

Lower Susquehanna Placement Options									
Name	Acreage	Lifespan (years)	Capacity in Cubic Yards (cy) Yearly/Lifespan Volumes	Access	Tipping Fee (\$)	Limitations	Distance from Conowingo (mi)	Option Pro's	Option Con's
Beneficial Use									
Harbor Rock	N/A	Indefinite	Lifespan Capacity -- Yearly Capacity 500,000 cy/year	Road, barge	0	Limited annual amount; dry only	Variable	Indefinite lifespan; beneficial use	Material must be dried (\$); have to build plant. They will be paid 2 times - once for material and once to sell the material.
Island Creation	Variable	Indefinite	Lifespan Capacity Variable, until island is filled. Yearly Capacity Volume depends on island size and volume dredged per year.	Pipeline, barge	0	Environmental regulations; erosion; sandy material only	Max. 75	Material can be wet; no tipping fee; beneficial use; more flexibility in amount of material that can go to this site .	Possible erosion; environmental hurdles; state law forbids island creation in the upper Bay; material must be sandy; barges with associated load and unload fees; confinement is necessary.
Smith Island Restoration	Variable	Indefinite	Lifespan Capacity Variable, until island is filled. Yearly Capacity Volume depends on island size and volume dredged per year.	Barge	0	Environmental regulations; erosion; sandy material only	128	Material can be wet; no tipping fee; beneficial use; more flexibility in amount of material that can go to this site .	Possible erosion; environmental hurdles; material must be pure sand; barges will be involved and there will be the associated load and unload fees; confinement is necessary; longer transport distance than for man-made islands near the dams.

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Fringe Wetland Creation	Variable	Indefinite	Lifespan Capacity Variable, until wetland is filled. Yearly Capacity Small volume depends on the wetland size.	Road, pipeline, barge	0	Smaller quantities; erosion; environmental regulations; confinement necessary	Max. 75	Material can be piped; material can be wet; no tipping fee; beneficial use; more flexibility in amount of material that can go to this site.	Possible erosion; environmental hurdles; <u>material must be sandy?</u> ; barges will be involved and there will be the associated load and unload fees; confinement is necessary; smaller amounts of material can be placed vs. island creation.
Manufactured Soil	Variable	Indefinite	Lifespan Capacity -- Yearly Capacity Variable	Road, pipeline, barge	0	Dry only	Variable	No tipping fee; volume depends on demand for material; beneficial use.	Material must be dried (\$); must have other material to mix dredge material with, such as compost; need confinement.
Dyke Marsh (Potomac, MD)	245	Indefinite	Lifespan Capacity -- Yearly Capacity 2,000 cy/day; ~700,000 cy/year; dependent on whether they have a placement cell available at needed time.	Pipeline, barge	0	Environmental regulations; erosion; confinement necessary	230	Most likely no tipping fee	Barges will be involved and associated load and unload fees; environmental hurdles; longer transport distance than for man-made islands near the dams; whether a placement cell will be ready when we need to dredge is a question.

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Open Water									
Altering Reservoir Operations and Release Downstream	N/A	N/A	Lifespan Capacity Variable Yearly Capacity Variable	N/A	0	Environmental regulations/ impacts; needs of dam operators to make electricity	0	Low to no operational costs; allows for decisions to be made when to release downstream	Environmental impacts; legal issues
Pump Downstream	N/A	N/A	Lifespan Capacity Variable Yearly Capacity Variable	N/A	0	Environmental regulations/ impacts	N/A	Lower costs	Environmental impacts; legal issues
Pooles Island - Open Water	1,700	Indefinite	Lifespan Capacity Unknown Yearly Capacity 5,000,000 cy/year	Barge	0		32	Material can be wet; no tipping fee.	Currently cannot place material here legally; if could, material would need to be barged, therefore load and unload fees; environmental hurdles
Ocean Placement	N/A	Indefinite	Lifespan Capacity Unlimited Yearly Capacity Depends on volume dredged per year	Barge	0	Must pass bioassays	240	Material can be wet; no tipping fee; most likely larger volumes could be acceptable.	Very large distance; environmental hurdles; barges will be involved and there will be the associated load and unload fees.
Wolf Trap and Rappahannock, VA	N/A	Indefinite	Lifespan Capacity -- Yearly Capacity 500,000 cy/year to 1,000,000+ cy/year	Barge	0	Needs VA approval	155	Larger volumes could be accepted.	Need Virginia approval; large distance; environmental hurdles; barges with associated load and unload fees; maybe not enough barges to do job; material must be dewatered(\$); currently used by MPA.

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Upland Placement									
Purchase Land -- Area / Placement Site Staging	Variable (100+)	Indefinite	Lifespan Capacity Variable, until land is filled. Yearly Capacity Volume depends on land size and volume dredged per year	Road, pipeline, barge	N/A	Cost; contamination; zoning	Variable	Potentially large capacity; could help as a place to dry material for other sites.	Cost; must meet state regulations (PADEP for PA and MDE for MD); transport containers must be watertight; distance; purchase of land will be needed.
Shirley Plantation	1,800	Indefinite	Lifespan Capacity -- Yearly Capacity 500,000 cy/year 1,000,000 +40-60 million in mine reclamation	Road, barge	\$50/cy	Must meet VA chemical criteria	270	Large capacity; potential to help with reclamation	Must meet regulations; transport containers must be watertight; distance
Abandoned Mines	Variable	Indefinite	Lifespan Capacity Variable, until mine is filled. Yearly Capacity Volume depends on mine size and volume dredged per year.	Road, pipeline, barge	Unknown	Environmental regulations	Variable	Large capacity; reclamation	Must meet regulations; transport containers must be watertight; distance
Landfills - Capping									
Modern Landfill (York, PA)	80	8	Lifespan Capacity 240,000 cy Yearly Capacity TBD	Road, rail	\$30/ton	PADEP regulations; dry only	37**	Some capacity; distance	PADEP regulations; tipping fees; dry material \$
Republic Materials (Conestoga, PA)	80	26	Lifespan Capacity 240,000 cy Yearly Capacity TBD	Road, rail	\$30/ton	PADEP regulations; dry only	46	Some capacity; distance	PADEP regulations; tipping fees; dry material \$
Scarboro Landfill (Aberdeen, MD)	106	Unknown	Lifespan Capacity 318,000 cy Yearly Capacity TBD	Road, pipeline	To be determined	Dry only	13*	Some capacity; distance	Environmental regulations; tipping fees; dry material \$
Quarries									

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Stancil Quarry (Perryville, MD) - (Potential to be Pumped Directly)	70	Unknown	Lifespan Capacity 9,000,000 cy Yearly Capacity TBD	Road, pipeline	\$4/cy		13*	Large capacity	Must meet state regulations (PADEP for PA and MDE for MD); tipping fees; may only take dry material; drying (\$); watertight transport; distance.
Port Deposit Quarry (MD) (Potential to be Pumped Directly)	68	Indefinite	Lifespan Capacity 3,250,000 cy Yearly Capacity TBD	Road, rail, pipeline	0		3.5*	Large capacity	Same as Above
Penn/MD Materials (Peach Bottom, PA) (Potential to be Pumped Directly)	60	25-30	Lifespan Capacity 9,000,000 cy Yearly Capacity TBD	Road, pipeline	To be determined	PADEP regulations	5*	Large capacity	Same as Above
Penn/MD Materials (Skipack, PA)	100	Unknown	Lifespan Capacity 300,000 cy Yearly Capacity TBD	Road	To be determined	PADEP regulations	72	Some capacity	Same as Above
Mason Dixon Materials (Belvidere Plant, Cecil County MD) (Potentially be Pumped Directly)	565	40	Lifespan Capacity 113,000,000 cy Yearly Capacity TBD	Road, pipeline	To be determined		12.5*	Large capacity	Same as Above
Mason Dixon Materials (Perryville Plant, Perryville MD) (Potentially be Pumped Directly)	107	40	Lifespan Capacity 21,400,000 cy Yearly Capacity TBD	Road, pipeline	To be determined		12.3*	Large capacity	Same as Above
Mason Dixon Materials (Cecil Plant, Cecil County MD) (Potential to be Pumped Directly)	150	40	Lifespan Capacity 16,050,000 cy Yearly Capacity TBD	Road, pipeline	To be determined		10*	Large capacity	Same as Above
Mason Dixon Materials (Westgate Plant, York PA)	21	Indefinite	Lifespan Capacity 3,060,000 cy Yearly Capacity TBD	Road, rail	To be determined	PADEP regulations	38	Large capacity; closer to dams	Same as Above
(11) Pennsy Supply Sites (Pennsylvania)	--	Unknown	Initially indicating that they do not have the ability to assist in the disposal of material	Road, rail	--	PADEP regulations; mining permits	Up to 100 miles	Large capacity; one company; multiple sites	Same as above, plus these mines are active with mine permits and ongoing development that compromises any storage of waste

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(5) Eastern Industries Sites (Pennsylvania)	--	Unknown	They have not replied to multiple inquiries	Road, rail	--	PADEP regulations; mining permits	Up to 100 miles	Large capacity; one company; multiple sites	Same as above, plus these mines are active with mine permits and ongoing development that may compromise any storage

* Acceptable Pumping Distance

** 11 Miles from Safe Harbor, Acceptable Pumping Distance