

**APPENDIX B –
IMPACTS OF NATURAL DISASTERS ON THE PUBLIC HEALTH SYSTEM**

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Monmouth County Risk Assessment: Hazard Profile

Public Health Appendices: This public health appendix is based on the conclusions reached by the steering committee from the Monmouth County Multi-Jurisdictional Natural Hazard Mitigation Planning Project. It will focus on the impacts of natural disasters on the public health system for the hazard profiling process which identified risks in three categories: High Risk, Moderate Risk, and Low Risk.

First we will identify the fundamental obligation of agencies responsible for public health as follows:

- Prevent epidemics and the spread of disease
- Protect against environmental hazards
- Prevent injuries
- Promote and encourage healthy behaviors and mental health
- Respond to disasters and assist communities in recovery

Natural disasters can impact health, economics, pets, and the environment. Lessons learned from disasters such as the world trade center and Katrina have enhanced planning efforts and encouraged first responder agencies to bring multiple partners into the planning process. Public Health can become involved in disasters due to several factors:

- Potential for change in the environment,
- Abrupt increase in illness, injury, or death
- Displacement of populations

Monmouth County's hazard profiling conclusions identified Hurricanes, Storms, and Flooding in our high risk category assessment. During or following these events, the role of Public Health might include:

- Environmental Health assesses sanitation and safety of food and water
- Epidemiology/ Surveillance Coordinator tracks infectious diseases
- Health Officer and Health Educator/Risk Communicator coordinating information for the public and medical providers
- Public Health Nurses and Medical Reserve Corps Volunteers coordination with Shelter Operations

A Public Health Annex is integrated into the Monmouth County's Emergency Operation Plan. This annex provides oversight for the protection of public health during public health emergencies or a natural disaster situation. The plan is supported by multiple operational or incident specific public health plans maintained by the MCHD. Several divisions exist within the Monmouth County Health Department that enforce and monitor public health situations.

- Environmental Division
- Public Health Division
- Laboratory Division

The coordinating agency for public health preparedness in Monmouth County is the Monmouth County Health Department. During a public health emergency this agency coordinates hospital as well as public health surveillance and disease reporting data, in addition to the daily surveillance reports received from hospitals and influenza like illness data received weekly from hospitals, schools, and long term care facilities. The Medical Reserve Corps (MRC), a volunteer division of the MCHD, provides a readily available cadre of trained volunteers to assist in public health activities, phone banks, outbreak

investigations, shelter operations, health education, and other medical and/or non-medical assignments. These volunteers are recruited, trained, and assigned through the MCHD.

The All Hazard Plan developed by the Monmouth County Health Department includes multiple attachments. One attachment, the Incident Command Plan, identifies roles, responsibilities, and job action sheets for public health personnel during any event and follows the National Incident Management System guidelines.

The Public Health Response Team is a specialized team trained in advance public health emergency response, supported by the MCHD Hazardous Materials Response Team. This team is activated when it is determined that a potential public health threat exists and requires an investigation.

The MCHD Hazardous Materials Response Team which is part of the Environmental Division is on call to respond to and investigate Haz-Mat emergencies 24 hours a day. The existing All Hazard Plan for the Monmouth County Health Department includes a Monmouth County Hazardous Material Annex. Team members have received extensive training in hazardous materials emergencies, weapons of mass destruction (WMD) response, and environmental fields such as solid waste, air, noise, and water pollution.

The MCHD Solid Waste Enforcement Team inspects all solid waste landfills, transfer stations, and recycling facilities in the County to ensure compliance with all operational standards required by State law. They have an ongoing compliance assistance program for waste management for schools, businesses, and municipalities which covers everything from recycling to safe chemical use and storage. SWET would liaison with the NJDEP and provide guidance about the proper disposal of disaster-related waste.

The MCHD Water Pollution Laboratory is NJ State certified to support regulatory programs, environmental research and investigation, and other testing needs of the county. Tests conducted include: surface and coastal water quality monitoring for disease causing bacteria and algae blooms, and rapid bio-assessment for measuring in stream macro-invertebrate populations as indicators of water quality. Priority Pollutant and other rarely-needed analyses is performed by a contract laboratory; and it is not designed to perform medical testing or testing for biological and chemical agents used as weapons of mass destruction..

MCHD GIS is used routinely in the decision-making process for most programs within the Monmouth County Health Department. The focus of the GIS program has been on Environmental, Public Health, and Emergency preparedness. This has mainly been through the creation of maps and the display of geographic data. The MCHD has kept up with its development trend of previous years by utilizing GIS software and toolsets in some very complex analysis projects.

The MCHD Water Pollution Program is divided into three areas: surface, ground water, and potable water. The Water Pollution Control Team conducts joint investigations with other department environmental units and provides assistance to local health departments with water-related complaints. The Air/Noise Program routinely conducts inspections of gas stations, dry cleaners, etc. The program also responds to citizen complaints about air quality, radon, and odors.

As regards air monitoring capabilities: the MCHD Hazmat Program is capable of providing limited air monitoring for hazmat/WMD incidents in Monmouth County. The hazmat team has the ability to deploy up to five remote direct-read instruments that can be monitored on a continuous basis from a central location via wireless technology. The instruments can be set up at strategic points in the hazard zone without requiring a hazmat technician to report readings. These instruments are capable of measuring levels of the following in the ambient atmosphere: VOCs, CO, H₂S, and O₂. In addition, the hazmat team maintains two portable WMD detectors capable of analyzing vapors for the presence of nerve, blister, blood, and irritant agents.

All this monitoring by MCHD Hazmat is limited to parts per million levels associated with hazmat responses to localized plumes or to dense area-wide plumes. More sensitive and comprehensive, area-wide air monitoring operations will require the capabilities of the New Jersey Department of Environmental Protection's Bureau of Emergency Response and the United States Environmental Protection Agency's Region 2 Emergency Response Team. EPA's Biowatch program monitors the air for various WMD biological contaminants; the assistant commissioner of the NJ Department of Health and Senior Services is the NJ liaison for Biowatch. NJDEP air monitoring stations in Monmouth County are located in Freehold Borough (sulfur dioxide) near the corner of Court and West Main St., and at Monmouth University in West Long Branch (ozone) (<http://www.state.nj.us/dep/airmon/>). There are 87 monitoring stations in the state that actively monitor for carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, lead, or particulate matter.

The moderate and low risk natural hazards selected in the Monmouth County profile would require individual assessment based on the location and severity of the disaster. The Public Health Annex of the Monmouth County Emergency Operations Plan would be utilized to coordinate a multi-organizational response.