COASTAL CAROLINA RIVERWATCH

WATER QUALITY FOR FISHERIES

INDUSTRIAL FARMS ASSESSMENT 2021

INDUSTRIAL POLLUTANTS

INTRODUCTION

Industries are responsible for discharging toxic chemicals into drinking water without the knowledge of the public and governmental agencies.

Industrial pollutants have contaminated North Carolina waters for decades.

- Facilities such as Dupont and Chemours **release chemicals into local bodies of water,** coal-based operations' **discharge contaminates coastal rivers**, and Superfund sites **leak hazardous waste into the environment**.

There is still a significant amount of uncertainty associated with these "emerging compounds" and a need for additional research, regulatory, and outreach efforts.

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INFRASTRUCTURE ASSESSMENT

CURRENT ACTIONS

Implementation of Filtration Systems

- Decreases PFAS, heavy metals, and endocrine disrupting chemicals' concentrations in water
- Protects aquatic life from harmful health effects

City-Wide Filtration Systems for Wastewater Treatment

- Reduces PFAS and other industrial pollutants levels
- Promotes safe drinking water sources

Use of Public Water Lines as an Alternative for Wells

- Reduces consumption of contaminated water

INDUSTRIAL POLLUTANTS

Lead Organizations

PFAST Network

Environmental Protection Agency

Local Municipalities

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INFRASTRUCTURE ASSESSMENT

RECOMMENDED FUTURE ACTIONS

INDUSTRIAL POLLUTANTS

Improved Wastewater Treatment at the Local Level

- Reinforces healthy fish populations and aquatic ecosystems
- Reduces industrial pollutant contamination at a larger-scale, city-wide

Development of New Filtration Technologies

- Decreases PFAS, heavy metals, and endocrine disrupting chemicals' concentrations in water
- Protects aquatic life from harmful health effects

Creation of Coal Ash Treatment Technologies

- Reduced health risks for fish populations and people
- Treats coal ash ponds and reduces risk of contamination in nearby rivers

Reducing Industrial Activities that Utilize Industrial Chemicals in their Processes

- Reduces industrial pollutant contamination in local waters
- Protects the natural habitat and aquatic life

Lead Organizations

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Environmental Protection Agency

Local Municipalities

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POLICY AND ENFORCEMENT ASSESSMENT

CURRENT ACTIONS

INDUSTRIAL POLLUTANTS

NC Legislation Providing Funding for the NC PFAST Network

- Increases understanding of effects of PFAS on aquatic ecosystems
- Identifies areas of concern within coastal watersheds

NPDES for Industrial Activities

- Limits industrial pollutants entering bodies of water through stormwater discharges
- Regulates industrial activities exposure to the environment

National Defense Appropriations Act

- Reduces contamination due to the decrease in use of PFAS-firefighting foam
- Manages and monitors contamination levels in bodies of water

Health Advisory (70 ppt) for PFOS and PFOA

- Limits concentrations of PFOS and PFOA in drinking water
- Protects public health from negative effects of PFOS and PFOA

Toxics Release Inventory

- Monitors concentration levels of industrial pollutants in bodies of water
- Identifies areas of concern

Lead Organizations

Environmental Protection Agency

NC Division of Water Resources

NC General Assembly

NC PFAST Network

Department of Defense

Public Utilities are State-Mandated to Have Discharge Permits

- Decreases levels of emerging compounds in wastewater
- Encourages monitoring of industrial pollutant concentrations in bodies of water
- Implements city-wide contaminant reduction efforts

Safe Drinking Water Act (SDWA) Third Unregulated Contaminant Monitoring Rule

- Monitors concentrations of emerging compounds and identifies areas of concern

Hazardous and Solid Waste Amendments

- Minimizes the production of hazardous waste
- Reduces water contamination of hazardous waste

Toxic Substances Control Act (TSCA)

- Reduces water contamination from PCBs
- Reduces PFOS and PFAS use in US commerce, decreasing their impacts on water quality

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (Superfund Legislation)

- Increases management efforts for PFOA and PFOS
- Proposes adding PFOA and PFOS to the legislation, defining the chemicals as hazardous waste

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POLICY AND ENFORCEMENT ASSESSMENT

RECOMMENDED FUTURE ACTIONS

PFAS Action Act of 2021

- Reduces PFAS use and pollution across the country
- Encourages public release of information regarding PFAS

Groundwater Quality Standards for PFOS and PFOA

- Reduces PFAS contamination throughout the state
- Limits discharge from industrial activities

Enforceable Maximum Contaminant Levels for Municipal Water Treatment Facilities

- Reduces industrial pollution from entering bodies of water
- Decreases negative health effects for fish populations

Banning or Mandating Reduced-Use of PFAS in US Products

- Reduces risk of industrial pollutants contaminating water sources
- Eliminates discharge from industrial facilities

Adding PFAS to the Contaminant Candidate List under the Safe Drinking Water Act

- Provides additional information and data regarding the pollutants
- Encourages regulatory action to limit industrial pollutant discharges based on their findings

Legislation Providing Funding for Research and Treatment of Industrial Pollutants

- Reduces water contamination from industrial activities
- Allows monitoring and managing of water resources

Protects aquatic ecosystem health

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Lead Organizations

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NC PFAST Network

Department of Defense

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RESEARCH ASSESSMENT

CURRENT ACTIONS

INDUSTRIAL POLLUTANTS

Coal Ash Effects on Fisheries in Lake Sutton

- Protects fish populations from coal ash contamination and selenium poisoning
- Restores water quality after coal ash contamination in Lake Sutton and the Cape Fear River

PFAS Testing Network Research

- Evaluates risks of PFAS and effects on aquatic ecosystems
- Monitors and reports findings, encouraging political action relative to water quality improvement

Emerging Contaminants in Drinking Water Sources

- Monitors PFAS levels in surface waters and groundwater
- Treats water for industrial pollutants

Endocrine Disrupting Chemicals Research

- Protects fish populations from development impairments and malformations
- Decreases DBP contamination

Lead Organizations

University of Illinois Research Project by Andressa Gonsioroski

Wake Forest University Research

Michael and Annie Falk Foundation's Environmental Exposomics Laboratory at Duke University

PFAST Network

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RESEARCH ASSESSMENT

RECOMMENDED FUTURE ACTIONS

INDUSTRIAL POLLUTANTS

Analysis of the Effects of All Heavy Metals on Aquatic Ecosystems

- Reduces heavy metal contamination
- Develops management strategies to protect aquatic ecosystems from industrial metals

Assessment of the Effectiveness of Filtration Methods

- Reduces water contamination from emerging contaminants, coal ash, and endocrine disrupting chemicals

PFAS Research Focused on Impacts on Biota

- Assists in understanding the implications of emerging contaminants on aquatic ecosystems and wildlife
- Monitors and supports fisheries conservation efforts

Researching Safe Alternatives to Industrial Pollutants

- Reduces water contamination and negative health effects on fish resulting from PFAS-containing products
- Assists industries in a transition to safe alternatives from harmful chemicals

Lead Organizations

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Advocacy, Outreach, and Education Assessment

CURRENT ACTIONS

INDUSTRIAL POLLUTANTS

NGOs Advocating for Communities and the Environment

- Brings attention to industrial pollution in NC
- Influences political action and regulation of industrial facilities
- Encourages industrial operations to cease discharge of chemicals into water resources

Litigation against Polluting Industrial Facilities

- Reduces coal ash contamination in NC
- Forces industrial companies to eliminate GenX use and pollution
- Protects communities and aquatic ecosystems against health implications

The EPA's Toxics Release Inventory

- Increases public understanding of hazardous waste sites and impacts on health and the environment
- Reduces habitat destruction and water contamination from Superfund sites

Lead Organizations

North Carolina Coastal Federation

Clean Aire NC

Cape Fear River Watch

Southern Environmental Law Center

Environmental Protection Agency (Southeast Regional Office)

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Advocacy, Outreach, and Education Assessment

RECOMMENDED FUTURE ACTIONS

INDUSTRIAL POLLUTANTS

Educating Consumers on PFAS-Containing Products

- Reduces the risk of PFAS from entering bodies of water and affecting fisheries
- Decreases risks to public health
- Encourages companies to use alternative substances

Educational Information Regarding Filtration Systems

- Reduces contaminated discharge from entering nearby bodies of water
- Decreases risks to human health and the environment

Lead Organizations

North Carolina Coastal Federation

Clean Aire NC

Cape Fear River Watch

Southern Environmental Law Center

Environmental Protection Agency (Southeast Regional Office)