

20 years of Biosolids Composting in Lewiston/Auburn Maine

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Background –Why Compost?

- Temp landfill closure orders 1979 – 1993
- Land application of lime stabilized class B
- Failure of permitting new Landfill in Auburn
- The great dioxin scare of 1987
- Difficult to dewater solids – bulking for LF
- Escalating costs – Maine landfill closures

Where to go???

- Excerpt from 1973 Annual Report:

“Solid Waste from our facility occupied much of our time during the year. It was finally agreed that we could dispose of the solid waste **at or near** the area of the Lewiston City Dump. Final arrangements were not completed during the year, but the Board was assured that satisfactory arrangements could be made with the City of Lewiston as time goes on.”

Aerial View of the Compost Facility



Project Development

- Extensive siting process
- Design-build approach
- 7 million dollar project cost
- Started operation March 10, 1993
- Permit conditions imposed by City and State
- Public relations and naysayers



LAWYER
QUINCY
PEGS

PLEASE
BUY MY HOUSE

CAUTION
ASPHALT
DRIVEWAY



**TRUST ME!!
I'M FROM THE
CITY!!
IT WON'T STINK!!**





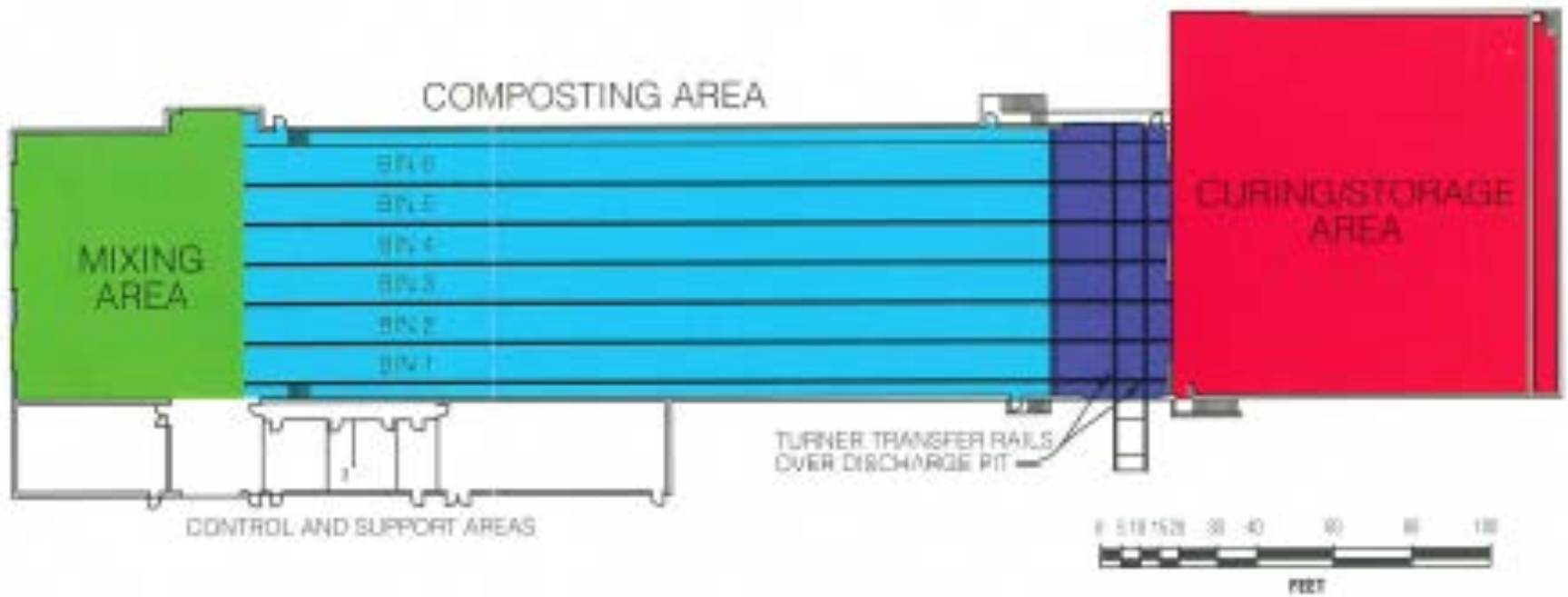


**CAUTION-
ASPERGILLIS
FUMIGATUS!**

Composting Design Criteria

- ~11 mgd average daily flow
- 34 wet tons per day
- 19% solids content
- 100% of average production
- Longwood Manufacturing Corp. agitated bin
 - 10' wide x 7' high x 210' long bins
 - Discharge end traversing

Facility Layout



Current Aerial View



Operations Issues and Changes

- Amendment – alternatives and high costs!
- Mixing and active composting
- Equipment, durability and service
- Building indoor environment and impacts
- Curing , storage and January compost sales
- Groundwater nitrate





That's not your average fog!



Community Relations

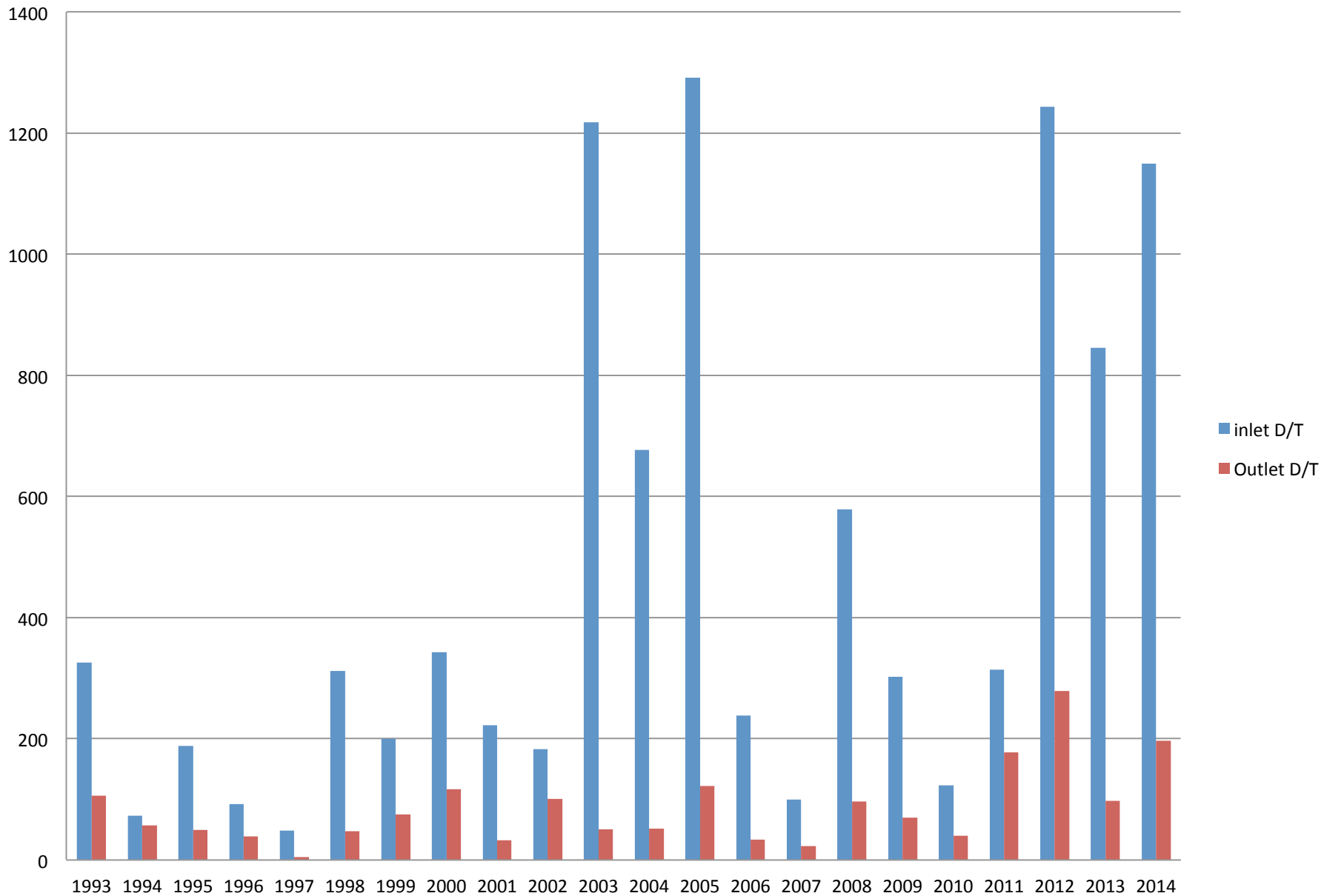
- Working with neighbors
- Odor control is critical!
 - Description of biofilter
 - Permit standards
 - Biofilter odor test results
 - Adding buffer when available

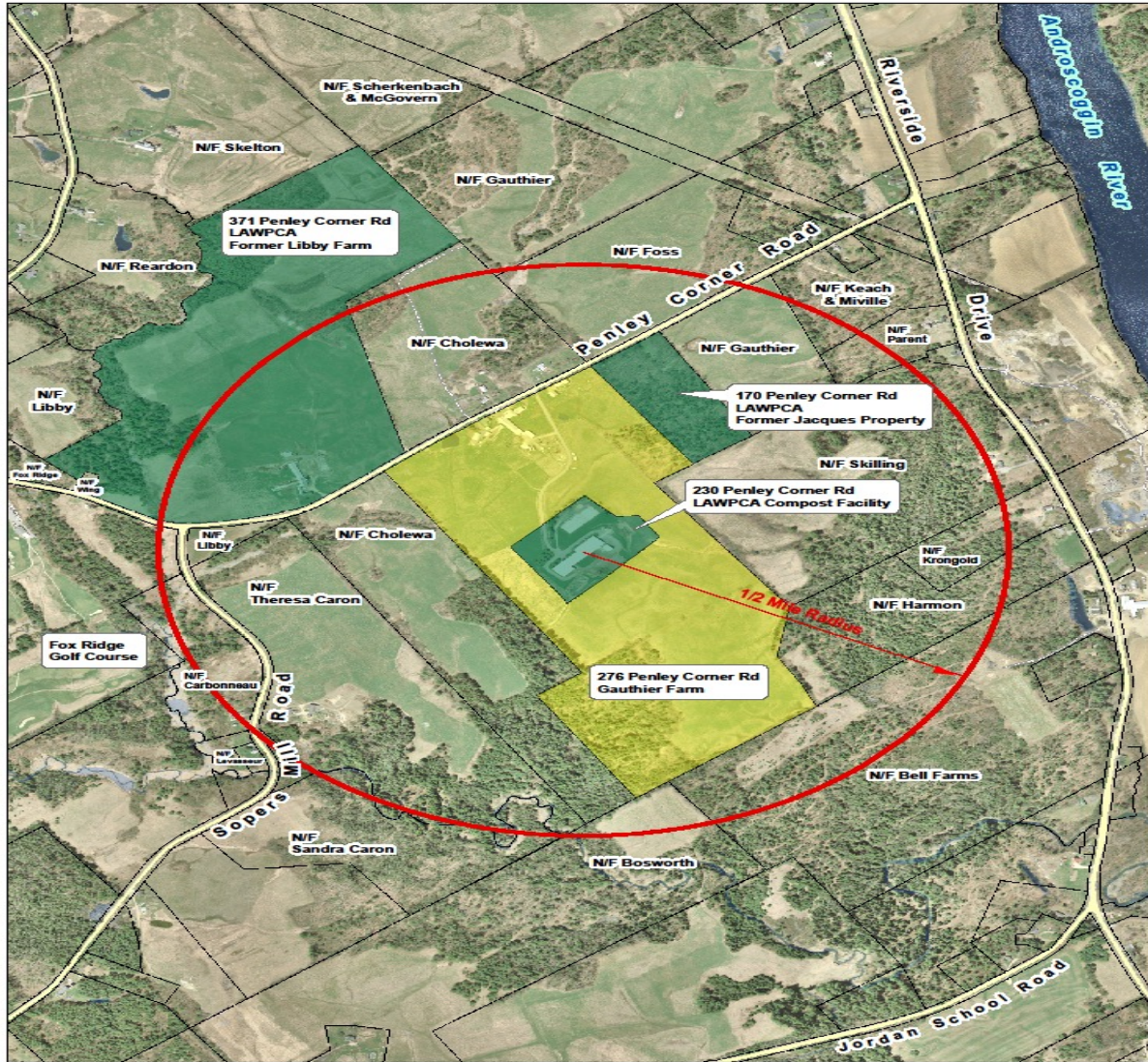
Odor Control Design Criteria

- 12 air changes per hour
- 72,000 cfm
- Biofilter
 - 3 cfm per sq. ft.
 - 29,000 cfm
 - Compost, bark mulch, wood chip media



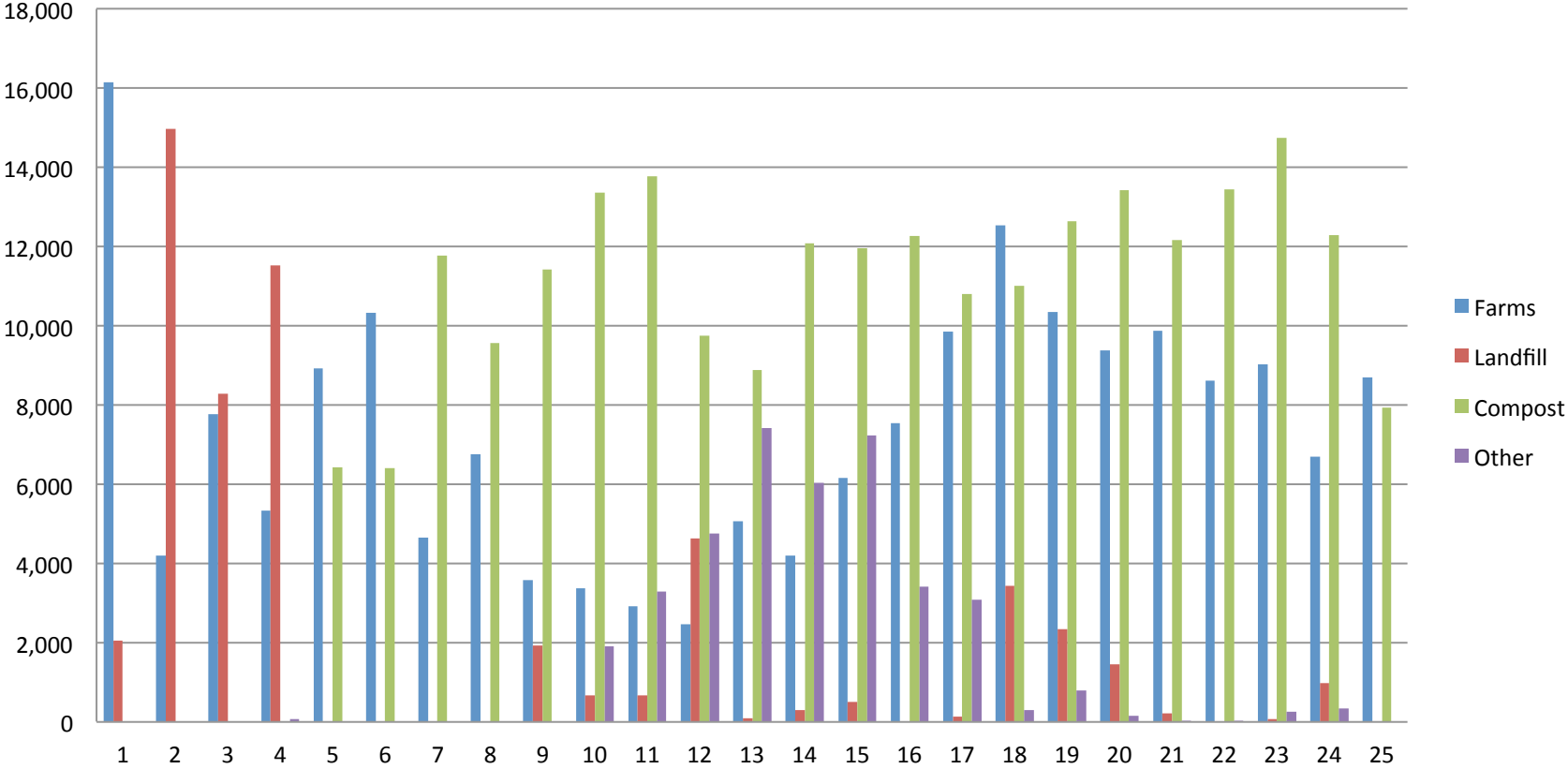
Biofilter Odor results D/T



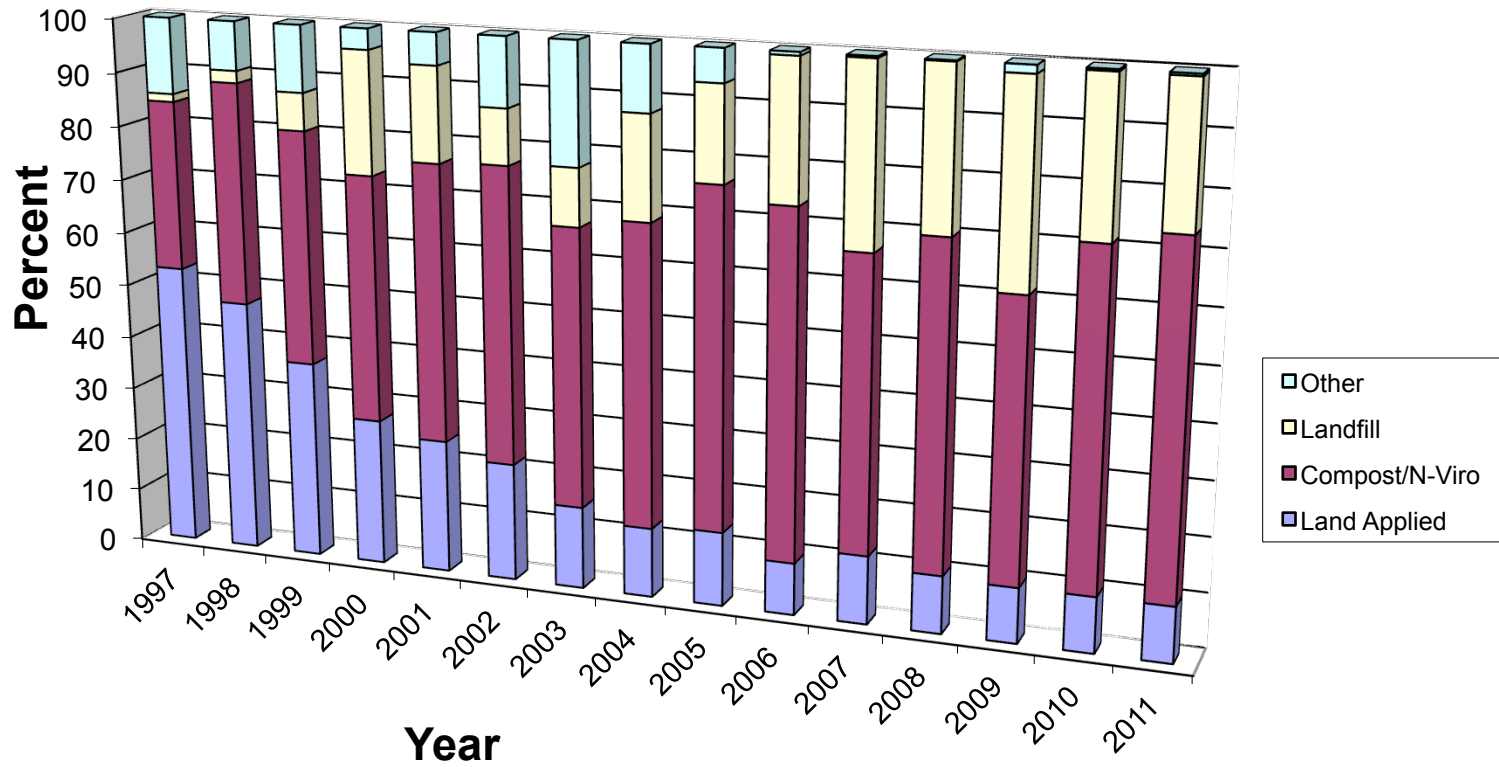


LAWPCA Compost Facility
 230 Penley Corner Rd, Auburn
 and Surrounding Properties

LAWPCA Biosolids Distribution 1986 to 2014



Maine Biosolids Use & Disposal 1997-2011



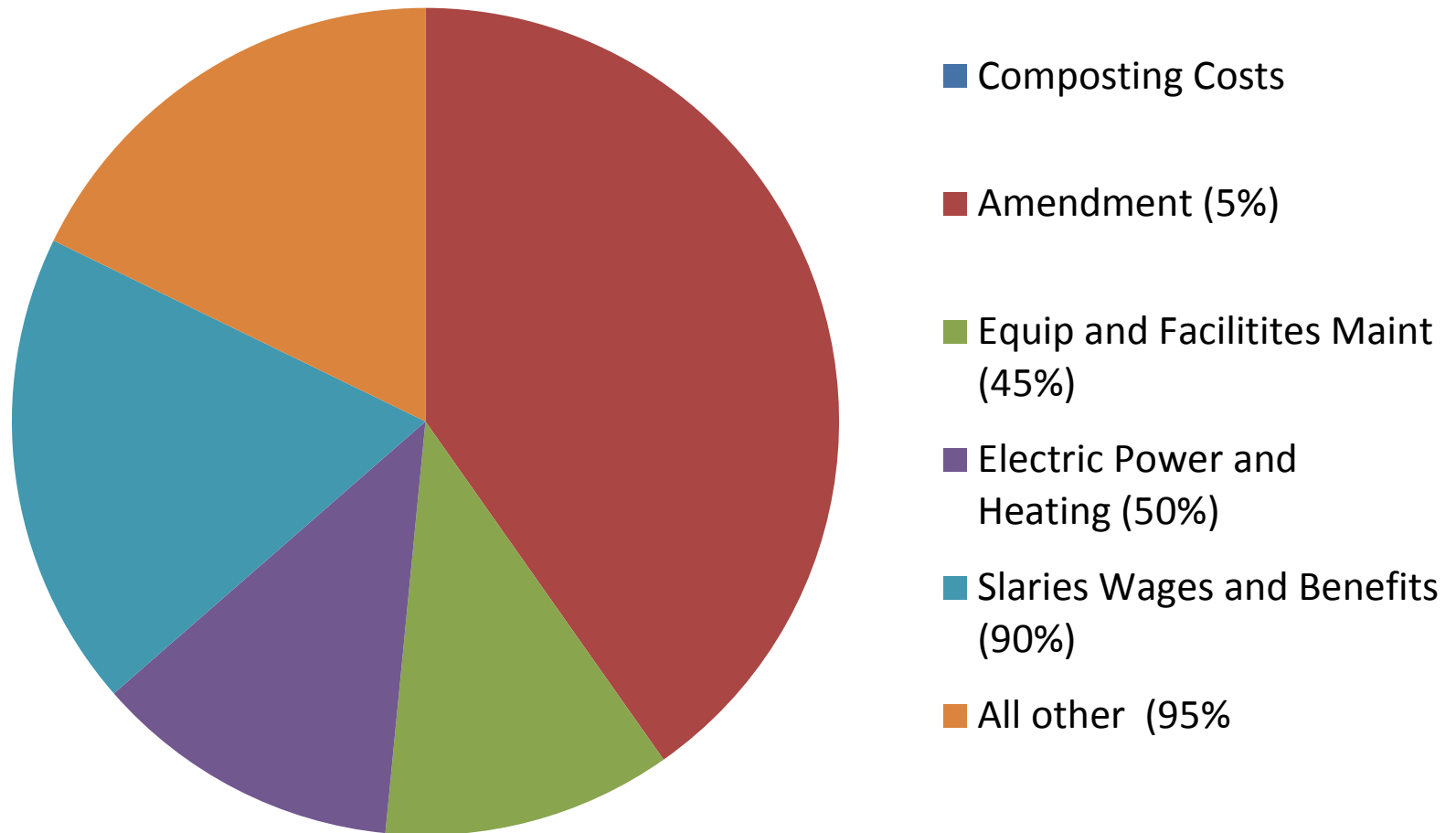
Compost Price

- At inception, \$3.00 per cubic yard.
- 1995 \$5.00 per c.y.
- 2004 \$7.00 per c.y.
- Winter Season (Nov- Mar) \$1.00 discount
- Price increase April 2015 to \$8.00
- Bulk Discounts @ 100, 500, 2,000 cubic yards
- Sold out at some time every year except two.

Who are our Customers?

- General Public sales Wed and Sat 8am to 4pm
 - ¼ cubic yard minimum
- We load, but do not bag product
- Very Popular – non economic benefits
- Brokers to the Eastern Mass market
- Contractors and landscapers
- Farmers – when there is a deal to be had!

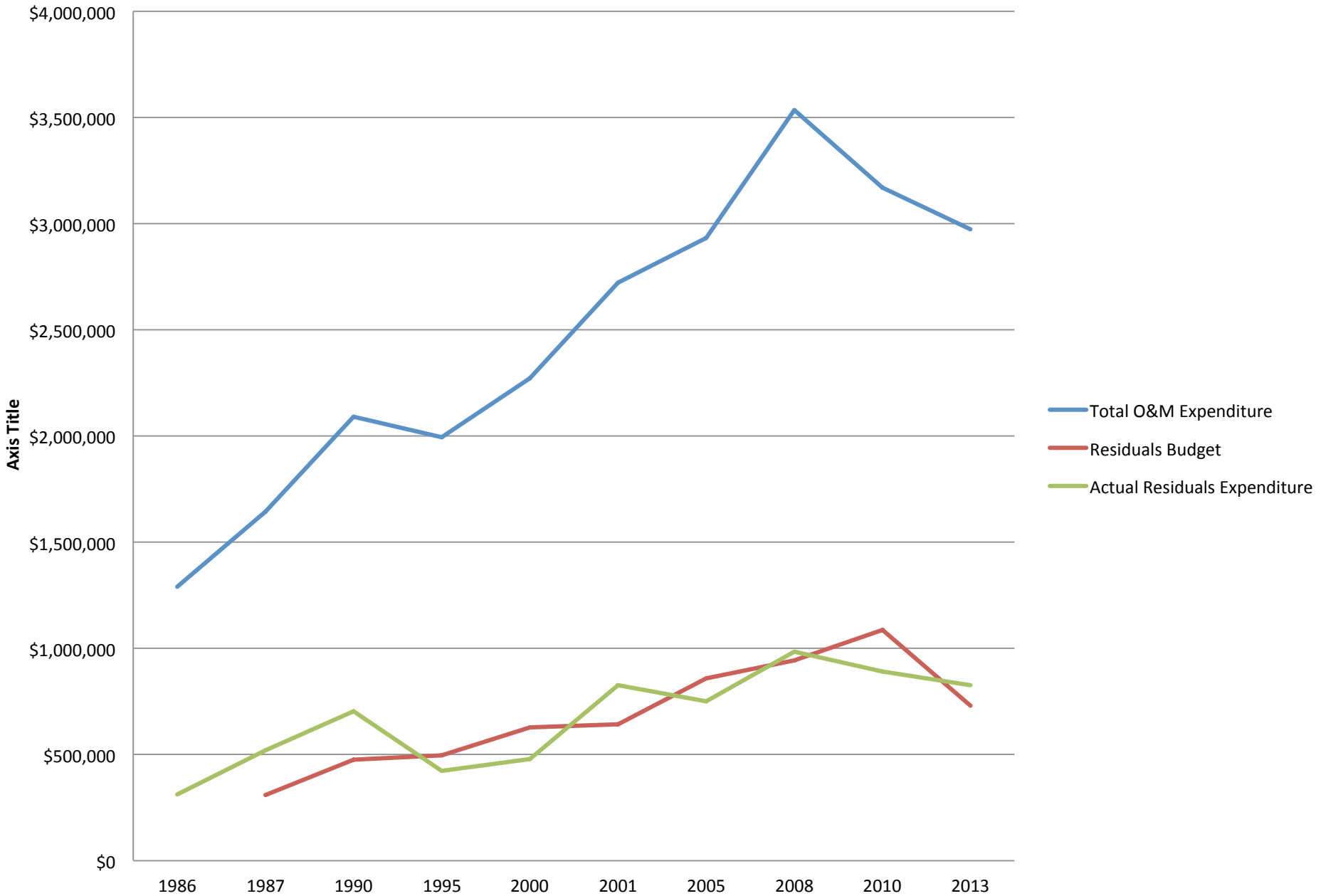
Economics



2012 Total Cost Per cubic yard after sales revenue = \$65.50

2012 Variable Cost per cubic yard after sales revenue = \$26.50

O&M and Residuals Expenditures



Changing Times (have we learned anything?)

- Anaerobic digestion changes everything
- Looking to the future
 - Outside treatment plant solids
 - Dewatering changes at LAWPCA treatment plant

