



Escambia County

Water Quality & Land Management Division

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Report of the Special Grand Jury on Air and Water Quality, Escambia County, FL June 10, 1999

- 27 recommendations
- Concern was that regulators were failing to enforce environmental laws
- Mismanagement of WWTPs – frequent overflows, mishaps
- Industries/utilities allowed to continue operating while violating water and air quality standards
- 1998 list of impaired waters – 35 in Escambia County
- Environmental regulations in NWF were the least stringent in the state
- Escambia LDC did not conform to Comprehensive Plan requirements
- New FDEP Northwest District Director should be appointed
- Dereliction of duty by public officer should be punishable as a crime

Report of the Grand Jury on Ground Water Contamination April 30, 2004

- 24 recommendations
- Sand and gravel aquifer is area's sole source of drinking water, shallow, highly susceptible to contamination
- Contamination of the sand and gravel aquifer is widespread
- 6 superfund sites, dozens of dry cleaning sites, hundreds of petroleum contaminated sites, numerous unpermitted landfills
- Clean up of contaminated sites is too slow – natural attenuation
- Contaminated ECUA drinking water wells – radium, blending
- ECUA administration/management was criticized
- Need for environmental officers at ECUA and local governments
- Regulatory agencies need to enforce environmental laws

Top Escambia County Environmental Issues

- Water Quality
 - Surface Water Quality
 - Ground Water Quality
- Loss of Habitat and Function
- Historical Contamination – sediment and water
- Flooding – rainfall, sea level rise
- Air Quality- mercury, nitrogen oxide, ozone

Water Quality

- Point Sources
 - Industry – nutrients, toxic organics (dioxins, PAHs, VOCs)
 - WWTPs – nutrients, bacteria, pharmaceuticals
- Nonpoint Sources
 - Stormwater - nutrients, bacteria, toxic metals, hydrocarbons, pesticides/herbicides, toxins
 - Increased development, increased impervious surface
 - old infrastructure – no treatment
 - new stormwater ponds – 50% treatment
 - Agriculture – nutrients, bacteria, pesticides, pharms
 - increased use of fertilizers, pesticides, antibiotics, and hormones to increase yield per acre
 - feed lots – increase concentration of pollutants
 - agricultural exemptions from most regulations

Water Quality Solutions

- Stormwater

- reduce impervious surface, increase percolation
- retrofit old infrastructure – add new treatment
- vegetated shorelines – filter stormwater
- LID – treat at source (infiltration, rain garden, pervious)
- strengthen regulations – % treatment, wet ponds

- Agriculture

- treatment for animal wastes
- regulate quantities of fertilizers/pesticides/pharms
- 50-foot vegetated buffer zones along streams and wetlands



Historical and Current Contamination

- 6 Superfund Sites
- Contaminated Sediment and Ground Water Plumes
- Historical – PAHs, PCBs, PCPs, TCE
 - wood treating, fertilizer, dry cleaning, industry, manufacturing
- Current – dry cleaning solvents, gasoline (leaking underground storage tanks), nutrients and bacteria (septic tanks), metals, pesticides, toxins

Loss of Habitat and Function

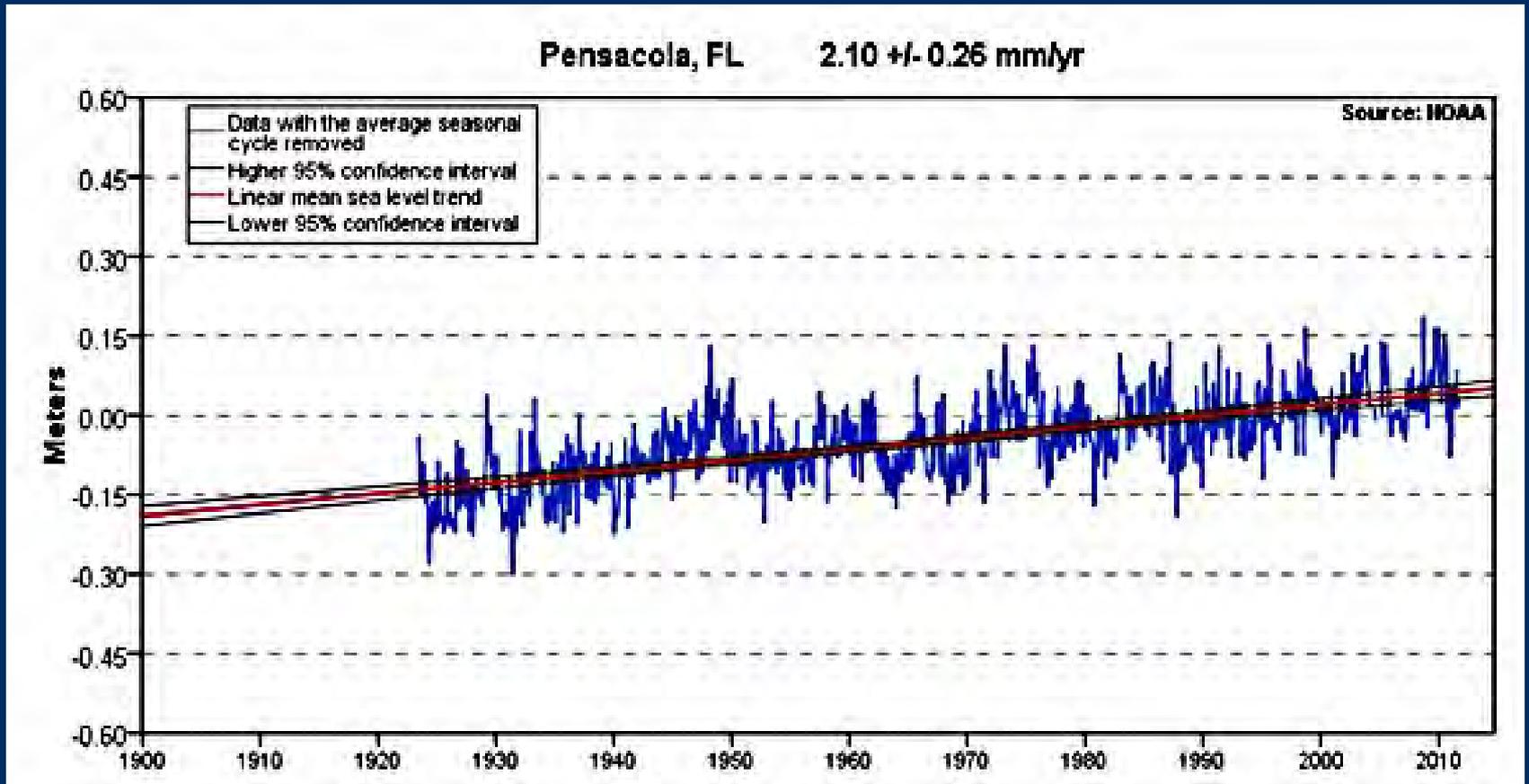
- Suitable Habitat – needed for nesting, reproduction, nursery areas, foraging for food, escape from predators
- Threatened and Endangered Species – loss of habitat
- Loss of Biodiversity – ecosystem stability, invasive species
- Terrestrial – sandhills, dune systems, longleaf pine forests
- Aquatic – wetlands, emergent marsh, seagrass, oyster reefs
- Beach - “Critically Eroded” designation by state, Critical Habitat for T&E species
- Change in climate – loss/change of habitat, effects on plant and animal species

Flooding



- Rainfall
 - NW FL receives 65” rainfall/year, most in FL
- Sea Level Rise
 - Past 100 years Pensacola: 8.4 inches (NOAA)
 - projection for next 50 years: 12 inches (NOAA)
 - projected loss of 650 acres of land in Escambia County
 - projected inundation of 20 feet

Sea Level Rise Pensacola



Surging Seas

Sea level rise analysis by CLIMATE CENTRAL

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Water level **+1ft**

Population below **+1ft**

Wright_FL	39
Navarre_FL	33
Pensacola_FL	12
Ferry_Pass_FL	11
Bellview_FL	3
West_Pensacola_FL	3
Pace_FL	0



Consequences of Sea Level Rise

- Higher storm surge – increased damage
- Damage to infrastructure – roads, bridges, power
- Increased beach erosion and renourishment costs
- Damage to WWTPs, lift stations, sewer lines
- Failure of septic tanks – higher water table
- Loss of drinking water supply - salt water intrusion
- Loss of critical habitat – marshes, wetlands, oyster reefs, beach nesting areas, coastal forests

Air Quality

- Health effects
 - Humans - increased medical costs (asthma, emphysema)
 - Plants and animals – decreased photosynthesis, disease
- Atmospheric Deposition – affects water quality
 - Mercury – fish tissue, health advisories
 - Nitrogen – algae blooms, red tides, fish kills (eutrophication)
- Ground Level Ozone: non-attainment
 - Loss of federal funding from FDOT
 - Special gasoline blend – more expensive
 - Vapor-trapping nozzles on gas pumps
 - High Occupancy Vehicle Lanes

