

FINDING OF NO SIGNIFICANT IMPACT/DECISION NOTICE

Restore Saugus River Turning Basin and Dock Saugus Iron Works National Historic Site Saugus, Massachusetts

The National Park Service (NPS) proposes to restore the reconstructed historic waterfront area and improve the function of the wetlands at the Saugus Iron Works National Historic Site, which were damaged in 1957 from sediments released following an upstream dam breach. The project proposes to restore the conditions that existed after the 1957 restoration, which includes rehabilitating the reconstructed historic waterfront structures, returning a portion of the historic tidal basin to its open-water condition, and enhancing native wetlands and wildlife habitat.

Consistent with the legislated mission of Saugus Iron Works National Historic Site and NPS mission goals, rehabilitation of the reconstructed historic waterfront would facilitate visitor understanding of the pivotal role that the Saugus River and the iron works played during the colonial era in the history of the United States. Moreover, the restoration of the river environment would improve biodiversity by enhancing native plant, fish, and wildlife habitat.

Furthermore, this project offers a unique opportunity to demonstrate the restoration of an urban coastal river environment through a partnership-based approach. The restoration of the reconstructed historic iron works landscape within a tidal freshwater river environment could serve as a model both for integrated historic and natural resource preservation and for tidal freshwater wetland restoration in an urban setting. The NPS is collaborating with scientists, regulators, citizen groups, and interested members of the public as part of project implementation and monitoring, and would use this project as a springboard to celebrate the cultural and natural resources of the Saugus River and to promote their long-term stewardship.

The NPS has completed an environmental assessment (EA) that provides an analysis of the environmental consequences of the alternatives considered for restoration of the Saugus River Turning Basin and Dock.

SELECTED ALTERNATIVE

The selected alternative is Alternative B, as described and analyzed in the EA. In Alternative B, the proposed action can be characterized as "restoration" of the turning basin and waterfront structures to their condition prior to the 1957 dam breach. It also includes restoration of the portion of the Saugus River south of the historic turning basin area, within site boundaries (henceforth referred to as the "southern area") to conditions prior to the dam breach. Approximately 7,200 cubic yards of sediment would be removed within the historic turning basin and southern area.

Turning Basin Sediments. The proposed sediment removal would alter approximately 1.00 acre of low quality, invasive species-dominated vegetated tidal wetlands within the historic turning basin (the Northern Area). Sediments deposited during the 1957 dam breach would be excavated, tested, dewatered, and disposed of off site pursuant to the appropriate and applicable state standards. The spoils likely would be disposed of in an unlined landfill, though the plan contains a contingency for disposing of 30 percent of spoil in a treated landfill. The turning basin and marsh would be excavated to proposed base grades, determined as based on historical excavation drawings of the original turning basin, water surface elevation data collected during the tidal change study, the depth of pre-1957 sediments as determined from the sediment cores collected during the marsh characterization study, and the baseline topographic survey. Grades would be designed to restore an open-water turning basin at high tide and a vegetated wetland with some non-vegetated areas at low tide.

Turning Basin Vegetated Wetland. Emergent vegetation would be removed from the project area during excavation of the turning basin. Wetland species present in this area, such as cattail (*Typha angustifolia*) and the invasive purple loosestrife (*Lythrum salicaria*), would be removed as

part of this activity. The final restored condition would provide approximately 0.90 acres of open water/mud flat habitat and 0.04 acres of vegetated tidal wetland characterized by a diversity of native species. After sediment removal efforts are complete, native marsh grasses would be reestablished in the area. Prescribed plantings and seeds should take hold and provide increased vegetative diversity. Recolonization by native species should increase yearly. Herbicide treatment, manual removal, and proper disposal would ensure effective *Phragmites* control until the emergent wetland is established.

The area immediately west of the channel would be altered to create a 150 feet by 12 feet stabilized gravel/cobble berm (0.06 acres), planted with a diverse assemblage of shade-producing native shrubs as well as herbaceous perennials, thereby protecting and providing shade to the existing riffle habitat that is utilized by spawning rainbow smelt. The berm would be gradually sloped down at its terminus and overlain with 3 to 6-inch cracked native stone to increase the stability of the berm and enhance the habitat value for fishes. The slag pile, which is an original feature of the colonial iron works, would be preserved in its present state by the NPS during and after the project.

Southern Area Sediments. Sediments deposited in 1957 after the upstream dam break would be excavated across approximately 2.75 acres. Contaminated sediments deposited during the 1957 dam breach would be excavated and disposed of off site pursuant to the appropriate and applicable state standards. The area then would be excavated to grades designed to promote a healthy tidal marsh ecosystem and minimize the suitability of the area for exotic invasive plant species such as *Phragmites*. The majority of spoil disposal would likely be in unlined landfills, though final determination of the disposal site would depend upon results of post-removal sediment testing to ensure proper disposal procedures.

Southern Area Vegetated Wetland. Non-native, invasive plant species would be removed during excavation of the southern area. After sediment removal and/or *Phragmites* control efforts are complete, native marsh species would be reestablished in the area. Prescribed plantings and propagules from nearby marshes should take hold and provide increased vegetative cover and diversity. Recolonization by native species should increase yearly. Herbicide treatment, manual removal, and proper disposal would ensure effective *Phragmites* control. The southern area wetland would be revegetated in the same manner as described for the turning basin wetland. The final condition would provide approximately 1.47 acres of intertidal mud flat habitat and 1.28 acres of vegetated tidal wetlands.

Bulkhead and Dock. The existing dock and bulkhead located along the northern extent of the historic turning basin would be replaced in-kind once wetland restoration activities have been completed. The entire wooden bulkhead and dock structure, including timber crib supports, would be removed for landfill disposal and replaced with new wooden members. Analyses would be conducted on the existing retaining wall, oak timber, historic joints, and other components to determine their ability to meet design requirements. Alternatives or reinforcement methods would be evaluated in the case that the existing materials are not sufficient. Stones beneath the dock would be removed during construction and replaced once the cribbing has been rebuilt. The reconstructed dock would be designed to withstand personnel and maintenance vehicle loads and meet applicable code requirements for public walkways. All additions will be hidden to the eye and the wall will retain the same character and appearance as it did in 1957.

ALTERNATIVES CONSIDERED

The EA prepared for this project analyzed the selected alternative (described above) and the following alternatives:

Alternative A

Alternative A is the no-action alternative. The dock, bulkhead, turning basin, and southern area would remain unchanged. This alternative does not involve discontinuing existing maintenance or operational procedures of the site.

Turning Basin Sediments. All contaminated sediments would remain in place.

Turning Basin Vegetated Wetland. Existing non-native species of vegetation would remain in place.

Southern Area Sediments. All contaminated sediments would remain in place.

Southern Area Vegetated Wetland. Existing non-native species of vegetation would remain in place.

Bulkhead and Dock. The decaying bulkhead and dock would remain in place, unchanged.

Alternative C

Alternative C is identical to the preferred alternative, but does not take action with respect to the southern area. This would leave an area of approximately 77,000 square feet (sf) of contaminated sediments and non-native vegetation in place.

Turning Basin Sediments. The proposed sediment removal would alter approximately 1.00 acre of low quality, invasive species-dominated vegetated tidal wetlands within the Northern Area. Contaminated sediments deposited during the dam breach would be excavated and disposed of off site pursuant to the appropriate and applicable state standards. The turning basin and marsh would be excavated to proposed base grades, determined as based on historical excavation drawings of the original turning basin, water surface elevation data collected during the tidal change study, the depth of pre-1957 sediments as determined from the sediment cores collected during the marsh characterization study, and the baseline topographic survey. Grades would be designed to restore an open-water turning basin at high tide and a vegetated wetland with some non-vegetated areas at low tide.

Turning Basin Vegetated Wetland. As described in the preferred alternative, non-native, emergent vegetation would be removed to allow for the reestablishment of naturally occurring marsh grasses and supplemental prescribed planting. Herbicide treatments or manual removal may be required in some cases to continue effective Phragmites control until the marsh is established.

The area immediately west of the channel would be altered to create a 150 feet by 12 feet stabilized gravel/cobble berm (0.06 acres), planted with a diverse assemblage of shade-producing native shrubs as well as herbaceous perennials, thereby protecting the existing riffle habitat that is utilized by spawning rainbow smelt. The berm would be gradually sloped down at its terminus and overlain with 3 to 6-inch cracked native stone to increase the stability of the berm and enhance the habitat value for fishes. The slag pile, which is an original feature of the colonial iron works, would be preserved in its present state by the NPS during and after the project.

Southern Area Sediments. No action would be taken with respect to the sediments in the southern area. Any existing contamination would be left in place, and topographical characteristics in the area would remain unchanged.

Southern Area Vegetated Wetland. No action would be taken with respect to vegetation in the southern area. Existing vegetation would remain in place.

Bulkhead and Dock. As described in the preferred alternative, construction activities include removal and replacement of the entire bulkhead, dock structure, crib supports and stone fill. Original materials that remain functional would be preserved to the extent possible. Where these materials are no longer suitable, reinforcements or other attempts would be made to maintain the historic character of the structure. The reconstructed dock would be designed to withstand design loads and meet applicable code requirements common to all public walkways.

Alternative D

Alternative D is similar to the preferred alternative, differing in that only 40 percent of the southern area of the tidal basin would be excavated and restored to approximate 1957 contours. The excavation and restoration effort in the southern area would occur in the northern most section of the "southern area" and would involve excavation and restoration of approximately 0.7 acres of

wetlands. This would extend the restoration effort approximately half way down the southern area and leave approximately two acres of un-restored wetland area in the southern project area. An open waterway would be maintained through removal of some invasive species, but the majority of the invasive-species dominated existing wetland would remain.

Turning Basin Sediments. The proposed sediment removal would alter approximately 1.00 acre of low quality, invasive species-dominated vegetated tidal wetlands within the Northern Area. Contaminated sediments deposited during the dam breach would be excavated and disposed of off site pursuant to the appropriate and applicable state standards. The turning basin and marsh would be excavated to proposed base grades, which would be determined as based on historical excavation drawings of the original turning basin, water surface elevation data collected during the tidal change study, the depth of pre-1957 sediments as determined from the sediment cores collected during the marsh characterization study, and the baseline topographic survey. Grades would be designed to restore an open-water turning basin at high tide and a vegetated wetland with some non-vegetated areas at low tide.

Turning Basin Vegetated Wetland. As described in the preferred alternative, emergent vegetation would be removed to allow for the reestablishment of naturally occurring marsh grasses and supplemental prescribed planting. Herbicide treatments or manual removal may be required in some cases to continue effective Phragmites control until the marsh is established.

Southern Area Sediments. In approximately 40 percent of the southern area, sediments deposited during the 1957 dam breach would be excavated and disposed of off site pursuant to the appropriate and applicable state standards. The area then would be excavated to grades designed to promote a healthy tidal marsh ecosystem and minimize the suitability of the area for exotic invasive plant species.

Southern Area Vegetated Wetland. Invasive plant species would be removed during the excavation of approximately 40 percent of the southern area. This area would be revegetated in the same manner as described for the turning basin wetland.

Bulkhead and Dock. As described in the preferred alternative, construction activities include removal and replacement of the entire bulkhead, dock structure, crib supports and stone fill. Original materials that remain functional would be preserved to the extent possible. Where these materials are no longer suitable, reinforcements or other attempts would be made to maintain the reconstructed historic character of the structure. The reconstructed dock would be designed to withstand design loads and meet applicable code requirements for public walkways.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is defined by CEQ as “the alternative that would promote the national environmental policy as expressed in NEPA’s Section 101. This includes:

1. Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assuring for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. Preserving important historic, cultural and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice;
5. Achieving a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities; and
6. Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources (National Environmental Policy Act, Section 101).”

Simply put, “Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (CEQ, *NEPA’s 40 Most Asked Questions*, 6a).

NPS has determined that the environmentally preferred alternative is Alternative B. Alternative B, the preferred alternative, has been identified as the environmentally preferred alternative because it would restore the greatest area of wetlands and eliminate the greatest amount of invasive species and sediment contamination. Alternative B best fulfills the six criteria, particularly criterion two, through removal of all contaminated sediments on site and providing the best long term management of invasive species by removal of the maximum amount of invasive species. The other two action alternatives, Alternatives C and D, would also meet the criteria set by the CEQ guidelines; however they do not remove all contaminated sediments or remove the maximum amount of invasive species. Subsequently alternatives C and D would not fulfill criteria 2 and 3 as well as alternative B. The no-action Alternative has not been identified as the Environmentally Preferred Alternative as it does not remove any contaminated sediments, or restore any cultural resources.

MITIGATION MEASURES

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the mitigation measures described below will be implemented as part of the selected action. The NPS will conduct an appropriate level of monitoring throughout the construction process to help ensure that protective measures are being properly implemented and are achieving their intended results.

Following initial restoration activities, the National Park Service would undertake a comprehensive monitoring program including vegetation, nekton, stream geomorphology and hydrology, sediment and water quality, and bird/wildlife utilization. The monitoring would be implemented in order to assess the success of project implementation, trigger adaptive management follow-up actions, and to be able to share the results of this unique freshwater tidal marsh restoration project with the public, regulators, and the scientific community.

Soundscapes

In order to reduce the short term impact of noise during construction, equipment would use standard noise muffling devices to limit noise levels. In addition, operation of the equipment would be limited to weekday daytime hours to limit disturbance during sensitive evening and weekend time periods. Noise levels would be periodically monitored to ensure compliance with local Saugus requirements.

Water Quality and Quantity

In order to prevent impacts to local water quality, a combination of diversion dikes, sediment trap, pumping accumulating water through geotextile filter bags, and silt fencing would be utilized. A mechanical diversion dike would be installed along the perimeter of the excavation where it abuts the Saugus River channel to keep sediment out of the water and contain it along the edge of the excavation. Water collecting within the work area would be allowed to accumulate within the sediment trap areas for initial suspended solids removal. The accumulated water would then be pumped from a sump pit within the sediment traps and then through geo-textile filter bags to remove remaining suspended solids prior to discharge into the Saugus River.

Marine or Estuarine Resources

Local marine or estuarine resources would likely be beneficially affected as a result of the tidal marsh/non-vegetated wetland habitat restoration included in this proposal. There is a growing literature documenting the degraded habitat value of *Phragmites* marshes with respect to their role in supporting fish populations. It is assumed that the *Phragmites* marshes of the tidal Saugus River estuary are not serving an essential role as habitat for larval and juvenile fishes, resulting in a reduced fish population and subsequent impacts on higher trophic predators (e.g., fish and

birds) that depend on juvenile fishes as prey. Therefore, the restoration activities are expected to create long-term beneficial impacts for local estuarine resources.

Floodplains and Wetlands

Floodplain or wetland resources would likely incur beneficial effects as a result of the restoration although some bordering vegetated wetland area would be converted to open water/mud flat habitat. The majority of the wetlands within the site are classified as tidal freshwater marsh, an ecosystem that is extremely vulnerable in the State of Massachusetts, with five or fewer occurrences and very few remaining acres. The proposed restoration of the wetlands would increase the area of this limited ecosystem and have a beneficial, long term, site-specific impact. Special precautions will be implemented to ensure protection of the floodplains and wetlands in the project area, including silt fencing, sediment barriers, and project timing.

Flood Control and Storm Damage Prevention

The proposed project would be expected to have short term adverse impacts (during and immediately following construction) and negligible long term impacts on flood control and storm damage prevention. Although bordering vegetated wetland (BVW) habitat would be reduced with the proposed restoration activity, which would reduce the function of this lost BVW for flood control and storm damage prevention, it is expected that the flood attenuation functions of this upper reach of the tidal Saugus River would be retained. The restored vegetated wetland would slow current velocities and provide water removal through evaporation/transpiration (at least during the growing season), while the proposed mudflat and shallow water area (along with the potential for colonization of submerged aquatic vegetation) would allow for sheet flow and reduce tidal flow energy and flow velocities through frictional drag. It is also noted that approximately 7,200 cubic yards of material is proposed for removal from the area. Although this would not contribute significantly to decreasing storm flow velocities, it would increase the flood storage capacity by as much as 4.6 acre-feet.

Unique or Important Wildlife or Wildlife Habitat

The restoration project is likely to have beneficial, long-term impacts for unique or important wildlife or wildlife habitat. No federally-listed or proposed, threatened or endangered species or critical habitats are known to occur in the project area. The existing wetlands are dominated by invasive species, such as common reed and purple loosestrife, which provide limited opportunities for wildlife use. The proposed restoration and enhancement plan would provide high quality, high functional value, native species-dominated wetlands and remove impacted sediments from these areas, and provide a greater wildlife habitat function than the existing condition of these wetlands.

Unique, Essential, or Important Fish or Fish Habitat

The project would be timed around the annual spawning of rainbow smelt and other diadromous resources. To maintain river flow and protect spawning habitat of rainbow smelt, river herring, American eel, and other diadromous resources, no work would take place within the river channel itself including the time frame from February 15 through June 30. The integrity of the rainbow smelt spawning habitat would be maintained by enhancing the gravel and cobble berm between the river channel and the proposed turning basin. The berm would be enhanced by removing invasive plant species, extending the size of the berm to 150 feet long by 12 feet wide, raising the berm to 6 inches above mean high water (or 6 feet above sea level), armoring with cracked stone to provide enhance fish habitat, and planting native species to maintain shade of the spawning area. The proposed grade of the turning basin area was also raised above the historical elevations originally planned to provide further protection of the smelt spawning habitat. This change was made to decrease the possibility of adverse changes occurring to the flow regime within the riffle area, which might decrease the attractiveness of the spawning habitat.

Recreation Resources, Including Supply, Demand, Visitation, Activities, etc.

Recreation resources would likely improve as a result of the proposed restoration. Dock restoration would provide long-term, beneficial visitor impacts region-wide, and facilitate use by the Essex Shipbuilding Museum. The restoration of the turning basin and dock would provide visitor access to the dock and improved viewsheds, enabling visitors to gain a better understanding of the iron works and, in turn, increasing visitation. Because the project is

expected to provide long-term benefits for supply, demand, and visitation at the site there is no specific additional mitigation for this resource.

Visitor Experience, Aesthetic Resources

While the project is expected to provide long term benefits for visitor experience and aesthetic resources, it is anticipated that there will be short term adverse impacts during construction and full visitor use will be restricted. During construction the park will be closed and the project itself would be interpreted using signs, presentations by park personnel as requested, and information posted on the Park's web page. Because the project is expected to improve the visitor experience and aesthetic resources at the site there is no specific additional mitigation for this resource.

Resources, Including Energy, Conservation Potential, Sustainability

The proposed restoration would likely have moderate, long-term, beneficial impacts on environmental sustainability at the site. Sustainability and conservation potential are likely to increase due to the improvement in wetland habitat and open-water condition as seen in the 1950s. Because the project is expected to improve the sustainability at the site there is no specific additional mitigation for this resource.

Urban Quality, Gateway Communities, etc.

The proposed Saugus River turning basin and dock restoration activities would likely result in, long-term benefits for urban quality and gateway communities region-wide. Because the project is expected to provide benefits for the gateway community there is no specific additional mitigation for this resource.

Long-term Management of Resources or Land/Resource Productivity

Long-term management of the resources or land/resource productivity is likely to experience local and long-term benefits as a result of the planned restoration activities. The restoration is anticipated to improve the visitor experience, increase the use and productivity of the site, and ultimately enable better management of the site ecology.

In addition, the NPS recognizes that the restoration of fresh/brackish tidal marsh and mud flat in a protected and managed landscape setting offers an important opportunity to contribute to the field of restoration ecology, as well as to contribute to the public and agency stakeholder understanding of these habitats and their management. To this end, the NPS is committed to long term monitoring of the project and to inviting the public, scientific community, and agency staff into the stewardship, monitoring, and analysis of the project area into the future.

Traffic

Traffic flow is likely to experience a short-term adverse effect under this alternative because construction is likely to slightly increase the amount of traffic entering and exiting the site and potentially reduce the amount of parking available for visitor use, but note that this is not applicable as the park will be closed during construction. In order to reduce the impacts to local traffic patterns in a suburban area, the scheduling of transport into and out of the site would be timed to minimize and reduce impacts to traffic.

Cultural Resources

The NPS has consulted with the Massachusetts Historical Commission (SHPO) since the initial phases of planning for this project. The SHPO initially concurred with the NPS finding of no adverse effect for this project on March 2, 2004 and confirmed a concurrence of no adverse effect February 2, 2006. The Massachusetts Board of Underwater Archeological Resources provided advisory comments to the Army Corps of Engineers on August 8, 2005 that the project appeared unlikely to affect any underwater archeological resources and requested to be kept informed should any unexpected archeological resources be encountered during implementation of the project. Archeological resources are not anticipated during the implementation of this undertaking, however the area has some sensitivity, therefore if during construction unanticipated archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed if necessary in consultation with the Massachusetts Historical Commission and NPS archeologists. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlines in

the Native American Graves Protection and Repatriation Act of 1990 would be followed. Only post-1957 deposited sediments would be removed from the turning basin therefore any pre-1957 sediments would remain.

Mitigation Measures for the Slag Pile, Bulkhead, and Dock

The following mitigation measures would be implemented to minimize damage to the environment and cultural resources resulting from work in the vicinity of the original furnace slag pile and rehabilitation of the dock and bulkhead:

- The NPS would continue to maintain and enforce public access restrictions to the slag pile as described in the Notice of Activity and Use Limitation.
- The final design would include regrading and stabilization of the drainage swale to the west of the slag pile to minimize the potential for erosion and transport of slag materials down gradient. Any disturbance to the archeologically significant Joseph Jenks site near the drainage swale would be avoided.
- Contract specifications for intrusive work adjacent to the exposed historic slag pile would clearly state the potential hazards and would include provisions for appropriately trained personnel and appropriate safety and environmental monitoring and controls. All efforts to avoid the historic slag pile would be utilized.
- Researching the longevity of preserved timber and the availability of pressure treated timber would facilitate the future use of timbers for historical purposes.
- Methods for securely attaching the wood bulkhead to the concrete retaining wall would be evaluated.
- Historic joint methods would be evaluated to confirm their strength relative to design requirements and to determine reinforcement requirements and methods should the joints be found to provide inadequate strength.
- The reconstructed dock would be designed to withstand expected design loads (personnel and maintenance vehicles) and meet applicable code requirements for public walkways. Existing and expected loading conditions would be discussed with site staff.
- Alternative materials would be investigated that may provide greater strength and durability in portions of the dock that are concealed from exterior views.

Removal of Hamilton Street Weir

Although not part of the proposed action, the NPS would continue to facilitate the removal of the Hamilton Street weir in collaboration with other stakeholders. The weir occurs approximately 700 feet downstream of the Southern Area, outside of the NPS boundary, and is currently owned by the now defunct First Ironworks Association. The rock weir, composed of large rocks placed in the river in the 1950s, was intended to maintain an open water condition in the upper Saugus River and reduce tidal surge. Removal of the rock weir is not expected to have a direct influence on the hydrology or river geomorphology of the Northern and Southern Areas, but removal would contribute to restoration of wetland habitat features downstream of the project area and would enhance recreational opportunities throughout the Saugus River.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an Environmental Impact Statement (EIS): As described in the EA, several resource areas would experience adverse short-term impacts; however, the overall impact of the project would be beneficial.

The selected alternative for restoration of the turning basin and waterfront structures to their condition prior to the 1957 dam breach would have minor, adverse, site-specific and short-term impact to soundscapes and would likely have moderate, adverse, local and short-term impact to water quality and visitor experience and aesthetic resources during construction activities.

The selected alternative for the restoration would have minor, beneficial, site-specific and long-term impacts to unique or important wildlife or wildlife habitat, unique, essential, or important fish or fish habitat, recreation resources, including supply, demand, and visitation activities, and long-term management of the resources or land/resource productivity.

The construction activities associated with restoration of the turning basin and waterfront structures would have negligible, adverse, and local short-term impacts to traffic flow and negligible, short and long-term impacts to archeological resources.

The selected alternative would likely have moderate, beneficial, long-term impact to local marine or estuarine resources, to floodplain or wetland resources, to visitor experience and aesthetic resources, site-specific resources, including energy, conservation potential, and sustainability, urban quality and gateway communities, prehistoric/historic structures, and the cultural landscape.

Degree of effect on public health or safety: Implementation of the selected alternative would result in a long-term, moderate, beneficial impact on public safety. The dock is currently so degraded that it has become a safety concern and visitors are prohibited from its use. Thus, restoration of the turning basin and dock would provide visitor access to the dock.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, wetlands, prime farmlands, wild and scenic rivers, or ecologically critical areas: Saugus Iron Works is listed on the National Register of Historic Places, the State Register of Historic Places, and is a National Historic Landmark. The reconstructed structures of the iron-making works are contributing historic resources, therefore the rehabilitation / restoration of the dock and bulkheads would have moderate, long-term beneficial impacts on these historic structures. Mitigation measures included in the selected alternative would be effective in eliminating potential impacts to the archeological site within the area of potential effects. After applying the Advisory Council on Historic Preservation's criteria of adverse effect (36 CFR 800.5), the NPS has determined that implementing the selected alternative would have an effect, but that it would not be an adverse effect. NPS has received confirmation from the State Historic Preservation Officer in "no adverse impacts" concurrence letters dated March 2, 2004 and February 2, 2006.

Floodplain or wetland resources would likely incur moderate beneficial impacts as a result of the restoration. The majority of the wetlands within the site are classified as tidal freshwater marsh, an ecosystem that is extremely vulnerable in the State of Massachusetts, with five or fewer occurrences and very few remaining acres. The proposed restoration of the wetlands would increase the area of this limited ecosystem and have a positive, long-term, site-specific impact. The NPS would be restoring the project area to a mixture of bordering vegetated wetland and mudflat and increasing the biodiversity of the system.

A Floodplain Management and Protection of Wetlands Statement of Findings was prepared in accordance with NPS Directors Order #77-1, which concluded that there would be no significant adverse effects on wetland or floodplain values. The improvement of water quality and biodiversity would enhance the habitat for aquatic and terrestrial organisms at Saugus Iron Works NHS. The NPS concludes that there is no other practicable alternative for the developments proposed. The proposed project would increase flood storage capacity, increase biodiversity in the Phragmites-dominated wetland and enhance the cultural and ecological landscape of the site. The proposed restoration would result in a net gain of floodplain for the area equaling the total amount of sediment removed minus the minimal volume that may be utilized by the new dock, bulkhead and rock wall. The volume is considered minimal change as the existing conditions already include a dock, bulkhead and rockwall. The project would restore 3.58 acres of Phragmites-dominated, contaminated wetland to a high-value, diverse habitat. Mitigation would include good design through sustainable design principles, appropriate siting, and best management practices during and after construction. The NPS finds the proposal to be consistent with Executive Orders 11988 (Floodplain Management) and 11990 (Wetland Protection) and the NPS no-net-loss of wetlands policy.

Ecologically critical areas and unique natural features at the Saugus Iron Works Site include spawning habitat of the special status fish species rainbow smelt. As described in the EA, the

NPS is coordinating with the National Marine Fisheries Service and the Massachusetts Division of Marine Fisheries, and based on the results of correspondence, will implement mitigation measures to avoid the likelihood of adverse impacts to this species or its critical habitat. It is expected that site-specific unique, essential, or important fish or fish habitat would experience moderate beneficial impacts because the restoration would enhance the current habitat for the long term, especially for the local rainbow smelt population.

Degree to which effects on the quality of the human environment are likely to be highly controversial: There were no highly controversial effects identified during either preparation of the EA or the public comment period.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks: There were no highly uncertain, unique or unknown risks identified during preparation of the EA or during the public comment period.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration: The selected alternative neither establishes a National Park Service precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts: As described in the EA, the selected alternative would contribute to the overall cumulative long-term impact on the following:

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|-------------------------------------|--|
| - marine or estuarine resources | - floodplain or wetland resources |
| - site-specific resources | - visitor experience and aesthetic resources |
| - recreation resources | - urban quality and gateway communities |
| - long-term management of resources | - archeological resources |
| - cultural landscape | - prehistoric/historic structures |

A small increment would be contributed in the overall cumulative long-term moderate beneficial impact on marine or estuarine resources, floodplain or wetland resources, recreation resources, site-specific resources, including energy, conservation potential, and sustainability, recreation resources, long-term management of the resources or land/resource productivity, and archeological resources. Measurable beneficial cumulative impacts are anticipated from the selected alternative to visitor experience and aesthetic resources, urban quality and gateway communities, cultural landscape and prehistoric/historic structures. The selected alternative would contribute barely perceptible, incremental cumulative impacts to water quality, traffic, and archeological resources because these resources would be impacted short-term during the three months of construction activities.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources: Saugus Iron Works is listed on the National Register of Historic Places and the reconstructed structures of the iron-making works are contributing historic resources, therefore the rehabilitation / restoration of the dock and bulkheads would have moderate, long-term beneficial impacts on these historic structures. Mitigation measures included in the selected alternative would be effective in eliminating potential impacts to the archeological site within the area of potential effects. After applying the Advisory Council on Historic Preservation's criteria of adverse effect (36 CFR 800.5), the NPS has determined that implementing the selected alternative would have an effect, but that it would not be an adverse effect. NPS has received confirmation from the State Historic Preservation Officer in "no adverse impacts" concurrence letters dated March 2, 2004 and February 2, 2006.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat: As described in the EA, the NPS is coordinating with the U.S. Fish and Wildlife Service, and based on the results of consultation, no federally-listed or proposed, threatened or endangered species or critical habitats are known to occur in the project area.

Whether the action threatens a violation of federal, state, or local environmental protection law: The selected alternative violates no federal, state, or local environmental protection laws. The proposed restoration of the Saugus River Turning Basin and Dock will be consistent with existing local, state, and federal regulation.

IMPAIRMENT OF PARK RESOURCES OR VALUES

The National Park Service Organic Act of 1916 and related laws mandate that units of the national park system must be managed in a way that leaves them “unimpaired for the enjoyment of future generations.” These laws give the NPS the management discretion to allow certain impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values. Director’s Order 12 states that environmental documents will evaluate and describe impacts that may constitute an impairment of park resources or values. In addition, the decision document will summarize impacts and whether or not such impacts may constitute an impairment of park resources or values. An impact will be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified as a specific goal in the park’s general management plan or other relevant NPS planning documents

The National Park Service has determined that implementation of the selected alternative will not constitute an impairment to Saugus Iron Works National Historic Site resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the *Environmental Assessment/Draft Environmental Impact Report for Restore Saugus River Turning Basin and Dock*, the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by NPS *Management Policies* (NPS 2006). Although the restoration of the turning basin and dock has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and protect other park resources and values. Overall, the restoration of the turning basin and dock results in benefits to park resources and values, and opportunities for their enjoyment, and will not result in their impairment.

PUBLIC AND INTERAGENCY INVOLVEMENT

The General Management Plan (GMP) / Environmental Assessment for the Saugus Iron Works (NPS, 2002) recommends restoring an open-water condition to the head of the Saugus River tidal basin at the park by excavating sediment to remove dense stands of invasive vegetation and contaminated marsh sediments, which have degraded both the cultural landscape and natural environment of the park. In addition, the GMP recommends the rehabilitation of the unsafe, silted-in and severely deteriorated native timber dock and bulkhead structures to restore structural integrity and function to these reconstructed historic features. Initial scoping efforts after the GMP was released helped to identify the affected public. A value analysis workshop was conducted in June, 2004 (CH2M HILL, 2004) to develop alternatives to meet the objectives of the GMP.

Several stakeholder meetings were held during the design development phase of the project to solicit input from state and federal agencies and other stakeholders. As a result of these meetings, the EA was developed to meet both NEPA and Massachusetts Environmental Policy Act (MEPA) requirements, and several design changes were made to mitigate stakeholders’ concerns.

Comments on the Restore Saugus River Turning Basin and Dock project were solicited during a public scoping period that began on June 3, 2004 and ended on January 22, 2007. This activity was undertaken at the beginning of the project in order to determine the nature and extent of issues to be addressed in project planning and in the environmental assessment. Scoping involved the general public, agencies with jurisdiction by law or expertise, and any other interested agencies. Numerous meetings with stakeholders were held to identify, discuss and analyze issues and impacts associated with the proposed restoration.

In November 2004, NPS issued a press release announcing that NPS is proposing to restore the turning basin and dock at the Saugus Iron Works National Historic Site. A general description of the project was provided, and an open house was held on November 9, 2004. The public was asked to provide comments and concerns related to the proposed restoration project.

The Draft Environmental Assessment/Draft Environmental Impact Report for Restore Saugus River Turning Basin and Dock was released to the public on November 10, 2006 and was announced through press releases to the Daily Item of Lynn on November 20, 2006, and to the Saugonian, the Saugus Advertiser, and the Boston Globe on November 29, 2006. The EA was mailed to 36 individuals, agencies, and associations. The EA was made available at the Saugus Public Library and was also made available for public review on the National Park Service's Planning, Environment, and Public Comment (PEPC) website.

The public was invited to comment on the EA/DEIR during a 30-day comment period (November 11–December 11, 2006). During this period the NPS received seven comment letters or emails via MEPA or received directly from the PEPC website. The comments were responded to on December 21, 2006 (Attachment B, Section 1) and sent to all parties that submitted comments. Several typographical errors in the EA/DEIR were identified as a result of the public review process. These errors have been corrected in the Errata Sheet (Attachment A).

The Certificate of the Secretary of Environmental Affairs (MEPA) was issued on December 15, 2006 and notification of its release was published in the Massachusetts Environmental Monitor on December 23, 2006. An additional public comment period on the MEPA Certificate for the DEIR ran from December 23, 2006 through January 22, 2007. During this comment period one additional comment was received. The Certificate of the Secretary of Environmental Affairs (MEPA) on the Final EIR was issued on January 29, 2007. As directed by the certificate, NPS addressed the comments brought up during the FEIR comment period in a separate letter to DEP. The comments and NPS responses appear in Attachment B, Section 2.

Throughout the project design and review period, NPS consulted with and coordinated comments from local, state and federal agencies in order to better protect and enhance both the natural and cultural environment while meeting the goals and needs of the National Park Service. This included consultation with the Massachusetts State Historic Preservation Officer, Massachusetts Board of Underwater Archaeological Resources, Wampanoag Tribe of Gay Head-Aquinnah Tribal Historic Preservation Officer, Massachusetts Division of Marine Fisheries, National Marine Fisheries Service, Army Corps of Engineers, Massachusetts Department of Environmental Protection, Massachusetts Coastal Zone Management Office, Saugus Conservation Commission, Saugus Board of Selectmen, US Fish and Wildlife Service, Massachusetts Division of Fisheries and Wildlife, Massachusetts Environmental Protection Act Office, and the Massachusetts Highway Department (Attachment B, Section 1, B-1–17 and Section 2 B-17–B-20).

FINDING OF NO SIGNIFICANT IMPACT

The selected alternative (Alternative B), as described on pages 2-1 through 2-15 of the EA, does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The selected alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are minor or moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites, or districts listed in the *National Register of Historic Places*, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the selected alternative will not violate any federal, state, or local environmental protection law.

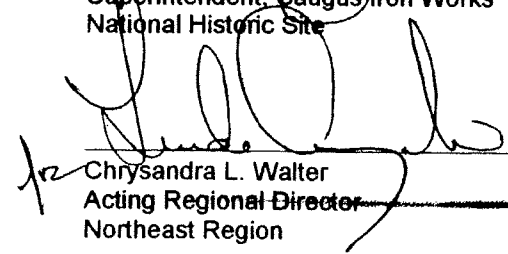
Based on the foregoing, it has been determined that an EIS is not required for this action and thus will not be prepared.

Recommended:


Patricia S. Trap
Superintendent, Saugus Iron Works
National Historic Site

5.3.07
Date

Approved:


Chrysandra L. Walter
Acting Regional Director
Northeast Region

5/11/07
Date

ATTACHMENTS

- A. Errata Sheet for Environmental Assessment
- B. Public and Interagency Comments and Responses

REFERENCES

- Secretary of Environmental Affairs MEPA Office. 2006-2007. Certificates for the DEIR (December 23, 2006) and Final EIR (January 29, 2007) for Restore Saugus River Turning Basin and Dock. Saugus Iron Works, Saugus, Massachusetts.
- National Park Service. 2006. Statement of Findings for Floodplains and Wetlands. Restore Saugus River Turning Basin and Dock. Saugus Iron Works Saugus Iron Works, Saugus, Massachusetts, October 2006.
- CH2M HILL. 2006. Environmental Assessment/Draft Environmental Impact Report for Restore Saugus River Turning Basin and Dock, National Park Service, Saugus Iron Works National Historic Site, Saugus, Massachusetts, October 2006.
- CH2M HILL. 2004. Restore Saugus River Turning Basin and Dock—Final Value Analysis Report, Saugus Iron Works National Historic Site, Saugus, Massachusetts, June 2004.
- National Park Service. 2004-2007. Compendium of Regulatory Correspondence and Negotiations.
- National Park Service. 2002. General Management Plan (GMP)/Environmental Assessment. Saugus Iron Works National Historic Site, Saugus, Massachusetts. April 2002.