

Environmental Indicators Technical Report

National Environmental Performance Partnership System
(NEPPS)



New Jersey Department of Environmental Protection
June, 1998

NOTE: The information in this companion volume to New Jersey's Self-Assessment was developed during 1997. The document was compiled and printed during 1998.

AGENCY MISSION

The Department of Environmental Protection is committed to providing a high quality of life for the residents of New Jersey. Its mission is to assist the residents of New Jersey in preserving, sustaining, protecting, and enhancing the environment to ensure the integration of high environmental quality, public health and economic vitality.

LIST OF ABBREVIATIONS

ADR	Alternative Dispute Resolution
AEQ	Air and Environmental Quality Enforcement (Division of Enforcement Field Operations)
AMNET	Ambient Biological Monitoring Network
ANSP	Academy of Natural Sciences of Philadelphia
AQPP	Air Quality Permitting Program
BER	Bureau of Environmental Regulation
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPC	Bureau of Pesticide Compliance
BPO	Bureau of Pesticide Operations
BSDW	Bureau of Safe Drinking Water
BWA	Bureau of Water Allocation
C&D	Construction and Demolition (Waste)
CAAA	Clean Air Act Amendments of 1990
CAFRA	Coastal Area Facility Review Act
CBOD	Chemical/Biochemical Oxygen Demand
CEA	Classification Exception Area
CEHA	County Environmental Health Act
CEMS	Continuous Emissions Monitoring System
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMP	Comprehensive Management Plan
CO	Carbon Monoxide
CSO	Combined Sewer Overflows
CWEA	Clean Water Enforcement Act
CWS	Community Water System
DLA	Delegated Local Agency
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOT	New Jersey Department of Transportation
DSR	Division of Science and Research
DSW	Discharge to Surface Water
DWQ	Division of Water Quality
DWQI	Drinking Water Quality Institute
DWS	Division of Water Supply
EPA/USEPA	Environmental Protection Agency
ESP	Emission Statement Program
FGW	Fish, Game and Wildlife
GIS	Geographic Information System
GPD	Gallons per Day

GPS	Global Positioning System
GWQS	Ground Water Quality Standards
HAA	Haloacetic acid
HHW	Household Hazardous Waste
HSWA	Hazardous and Solid Waste Amendments (to RCRA)
HW	Hazardous Waste
IEC	Immediate Environmental Concern
IOCs	Inorganic Compounds
IPP	Industrial Pretreatment Program
ISRA	Industrial Site Recovery Act
LEV	Low Emission Vehicle
LQG	Large Quantity Generator
MARAMA	Mid-Atlantic Regional Air Management Association
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPN	Most Probably Number
MSW	Municipal Solid Waste
NAAQS	National Ambient Air Quality Standards
NEPPS	National Environmental Performance Partnership System
NESCAUM	Northeast States for Coordinated Air Use Management
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFA	No Further Action
NJ	New Jersey
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJDOHSS	New Jersey Department of Health & Senior Services
NJGS	New Jersey Geological Survey
NJPDES	New Jersey Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitrogen Oxide
NO₂	Nitrogen Dioxide
NPS	Nonpoint source
NTNC	Nontransient, Noncommunity Water System
O₃	Ozone
O and D	Origin and Destination (Form)
OEP	Office of Environmental Planning
OQA	Office of Quality Assurance
OSP	Office of State Planning
OTC	Ozone Transport Commission
OTIS	Office of Telecommunications and Information Systems
OTR	Ozone Transport Region

PCBs	Polychlorinated Biphenyls
PCP	Pesticide Control Program
PCS	Permit Compliance System (EPA database)
PM₁₀	Inhalable Particulate Matter
PPA	Performance Partnership Agreement
PPB	parts per billion
PPG	Performance Partnership Grant
PPM	parts per million
POE	Point of Entry
PSI	Pollutant Standards Index
PWS	Public Water Supply
QAMP	Quality Assurance Management Plan
QAPP	Quality Assurance Project Plan
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RMW	Regulated Medical Waste
RVP	Reid Vapor Pressure
S-1070	NJSA 58:10B-12 and NJSA 13:1K-9
SCC	Soil Cleanup Criteria
SDWA	Safe Drinking Water Act
SIP	State Implementation Plan
SIU	Significant Indirect User
SNC	Significant Non-Compliance
SO₂	Sulfur Dioxide
SOCs	Synthetic Organic Compounds
SPPP	Stormwater Pollution Prevention Plan
SQG	Small Quantity Generator
SRF	State Revolving Fund
SRP	Site Remediation Program
STP	Sewage Treatment Plan
SU	Standard Units (pH)
SWF	Solid Waste Facility
SWMA	Solid Waste Management Act
SWQS	Surface Water Quality Standards
THM	Trihalomethane
TMDL	Total Maximum Daily Load
TNC	Transient, Noncommunity Water System
TRI	EPA Toxic Release Inventory
TSDf	Treatment, Storage and Disposal Facility
TSP	Total Suspended Particulate
UIC	Underground Injection Control
USGS	United States Geological Survey
UST	Underground Storage Tank
UW	Universal Waste

VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WCE	Water Compliance and Enforcement
WHPA	Wellhead Protection Areas
WHPP	Well Head Protection Program
WPCA	Water Pollution Control Act
WQBEL's	Water Quality-Based Effluent Limitations

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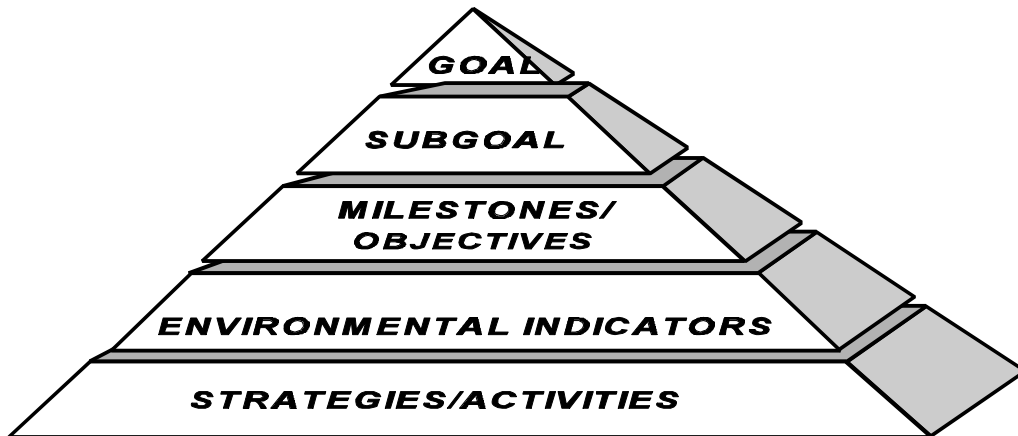
Introduction

A principle component of the National Environmental Performance Partnership System (NEPPS) and results-based environmental management in general, is the increased use of environmental indicators to evaluate environmental quality and program effectiveness, and to plan future program activities. Environmental indicators are direct or indirect measures of environmental quality that are used to assess the status and trends of environmental conditions. Ideal indicators for a state are generally those that are: direct measures of environmental quality, human health effects or ecological effects; can reliably measure progress toward goals; and are regularly collected over time with a wide distribution across the state. It is NJDEP's intent to develop a comprehensive environmental indicators system for the State of New Jersey. This Environmental Indicators document lays the technical foundation for the first generation of indicators for a number of components of this measurement system.

As part of New Jersey's pilot NEPPS FY96 Performance Partnership Agreement (PPA), the state expressed its plan to report a number of environmental measures or indicators for the following five goal areas: air quality, surface water (freshwater), drinking water, pollution prevention and environmental mercury. These indicators were designated in capitol letters and bold in the Goal/Indicator tables in the FY96 PPA document. This document contains the detailed report for all those environmental indicators for which information has been developed at this time. Additional data and/or text summarizing each indicator may also be found in Section 8 of the Air Quality, Water Resources (Surface Water), Drinking Water, Environmental Mercury and Pollution Prevention sections of Volume I of the FY97 Self-Assessment document. Future indicators reports will contain information on measures now under development for other areas including coastal waters, solid and hazardous waste management, site remediation, land and natural resources and global climate change.

As described in both the FY96 and FY97/98 PPAs, New Jersey has utilized the cause-condition-response model in the development of its environmental indicators. Each indicator measures progress toward a specific milestone/objective, which is associated with a particular subgoal. Subgoals relate to key environmental issues for New Jersey. All subgoals are associated with an overall, long-term goal for each area. The figure on the next page shows the relationship between these areas, including the core activities and strategies involved in working toward the achievement of the goals.

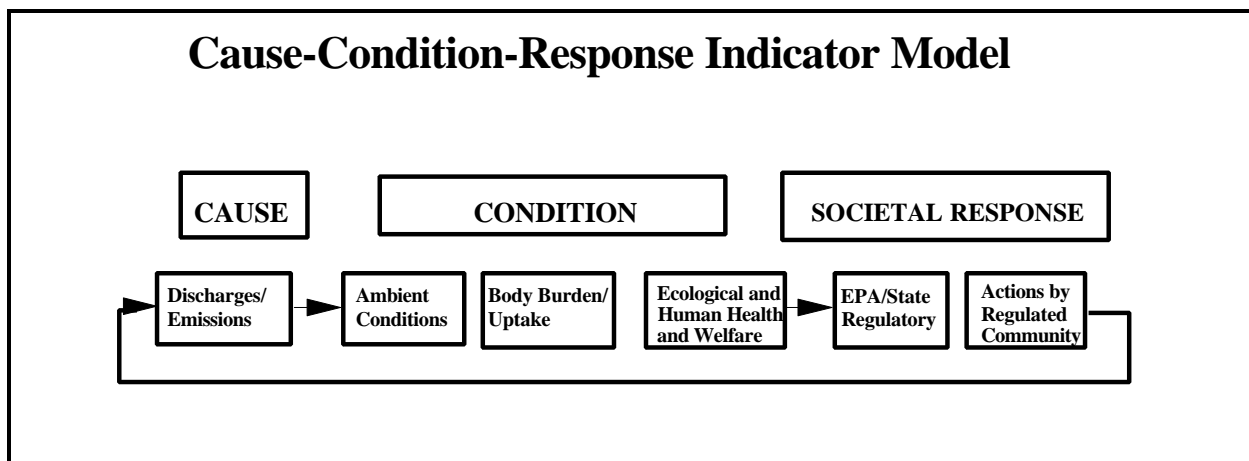
NEPPS Performance Partnership Agreement Structure



The three categories of indicators used in the Performance Partnership Agreement are:

- cause - presumed stresses on the environment (e.g., emissions, land use changes);
- condition - ambient environmental conditions or effects (e.g., human health or ecological effects);
- response - societal responses including those activities conducted by regulatory agencies, regional organizations, the public, and the regulated community.

The relationship between these indicators can also be seen in the figure below:



This Environmental Indicators report is divided into five sections - air quality, surface water,

drinking water, pollution prevention and environmental mercury. Each section begins with an introduction to the particular topic area, followed by a brief description of each subgoal and milestone. Also provided is a listing of reported indicators and other potential measures from the FY96 PPA that may be reported in the future. The individual reports on each of the environmental indicators in the FY96 PPA then follow.

The standardized format below has been used for the indicator reports:

- Milestone (under which the indicator is located)
- Indicator Title
- Type of Indicator (i.e., cause, condition or response)
- What Does the Indicator Tell Us?
- Data Characteristics
- Data Strengths and Weaknesses
- Discussion

For most measures, the indicator information is presented in graphic form. In some cases, the information portrayed within the indicator graphic serves only to create a baseline of information with which future data can be compared. For these cases, only status information is currently available. For other indicators, the data have been collected for a considerable length of time, and thus trend information exists for comparison. The next section of the standard indicator format describes the meaning of the indicator, as well as the characteristics and strengths/limitations of the data being used. A discussion of the information as well as future directions for data gathering or interpretation concludes each indicator report.

NJDEP, in conjunction with our various partners, will be using the indicators in this report, as well as indicators under development for other goal areas, to evaluate progress toward New Jersey's environmental goals and, over time, the effectiveness of our various strategies to achieve these goals. NJDEP is using selected information from this technical report to describe environmental progress and challenges for a variety of publications intended for a general public audience, including the New Jersey State of the Environment report which is planned for release during the Summer of 1998. NJDEP has also utilized information from this report in the development of its first comprehensive Strategic Plan; a draft version of the DEP Strategic Plan was distributed externally for review in June 1998. It is expected that the information in the Environmental Indicators report will find additional internal and external uses for planning, decision-making, outreach and other purposes.

NJDEP welcomes comments on the environmental indicators presented in this technical report. Comments may be used for refinements of these indicators or potential development of alternate indicators in the future. Comments may be submitted to:

Leslie McGeorge, Director or
Division of Science & Research
NJDEP
P.O. Box 409
Trenton, NJ 08625
Email: lmcgeorge@dep.state.nj.us

Bryan Ianni, Executive Assistant
Environmental Regulation
NJDEP
P.O. Box 423
Trenton, NJ 08625
Email: bianni@dep.state.nj.us