



ECOMEDPORT WEBINAR

Organized by INSTM

Tunisia 6th July 2020, 10:30 AM - 12:00 AM

Coastal sediment artificially trapped by infrastructures: the case of Italy

Paolo Lupino

Association BEACHMED



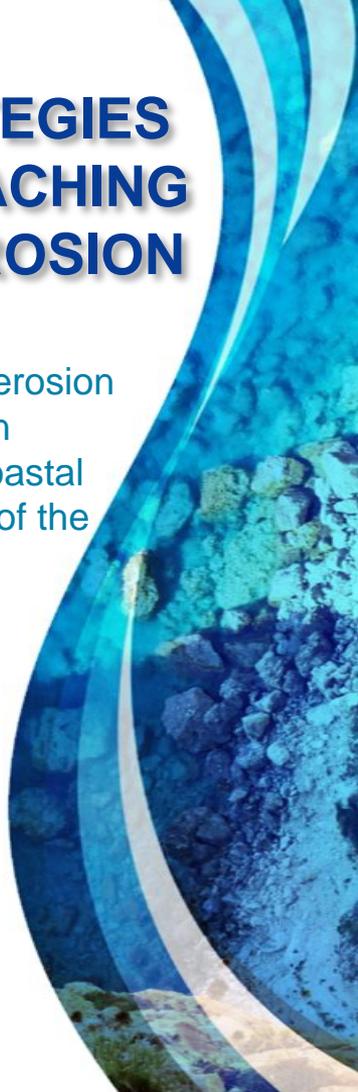
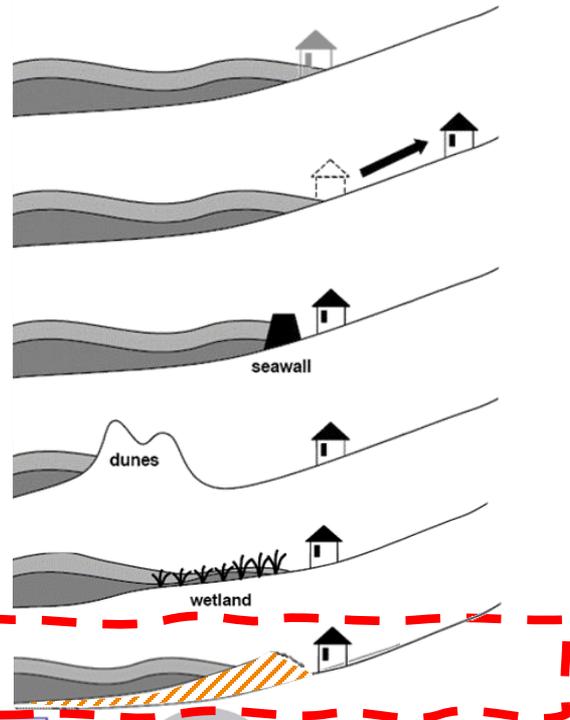


MAIN STRATEGIES FOR APPROACHING COASTAL EROSION

Main Strategies to approaching coastal erosion outlined by the Italian National Board on Coastal Erosion on the basis of the EUROSION project

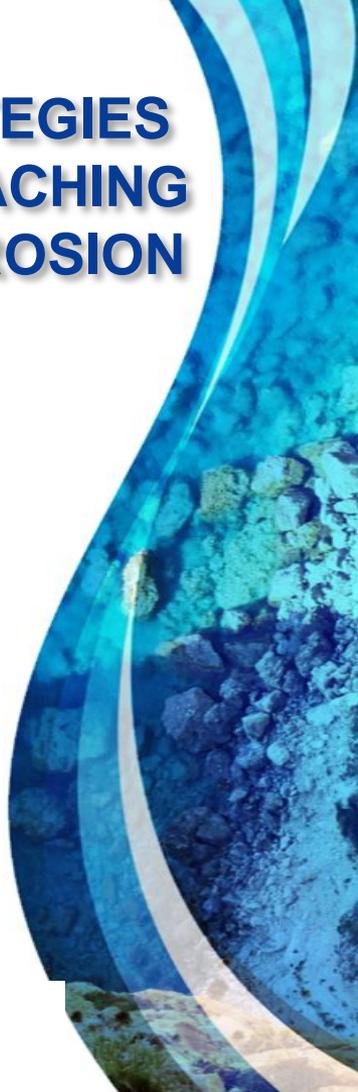
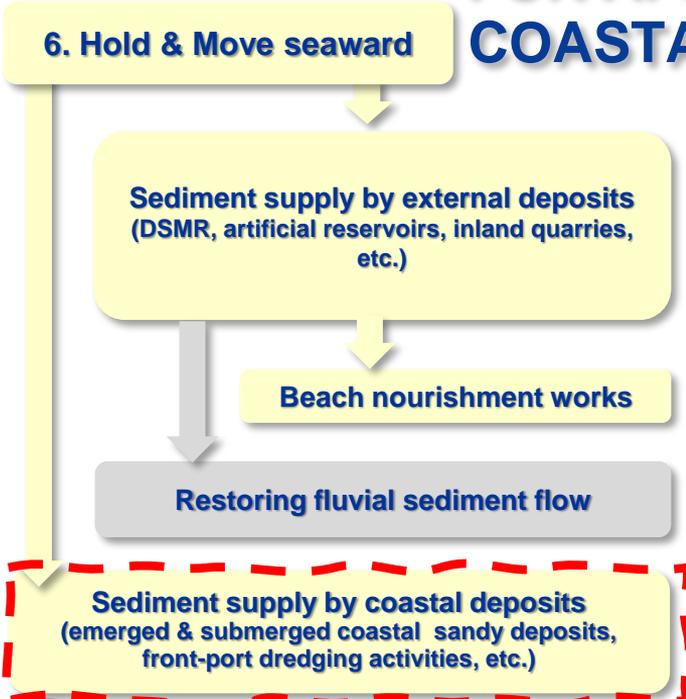
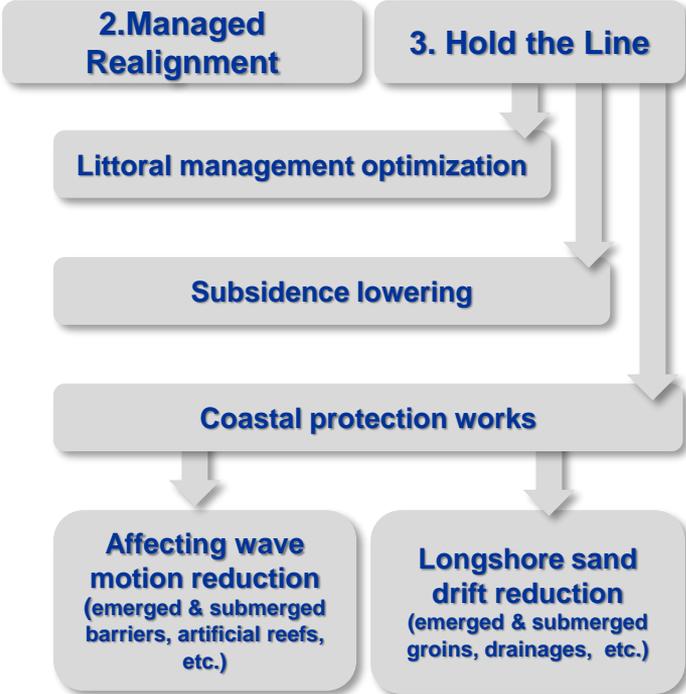
EUROSION 2004 – Intervention strategies

- 1. **Do nothing**
- 2. **Managed Realignment**
- 3. **Hold the line**
- 4. **Move seaward**
- 5. **Limited intervention**
- 6. **Hold & Move seaward**





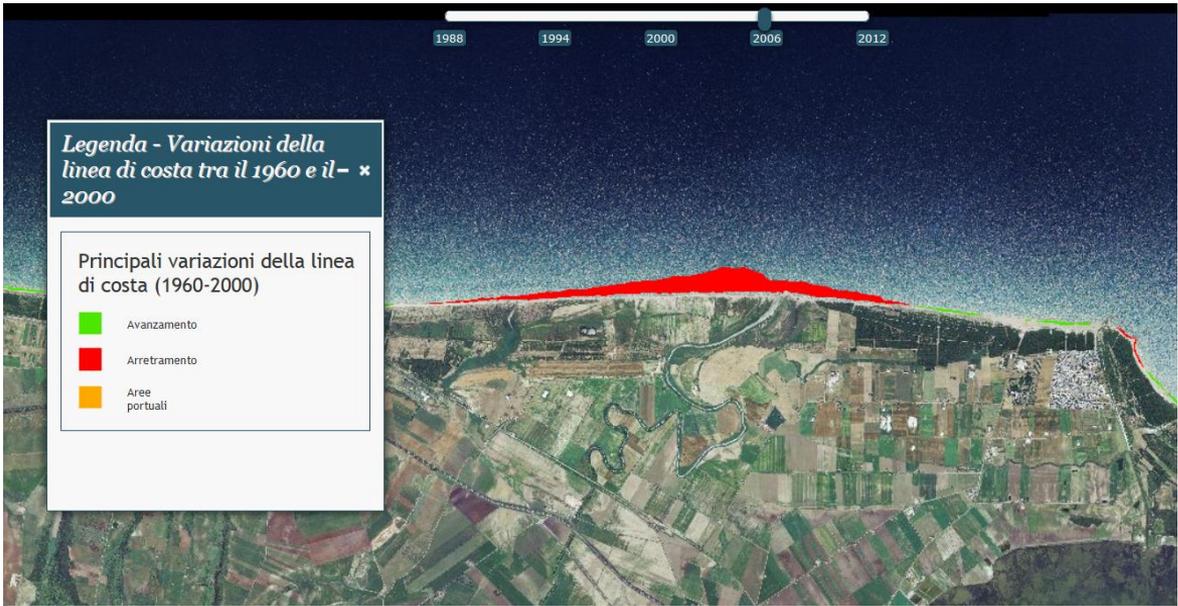
MAIN STRATEGIES FOR APPROACHING COASTAL EROSION





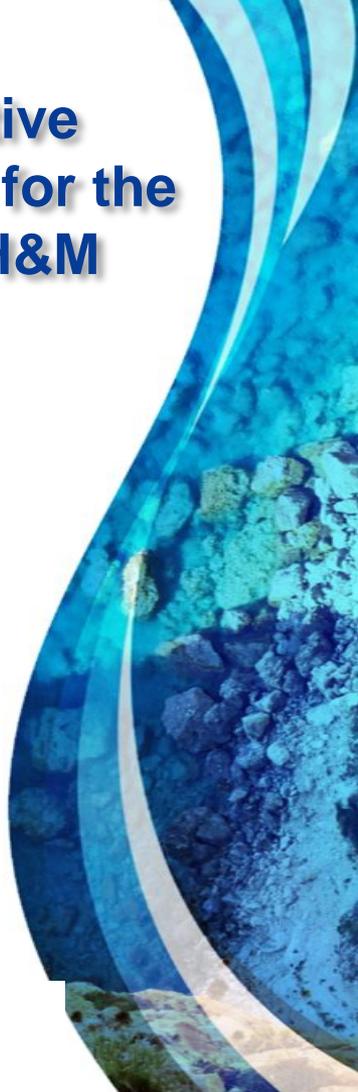
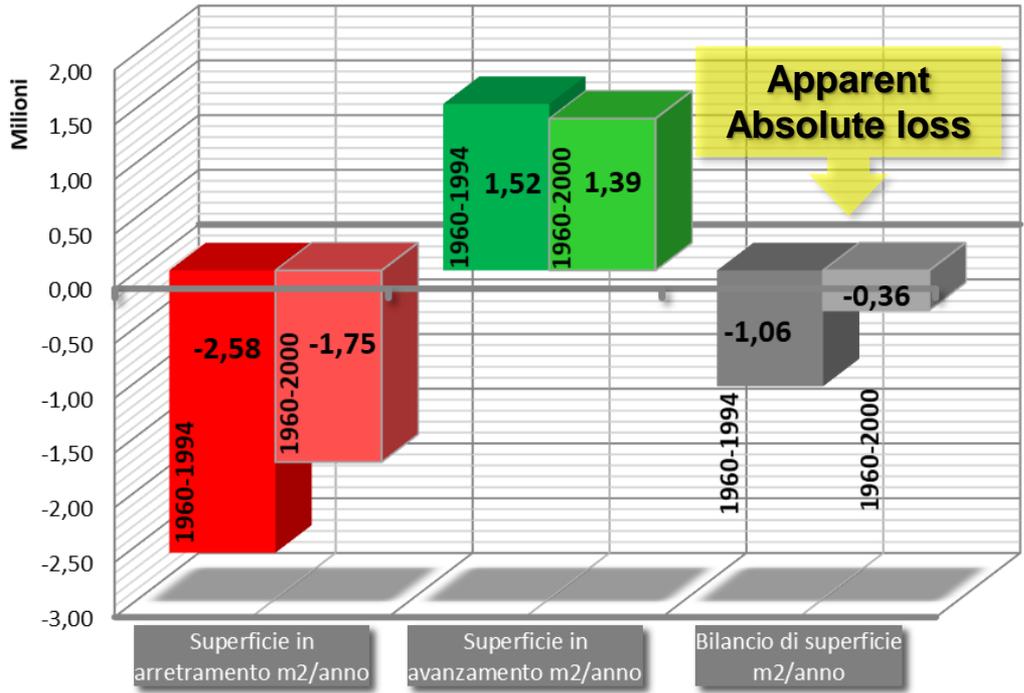
Quantitative Assessment for the Strategy H&M

How much sand is needed to satisfy a strategy based only on H&M approach?



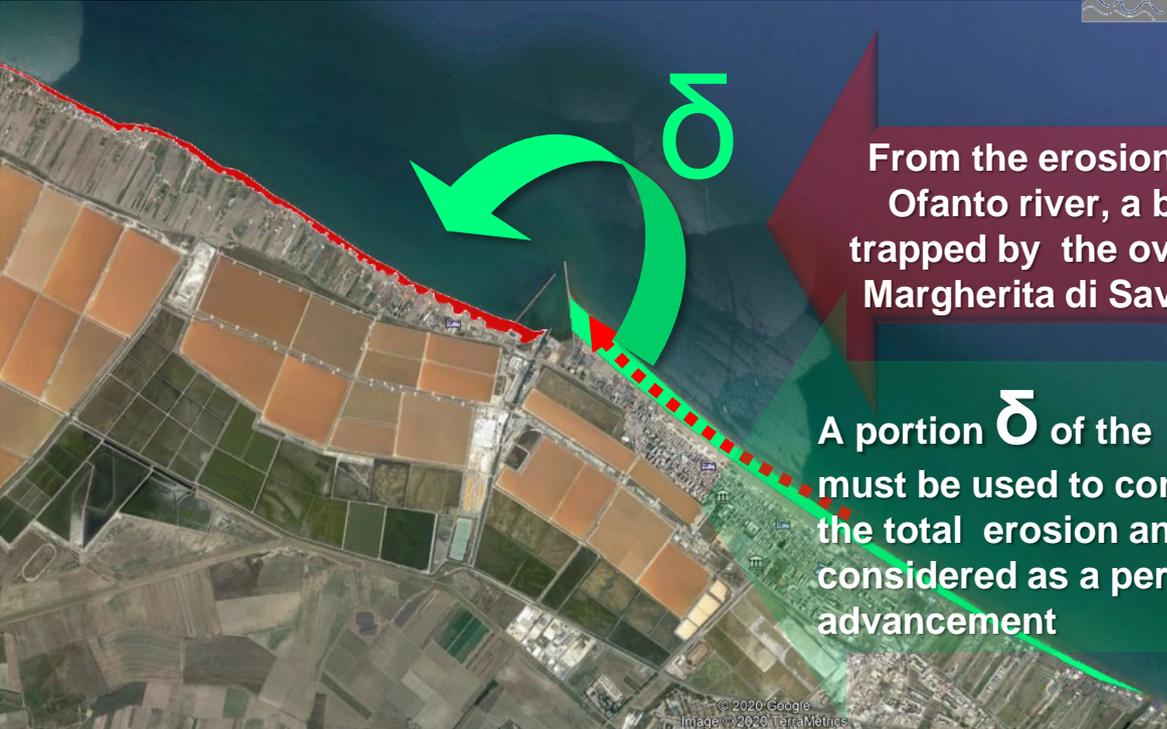


Quantitative Assessment for the Strategy H&M





Quantitative Assessment for the Strategy H&M



From the erosion at the mouth of the Ofanto river, a beach advancement trapped by the over-billow piers of the Margherita di Savoia harbour, occurs.

A portion δ of the beach advancement must be used to compensate a portion of the total erosion and cannot be considered as a permanent and acquired advancement



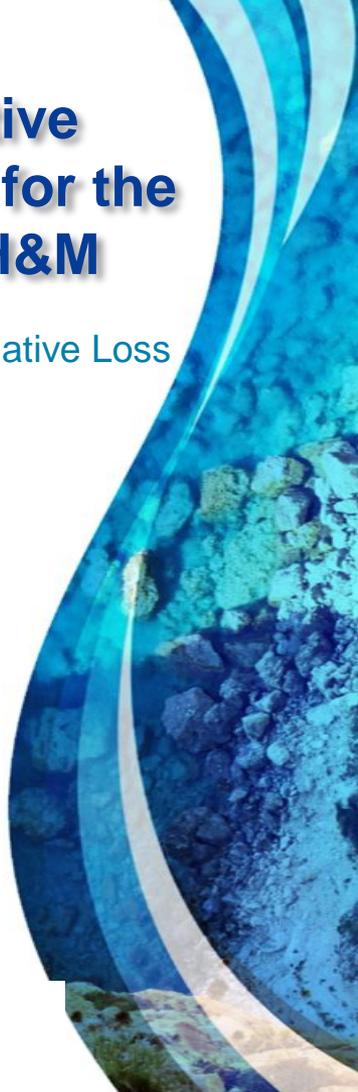
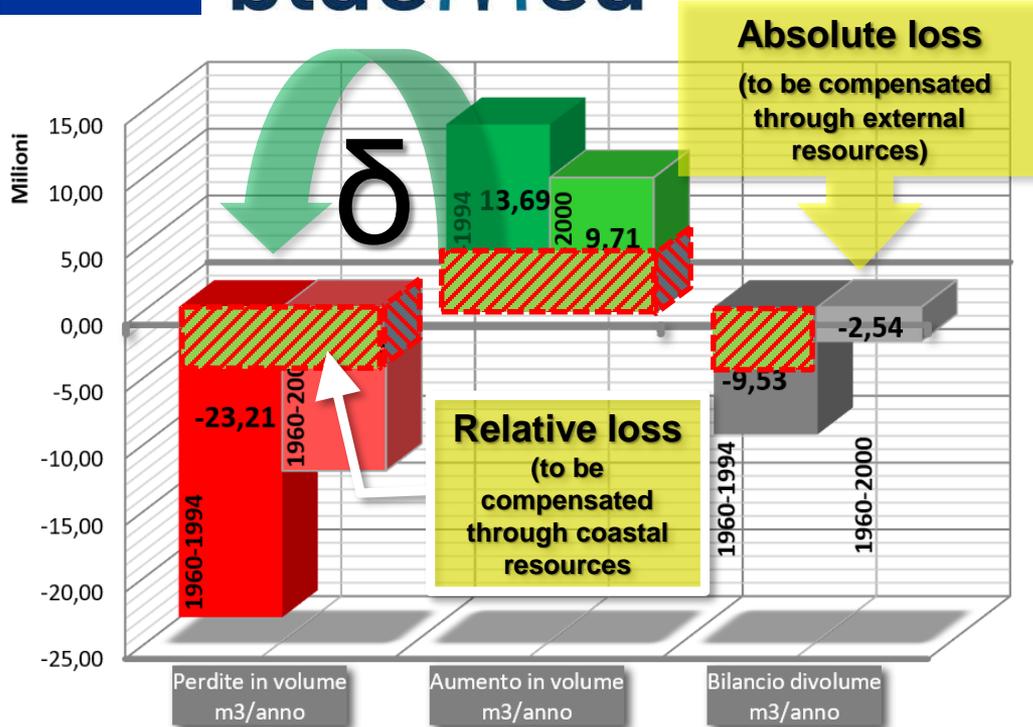


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Quantitative Assessment for the Strategy H&M

Absolute Loss =
Apparent Absolute Loss – Relative Loss





Quantitative Assessment for the Strategy H&M

Loss Tipology	(Mm ³ /y)	Compensation arrangements
Absolute loss	6,6	Through external deposits
Relative loss	$\delta = 30\%$ 2,9	Through coastal deposits
CC effects	1,30	Through external deposits

Target for trapped coastal sediments reallocation



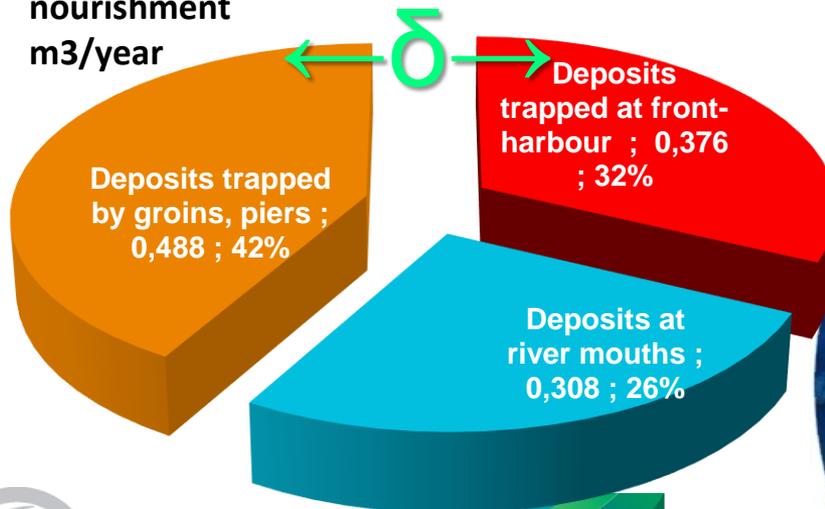


Quantitative Assessment of the coastal sediment extraction used for nourishment

Regione	Depositi Litoranei - quantità media Mm3/anno (movimentazioni autorizzate)			
	Dragaggi portuali	Depositi alle foci o bocche lagunari	Depositi emersi e sommersi	totale Mm3/anno
Liguria	0,044	0,001	0,019	0,064
Toscana	0,084	0,020	0,186	0,290
Lazio	0,078	0,020	0,050	0,148
Sardegna	-	-	-	-
Campania	0,044	-	0,026	0,070
Basilicata	nd	nd	nd	nd
Calabria	0,023	0,035	0,021	0,079
Sicilia	np	np	np	np
Puglia	nd	nd	nd	nd
Molise			0,076	0,076
Abruzzo	0,025	-	-	0,025
Marche	0,060	0,005	0,028	0,093
Emilia-Romagna	0,018	0,032	0,082	0,132
Veneto	-	0,109	-	0,109
Friuli Venezia Giulia		0,087	-	0,087
totale	0,376	0,308	0,488	1,172

Coastal Deposits

Average of the volumes extracted and used for nourishment m3/year



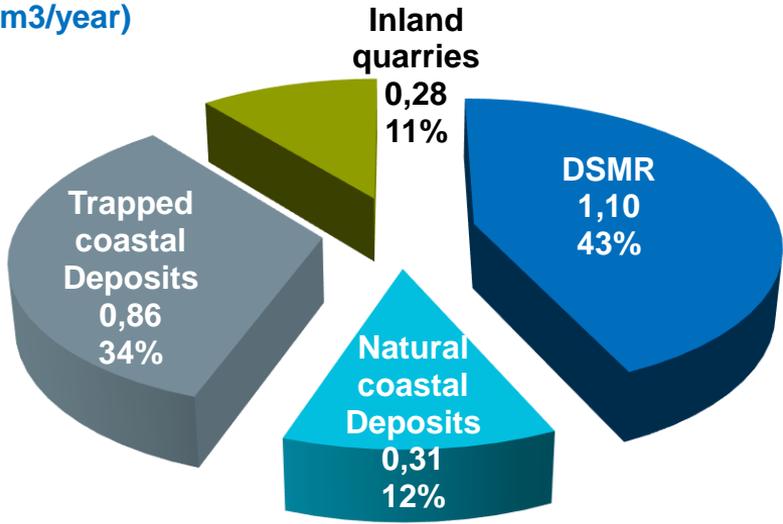


Comparison between Demand and sand extraction used for beach nourishment

Demand of sediments for beach nourishment for a full H&M Strategy (Mm3/year)

Loss Tipology	(Mm ³ /y)
Absolute loss	6,6
Relative loss	$\delta = 30\%$ 2,9
CC effects	1,30

Beach nourishment sources adopted in Italy (Mm3/year)



Tot = 2,55 Mm3/y





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Thank you for your attention

