

Appendix D

**Future Projections for
Channel Maintenance Dredging Requirements
by the Rock Island District
for Upper Mississippi and
Illinois Waterway Pools**

Table D-1. Summary of projected channel maintenance dredging requirements for Pool 11 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 10 Lower	613.7 - 614.9	-	-	-	-
Swift Slough	612.7 - 613.5	20,000	1	20,000	0.03
Goetz Island	612.1 - 612.7	20,000	1	20,000	0.03
St. Louis Woodyard	610.0 - 612.1	**			
Turkey River	608.8 - 610.0	300,000	10	30,000	0.25
Turkey River Lower	607.8 - 608.8	**			
Cassville	605.7 - 606.3	-	-	-	-
Island 195	604.6 - 605.3	-	-	-	-
Buena Vista Upper	603.8 - 604.6	-	-	-	-
Buena Vista	602.9 - 603.4	50,000	2	25,000	0.05
Hurricane Island	598.7 - 599.1	143,400	6	23,900	0.15
Finley's Landing	595.5 - 596.5	320,000	16	20,000	0.40
Finley's Lower	593.5 - 595.5	200,000	10	20,000	0.25
Total		1,053,400	46	22,900	1.15

** Estimates combined with the Turkey River DMMP.

Table D-2. Summary of projected channel maintenance dredging requirements for Pool 12 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Dubuque	581.3 - 581.6	-	-	-	-
Catfish Creek	579.2 - 580.1	-	-	-	-
Catfish Crossing	574.3 - 574.8	-	-	-	-
Shinkles Bar	573.5 - 574.3	30,000	2	15,000	0.05
Nine Mile Island	572.6 - 572.9	-	-	-	-
Deadman's Light	568.5 - 568.8	-	-	-	-
Deadman's Lt. Lwr.	566.8 - 568.0	-	-	-	-
Gordon's Ferry	565.1 - 565.8	40,000	2	20,000	0.05
Island 241 Light	561.8 - 562.5	520,000	8	65,000	0.20
Bellevue Slough	560.4 - 561.1	-	-	-	0.00
Total, Pool 12		590,000	12	49,167	0.30

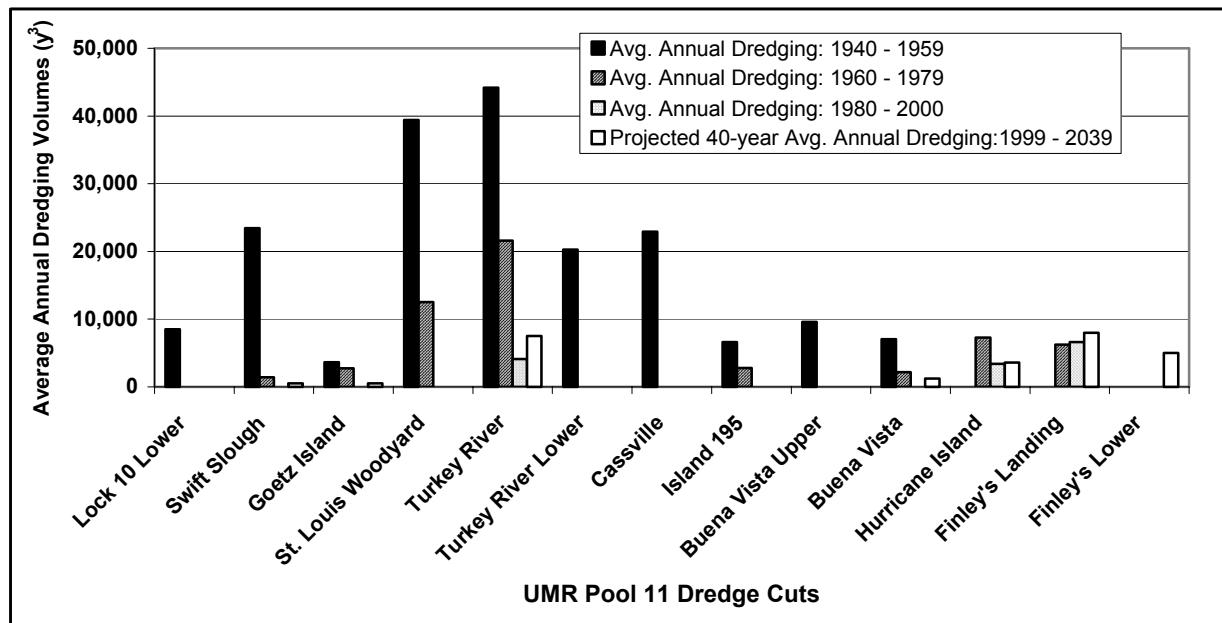


Figure D-1. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 11 of the Upper Mississippi River.

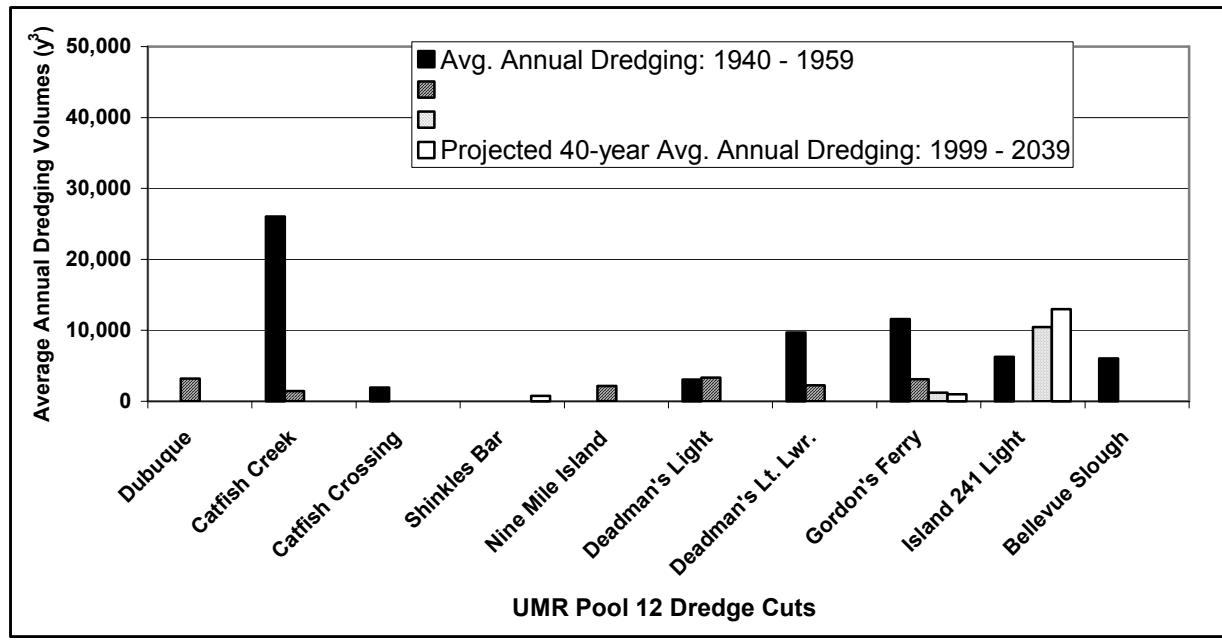


Figure D-2. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 12 of the Upper Mississippi River.

Table D-3. Summary of projected channel maintenance dredging requirements for Pool 13 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 12 Lower	555.0 - 555.4	-	-	-	-
Duck Creek	554.1 - 555.0	15,000	1	15,000	0.03
Pleasant Creek	552.7 - 553.8	40,000	2	20,000	0.05
Sand Prairie	549.9 - 550.8	40,000	2	20,000	0.05
Maquoketa River	547.0 - 548.6	560,000	8	70,000	0.20
Apple River Island	546.1 - 547.0	40,000	2	20,000	0.05
Island 257	543.4 - 545.9	50,000	2	25,000	0.05
Lainsville Lower	540.5 - 541.0	20,000	1	20,000	0.03
Savanna Bay	538.8 - 539.6	320,000	8	40,000	0.20
Savanna Lower	536.0 - 537.2	120,000	4	30,000	0.10
Sabula Lower	532.5 - 533.9	300,000	6	50,000	0.15
Dark Slough	531.0 - 531.3	30,000	1	30,000	0.03
Elk River	528.7 - 529.9	50,000	2	25,000	0.05
Pomme De Terre	525.1 - 525.6	40,000	2	20,000	0.05
Total		1,625,000	41	39,634	1.03

Table D-4. Summary of projected channel maintenance dredging requirements for Pool 14 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 13 Lower	521.1 - 522.4	-	-	-	-
Joyce's Island	518.5 - 519.9	20,000	1	20,000	0.03
Beaver Island	515.8 - 517.6	125,000	5	25,000	0.13
Beaver Slough Ind.	513.0 - 517.6	150,000	5	30,000	0.13
Albany Lower	513.4 - 514.4	100,000	4	25,000	0.10
Marais D'osier Sl.	509.6 - 510.0	-	-	-	-
Adams Island Up. +	508.4 - 509.1	25,000	1	25,000	0.03
Wapsipinicon River	505.6 - 506.0	25,000	1	25,000	0.03
Steamboat Slough	503.3 - 504.0	455,000	13	35,000	0.33
Le Claire Canal	496.1 - 496.6	120,000	4	30,000	0.10
Lock 14 Upper	411.0 - 412.2	100,000	2	50,000	0.05
Total		1,120,000	36	31,111	0.90

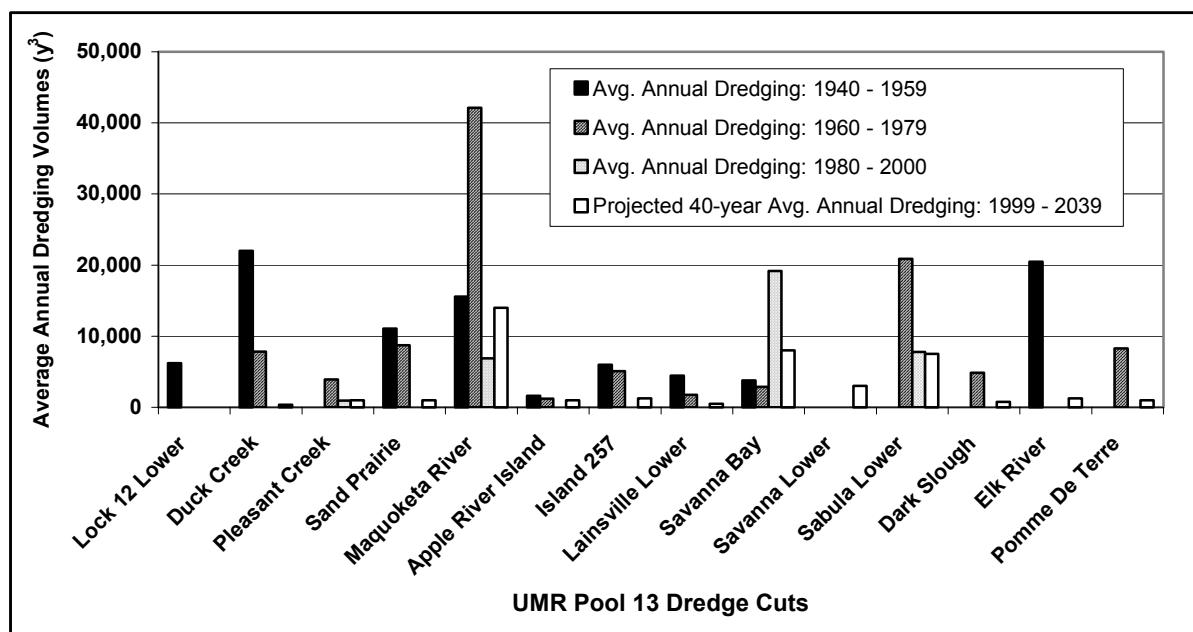


Figure D-3. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 13 of the Upper Mississippi River.

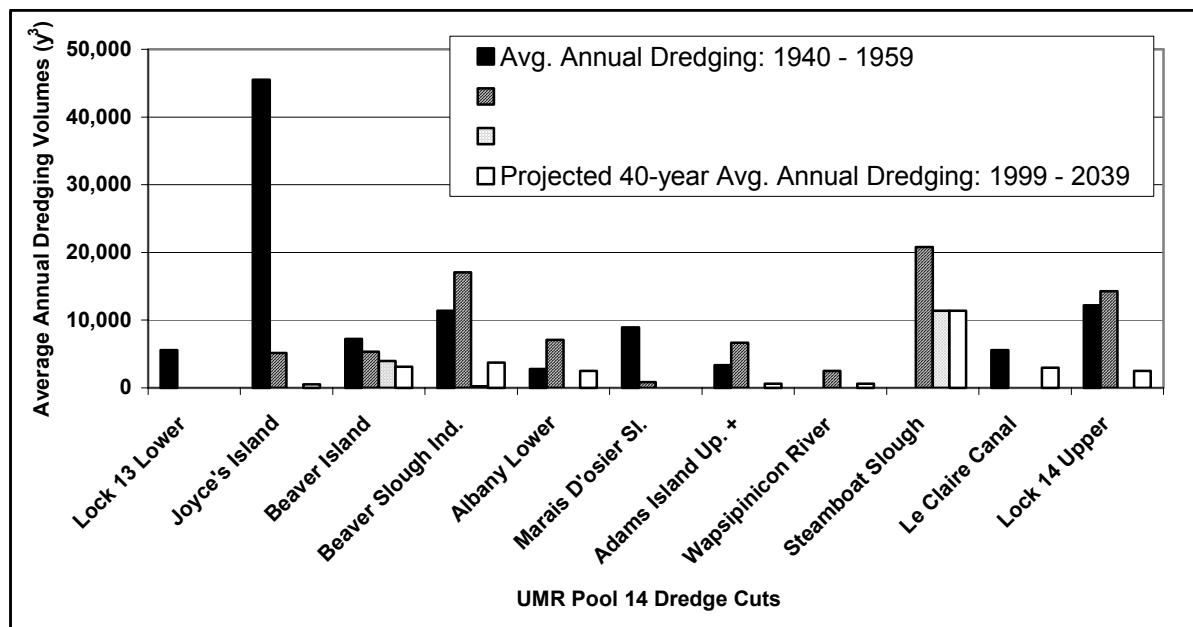


Figure D-4. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 14 of the Upper Mississippi River.

Table D-5. Summary of projected channel maintenance dredging requirements for Pool 15 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 14 Lower	492.0 - 492.2	32,000	8	4,000	0.20
Campbells Island	490.7 - 491.6	10,000	2	5,000	0.05
Winnebago Island	489.2 - 490.5	20,000	4	5,000	0.10
Lock 15 Upper	483.2 - 483.2	10,000	2	5,000	0.05
Total		72,000	16	4,500	0.40

Table D-6. Summary of projected channel maintenance dredging requirements for Pool 16 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 15 Lower	482.2 - 482.9	400,000	20	20,000	0.50
Centennial Bridge	481.2 - 482.2			(combined with LD15 DMMP)	
Offerman Island	478.9 - 479.1	-	-	-	-
Linwood	476.0 - 476.8	50,000	10	5,000	0.25
Buffalo	472.0 - 473.2	640,000	16	40,000	0.40
Montpelier	469.1 - 469.7	100,000	4	25,000	0.10
Fairport	463.7 - 464.5	-	-	-	-
Hershey Chute	460.7 - 461.7	400,000	10	40,000	0.25
Hershey Chute Lwr. 457.6 - 458.8		120,000	4	30,000	0.10
Total		1,710,000	64	26,719	1.60

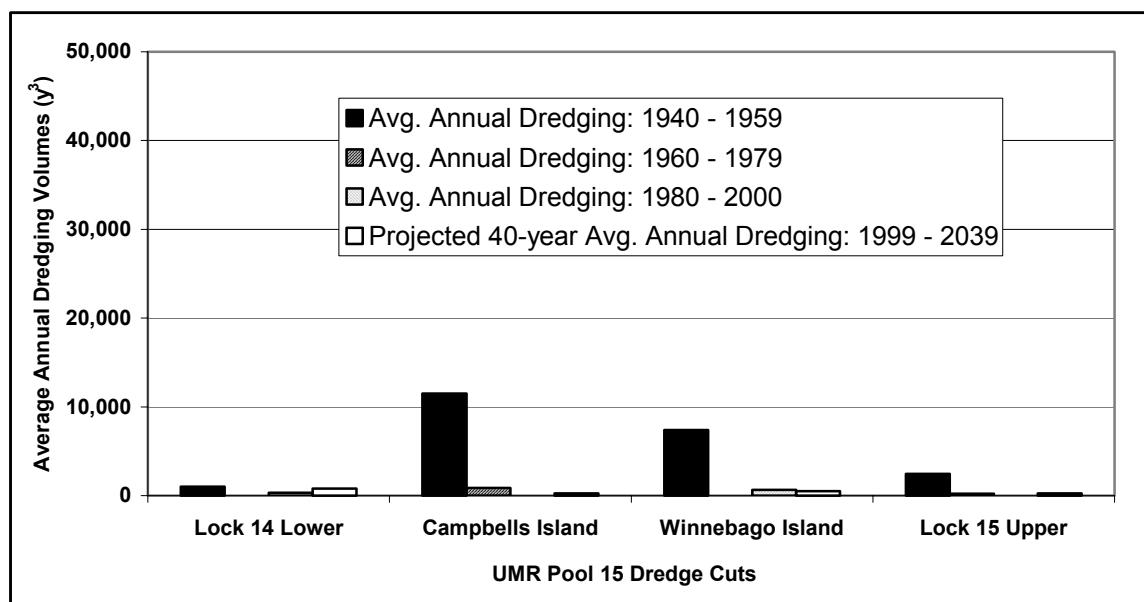


Figure D-5. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 15 of the Upper Mississippi River.

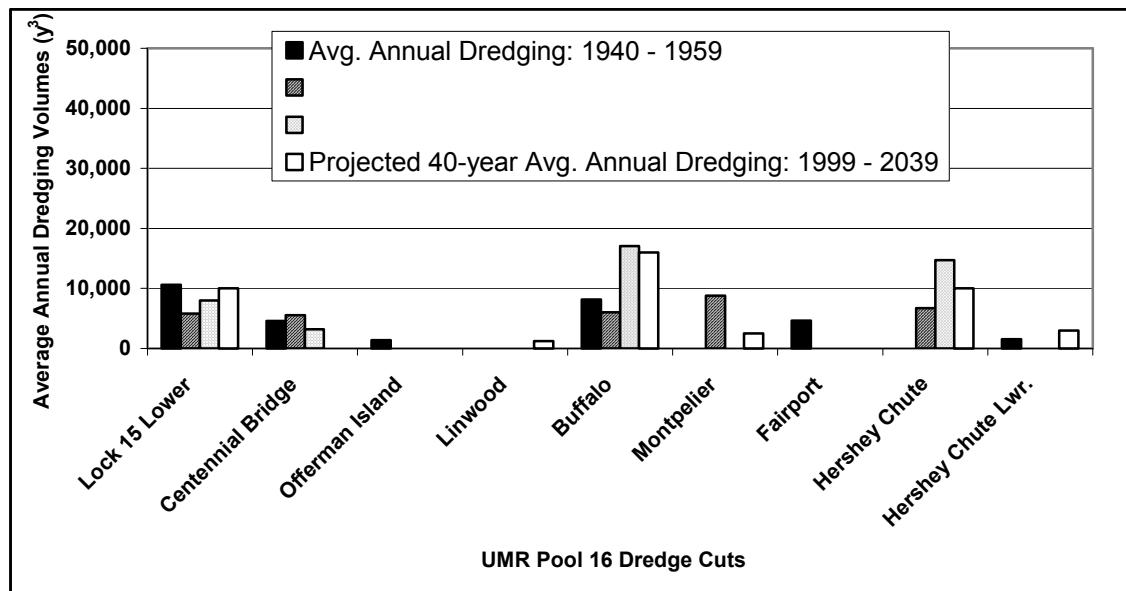


Figure D-6. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 16 of the Upper Mississippi River.

Table D-7. Summary of projected channel maintenance dredging requirements for Pool 17 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 16 Lower	456.2 - 457.0	-	-	-	0.00
Muscatine Island	452.9 - 454.5	40,000	1	40,000	0.03
Muscatine Prairie	451.5 - 451.8	60,000	2	30,000	0.05
Bass Island	447.2 - 448.2	623,000	10	62,300	0.25
Barkis Island	444.0 - 446.2	150,000	6	25,000	0.15
Lock 17 Upper	437.7 - 438.7	60,000	4	15,000	0.10
Total		933,000	23	40,565	0.58

Table D-8. Summary of projected channel maintenance dredging requirements for Pool 18 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 17 Lower	436.7 - 437.0	30,000	2	15,000	0.05
Keg Island	435.2 - 436.2	-	-	-	-
New Boston Upper	432.9 - 434.2	30,000	2	15,000	0.05
Edwards River	431.0 - 432.0	10,000	1	10,000	0.03
Keithsburg	428.3 - 429.0	-	-	-	-
Keithsburg Upper	426.8 - 427.5	120,000	4	30,000	0.10
Keithsburg Lower	425.1 - 426.7	455,000	13	35,000	0.33
Huron Island	423.5 - 424.7	350,000	10	35,000	0.25
Johnson Island	420.5 - 421.9	80,000	4	20,000	0.10
Benton Island	418.5 - 420.5	450,000	10	45,000	0.25
Oquawka	414.7 - 415.2	200,000	5	40,000	0.13
Furnald Island	413.0 - 414.5	100,000	4	25,000	0.10
Lock 18 Upper	411.0 - 412.2	180,000	6	30,000	0.15
Total		2,005,000	61	32,869	1.53

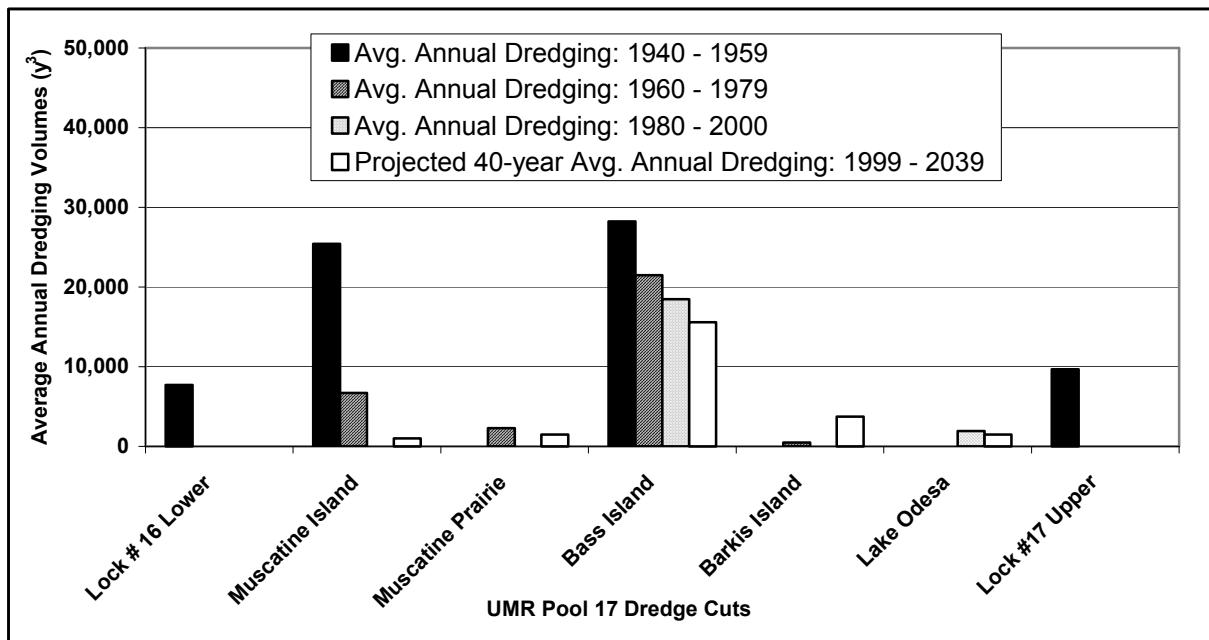


Figure D-7. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 17 of the Upper Mississippi River.

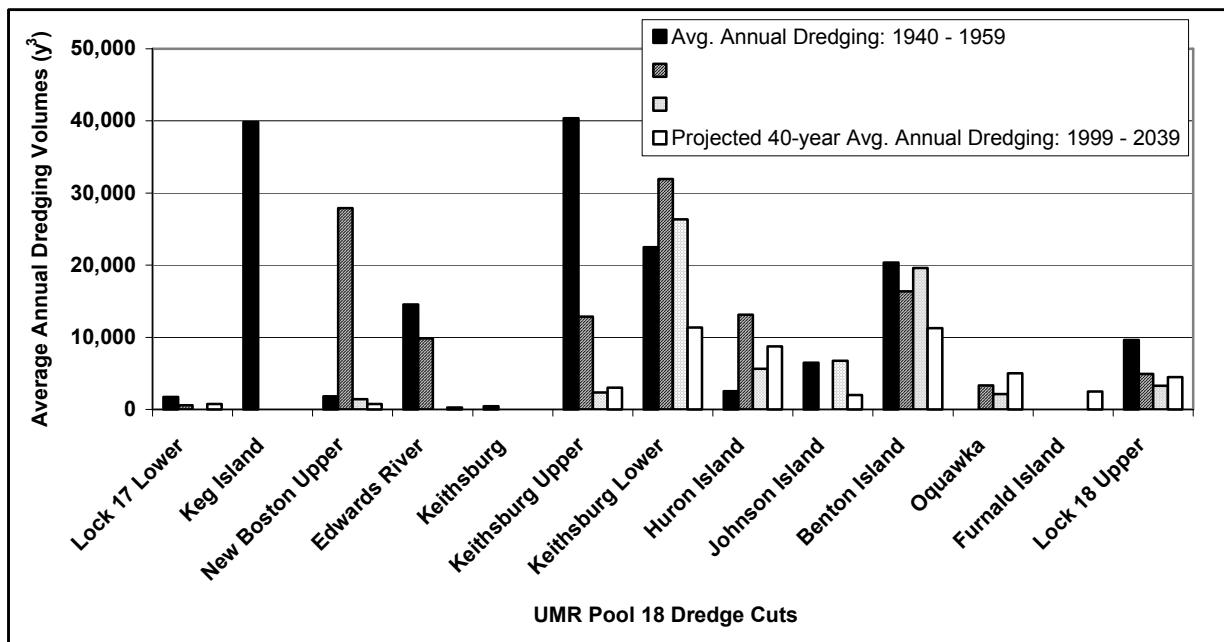


Figure D-8. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 18 of the Upper Mississippi River.

Table D-9. Summary of projected channel maintenance dredging requirements for Pool 19 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 18 Lower	408.5 - 410.3	19,600	1	19,600	0.03
Drew Chute	407.0 - 408.5	30,000	1	30,000	0.03
Rush Island	405.7 - 407.0	89,000	2	44,500	0.05
Rush Island Lwr	404.8 - 405.9	30,000	1	30,000	0.03
Burlington Br.	404.3 - 404.6	19,600	1	19,600	0.03
Burlington Bluff	401.1 - 401.6	19,600	1	19,600	0.03
Craigel Island	399.1 - 400.5	312,000	10	31,200	0.25
Kemp's Landing	397.8 - 399.1	450,000	10	45,000	0.25
Kemp's Lnd Lwr	396.9 - 397.7	(Combined with Kemp's Landing)			
Shokokon Sl.	394.2 - 395.0	45,800	1	45,800	0.03
Dallas City	390.2 - 391.0	49,700	1	49,700	0.03
Lock 19 Upper	362.4 - 364.5	25,000	1	25,000	0.03
Total		1,090,300	30	36,343	0.75

Table D-10. Summary of projected channel maintenance dredging requirements for Pool 20 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 19 Lower	361.2 - 363.9	40,000	8	5,000	0.20
Fox Island Upper	358.3 - 358.8	-	-	-	-
Fox Island Towhead	356.4 - 357.6	-	-	-	-
Fox Island	354.4 - 356.0	100,000	4	25,000	0.10
Fox River	352.6 - 353.4	-	-	-	-
Gregory Lower	351.1 - 352.0	120,000	4	30,000	0.10
Buzzard Island	348.0 - 349.6	2,080,000	26	80,000	0.65
Brownsville Island	345.1 - 345.4	80,000	4	20,000	0.10
Lock 20 Upper	343.2 - 344.3	160,000	4	40,000	0.10
Total		2,580,000	50	51,600	1.25

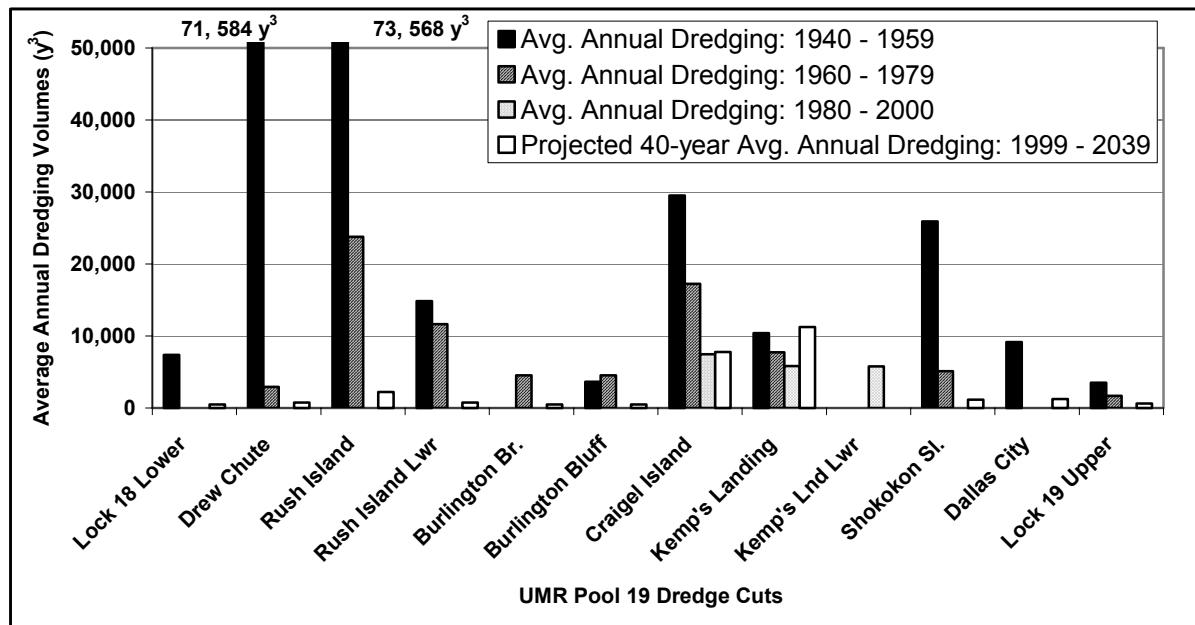


Figure D-9. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 19 of the Upper Mississippi River.

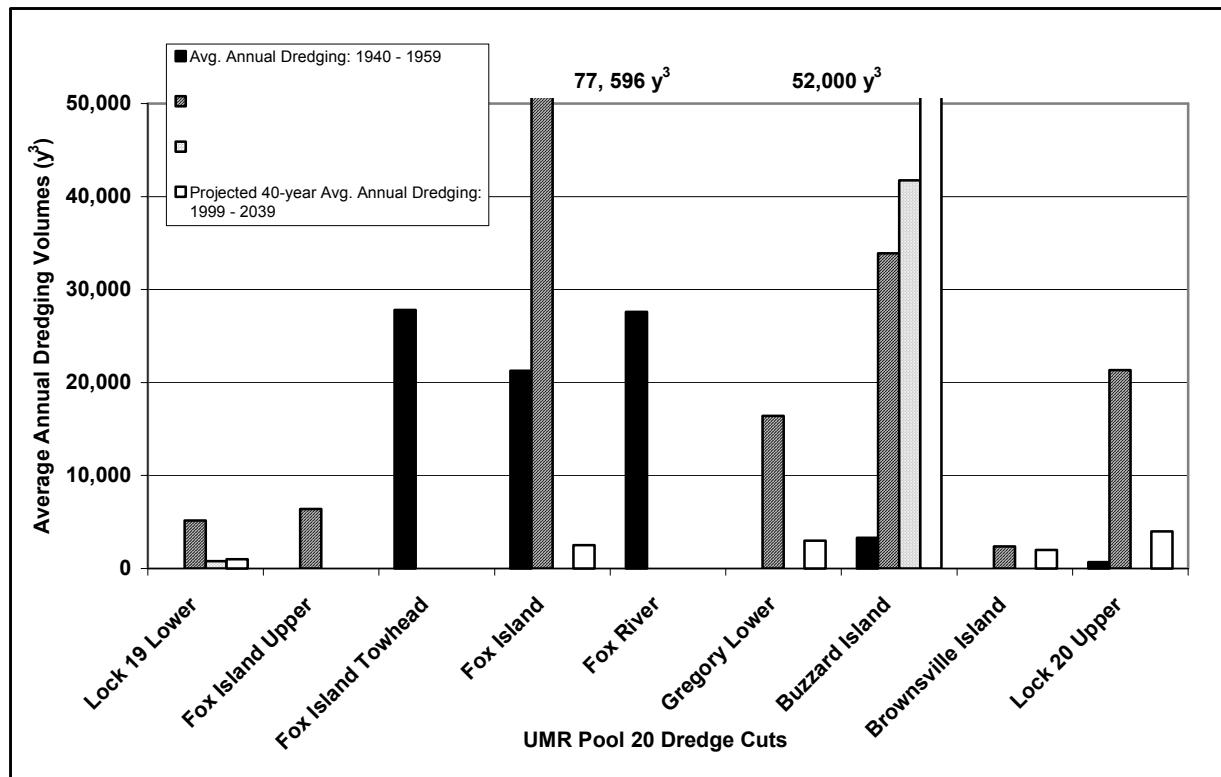


Figure D-10. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 20 of the Upper Mississippi River.

Table D-11. Summary of projected channel maintenance dredging requirements for Pool 21 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock #20 Lower	342.2 - 343.2	4,000	4	1,000	0.10
Canton	341.4 - 341.9	-	-	-	-
Howard's Crossing	337.4 - 340.3	480,000	16	30,000	0.40
La Grange	335.9 - 337.4	560,000	16	35,000	0.40
Willow Island	332.6 - 333.9	735,800	13	56,600	0.33
Hogback/Lone Tree	330.9 - 332.6	900,000	20	45,000	0.50
Bay Island	328.0 - 329.2	-	-	-	-
Quincy Bridges	326.5 - 327.9	50,000	10	5,000	0.25
Lock 21 Upper	325.5 - 326.5	30,000	2	15,000	0.05
Total		2,759,800	81	34,072	2.03

Table D-12. Summary of projected channel maintenance dredging requirements for Pools 22 and 24 of the Upper Mississippi River for the period 1999 through 2039 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Lock 21 Lower	323.3 - 324.7	200,000	4	50,000	0.10
NE Missouri Power	319.7 - 321.2	960,000	16	60,000	0.40
Beebe Island Upper	317.2 - 319.3	-	-	-	-
Beebe Island	315.8 - 316.9	350,000	7	50,000	0.18
Whitney Island	312.8 - 314.9	900,000	20	45,000	0.50
Turtle Island	311.5 - 312.1	100,000	2	50,000	0.05
Hannibal	308.7 - 308.8	-	-	-	-
Cave Hollow Light	306.0 - 306.5	130,000	2	65,000	0.05
Lock 22 Upper	301.5 - 303.4	140,000	7	20,000	0.18
Lock 22 Lower (pool 24)	300.3 - 301.0	585,000	13	45,000	0.33
Total, Pool 22		2,780,000	58	47,931	1.45
Total, Pool 24		585,000	13	45,000	0.33

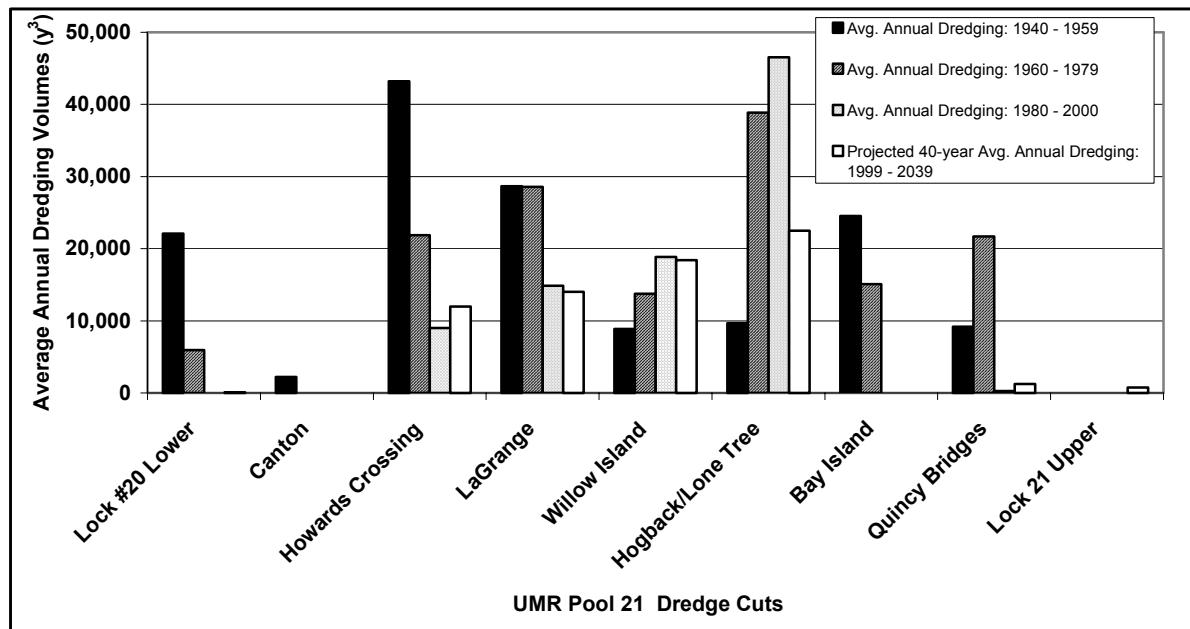


Figure D-11. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 21 of the Upper Mississippi River.

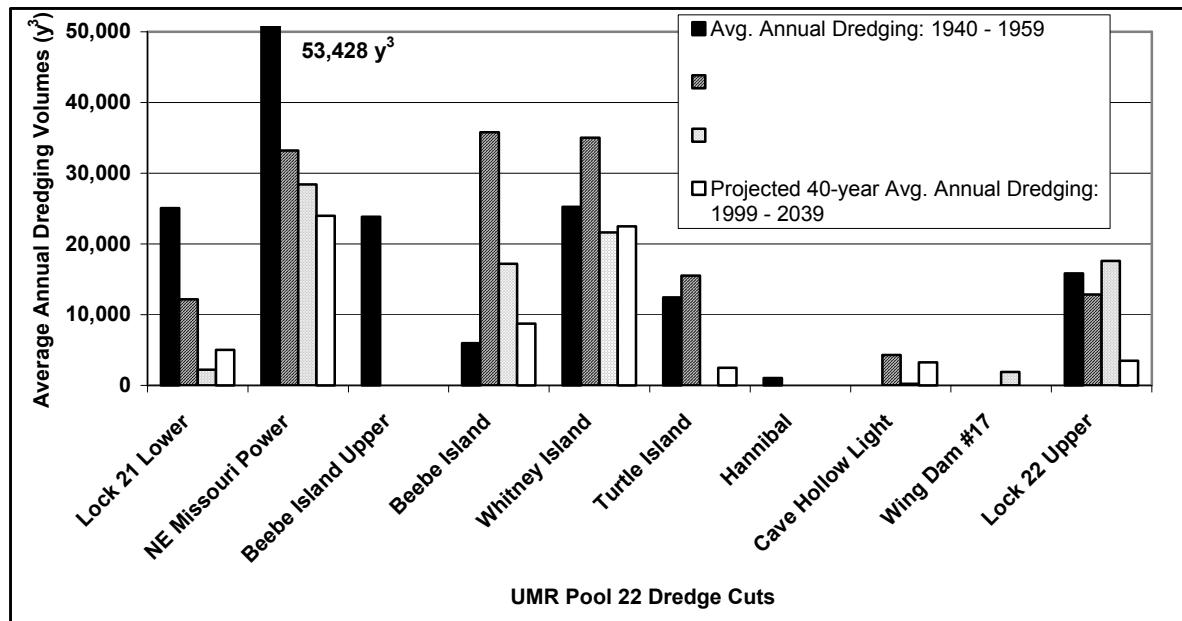


Figure D-12. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 22 of the Upper Mississippi River.

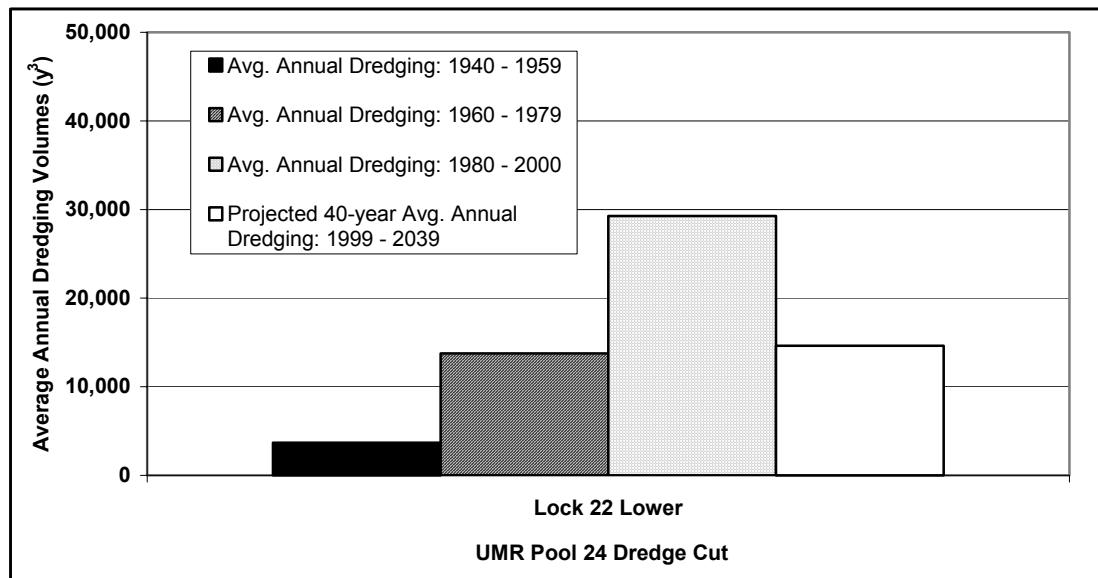


Figure D-12a. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Pool 24 of the Upper Mississippi River.

Table D-13. Summary of projected channel maintenance dredging requirements for Dresden Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Above Dresden Lock	271.5 - 272.0	76,700	13	5,900	0.33
Bonnel Bend	273.7 - 274.3	19,800	2	9,900	0.05
Grant Cr. Cutoff	274.4 - 274.9	2,000	1	2,000	0.03
Dupage River	277.2 - 277.5	-	-	-	-
Treats Island	278.8 - 279.5	20,000	20	1,000	0.50
Hunting Lodge Bend	281.1 - 281.6	11,800	2	5,900	0.05
Below Brandon Rd Lk	285.2 - 285.6	50,000	20	2,500	0.50
Total		180,300	58	3,109	1.45

Table D-14. Summary of projected channel maintenance dredging requirements for Marseilles Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Marseilles Canal	244.7 - 247.0	180,000	30	6,000	0.75
Johnson Is./Kick.Cr.	249.7 250.0	3,600	4	900	0.10
Springbrook Light	251.4 251.5	1,800	2	900	0.05
Seneca	253.3 253.6	10,000	5	2,000	0.13
Barry Island	256.0 256.1	-	-	-	-
Grist Island	258.6 259.3	300,000	20	15,000	0.50
Sugar Island	260.0 261.0	3,600	2	1,800	0.05
Hatcher Lt/Peacock Sl.	261.5 265.0	-	-	-	-
Hutchins. Is./ Aux Sable R.	267.0 268.0	1,800	2	900	0.05
Below Dresden Is.	270.8 271.4	260,000	40	6,500	1.00
Total		760 800	105	7,246	2.63

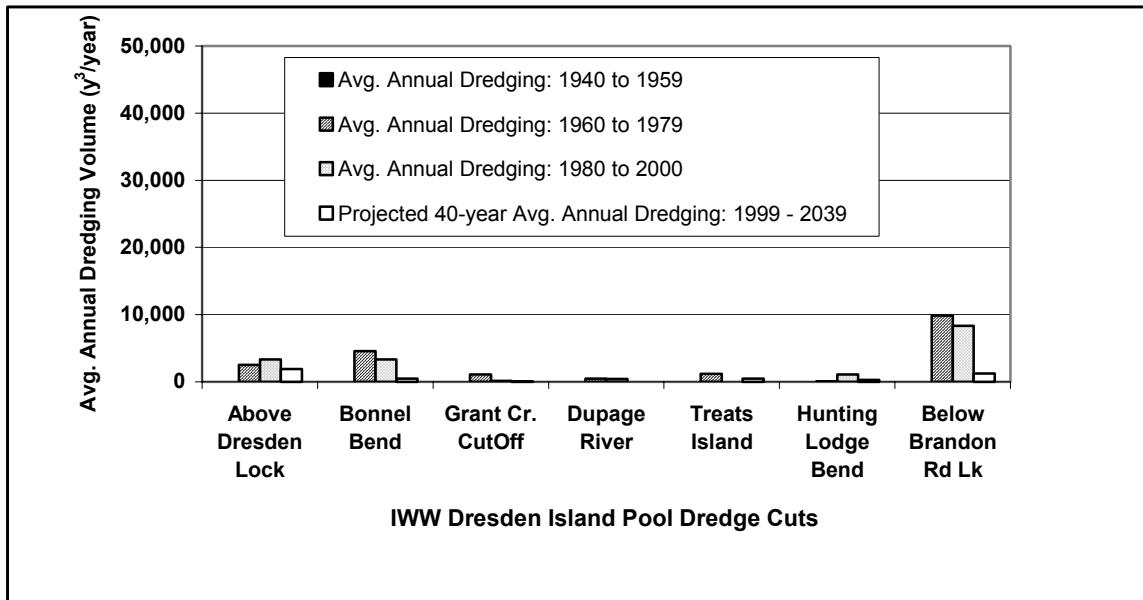


Figure D-13. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Dresden Island Pool of the Illinois Waterway.

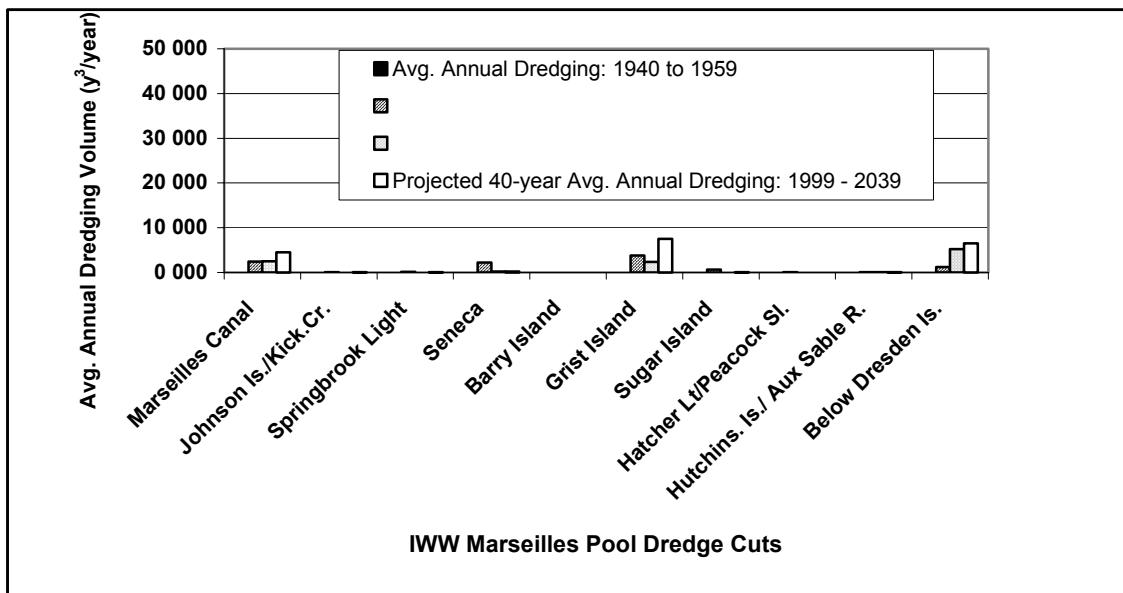


Figure D-14. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Marseilles Pool of the Illinois Waterway.

Table D-15. Summary of projected channel maintenance dredging requirements for Starved Rock Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Above Starved Rock	231.2 - 231.5	39,000	13	3,000	0.33
Bulls Island	240.5 - 241.5	300,000	20	15,000	0.50
Milliken Creek	242.2 - 242.8			* Combined with Bulls Island DMMP	
Below Mars. Lock	244.0 - 244.5	50,000	20	2,500	0.50
Total, Starved Rock Pool		389,000	53	7,340	1.33

Table D-16. Summary of projected channel maintenance dredging requirements for Peoria Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Above Peoria Lock	157.9 - 158.1	20,000	4	5,000	0.10
Kickapoo Creek	159.0 - 160.0	80,000	4	20,000	0.10
Peoria Br/Farm Cr.	161.0 - 163.0	150,000	2	75,000	0.05
Ten Mile Creek	166.0 - 168.4	-	-	-	-
Blue Cr./Rome Light	173.0 - 178.0	98,000	5	19,600	0.13
Senachwine Creek	180.8 - 181.9	150,000	10	15,000	0.25
Henry	193.3 - 196.3	15,000	5	3,000	0.13
Illinois Power	212.0 - 213.7	40,000	2	20,000	0.05
Clark Island	214.5 - 215.7	364,000	26	14,000	0.65
Spring Valley	215.9 - 218.4	254,800	13	19,600	0.33
Huse Slough	218.5 - 221.1	292,000	8	36,500	0.20
Peru Bend	223.3 - 224.2	-	-	-	-
La Salle Bend	225.4 - 225.7	160,000	8	20,000	0.20
Vermilion River	226.2 - 226.9			* Combined with LaSalle DMMP	
Deer Park Light	227.7 - 228.5	51,000	10	5,100	0.25
Historic Cut	228.8 - 229.4	-	-	-	-
Below Starved Rock	230.2 - 230.8	200,000	40	5,000	1.00
Total		1,874,800	137	13,685	3.43

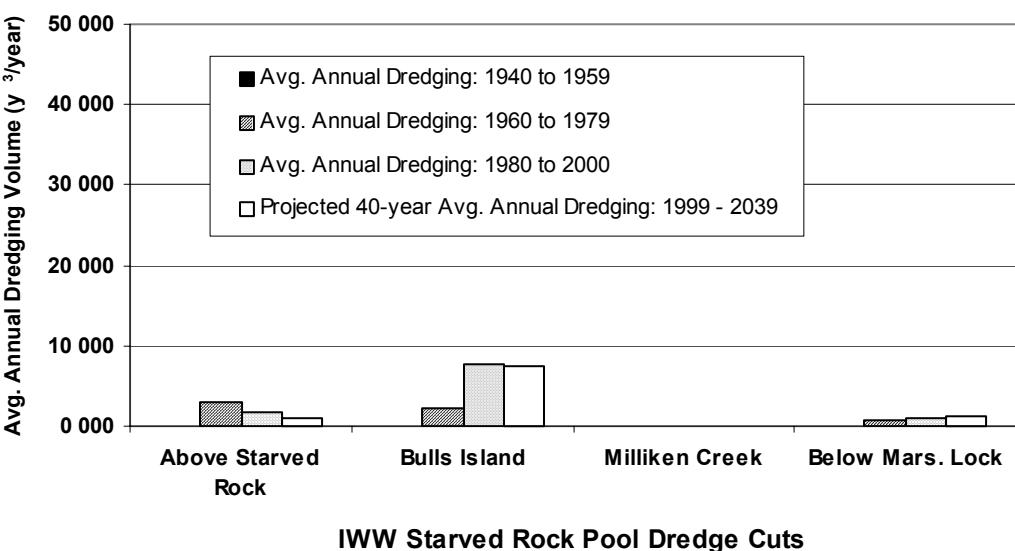


Figure D-15. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Starved Rock Pool of the Illinois Waterway.

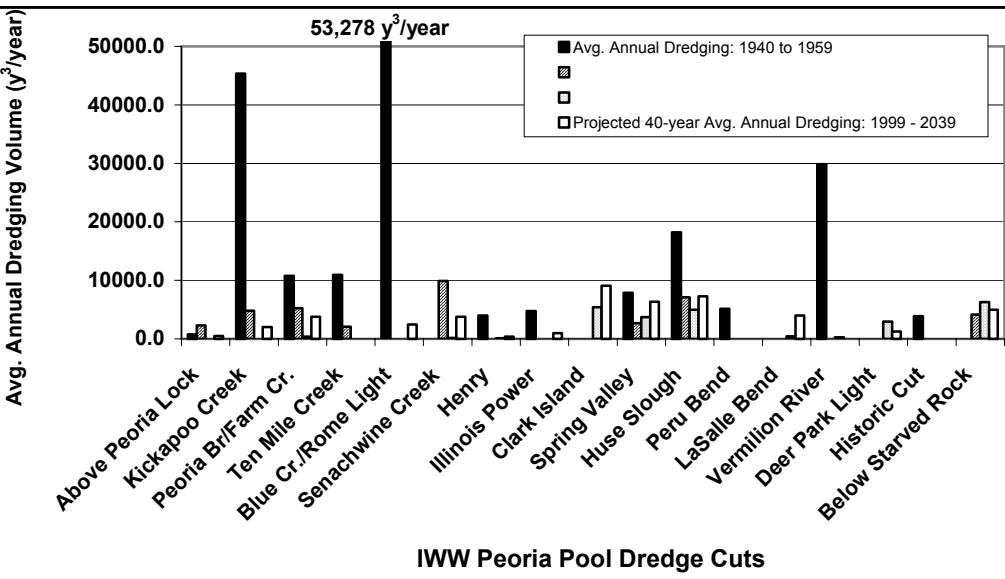


Figure D-16. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within Peoria Pool of the Illinois Waterway.

Table D-17. Summary of projected channel maintenance dredging requirements for La Grange Pool of the Illinois Waterway for the period 2000 through 2040 (40-year projections).

Dredge Cut	River Miles	Total Volume (y ³)	Number of Events	Average Vol. per Event (y ³)	Frequency of Dredging (Events/Year)
Above LaGrange Lk.	80.0 - 81.0	48,000	8	6,000	0.20
Briggs Landing	83.7 - 84.4	80,000	4	20,000	0.10
Grape Island	86.2 - 87.5			* Combined with Beardstown DMMP	
Beardstown	87.5 - 89.5	910,000	26	35,000	0.65
Frederick Landing		-	-	-	-
Sugar Island	94.0 - 95.2	80,000	4	20,000	0.10
Browning Landing	97.0 - 98.0	40,000	2	20,000	0.05
Elm Creek	102.4 - 102.8	40,000	2	20,000	0.05
Grand Island Bend	105.6 - 107.0	64,000	10	6,400	0.25
Holmes Landing	108.1 - 108.3	10,000	1	10,000	0.03
Anderson Lake	109.0 - 109.7	160,000	10	16,000	0.25
Grand Island	109.7 - 110.6	98,000	5	19,600	0.13
Otter Creek	110.6 - 112.4	52,000	10	5,200	0.25
Grand Island Head	112.4 - 114.0	105,500	5	21,100	0.13
Matanzas Bay	114.0 - 116.0	155,400	7	22,200	0.18
Devils Elbow	116.2 - 117.2	495,000	11	45,000	0.28
Historic Cut	117.6 - 118.8	-	-	-	-
Quiver Island	120.0 - 123.0	300,000	10	30,000	0.25
Big Sister Creek	125.5 - 126.1	20,000	1	20,000	0.03
Senate Island	132.0 - 135.0	1,200,000	20	60,000	0.50
Duck Island	135.0 - 136.0			** Combined with Senate Island DMMP	
Copperas Creek	136.0 - 137.0	330,000	11	30,000	0.28
Coon Hollow Island		30,000	1	30,000	0.03
Lancaster Landing	142.0 - 145.0	360,000	12	30,000	0.30
Kingston Mines				*** Combined with Mackinaw DMMP	
Mackinaw, 1st 10 yr	145.0 - 148.0	1,100,000	10	110,000	0.25
Mackinaw, 2nd 20	145.0 - 148.0	1,275,000	15	85,000	0.38
La Marsh Cr./Pekin Bend	148.0 - 153.1	562,800	14	40,200	0.35
Lick Creek	153.1 - 156.6	650,000	13	50,000	0.33
Below Peoria Lock	156.6 - 157.7			**** Combined with Lick Creek DMMP	
Total		8,165,700	212	38,517	5.30

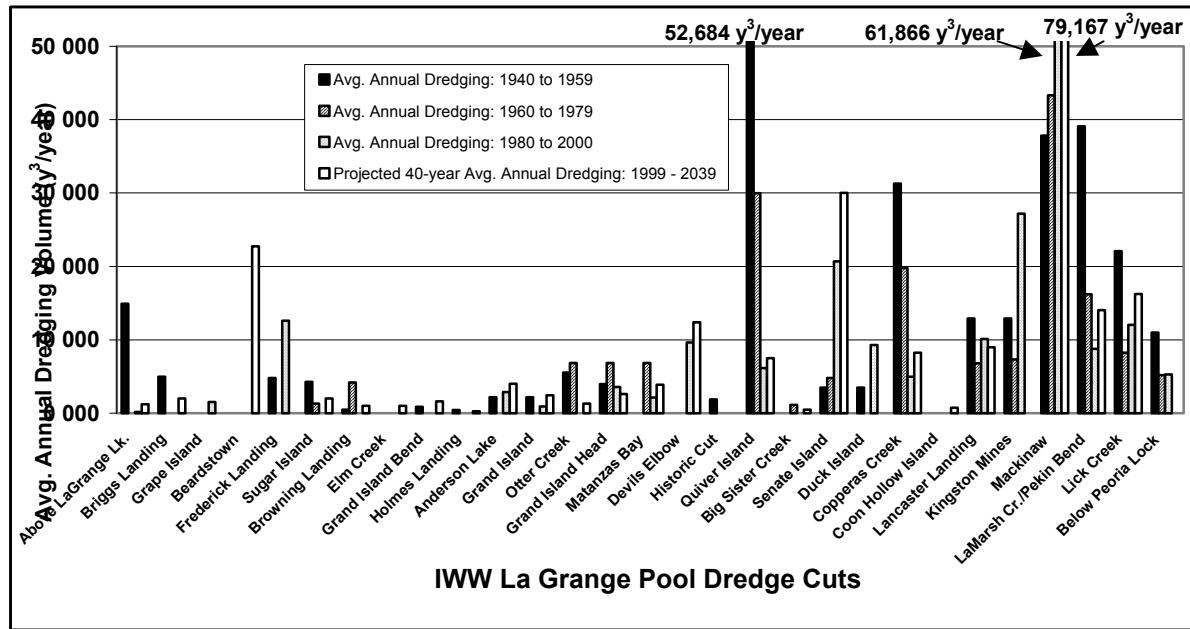


Figure D-17. Comparison of 40-year projected dredging needs, in terms of projected average annual volume, to historical dredging actions within LaGrange Pool of the Illinois Waterway.