

Appendix E

**Future Projections for
Dredged Material Placement
by the Rock Island District
for
Upper Mississippi River
and
Illinois Waterway Pools**

Table E-1. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 11 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)
Developed	5.1	562.5	0.9%	0.0
Grassland	0.8	9.6	7.9%	0.0
Open Water	9.7	14,110.7	0.1%	5.1
Sand/Mud	7.5	72.9	10.2%	3.3
Submersed Aquatic Bed	0.2	2,156.6	0.0%	0.0
Wet Floodplain Forest	2.6	6,136.3	0.0%	1.7
Wet Meadow	0.9	884.8	0.1%	0.0
Unknown Placement Area ^a	4.9	--	--	0.0
Total	31.6	29,271.3^b	0.1%	10.1^c

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000). These acreages are for general comparison purposes only, and not supported by a land survey.

Table E-2. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 12 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)
Developed	0.5	1,598.2	0.0%	0.0
Open Water	29.3	8,233.4	0.4%	16.5
Salix Community	1.1	107.7	1.0%	1.1
Sand/Mud	0.9	14.7	5.9%	0.9
Scrub/Shrub	0.8	383.4	0.2%	0.8
Submersed Aquatic Bed	1.6	1,434.2	0.1%	1.6
Wet Floodplain Forest	0.4	4,516.8	0.0%	0.4
Wet Meadow	0.7	1,283.4	0.1%	0.7
Unknown Placement Area ^a	2.5	--	--	0.0
Total	37.8	20,428.6^b	0.2%	22.0^c

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000). These acreages are for general comparison purposes only, and not supported by a land survey.

Table E-3. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 13 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)
Agriculture	0.0	4,352.7	0.0%	0.0
Developed	16.6	7,074.7	0.2%	1.8
Floating-Leaved Aquatic Bed	2.8	4,449.2	0.1%	1.7
Open Water	142.1	15,237.8	0.9%	104.9
Salix Community	0.4	301.8	0.1%	0.1
Sand/Mud	3.4	99.5	3.4%	0.9
Scrub/Shrub	13.8	1,008.5	1.4%	1.7
Seasonally Flooded Emergent Perennial	0.4	785.0	0.1%	0.0
Semi-Permanently Flooded Emergent Perennial	0.2	3,322.0	0.0%	0.0
Submersed Aquatic Bed	14.0	6,182.2	0.2%	13.6
Wet Floodplain Forest	18.8	11,158.0	0.2%	8.9
Wet Meadow	11.0	3,148.4	0.3%	11.0
Unknown Placement Area ^a	3.3	--	--	0.0
Total	226.7	59,207.4 ^b	0.4%	144.6 ^c

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000). These acreages are for general comparison purposes only, and not supported by a land survey.

Table E-4. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 14 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)
Agriculture	4.4	1,950.4	0.2%	0.0
Developed	0.0	3,656.2	0.0%	0.0
Grassland	2.9	153.8	1.9%	0.0
Open Water	37.8	8,769.2	0.4%	1.4
Salix Community	0.0	166.9	0.0%	0.0
Sand/Mud	7.5	17.5	42.6%	5.0
Scrub/Shrub	4.6	718.6	0.6%	0.0
Submersed Aquatic Bed	0.2	877.4	0.0%	0.0
Wet Floodplain Forest	9.6	6,663.5	0.1%	5.4
Wet Meadow	4.9	911.8	0.5%	0.0
Unknown Placement Area ^a	5.7	--	--	0.0
Total	77.6	25,935.0 ^b	0.3%	11.8 ^c

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000). These acreages are for general comparison purposes only, and not supported by a land survey.

Table E-5. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 15 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^b
Developed	4.1	4,425.7	0.1%	0.0
Open Water	0.0	3,250.0	0.0%	0.0
Total	4.1	9,221.8^a	0.0%	0.0

^a Total acreage within the UMR floodplain for this pool.

^b Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-6. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 16 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^b
Agriculture	39.3	2246.6	1.7%	0.0
Mesic Bottomland Hardwood Forest	0.0	274.3	0.0%	0.0
Open Water	3.9	9603.7	0.0%	0.0
Sand/Mud	11.5	25.2	45.5%	0.0
Scrub/Shrub	0.5	732.2	0.1%	0.0
Wet Floodplain Forest	3.5	5505.1	0.1%	0.0
Total	58.8	26,821.0^a	0.2%	0.0

^a Total acreage within the UMR floodplain for this pool.

^b Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-7. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 17 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^b
Agriculture	25.3	9,237.4	0.3%	0.0
Developed	1.0	1,746.3	0.1%	0.0
Mesic Bottomland Hardwood Forest	4.6	491.1	0.9%	0.0
Open Water	4.8	6,161.7	0.1%	0.0
Sand/Mud	6.2	11.5	53.9%	0.0
Scrub/Shrub	14.6	1,116.9	1.3%	0.0
Submersed Aquatic Bed	0.5	478.5	0.1%	0.0
Wet Floodplain Forest	15.5	6,403.0	0.2%	0.0
Wet Meadow	30.3	691.1	4.4%	0.0
Total	102.7	72,362.2^a	0.1%	0.0

^a Total acreage within the UMR floodplain for this pool.

^b Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-8. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 18 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^b
Agriculture	107.9	56,913.5	0.2%	0.0
Mesic Bottomland Hardwood Forest	0.0	5,438.9	0.0%	0.0
Open Water	58.8	12,310.4	0.5%	0.0
Sand/Mud	7.1	192.8	3.7%	0.0
Scrub/Shrub	9.6	3,618.5	0.3%	0.0
Seasonally Flooded Emergent Perennial	0.3	200.7	0.2%	0.0
Submersed Aquatic Bed	0.6	889.5	0.1%	0.0
Wet Floodplain Forest	42.0	13,334.5	0.3%	0.0
Wet Meadow	0.2	2,625.0	0.0%	0.0
Total	226.6	134,450.1^a	0.2%	0.0

^a Total acreage within the UMR floodplain for this pool.

^b Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-9. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 19 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^c
Agriculture	14.7	45,711.4	0.0%	0.0
Developed	10.4	7,031.5	0.1%	0.0
Open Water	10.1	24,582.8	0.0%	0.0
Sand/Mud	6.2	100.7	6.2%	0.0
Scrub/Shrub	5.0	3,295.3	0.2%	0.0
Wet Floodplain Forest	6.6	13,329.3	0.0%	0.0
Wet Meadow	0.8	2,550.5	0.0%	0.0
Unknown Placement Area ^a	6.9	--	--	0.0
Total	60.8	118,926.4^b	0.1%	0.0

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-10. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 20 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^c
Agriculture	17.2	43,819.1	0.0%	0.0
Open Water	32.0	8,118.6	0.4%	0.0
Sand/Mud	7.6	246.1	3.1%	0.0
Scrub/Shrub	0.4	2,901.8	0.0%	0.0
Wet Floodplain Forest	0.9	6,645.8	0.0%	0.0
Wet Meadow	6.2	1,152.3	0.5%	0.0
Unknown Placement Area ^a	2.5	--	--	0.0
Total	66.7	75,281.1^b	0.1%	0.0

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-11. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 21 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^b
Agriculture	61.8	43,100.1	0.1%	0.0
Developed	1.8	1,594.7	0.1%	0.0
Open Water	47.3	8,149.1	0.6%	0.0
Sand/Mud	9.5	118.2	8.0%	0.0
Scrub/Shrub	26.9	2,822.9	1.0%	0.0
Wet Floodplain Forest	7.1	9,274.8	0.1%	0.0
Total	154.5	66,616.7^a	0.2%	0.0

^a Total acreage within the UMR floodplain for this pool.

^b Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-12. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Pool 22 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^c
Agriculture	43.8	42,384.8	0.1%	0.0
Developed	10.9	966.6	1.1%	0.0
Open Water	80.7	8,515.3	0.9%	0.0
Sand/Mud	2.7	65.7	4.2%	0.0
Scrub/Shrub	73.3	3,062.8	2.4%	0.0
Wet Floodplain Forest	10.9	9,653.6	0.1%	0.0
Wet Meadow	5.6	886.3	0.6%	0.0
Unknown Placement Area ^a	4.9	--	--	0.0
Total	232.8	84,303.6^b	0.3%	0.0

^a Exact placement area is uncertain; thus, evaluation of impacts to specific habitat types is not possible.

^b Total acreage within the UMR floodplain for this pool.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-13. Summary of the aerial coverage of projected dredged material placements for the Rock Island District, by habitat type, for part of Pool 24 of the Upper Mississippi River for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^c
Developed	0.0	284.3	0.0%	0.0
Scrub/Shrub	16.1	1,595.6	1.0%	0.0
No Photo Coverage ^a	32.5	--	--	0.0
Total	48.5	71,257.4^b	0.1%	0.0

^a Constitutes portions of the UMR floodplain not included within the HNA database due to lack of coverage within the source aerial photographs. Habitat types within these areas cannot be identified within GIS. However, further review of the projected 32.5 acres shows that this area, as of PEA preparation, occurs completely on an agricultural habitat type. This would affect about 0.1% of all the Pool 24 floodplain agricultural land within the District.

^b Total acreage within the UMR floodplain for Pool 24 that falls within the Rock Island District.

^c Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-14. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Dresden Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections). Comparisons based upon habitat classifications associated with 1989 satellite coverage data.

1989 Satellite Land Use/Land Cover Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	0.0	107.6	0.0%	0.0
Grasses/Forbs	1.8	1,193.2	0.2%	0.0
Hydrophytic Vegetation	0.0	26.0	0.0%	0.0
NoData/Clouds	0.0	0.2	0.0%	0.0
Open Water	2.4	2,370.2	0.1%	0.0
Sand	1.4	36.3	3.9%	0.0
Urban/Developed	0.7	627.3	0.1%	0.0
Woody Terrestrial	7.9	1,724.4	0.5%	0.0
Total	14.2	6,085.3	0.2%	0.0

^a Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-15. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Marseilles Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections). Comparisons based upon habitat classifications associated with 1989 satellite coverage data.

1989 Satellite Land Use/Land Cover Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	3.7	11,379.8	0.0%	0.0
Grasses/Forbs	0.0	2,101.1	0.0%	0.0
Hydrophytic Vegetation	0.0	130.8	0.0%	0.0
NoData/Clouds	0.0	3.8	0.0%	0.0
Open Water	18.3	4,622.7	0.4%	0.0
Sand	0.0	7.3	0.0%	0.0
Urban/Developed	0.0	2,544.6	0.0%	0.0
Woody Terrestrial	7.8	4,733.3	0.2%	0.0
Unknown	2.5	0.0	--	0.0
Total	32.4	25,523.3	0.1%	0.0

^aFederal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-16. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Starved Rock Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections). Comparisons based upon habitat classifications associated with 1989 satellite coverage data.

1989 Satellite Land Use/Land Cover Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	0.0	3,346.5	0.0%	0.0
Grasses/Forbs	0.1	1,043.3	0.0%	0.0
Hydrophytic Vegetation	0.1	419.0	0.0%	0.0
Open Water	6.8	3,108.3	0.2%	0.0
Sand	0.4	2.2	18.7%	0.0
Urban/Developed	11.6	3,645.1	0.3%	0.0
Woody Terrestrial	10.9	2,391.9	0.5%	0.0
Unknown	14.8	--	--	0.0
Total	44.8	13,956.2	0.3%	0.0

^aFederal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-17. Summary of the aerial coverage of projected dredged material placements, by habitat type, for Peoria Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	57.6	21,039.6	0.3%	0.0
Developed	27.9	6,491.9	0.4%	0.0
Grassland	0.1	171.0	0.0%	0.0
Mesic Bottomland Hardwood Forest	2.4	3,420.8	0.1%	0.0
Open Water	37.4	34,993.8	0.1%	0.0
Populus Community	0.0	27.4	0.0%	0.0
Salix Community	0.1	1,715.8	0.0%	0.0
Sand/Mud	0.9	71.8	1.2%	0.0
Scrub/Shrub	9.7	3,912.4	0.2%	0.0
Semi-Permanently Flooded Emergent Perennial	0.0	95.4	0.0%	0.0
Submersed Aquatic Bed	0.0	42.0	0.0%	0.0
Wet Floodplain Forest	28.6	18,270.0	0.2%	0.0
Wet Meadow	3.2	5,998.6	0.1%	0.0
Total	167.9	96,250.5	0.2%	0.0

^a Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-18. Summary of the aerial coverage of projected dredged material placements, by habitat type, for most of La Grange Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections). Future projections include all areas covered for La Grange Pool within the HNA GIS Query Tool (USACE 2000).

HNA Habitat Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	315.1	65,527.3	0.5%	39.2
Developed	0.7	3,429.4	0.0%	0.0
Floating-Leaved Aquatic Bed	0.0	513.5	0.0%	0.0
Grassland	0.9	6,099.8	0.0%	0.0
Mesic Bottomland Hardwood Forest	0.0	2,731.3	0.0%	0.0
No Photo Coverage	0.0	54,312.1	0.0%	0.0
Open Water	94.8	24,489.6	0.4%	2.8
Populus Community	1.0	367.0	0.3%	1.0
Salix Community	6.1	1,525.8	0.4%	0.0
Sand/Mud	48.5	2,134.5	2.3%	0.1
Scrub/Shrub	20.3	4,111.9	0.5%	0.2
Seasonally Flooded Emergent Perennial	0.0	45.6	0.0%	0.0
Semi-Permanently Flooded Emergent Perennial	0.0	656.1	0.0%	0.0
Submersed Aquatic Bed	0.0	1,388.7	0.0%	0.0
Wet Floodplain Forest	29.8	26,091.4	0.1%	1.2
Wet Meadow	57.7	5,373.9	1.1%	4.7
Total	574.9	198,797.9	0.3%	49.2

^a Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000). These acreages are for general comparison purposes only, and not supported by a land survey.

Table E-19. Summary of the aerial coverage of projected dredged material placements, by habitat type, for portions of La Grange Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections). Future projections include all areas not covered for La Grange Pool within the HNA GIS Query Tool (immediately below Peoria Lock and Dam).

1989 Satellite Land Use/Land Cover Types	Total Placement Acres by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	0.0	97.5	0.0%	0.0
Grasses/Forbs	0.0	79.7	0.0%	0.0
Hydrophytic Vegetation	0.0	263.1	0.0%	0.0
Open Water	34.4	807.6	4.3%	0.0
Urban/Developed	0.0	52.6	0.0%	0.0
Woody Terrestrial	21.3	1,035.2	2.1%	0.0
Total	55.7	2,335.7	2.4%	0.0

^a Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).

Table E-20. Summary of the aerial coverage of projected dredged material placements for the Rock Island District, by habitat type, for Alton Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

1989 Satellite Land Use/Land Cover Types	Total Placement by Habitat (acres)	Pool Total by Habitat (acres)	Percent of Habitat Type Impacted	Total Placement on Federal Land (acres)^a
Agriculture	0.5	152,994.8	0.0%	0.0
Grasses/Forbs	0.0	4,515.3	0.0%	0.0
Hydrophytic Vegetation	0.0	2,011.0	0.0%	0.0
NoData/Clouds	0.0	1.3	0.0%	0.0
Open Water	0.0	15,306.4	0.0%	0.0
Urban/Developed	0.0	1,017.9	0.0%	0.0
Woody Terrestrial	0.0	20,846.6	0.0%	0.0
Total	0.5	196,693.3	0.0%	0.0

^a Federal lands were estimated using GIS coverage developed for the Habitat Needs Assessment (Theiling et al. 2000).