in Section III.4 above. The only significant

potential adverse impact of hypolimnetic aeration would be disturbance of archaeologically sensitive sites, which could be mitigated. Positive impacts to the reservoir fishery would be anticipated from hypolimnetic aeration. Alum addition, however, would involve the deposition of precipitated alum which could adversely impact part of the New Croton Reservoir. A pilot study would be required to quantify the extent of this impact and to predict the frequency of dredging which may be potentially required. In addition, if the addition of alum at the Muscoot Dam proves feasible, a substantial structure would have to be built at that site to permit sedimentation and removal of the sediment. An Alum pilot would require regulatory approval prior to implementation.

Should the Optimal Non-Filtration Plan pilot studies prove that water quality goals could be technically met, there would be several obstacles to obtaining Filtration Avoidance for the Croton System. In addition to technical feasibility, a demonstration of adequate watershed control and a demonstration that water quality goals can be consistently met would have to be made. In addition, implementation of non-filtration measures would not circumvent or eliminate the legal requirement to filter the water, unless they are accompanied by concomitant legislative or regulatory changes.

Nonetheless, in light of the promise shown by the technologies and practices incorporated into the proposed Optimal Non-Filtration Plan, as well as the significant expenditures inherent in the construction and operation of a Croton filtration facility, the NYCDEP would, to the extent feasible, undertake the various pilot tests and other studies described listed below. These studies would be undertaken while NYCDEP continues to site and design a Croton filtration plant in accordance with the aforementioned federal Consent Decree. The pilot studies are intended to further quantify and confirm the predicted beneficial results of an Optimal Non-Filtration Plan and to establish whether or not a basis (legal, jurisdictional and scientific) exists for a Filtration Avoidance application. These pilot tests and other studies should be completed, and the results thereof compiled and evaluated, before commencement of construction of the filtration facility in March 2001. Specifically, the City has implemented or is in the process of implementing the following projects, as part of its approach to analyzing non-filtration options:

- hypolimnetic aeration within, or at designated locations within, the New Croton Reservoir;
- alum addition at the Muscoot Dam or at identified downstream locations;
- Trihalomethane formation potential study;
- wetlands studies to determine what effect different wetland types have on water quality;
- ecological engineering pilot study;
- process studies contract;
- terrestrial model evaluation;
- high runoff event monitoring;
- hydrologic database development;
- bathymetry of Croton system reservoirs;
- Croton watershed strategy plan development; and
- Croton reservoir water quality modeling.

A description of these studies and a generic impact analysis of the optimum Non-Filtration Plan is included in the Final EIS in order to allow a comparison of potential impacts related to implementing such a program with those of siting and constructing filtration facilities, however, non-filtration alternatives are not considered practicable or implementable alternatives at this time.

TABLE 48. COST SUMMARY FOR THE OPTIMAL NON-FILTRATION PLAN AND ITS OPTIONS

Technology/Practice	Capital Costs	Annual Operating Costs
Alum Addition at the Muscoot Dam Overflow	\$1 million	\$1.3 million/year
Hypolimnetic Aeration at the New Croton Reservoir	\$4 million	\$0.2 million/year
Micro screening for Insect Larvae at the Jerome Park Reservoir	\$14 million	\$0.3 million/year
TOTAL	\$19 million	\$1.8 million/year
Option 1 - Optimal Plan with Alum Addition at the Jerome Park Reservoir	\$190 million	\$2.7 million/year
Option 2 - Optimal Plan with Engineered Wetlands/BMPs	\$40 million	\$2.1 million/year
Option 3 - Optimal Plan with Alum Addition at Jerome Park Reservoir and Engineered Wetlands/BMPs	\$210 million	\$3.1 million/year

VII. REGIONAL AND CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed project would include all of the principal filtration components, the proposed Croton Water Treatment Plant (WTP), Raw Water Pumping Station (RWPS), Finished Water Pumping Station (FWPS), and Treated Water Reservoir (TWR) at one site, the Mosholu Golf Course. This site is located near the New Croton Aqueduct (NCA) and the connections to the distribution system at Jerome Park Reservoir. Consequently this site avoids potential cumulative impacts of associated with construction activities at multiple sites. This site also avoids any commitment of irretrievable or irreplaceable resources beyond the construction materials and energy used while it is being constructed. Finally, the impact analyses included in the Final EIS account for background growth and site specific proposals that may cumulatively interact with the proposal either during or after construction. No significant cumulative effects are predicted.

For all sites except for the proposed site of Mosholu Golf Course, the Shandler D Alternative, and the Yonkers Raceway Site Alternative, the proposed WTP would be at a separate location from the Related Facilities. Traffic analyses were conducted for each project alternative. The only site at which traffic from the site alternative would use the same road network as the Related Facilities traffic would be the Shandler Recreation Site Alternative, where only minor aggregations of traffic would occur for the Shandler A and B project alternatives. These would not result in any additional traffic impacts.

The rehabilitation work that would be required for the NCA would have a limited number of ingress points with small numbers of works (about twenty at each point). The widespread nature of these points also would avoid any cumulative impacts.

The effects that extend beyond the limits of the individual site study areas to the region would be primarily economic. These effects include increased direct and secondary employment increases in personal income and income taxes.

Direct benefits of operations for the proposed project include an estimated payroll of \$3 million/year that would induce \$6 million of economic activity. The construction would involve \$41 million/year during peak construction; this would be supplemented by additional local purchases and induced economic activity totaling approximately \$583 million during the peak construction period.

The resolution of the long-standing issue of filtering Croton water would have some regional water quality impacts. It would allow towns in Westchester County to better plan for their water supplies. It would greatly decrease the already small risk of waterborne disease outbreaks. In addition, the construction and operation of the filtration facility would increase the reliability of the Croton water system as a water source during drought conditions. Unexpected shutdowns should be eliminated. The improved Croton water system would give the City the flexibility to deal with drought conditions and possibly avoid losses associated with such an event. Positive regional benefits would include the realisation of all benefits associated with an improved water supply reliability.

Certain unavoidable or unmitigatable significant impacts associated with some of the site alternatives were identified. These relate to changes in views and natural resource impacts at some site alternatives. The alteration of the existing views of forest and water at the Cove Site Alternative in the Town of Yorktown and the Croton Woods Site Alternative in the Bronx cannot be fully mitigated nor could the historic impacts at the Jerome Park Reservoir Site Alternative.

Impacts to natural resources at the Cove, Croton Woods, and Shandler C and D Site Alternatives also represent an unmitigated impact. These proposed project alternatives would impact substantial areas of mature forest. This type of habitat is rare in the region and could not be replaced in full by the proposed planting of large saplings and other components of the mitigation plans.

Significant impacts to other resources would be mitigated as part of the proposed action at all sites. There would be no unmitigatable impacts to the resources at the preferred site.