

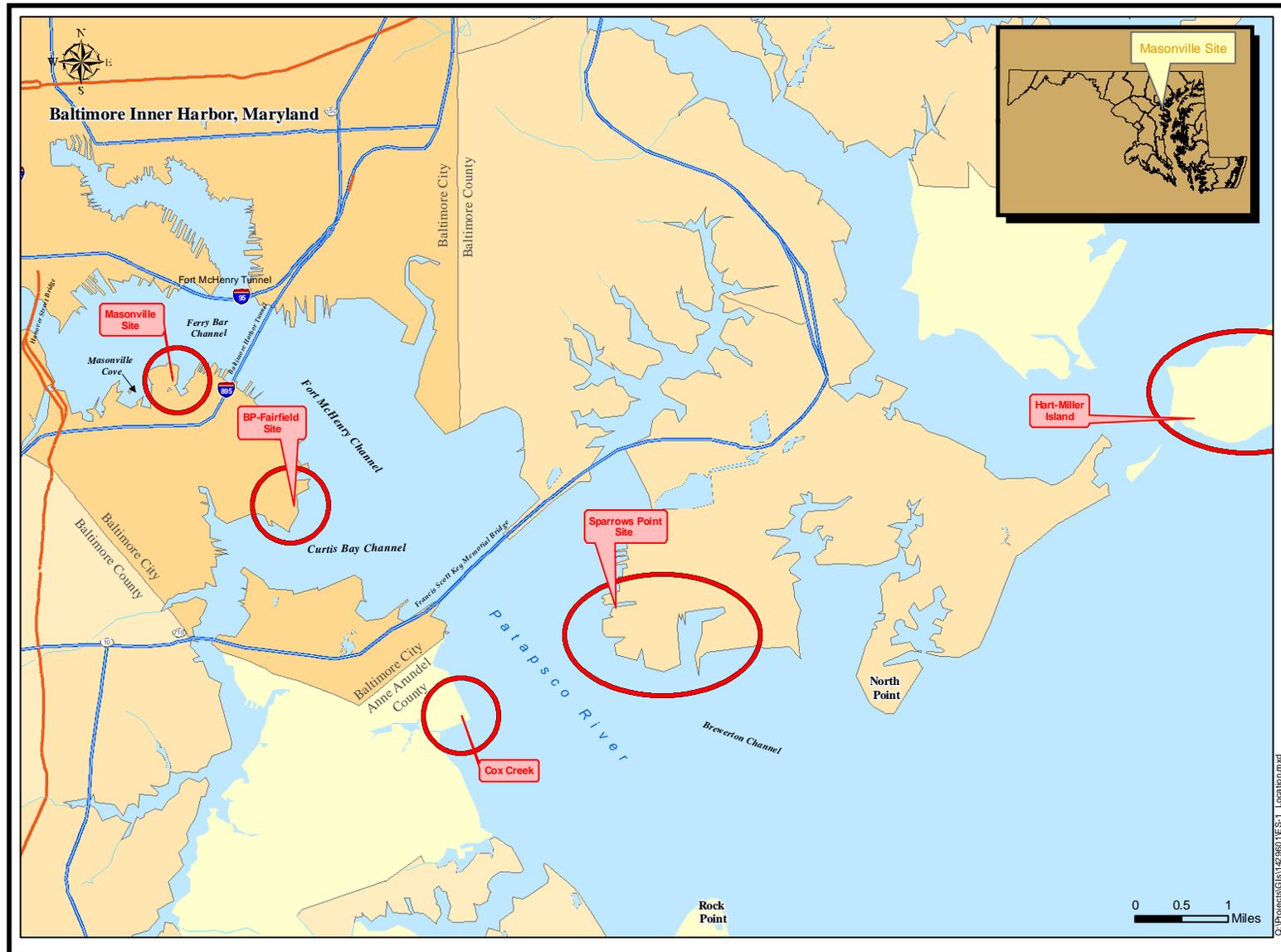
EXECUTIVE SUMMARY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

This draft environmental impact statement (DEIS) is being prepared to support a permit application that has been submitted by the Maryland Port Administration (MPA) to the U.S. Army Corps of Engineers (USACE) pursuant to Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act. The National Environmental Policy Act (NEPA) of 1969 process is being conducted in accordance with the USACE regulations for implementing NEPA as part of a regulatory action [33 Code of Federal Regulations (CFR) 325 Appendix B]. An EIS is required due to the size and potential impacts of the proposed project. This DEIS presents a consolidation of the State and Federal study findings, as well as an evaluation of the suitability of the Masonville site to help meet the 20-year Harbor dredged material placement and the 1.5 mcy annual placement capacity needs. Potential impacts and site development issues have been included in this document.

Baltimore’s geographic location as the port that is situated furthest inland along the East Coast enables it to rapidly ship cargo to the inland industrial centers of the U.S. In order to keep the Baltimore Harbor channels open for safe passage, dredging must occur. Harbor dredging projects for maintenance and new work are projected to generate approximately 1.5 million cubic yards (mcy) of dredged material annually. This demand for placement of dredged material is expected to continue in the foreseeable planning horizon. State environmental regulations dictate that materials dredged from the Harbor be placed at a dredged material containment facility (DMCF) due to the potential for contamination. Currently, material dredged from the Harbor is placed at the Hart-Miller Island (HMI) DMCF. By statute, the HMI DMCF must be closed by December 31, 2009. The HMI DMCF will likely stop receiving Harbor material in 2008 in order to place materials on top that would be suitable for habitat development. The Cox Creek DMCF has been reactivated for receipt of dredged material, however annual capacity is limited if overloading of the site is to be minimized. Under current circumstances, a shortfall of annual capacity will occur in State Fiscal Year (SFY) 2007. This shortfall presents an urgent need to study, select, and implement new options capable of accepting the annual volume of 1.5 mcy of Harbor material.

Both the MPA and the USACE are responsible for maintaining the navigation channels within Baltimore Harbor. To address the predicted dredged material placement capacity shortfall, the MPA utilized the committees of the State Dredged Material Management Program (State DMMP) to identify and screen potential Harbor options. This resulted in the formation of the Harbor Team, which is comprised of local citizens groups, government agencies, local industry and non-profit groups. The Harbor Team, along with federal and local resource agencies, have screened hundreds of potential options for upland placement, island creation, fastland creation, and innovative reuses. Along with general policy recommendations for the MPA to move toward increased management of dredged materials through innovative reuse (0.5 mcy annually by 2023), three sites were selected for feasibility-level study and include: Masonville, Sparrows Point, and the former British Petroleum (BP) Amoco Asphalt Terminal in Fairfield (BP-Fairfield) (Figure ES-1). These studies have indicated that development is feasible for all three sites. However, Masonville is the preferred option from an environmental and engineering standpoint, and it meets the economic requirements of the MPA. The site is owned by the MPA.



46
47

Figure ES-1. Location of MPA Proposed and Existing DMCFs in the Baltimore Harbor Region.

48 and has the fewest constructability issues. Therefore, Masonville was identified through the
49 detailed screening process as the preferred alternative for the State process.
50

51 Concurrent with the State site screening process, the USACE was conducting an independent
52 assessment of dredging and placement needs for Baltimore Harbor. The USACE recently
53 completed its own Dredged Material Management Plan (Federal DMMP) for placement of
54 material dredged from the Baltimore Harbor and approach channels. This Federal DMMP
55 (USACE 2005) assessed placement capacity for material dredged from Federal Channels for a 20
56 year planning horizon. The Federal DMMP is a tiered EIS that contains recommendations for
57 placement of dredged material, but does not make site-specific determinations for future
58 placement sites for material dredged from the Harbor, including Masonville (USACE 2005). For
59 sediments dredged from the Baltimore Harbor channels sediments, the Federal DMMP
60 recommended the: further study of multiple confined placement facilities in the Patapsco River;
61 optimization of existing dredged material management sites in Maryland [e.g., the HMI DMCF,
62 and Cox Creek DMCF (Figure ES-1)]; and continued investigation of innovative reuse
63 alternatives. The further study of Masonville for a DMCF is consistent with these
64 recommendations.
65

66 The proposed Masonville DMCF is located within the estuarine reaches of the Patapsco River,
67 which is generally considered the Baltimore Harbor. The Patapsco River is a tributary of the
68 Chesapeake Bay. The Masonville site is located approximately 4 miles upstream of the Key
69 Bridge and approximately 1 mile downstream of the Hanover Street Bridge, on the southern
70 shore of the River. The land portions of the site lie within Baltimore City, Maryland.
71 Immediately west of the proposed Masonville DMCF is approximately 55 acres of habitat
72 protection area known as Masonville Cove. The Cove and adjacent land are undeveloped and
73 utilized by fish and wildlife species, but also contain significant amounts of debris. Cleanup and
74 enhancement of this area have been integrated into the proposed DMCF site development plan as
75 compensatory mitigation.
76

77 Six alignments were originally developed and analyzed based on engineering constraints to
78 determine which was the most cost-effective and environmentally acceptable option. Final
79 Feasibility Alignment (FFA) 3 was chosen as the preferred alternative for the proposed site
80 development and was carried forth through the NEPA process. FFA 3 would avoid some of the
81 areas of poorest foundation conditions and would also avoid any infringement on Masonville
82 Cove. The footprint of the proposed facility at Masonville is 141 acres. Of this, 10 acres are
83 considered part of the shoreline or upland. There are 127 acres of open water proposed for filling
84 and 3 acres of (legacy) unauthorized fill that would require mitigation. In addition, there is
85 approximately 1 acre of vegetated wetlands (tidal/non-tidal swales) that would be impacted by
86 dike construction or storm drain relocation. The open water areas include a channel next to the
87 former Kurt Iron and Metal (KIM) facility and an inlet known as the Wet Basin located adjacent
88 to the Fairfield Marine Terminal. The average depth of water at the site is 10 ft with a range of 0
89 to 40 ft. Ten acres of shallow water habitat (SWH) and preferred submerged aquatic vegetation
90 (SAV) habitat would be lost if the DMCF were constructed. The total capacity of the proposed
91 DMCF is 16 mcy and the annual placement capacity is 0.5 to 1.0 mcy. Outreach efforts
92 involving the adjacent community (Brooklyn-Curtis Bay) identified Masonville Cove as a good
93 opportunity for ecological enhancement and mitigation with additional opportunities for

94 education and recreation. Therefore, Masonville Cove has become the centerpiece of the
95 mitigation package.

96
97 Because the Masonville project is on an accelerated schedule in order to meet the Harbor
98 dredging needs shortfall, it became apparent in late 2004 that the Masonville project might have
99 to be moved forward for private permitting. Consequently, the MPA decided to pursue a
100 Department of the Army Permit, a Tidal Wetlands License, and other necessary permits. The
101 MPA met with the State and Federal Joint Evaluation Committee in January 2005. In March
102 2005, the USACE, Regulatory Branch, established that it would be the lead agency for these
103 efforts. The MPA met with USACE and the Maryland Department of the Environment (MDE)
104 to establish a timeline and determined that an EIS would be required to accompany the wetlands
105 permit application. Public scoping for the NEPA document began in June 2005 with a public
106 scoping meeting. Mitigation negotiations are ongoing with the State, the USACE, and other
107 Federal environmental agencies.

108
109 State Feasibility-level studies of the site were completed in late summer 2005. The results are
110 detailed in this DEIS. Existing conditions surveys found that the Masonville site lies in an area
111 with relatively low salinities and weak tidal currents. The bottom sediments in Baltimore Harbor
112 and the Masonville site vicinity are predominantly clayey silt, with some locations of sand, silt
113 and clay. Studies indicated the sediments in some parts of the site contain elevated
114 concentrations of typical urban riverine sediment contaminants [e.g., metals, polychlorinated
115 biphenyls (PCBs), and other pesticides]. Concentrations of some of the contaminants exceed
116 sediment quality guidelines for probable ecological effects. Water quality in the area is degraded
117 due to anthropogenic inputs and the area is prone to eutrophication in warmer months. Benthic
118 conditions within the site are generally degraded and fish utilization within the footprint of the
119 proposed facility is low relative to other areas of the Harbor. There are no known Rare,
120 Threatened, and Endangered (RTE) species utilizing the proposed Masonville DMCF area,
121 although transient RTE species, such as the bald eagle, have been observed on occasion in the
122 vicinity of the proposed project. In addition, the Harbor does not provide significant essential
123 fish habitat (EFH) for Magnuson-Stevens Fishery Conservation & Management Act (MSFCMA)
124 regulated species. A small area of SAV was identified within the proposed DMCF footprint and
125 approximately 10 acres of Tier I/Tier II SAV habitat would be impacted due to proposed site
126 development. Two 0.5-acre tidal/non-tidal wetland swales would be lost by isolation from the
127 River and dike building or storm drain realignment.

128
129 Conversely, the adjacent Masonville Cove has relatively good sediment and benthic conditions
130 in most areas and supports a diverse fish community. Masonville Cove is designated as a
131 Habitat Protection Area within Baltimore City, mainly due to bird utilization. This function
132 would be protected and enhanced as part of the mitigation for this proposed project. There are
133 few terrestrial resources because the area is largely industrial and the resources that do exist are
134 predominantly opportunistic plant species. Enhancement plans for the Cove are designed to
135 improve substrate and in-stream habitat (including SAV), which could have secondary positive
136 effects on water quality. Cove enhancements would also include cleanup of the terrestrial area
137 and planting of native species. Creation and enhancement of wetlands and creation of beach
138 areas are also planned as additional ecosystem restoration efforts within the Cove.

139

140 The proposed Masonville DMCF project area supports few human use amenities. Recreation in
141 the area (other than birdwatching) is presumed to be low based upon input from the local
142 community. No historical or cultural resources occur within the proposed DMCF footprint or
143 Masonville Cove. Recreational fishing does not appear to be significant and very little
144 commercial fisheries harvesting occurs in the area.
145

146 Local demographics indicate that the neighborhoods in the vicinity of the site do not contain a
147 disproportionate minority population relative to Baltimore City, but median incomes are below
148 the average for the City. The economic sectors employing the largest number of people in the
149 census tracts near the proposed site are the wholesale and retail trade; the education, health and
150 social services; and the manufacturing sectors.
151

152 In order to construct the facility where it is planned, several additional activities would need to
153 occur prior to construction. A storm drain outfall needs to be relocated from the end of the KIM
154 Channel to the eastern side of the proposed alignment. The existing outfall abuts a small tidal
155 wetland swale (mentioned previously). A Baltimore City water line runs under the proposed
156 alignment and the City has indicated that it must be moved so that it can be accessed for future
157 maintenance. The most significant pre-development task involves remediation of derelict vessels
158 on the eastern side of the site near the former KIM facility. Some of the derelict vessels are
159 known to contain hazardous or other regulated wastes. The MPA is negotiating a cleanup plan
160 of these vessels with the MDE. Removal of significant debris from both the aquatic and
161 terrestrial areas of Masonville Cove would need to occur prior to any habitat enhancement. A
162 cleanup plan may also be required for that area.
163

164 Construction of the proposed Masonville DMCF would take approximately two years. Site
165 construction requires use of a sand source below the site. In order to access the material,
166 approximately 15 feet of silty overburden would need to be dredged (stripped off) and placed at
167 the HMI DMCF. This material is already included in planning the remaining site capacity at the
168 HMI DMCF. The primary source for construction material (borrow) lies entirely within the
169 proposed Masonville DMCF footprint. Sufficient capacity should be available from below the
170 site, although the cofferdam would likely be constructed with offsite borrow material. Any
171 offsite borrow material would come from licensed upland sources. Surficial sediments are
172 silts/clays; the borrow source is predominantly fine sand with some silt and clay lenses.
173 Laboratory testing of the surficial sediments indicated that significant contamination exists in
174 some areas of the site, although the contaminants are readily released into the water when
175 agitated. However, the material proposed for dike construction is relatively free of contaminants.
176 The site is anticipated to be operational for approximately 20 years. The site would be lined with
177 a leachate barrier with a permeability of 5×10^{-6} cm per second in order to minimize the potential
178 for migration of materials to the adjacent river.
179

180 The potential impacts of dredging, dike construction, and site operation were assessed relative to
181 resources. The impacts are outlined below:
182

183 ***Long-term, adverse impacts of the proposed project*** are predominantly associated with
184 conversion of 123 acres of open water to fastland (upland) and convert 6 acres of open water to
185 shallower open water. The long-term significant impacts include:

- 186 • Permanent change in physiography
- 187 • Increase in residence time in Masonville Cove, increasing sedimentation slightly.
- 188 • Loss of 0.6 percent of the tidal portion of the Patapsco River with associated benthic
- 189 resources and fisheries habitat.
- 190 • Loss of a small amount of SAV and approximately 10 acres of Tier I/Tier II SAV and
- 191 Shallow Water Habitat and 10 acres of upland habitat.
- 192

193 *Short-term or minor impacts of the proposed project* are predicted to some resources. These
194 predominantly would occur during construction and include:

- 195 • Increased turbidity, and nutrient concentrations in the water during construction and
- 196 intermittent spillway discharges.
- 197 • A decrease in plankton density due to construction turbidity and entrainment.
- 198 • Intermittent nutrient releases during site operations, which could stimulate phytoplankton
- 199 growth and affect dissolved oxygen (secondarily).
- 200 • Loss of less mobile fish species during site pre-dredging and construction.
- 201 • Loss of EFH and aquatic RTE habitat (minor because species of concern are only transient to
- 202 area).
- 203 • Increased air quality emissions during construction. A Federal Conformity decision (and
- 204 mitigation) would be required.
- 205 • Temporary increase in barge traffic during construction and dredged material placement
- 206 operations.
- 207 • Disturbances of the critical area and the floodplain during Masonville Cove cleanup efforts.
- 208 • Loss of potential recreational fishing areas within the proposed DMCF footprint.
- 209 • Increased noise during construction, dredged material placement operations, and subsequent
- 210 site development and use.
- 211 • Permanent alteration of the viewshed from some vantages that would be consistent with the
- 212 urban watershed and adjacent Cove.
- 213

214 For resources that are either not present or only intermittent to the area, *no significant adverse*
215 *project impacts are predicted*. In addition, modeling and experience at other containment
216 facilities in the area have indicated that the potential for some impacts is negligible. Therefore, it
217 is expected that the project would have no long-term adverse impact on:

- 218 • Tides and currents
- 219 • Water column toxics during construction (based upon modeling and laboratory testing)
- 220 • Groundwater supply and surficial aquifer contamination.
- 221 • Sediment quality
- 222 • Avian and terrestrial wildlife utilization
- 223 • RTE Species or EFH Species
- 224 • Upland vegetation
- 225 • Noise or light impacts to residential or recreational use
- 226 • Increase in HTRW or associated risks
- 227 • Coastal barrier resources
- 228 • Wild and Scenic Rivers
- 229 • Prime or Unique Farmland
- 230 • Environmental Justice or Child Safety

231 ***No Action Alternative***

232 Under the no action alternative, Masonville DMCF would not be developed. Because the MPA
233 has determined that the currently scheduled dredging activities cannot be deferred, the no action
234 alternative would result in the need to place the materials scheduled to go to Masonville at the
235 the HMI DMCF and Cox Creek DMCF through 2009. The no action alternative involves annual
236 overloading at both the HMI DMCF and Cox Creek DMCF. Overloading at the Cox Creek
237 DMCF would decrease the overall site life of the Cox Creek DMCF by approximately 4 years,
238 assuming that the material scheduled for placement at Masonville after 2010 were to be placed at
239 Cox Creek and the material to be placed at Masonville in 2009 was placed at the HMI DMCF.
240 This would result in no placement capacity for Harbor materials as early as 2012.

241
242 Overloading at the HMI DMCF and Cox Creek DMCF would very likely result in the need to
243 hold water at the facilities for longer periods and may result in increased discharges of nutrients
244 into the Chesapeake Bay and Patapsco River, respectively. These increased discharges may
245 require modifications to the existing discharge permits. Additional nutrient offsets, such as
246 DMCF spillway treatment or retrofits to existing wastewater treatment plants, may also be
247 required.

248
249 The 130 acres of open water and 10 acres of adjacent uplands at Masonville would not be filled
250 if the DMCF is not developed. The existing conditions at the Masonville site would remain.
251 The air emissions associated with the construction of the Masonville DMCF would not be
252 released. Many of the emissions that would be associated with the management of the dredged
253 material at Masonville would be associated with the HMI DMCF and Cox Creek DMCF since
254 this material would still be managed at a facility. The full-time equivalent (FTE) jobs that would
255 be associated with the construction and monitoring of the proposed Masonville DMCF would not
256 be created.

257
258 If the Masonville DMCF is not constructed, there would be no regulatory reason to remediate the
259 derelict vessels on the western side of the proposed DMCF site. The funding currently allocated
260 for site development would be released to other Maryland Department of Transportation
261 (MDOT) efforts and the remediation of the 25 derelict vessels would be deferred. Thus, removal
262 of this source of contamination from the Patapsco River would not occur. Also, the other
263 ecological benefits and community enhancements associated with the Masonville DMCF and the
264 proposed mitigation package would not be realized.

265
266 ***Cumulative Impacts***

267 In addition to an assessment of the proposed project and no action alternative on area resources,
268 NEPA requires that the cumulative effects of the project in combination with similar projects be
269 assessed. Activities warranting greatest attention from the cumulative impacts perspectives are
270 those activities that, in combination with development of the proposed DMCF, would potentially
271 magnify what are perceived by resource agency personnel and the public as the most significant
272 impacts of the proposed work in Baltimore Harbor and adjacent areas of the Bay. The activities
273 meriting particular scrutiny include: 1) conversion of significant areas of open water and
274 Patapsco River bottom habitat, including SWH, to upland habitat, 2) other significant nutrient or
275 turbidity inputs, 3) other significant in-water construction projects or dredging operations, and 4)
276 other significant air emissions or surface water loadings.

277
278 Recent and reasonably foreseeable human actions that have converted or would convert open
279 water habitat to uplands include the HMI DMCF, the Seagirt Marine Terminal facility, the Cox
280 Creek DMCF, the proposed Masonville DMCF, and the proposed second and third Harbor
281 placement options that will be needed to meet the 20-year need for dredged material placement
282 capacity. Currently, these future second and third potential Harbor placement options include
283 placement facilities at Sparrows Point and BP-Fairfield. The total acreage of river/bay bottom in
284 the Patapsco River from the currently operating and proposed facilities is approximately 2,085
285 acres. Facilities that are currently operating account for approximately 1,294 acres of river/bay
286 bottom in the Patapsco River and nearby areas of the Chesapeake Bay, and the total for proposed
287 facilities includes an additional 790 acres of open water. Only approximately 100 acres of the
288 2,085 acres is proposed for potential wetland development at this time.

289
290 Although the proposed Masonville DMCF would add to the nutrient load in Baltimore Harbor,
291 the discharges would be intermittent. The potential loadings would constitute 0.36 percent or
292 less of the total loadings (nitrogen and phosphorus) within the Patapsco/Back River complex.
293 This accounts for all facilities that are currently operating. Future (proposed) DMCFs would
294 contribute similar (intermittent) loadings similar to the HMI DMCF or the proposed Masonville
295 DMCF, depending upon the size. The HMI DMCF loadings will be much reduced after 2010,
296 when site operations cease and will offset some of the future loadings in the area. The spillways
297 for all facilities would require NPDES permits and would be held to certain quality standards,
298 which would limit the amount of nutrients that can be released. Therefore, cumulative impacts
299 to regional water quality are not anticipated from the cumulative discharge of water through the
300 spillways for the existing or proposed DMCFs.

301
302 The potential conversion of 2,085 acres of open water habitat (that includes river/bay bottom
303 habitat) within the Patapsco River and adjacent areas of the Bay would constitute a permanent
304 loss of benthic habitat and productive open water and would permanently displace fisheries
305 resources from these areas. Of the approximately 19,300 acres of the tidal portion of the
306 Patapsco River, 4.9 percent has been or is proposed for development. Because the lower
307 Patapsco River supports both anadromous and marine species, both migratory and resident fish
308 are likely to be displaced. However, Baltimore Harbor is not considered EFH for MSFCMA
309 regulated species. Therefore, no cumulative adverse impacts to EFH species are anticipated as a
310 result of the proposed project. Commercial fisheries harvesting is minimal near Masonville and
311 the BP-Fairfield site, but does occur in the outer Harbor near Sparrows Point. Because Sparrows
312 Point is the only current or future site that potentially supports commercial harvesting, direct
313 cumulative impacts to commercial harvesting areas are not expected with the proposed
314 Masonville DMCF. Although losses of open water habitat are projected, the associated
315 mitigations and enhancements to fisheries habitat within the Patapsco River as part of the
316 mitigation package are expected to offset some of the losses and ameliorate much of the impact.
317 The cumulative effect of capping or remediation of contaminated sediments as a result of the
318 proposed DMCFs or associated mitigation projects is expected to decrease the non-point source
319 contributions to the estuary, which could have secondary, positive impacts on water quality,
320 benthic habitat and fisheries in some areas.

321
322 No other potential cumulative impacts are expected.

323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366

The proposed project, with the integration of the compensatory mitigation in Masonville Cove, has the potential to benefit the Patapsco River. Potential improvements resulting directly or secondarily from site development include:

- The remediation of 25 derelict vessels and capping of sediments has the potential to improve (decrease) the toxics burden in this part of the Patapsco River, making contaminants such as metals (including mercury) and PCBs less available to the aquatic environment. Similar to the cumulative impacts, this remediation has the potential to have a secondary, positive impact on water quality, benthic habitat, and fisheries in the area.
- Because some of the enhancements in Masonville Cove go beyond compensatory mitigation, the proposed cleanup and improvement efforts are expected to benefit both the ecological system as well as the adjacent community.
- The education and trails system was conceived with community input and is being designed specifically to improve community access to Masonville Cove and to improve ecological recreation and educational opportunities in the Brooklyn-Curtis Bay area. These are expected to provide direct benefits from the project. Indirectly, the project would stimulate community involvement and environmental stewardship.
- Aquatic improvements to Masonville Cove include the cleanup of large in-water debris, tidal wetlands creation and enhancements, substrate improvements to protect/enhance SAV and benthic conditions, softening of shorelines and installation of beach habitat, and fish reef installation (reef balls, rock and sand mounds). Although many of these projects are proposed as compensatory mitigation (e.g., no net benefit), there is a potential that improving the instream habitat (including SAV), the benthic community, and fisheries would have secondary benefits to adjacent areas of the river in the longer-term.
- The hard substrates that would be installed in Masonville Cove and the rock of the dike armor would provide attachment areas for encrusting fauna such as platform mussels, and barnacles. Bivalves (mussels and oysters) are filter feeders and would help improve water clarity within the Cove. Water clarity improvements would have a secondary benefit to SAV in the immediate area. Attached algae would also use the hard substrates that would be installed in the Cove.
- Short-term and long-term beneficial impacts associated with the construction and operation of the proposed DMCF at Masonville include the increased spending that would create jobs both locally and at the State level. The jobs created would benefit employment rates, income, and revenues. The additional beneficial impact of the proposed project would be increased placement capacity to meet the Harbor dredged material placement needs. The direct benefits are to navigation safety and direct Port employment. Secondary benefits are realized in induced jobs and continued Port expansion and cargo market share.