

# **Solid Waste Evaluation**

## **Walton County, Florida**

**February 2010**



# Solid Waste Team

- Walton County Public Works Department
- Preble-Rish, Inc., Consulting Engineers
- Brown, Burdine & Associates, LLC



# Purpose & Need for Evaluation

- **Last solid waste management study of any kind was done in 1993**
- **1993 study was limited in scope**
  - Disposal: compared costs of using the County's recently constructed lined cell vs transport to an out-of-county facility
  - Collection: looked at 6 alternatives
    - » Status quo (operate 2 manned & 22 unmanned dumpster sites)
    - » Construct 8 manned compactor sites
    - » Construct 7 sites similar to the Blue Mountain site (have 8 total)
    - » Construct 5 'Blue Mountain-type' sites (have 6 total) and use 18 of the current unmanned sites
    - » Construct 6 convenience centers with stationary compactors and 12 unmanned sites; use private vendor to transport compactor containers and recyclables
    - » Contract with private vendors to provide curbside collection 2 times/week; fund collection and disposal with household assessment



# Purpose & Need for Evaluation

## Follow-up on 1993 Study Recommendations County is largely following recommendations of study

	<u>Recommendations made in 1993 Study</u>	<u>Current Operation</u>
1	Start an enterprise fund for collection & disposal in 1994 with assessment & tipping fees below: .....	✓ 1% small county surtax earmarked for collection and disposal; (Ordinance 94-16; effective Feb 1, 1995)
	\$50 /ton Waste going to MRF .....	✓ Free to residents; fee applies to commercial contractors
	\$21 /ton Construction & demolition (C&D) debris .....	✓ Free to residents; fee applies to commercial contractors
	\$21 /ton Grit .....	X Not accepting grit
	\$0.75 ea Small Tires (less than 10) .....	✓ Charging \$90/ton; 2 amnesty days per year offered and free pickup in winter months on north end by Mosquito Control
	\$90 /ton Large Tires (more than 10) .....	✓
	\$70 /house Household Assessment .....	X
	\$291 /facility Commercial Facilities .....	X
2	Continue to dispose of MSW out-of-county .....	✓ Currently transferring to Springhill Regional LF (Jackson Co.)
3	Construct 6 manned convenience centers using stationary compactors & 40 cu yd containers for recyclables .....	X
	Use private contractor to haul compacted waste & recyclables .....	✓
	Operate 12 dumpster sites .....	X
4	Expand the recycling program .....	✓ Curbside recycling not offered; 15 trailers set around County for drop-off; recovery also done at MRF; Blue Bag Program
5	Continue to dispose of tires out-of-county .....	✓
6	Operate a C&D landfill .....	✓ County operates a Class III cell at the Central Landfill that accepts C&D debris

# Purpose & Need for Evaluation

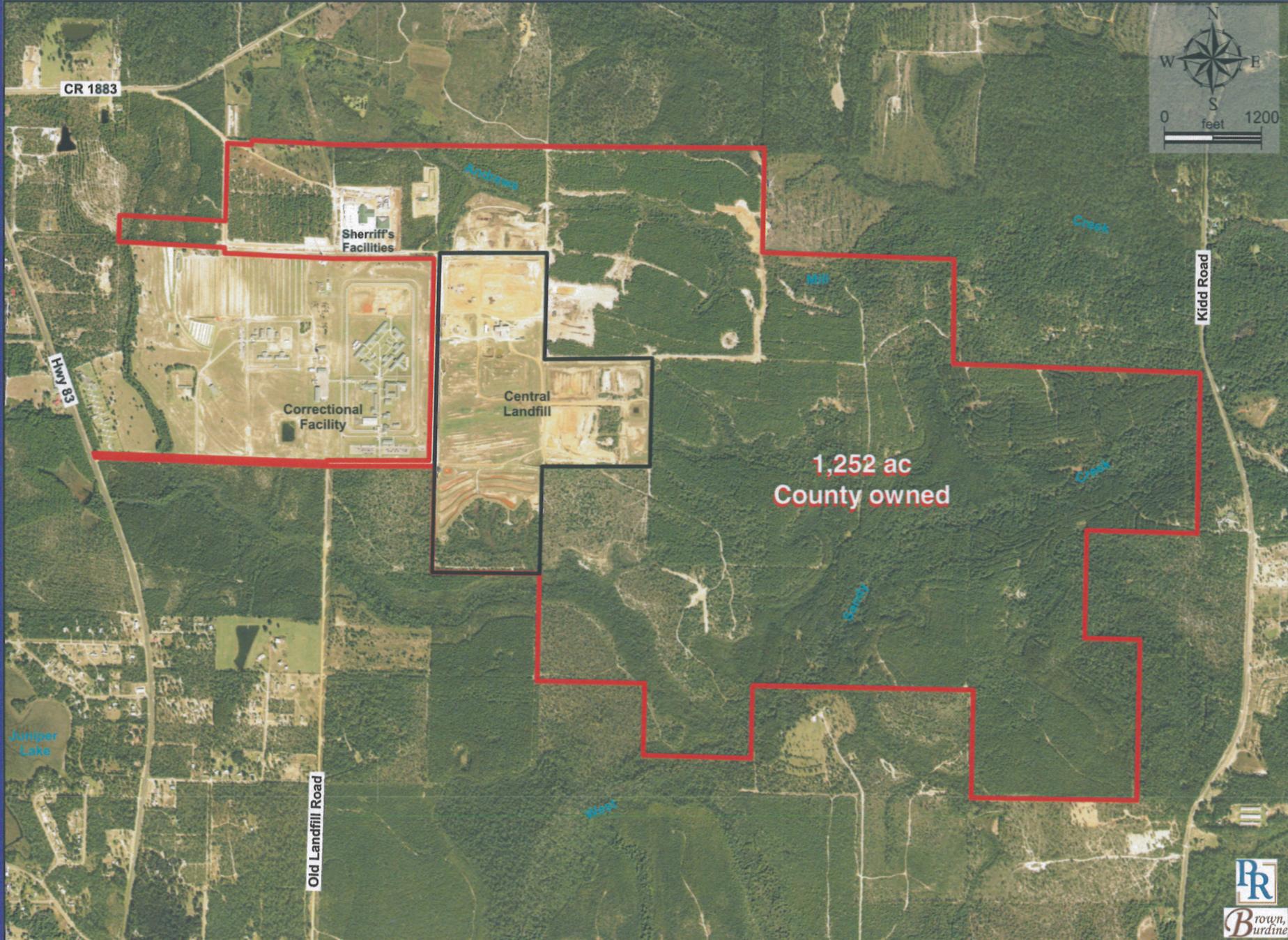
- County has essentially been managing solid waste operation status quo since 1993
- No additional studies performed in last 17 years
- Evaluation team believes that opportunity exists to get more out of solid waste program
- Management concept recommended by Team is to treat the solid waste operation as though it were a business
- Future strategies should aim to capitalize on County's unique position in in solid waste arena (i.e., 1252 acres of property purchased for future landfill use, of which only 160 acres is currently being utilized)

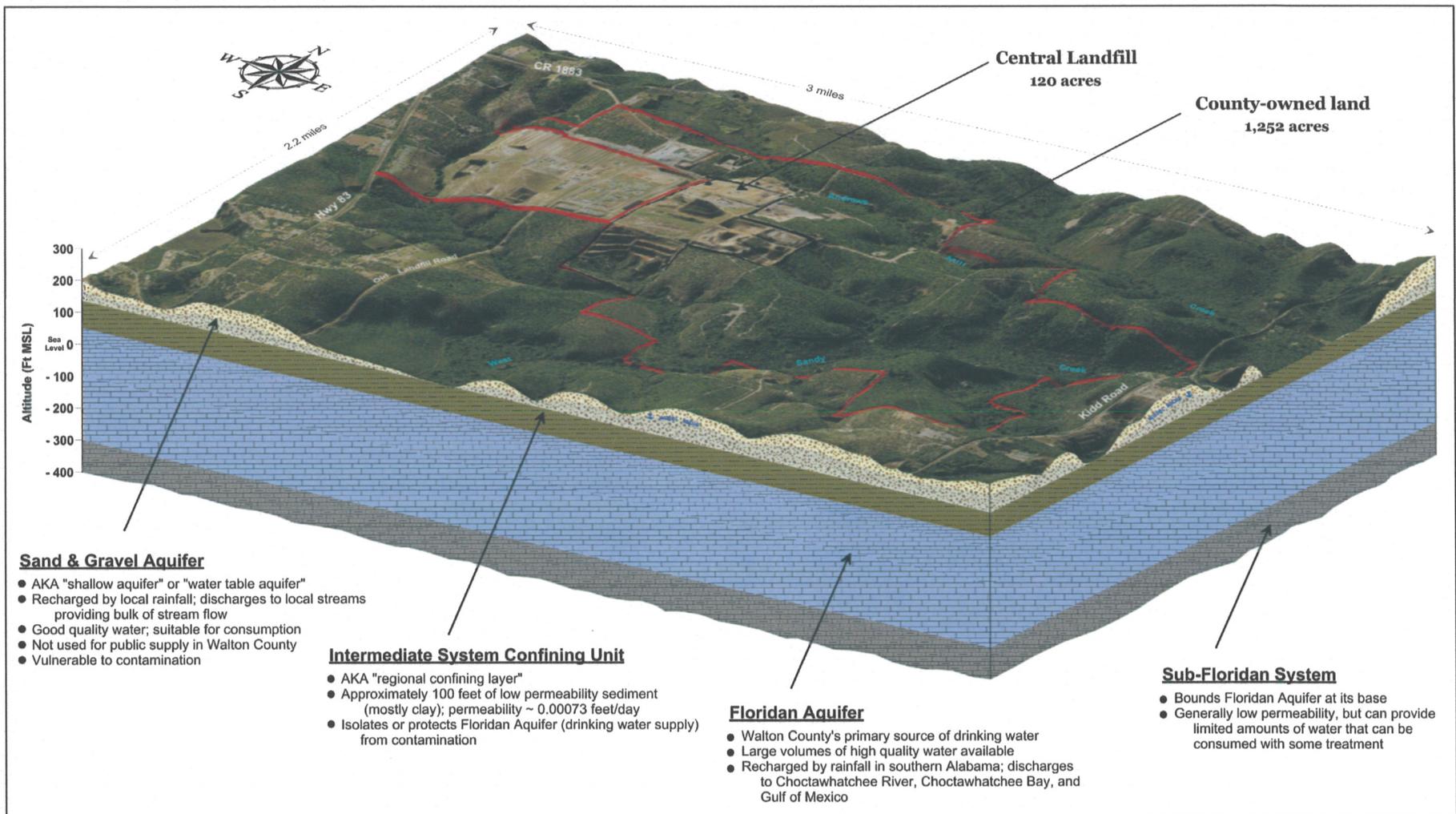


# Presentation Preview

- **County's existing resources**
- **Waste disposal trends**
- **Flow of waste in Northwest Florida**
- **Details on County's current operation**
- **Team's recommendation**





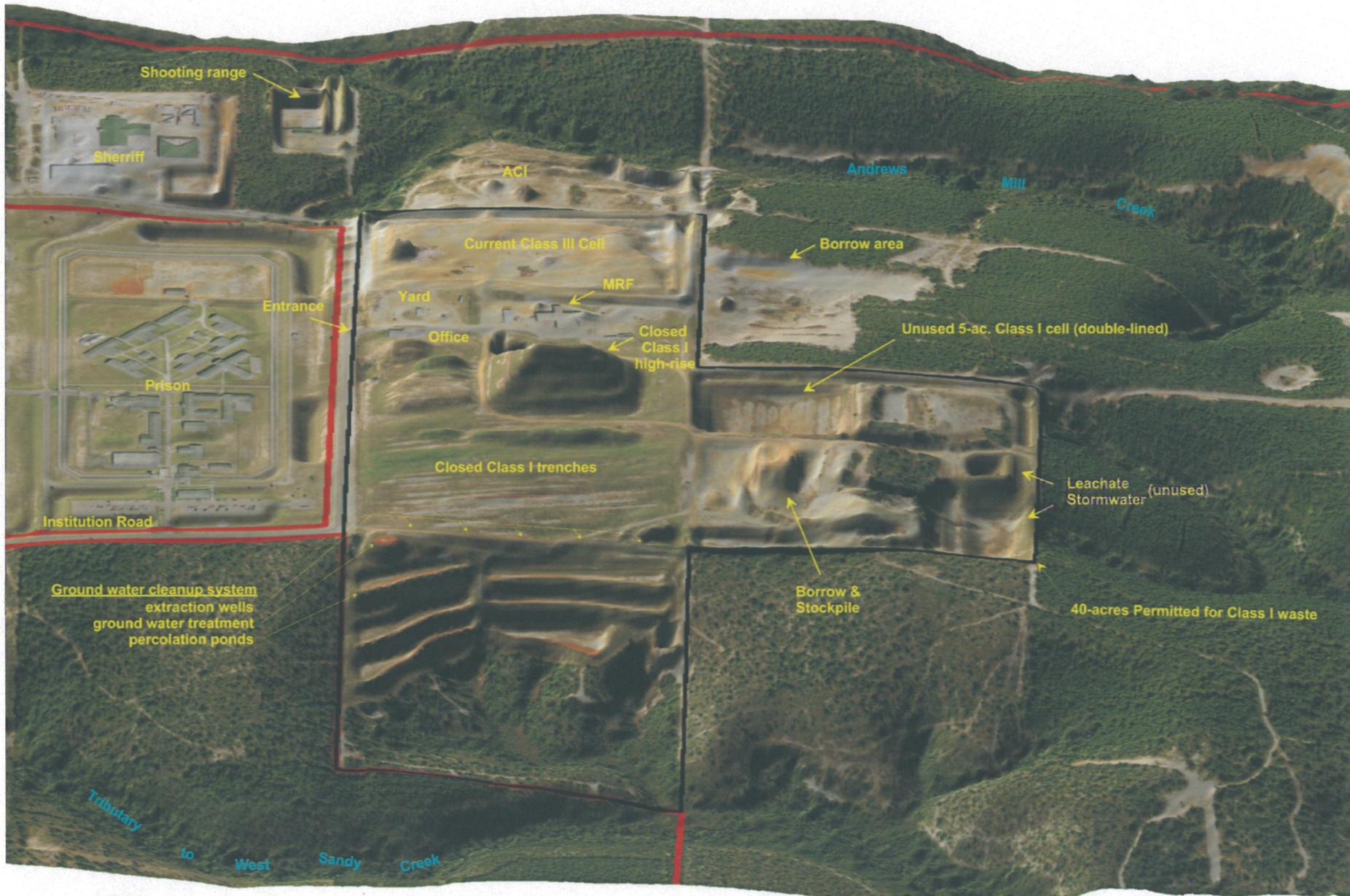


*Burton, Burdine & Associates, LLC*  
Environmental & Geological Consultants

## Geology / Hydrogeology of the Central Landfill & Vicinity

Walton County, Florida

Sources:  
 - Green, R., 1991, Florida Geologic Survey, OFMS 91-01  
 - Means, G.H., et al, 2000, Florida Geologic Survey, OFMS-89  
 - Pratt, T.R., 1996, Northwest Florida WMD, WRSR 96-4  
 - Countryman, R.A., et al, 2003, Northwest Florida WMD, WRMS 03-2



View  
 From south facing north, elevated 30°  
 Topography exaggerated 5x

# Current Landfill Conditions

Central Landfill  
 Walton County, Florida



**Lined Cell Construction**  
(similar to Walton Co.'s unused 5-ac Class I cell)



## Lined Cell Construction (similar to Walton Co.'s unused 5-ac Class I cell)

Double synthetic liner (60-mil HDPE each) with leachate collection





# Monitoring Activities

- Water quality monitoring (semiannual)
- Gas monitoring (quarterly)
- Remediation

# Ground water cleanup



# What's Happening Around Us

Late 1800's – Early 1900's



Source: Oklahoma DEQ



Collection

Disposal

Late 1900's – Early 2000's



# Major Solid Waste Legislation

- Collection & disposal responsibilities rested primarily with local government
- Disposal primarily in open dumps; "Out of sight, out of mind"
- Increasing population made it increasingly difficult for cities to manage waste
- Awareness of need for solid waste management emerging on a national scale

1953  
First appearance of nationally published guidelines on waste disposal sites

1965  
Congress passed Solid Waste Disposal Act (SWDA)

- Fed. Govt's first attempt at solid waste management
- Promote development of guide-lines for collection, transportation, & disposal

(Less than 10 full-time employees in state solid waste programs nationwide)

1970  
Congress passed Resource Recovery Act (RRA)

- Emphasis shifted from disposal to recycling and waste-to-energy

1976  
Congress passed Resource Conservation & Recovery Act (RCRA)

- Reduce environmental impacts
- Conserve resources
- Reduce waste generation

Hazardous and Solid Waste Amendments of 1984 (HSWA)

- RCRA amended
- EPA was directed to come up with landfill construction criteria to prevent contamination

Florida passed Solid Waste Management Act of 1988

- Counties have primary solid waste responsibilities
- Flow control
- MSW recycling (30% goal)
- Prohibitions on sales & disposal of certain items
- FDEP's charge to upgrade MSW landfill construction requirements (liners)

1991  
RCRA Subtitle D revision

- Effective 1993
- Stringent landfill design, construction and operation procedures
- Official end of 'open dump' era

2008  
Florida passed The Energy, Climate Change, and Economic Security Act of 2008 (House Bill 7135)

- Establishes a new statewide recycling goal of 75% to be achieved by the year 2020
- Statute directs DEP to develop a program designed to achieve this goal and submit it to the Legislature for approval by January 1, 2010.



1969  
Florida Dept of Air and Water Pollution Control created

1970  
EPA created

1972  
name changed to Florida Dept of Pollution Control

Mid-1970's: DPC becomes Florida Department of Environmental Regulation (DER)

1978: Walton County Central Landfill permitted

1993: DER merged with Department of Natural Resources to become Florida Department of Environmental Protection (DEP)

# Meeting the 75% Recycling Goal

## FDEP's Recommendations to Florida Legislature: January 4, 2010

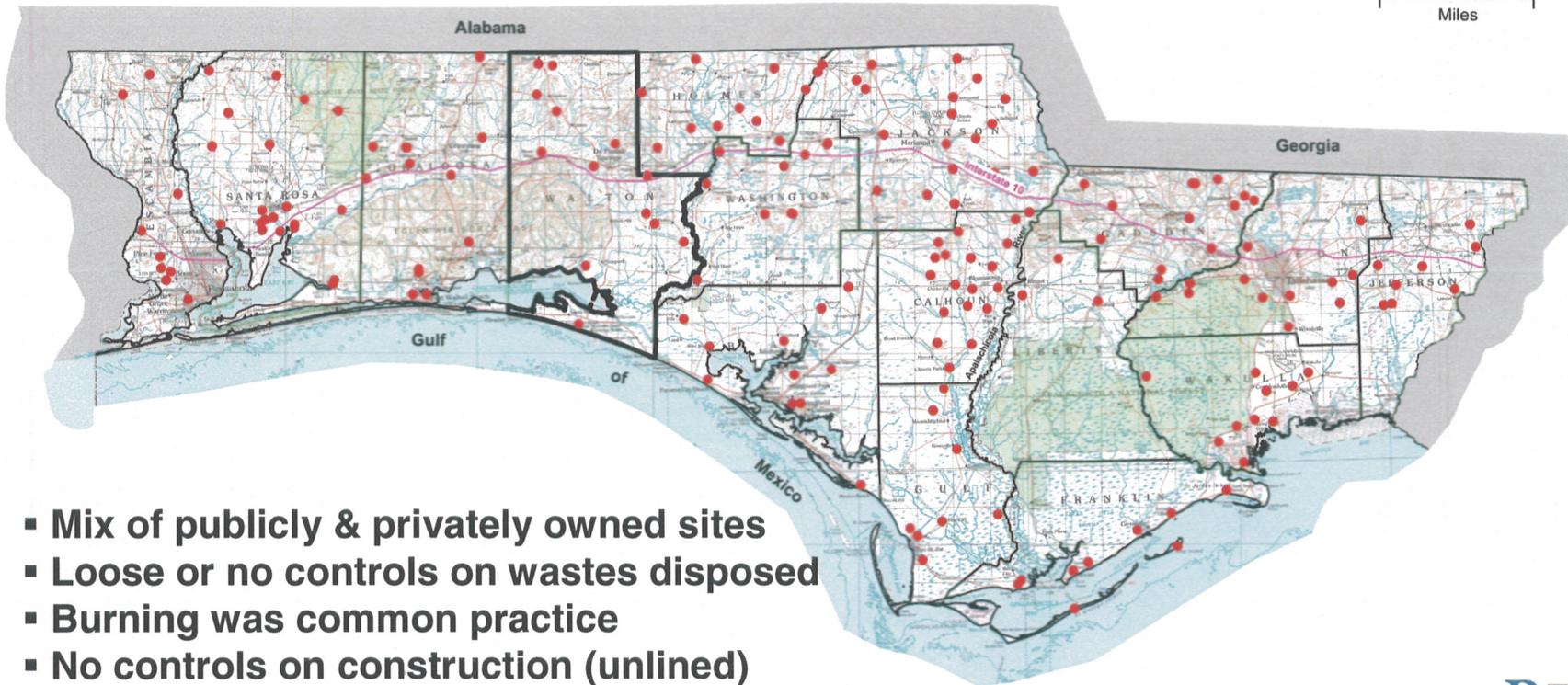
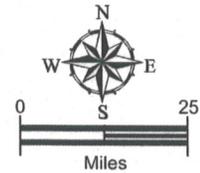
Some guiding facts & concepts for FDEP's recommendations:

- Floridians generate ~32 million tons/year of solid waste; Statewide recycle rate is ~28%; no real increase since 1998
- Largest gains to be made in the commercial sector, which generates 67% of Florida's MSW
- Large gains to be made in larger counties (population >100,000); only 18 of the ~36 large counties have made the 30% goal
- Government should lead by example
- Focus on actions that promise the most gain with the least impact

Target Area	Recommendations	Projected Gain Toward 75% Goal	
State Government	• Require recycling at all state buildings	1.5%	
	• Require each state agency to meet the 75% goal		
	• Provide recycling accountability through tracking & reporting		
	• "Green Purchasing"; modify procurement system to purchase green products and recycled materials		
Local Government	• Apply the new recycling goal to counties with a population greater than 100,000 and cities with a population greater than 50,000, capturing approximately 95% of the state's population and MSW generated.	31%	
	• Specify that local governments under the population thresholds do not have to meet the goal but must provide recycling opportunities to their residents.		
	• Require commercial recycling in counties with a population greater than 100,000 and cities with a population greater than 50,000		
	• Consider innovative programs to increase recycling:		
	o "Pay-As-You-Throw"; the more you use (and throw away), the more you pay; monetary incentive to recycle		10%
	o RecycleBank; for residential sector; discount coupons supplied by local vendors of goods & services for recycling		10%
	o Zero Waste Zones; designate certain areas where whatever is produced is consumed or recycled		
o Single Stream Recycling; increase participation by allowing residents to mix recyclable material at curbside			
	o Recycling Markets; develop markets and improve cost-effectiveness; create a recycling business assistance center		
Public Schools	• Direct all local school districts to implement recycling programs (some exemptions)	6%	
	• Develop a Web page for K-12 school recycling educational materials		
Funding	• Create a Recycling Grants or Revolving Loan program for local governments to aid in reaching a 75% recycling goal	12%	
	o Structure financial assistance to address operational and infrastructure costs		
	o Reserve a minimum percentage of these funds for public education and training		
	o Consider limiting the duration of grants program		
	o Require local program commitment to the recycling goal through matching grant funds or loan repayment agreements		
Waste Management	• Phase in the requirement that all existing unlined C&D disposal facilities be modified to incorporate a Materials Recovery Facility at the front end of their process or utilize other existing materials recovery facilities	12%	
	• Create a recycling business assistance center promoting markets for the entire spectrum of recyclable MSW materials		
	• Include the amount of waste currently combusted in WTE facilities in the overall 75% goal (as legislatively directed)		12%

# 1970's

Some 200 garbage dumps and landfills spread throughout the Panhandle



- Mix of publicly & privately owned sites
- Loose or no controls on wastes disposed
- Burning was common practice
- No controls on construction (unlined)
- Minimal monitoring requirements in mid-late '70's

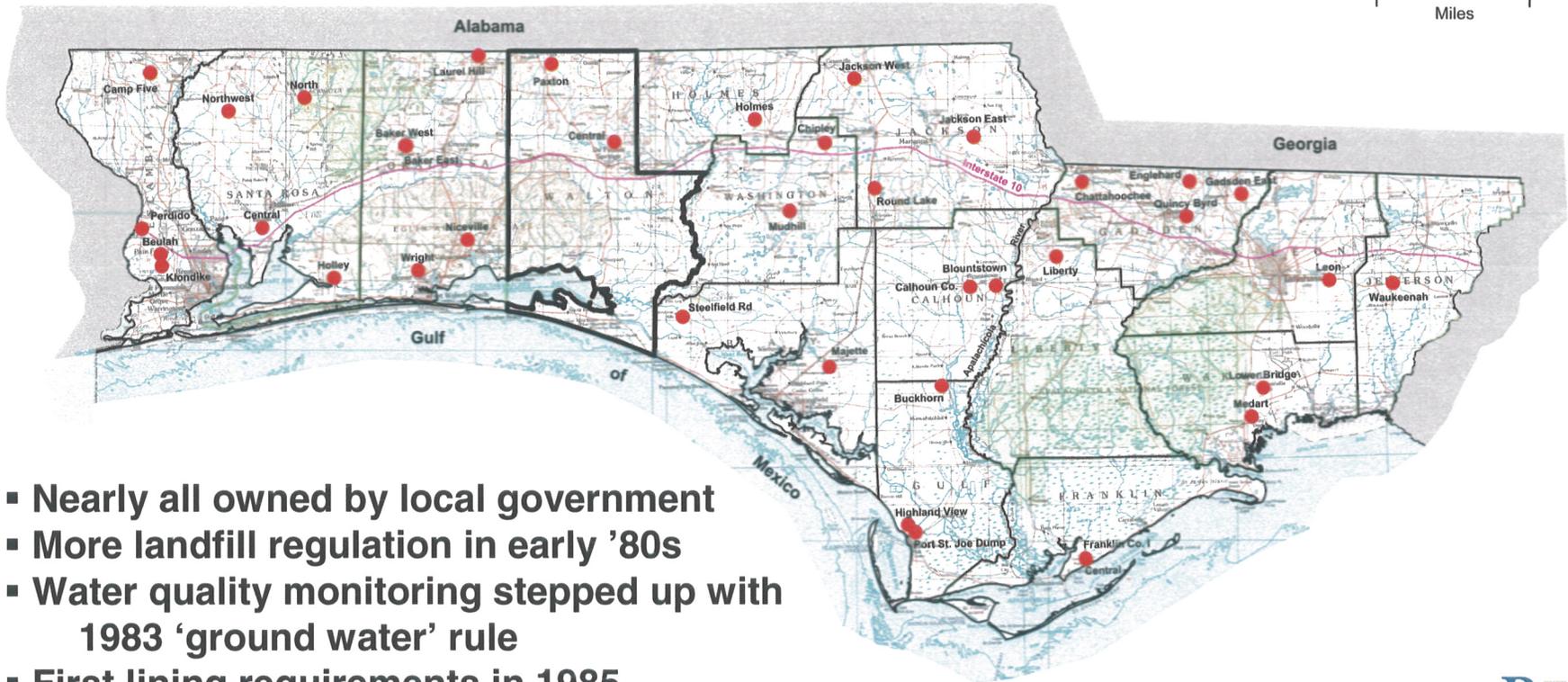
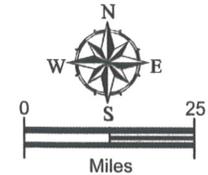


Source: FDEP records



# 1980's

~ 39 Class I & II (MSW) landfills in the Panhandle



- Nearly all owned by local government
- More landfill regulation in early '80s
- Water quality monitoring stepped up with 1983 'ground water' rule
- First lining requirements in 1985 (3' clay @  $10^{-7}$  cm/s or single synthetic liner)

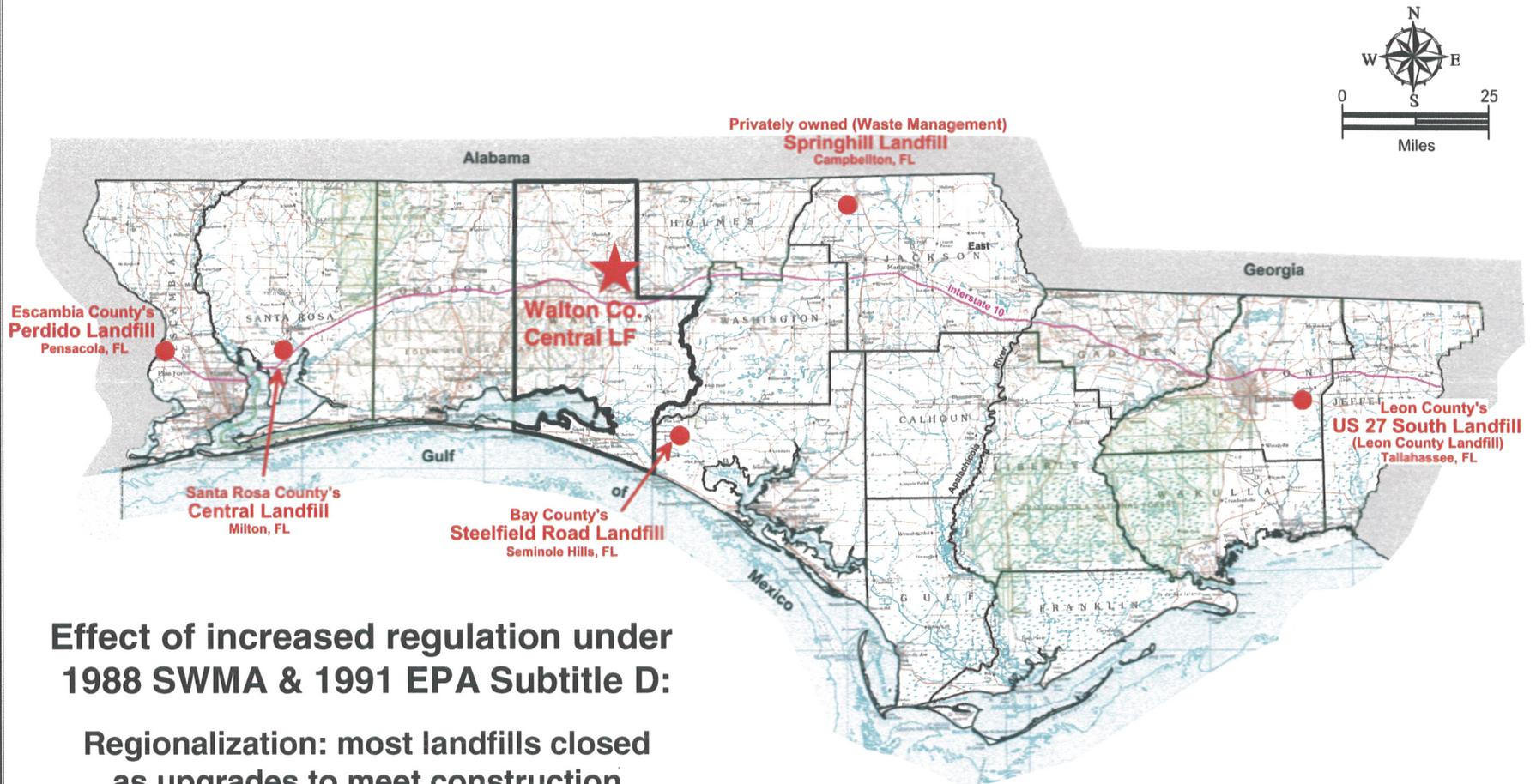


Source: FDEP records



# 2010

## Active Class I (MSW) landfills in the Panhandle



**Effect of increased regulation under  
1988 SWMA & 1991 EPA Subtitle D:**

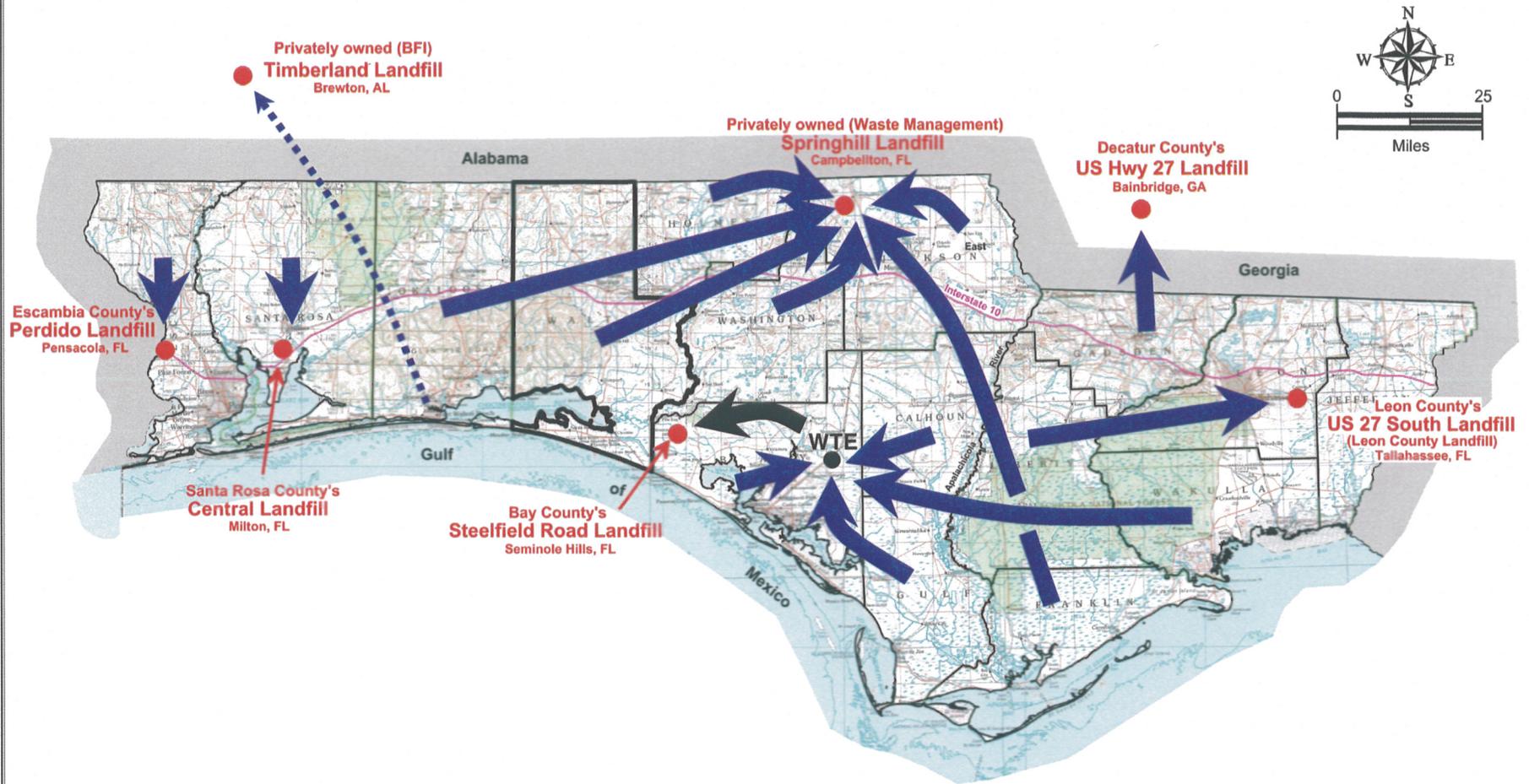
**Regionalization: most landfills closed  
as upgrades to meet construction  
requirements was not economical**



Source: FDEP records



# Flow of County MSW in Florida Panhandle



Source: FDEP records



# MSW Management Comparison

COUNTY	CLASS I	CLASS III	C&D	YARD WASTE	RECYCLING	Waste (tons)		
						Disposed	Recycled	
<b>Bay</b> Tip Fee: \$42.20/Ton	Transfer Station, WM Springhill or County's Steel Field Landfill	County's Steel Field Landfill	Private C&D facilities	WTE Plant or to Steel Field for Mulching	Drop-off	437,653	50,335	10%
<b>Calhoun</b>	Contract with EWS; (Bay County WTE?)	Same	EWS; in-county C&D	N/A	Drop-off; mobile and fixed collection sites	10,282	1,519	13%
<b>Escambia</b> Tip Fee: \$36.30	Perdido Landfill	Same	Perdido or private pits	Perdido (mulching)	Curbside & drop-off	536,680	136,557	20%
<b>Franklin</b> Tip Fee: \$45.59/Ton	Transfer Station, WM Springhill Landfill	County run facility	County run facility	County run facility	Drop-off	18,854	2,835	13%
<b>Gadsden</b>	Transfer to Bainbridge, GA LF	City run landfill	Private pits	To City run Class III	Curbside as of Jan '10 and drop-off	67,079	14631	18%
<b>Gulf</b> Tip Fee: \$42.50/Ton	Haulers take to Bay's WTE or Steel Field Landfill	County run	County run Class III or private pits	County run Class III	Drop-off	22,755	946	4%
<b>Holmes</b> Tip Fee: \$45-\$50 (?)	WM's Springhill LF	Same	Same	Same	Drop-off	20,379	1,680	8%
<b>Jackson</b> Tip Fee: \$46/Ton	WM's Springhill LF	Same	Same	Same	Drop-off	41,292	2,134	5%
<b>Liberty</b>	transfer to Leon Co.	\$50/ton						
<b>Okaloosa</b> Tip Fee; \$52.91/Ton	Transfer to Springhill	Transfer to Springhill	Private pits and WM's Transfer Stations	County (mulching)	Curbside county-wide plus drop-off	338,481	49,783	13%
<b>Santa Rosa</b> Tip Fee: \$32/Ton	County run Central LF	County run site	County run & private	County run Central LF	Drop-off with some curbside	212,081	66,635	24%
<b>Walton</b> Tip Fee: \$45/Ton	WM's Springhill LF	County run facility	County run & private	County (mulching)	Drop-off	61,073	1,557	2%
<b>Washington</b> Tip Fee: \$45/Ton	WM's Springhill LF	Same	Same	Same	Drop-off	45,913	1,255	3%

\*2007 Data from FDEP Annual Report - total MSW disposed versus total recycled; Walton Co's numbers reflect 2009 data



GLASS RECYCLING STATION



TRANSFER STATION IN OPERATION



PLASTIC RECYCLING COMPACTED



PLASTIC RECYCLING FOR SHIPMENT



TIRE DUMPSTERS / STOCKPILE



METAL RECYCLING ENTRANCE



ACTIVE CLASS III DISPOSAL AREA



ACTIVE CLASS III DISPOSAL OPERATION



RECYCLED METAL COMPACTOR



RECYCLED METAL TRANSFER



ENTRANCE WEIGH STATION



SCALE AND ENTRANCE

# RECOMMENDATIONS

- Continue evaluation for all options
- Consider RFP for waste services
- Move forward concurrently with analysis of county operation - in house solid waste services
- Additional presentation after data collection and analysis