2017 Sustainable State of the State Report: What’s New?

Melanie Hughes McDermott
Senior Researcher
Sustainable State of the State Report

• Defines *sustainability* for New Jersey along....
  o 14 dimensions (water, energy, health...), in terms of ...
  o 57 goals that describe the *outcomes* we wish to see;

• Measures progress toward (or away from) goals by...
  o 113 unique indicators.
Where do we stand in 2017?

- **Inadequate** progress on 26 out of 57 goals
- **Positive** progress on 8 goals
- (Insufficient data/unclear trend on 40% of goals)
- Direction of progress changed for 7 goals
- New data for about 1/3 of indicators
WATER

Why Does It Matter?
A fundamental condition necessary for any human civilization or settlement to flourish is to secure adequate water for drinking and agriculture, and then to protect these water supplies as growth occurs. New Jersey is blessed with rich water supplies and 46 inches of rainfall per year. However, we still have droughts, and despite maintaining high water quality at the tap, we place intense demands on our water supply and infrastructure that strains its functional capacity to serve people and compete with the needs of ecosystems. Our infrastructure for drinking water, wastewater and storm water is old and requires significant and costly upgrades. Meanwhile, development has degraded many watersheds and most of our water bodies are not safe for fishing and swimming. Add the threat of climate change to an already stressed system and water becomes one of our great challenges.

The Goal
New Jersey’s water system provides an adequate and affordable supply of clean and safe drinking water for everyone, while also safeguarding water sources to ensure sufficient quality and supply to support healthy ecosystems and biodiversity.

Many new chemicals and prescription drugs, for which we do not test routinely, are appearing in drinking water. In 2014, the State of NJ reported that one of these (toxic perfluorinated compounds) occurred in 67% of water systems sampled.

How Is New Jersey Doing?

Drinking water
from wells and public water systems is clean and safe for human consumption.

Public Water Supply Violations
The percent of community water systems meeting current standards for microbial and chemical contamination is high and has not changed significantly.

Top Water Quality
There are no readily available statewide data on the quality of water as it comes from the tap despite concerns about lead and other major contaminants that can be introduced as water moves through pipes to faucets in homes, schools, and other institutions.

Water quality in streams, lakes, and wetlands is sufficient to support native species and ecosystem functions, and safe for human recreation and fish consumption.

Surface Water Quality
The portion of NJ’s water bodies that meet quality standards for various uses is declining. Fewer than 20% of water bodies in New Jersey are rated as “fully supporting” recreational use and fewer than 1% are safe for fishing for consumption.

River and Stream Biodiversity
Surveys of streambed life (benthic macroinvertebrates) show that the number of reach in New Jersey rivers with health rated “excellent” is in decline. The number rated “poor” is also in decline.

Water supply, including stream flow and groundwater recharge, is sufficient both for human use (household, agricultural, and recreational) and for ecosystems, providing for healthy aquatic and riparian habitat and biodiversity.

Surface Water Flow
Four of ten NJ watersheds had impaired surface water flow from 2000-2009. This figure would be higher if we accounted for sensitive species and critical water supply regions, this figure would be higher.

Ground Water Level
There are currently no statewide data readily available that show the condition of all our groundwater and aquifers, although there are regional indications of concern.

The water system, including infrastructure for water supply, stormwater and wastewater, provides adequate capacity and functions at needed standards. It is resilient to climate change, taking future demands and vulnerabilities into account.

Backlog of Infrastructure Upgrades
The estimated cost of upgrading our existing infrastructure to a basic regulatory compliance standard is over forty billion dollars, and climbing.

Making Infrastructure Resilient to Climate Change
There is currently no analysis that provides a comprehensive estimate of the cost of upgrading our water infrastructure beyond mere compliance to achieve resilience to the impacts of climate change.

Access for all New Jerseyans to water resources for all necessary uses is universally affordable and fairly distributed now and across generations.

Affordability of Water to Low Income People and Communities
The cost of water and sewer currently is not a major strain on household budgets for low-income earners.

Cost Burden For Municipal Water System Upgrades
The cost of needed upgrades, if implemented, would put a major strain on the state’s poorest cities and their residents. Although this detailed analysis has not been done statewide, it is clear that this challenge is significant for municipalities across the state.
Drinking water from wells and public water systems is clean and safe for human consumption.

Public Water Supply Violations
The percent of community water systems meeting current standards for microbial and chemical contamination is high and has not changed significantly.

Tap Water Quality
There are no readily available statewide data on the quality of water as it comes from the tap despite concerns about lead and other major contaminants that can be introduced as water moves through pipes to faucets in homes, schools, and other institutions.

Water quality in streams, lakes, and wetlands is sufficient to support native species and ecosystem functions, and safe for human recreation and fish consumption.

Surface Water Quality
The portion of NJ’s water bodies that meet quality standards for various uses is declining. Fewer than 25% of water bodies in New Jersey are rated as “fully supporting” recreational use and fewer than 1% are safe for fishing for consumption.

River and Stream Biodiversity
Surveys of streambed life (benthic macroinvertebrates) show that the number of stretches of New Jersey rivers with health rated “excellent” is in decline. The number rated “poor” is also in decline.

Water supply, including stream flow and groundwater recharge, is sufficient both for human uses (household, agricultural, and recreational) and for ecosystems, providing for healthy aquatic and riparian habitat and biodiversity.

Surface Water Flow
Four of ten NJ watersheds had impaired surface water flow from 2000-2009. This figure would be higher if we accounted for sensitive species and critical water supply regions, this figure would be higher.
Surface Water Quality: % water bodies “fully supporting” uses

- Drinking Water Supply
- Recreation
- Aquatic Life
- Shellfish Harvest
- Fishing

<table>
<thead>
<tr>
<th>Year</th>
<th>Drinking Water</th>
<th>Recreation</th>
<th>Aquatic Life</th>
<th>Shellfish Harvest</th>
<th>Fishing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>50%</td>
<td>20%</td>
<td>70%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>2008</td>
<td>30%</td>
<td>10%</td>
<td>80%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2010</td>
<td>40%</td>
<td>0%</td>
<td>90%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2012</td>
<td>40%</td>
<td>20%</td>
<td>80%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2014</td>
<td>30%</td>
<td>10%</td>
<td>80%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Drinking water from wells and public water systems is clean and safe for human consumption.

Public Water Supply Violations
The percent of community water systems meeting current standards for microbial and chemical contamination is high and has not changed significantly.

Tap Water Quality
There are no readily available statewide data on the quality of water as it comes from the tap despite concerns about lead and other major contaminants that can be introduced as water moves through pipes to faucets in homes, schools, and other institutions.

Water quality in streams, lakes, and wetlands is sufficient to support native species and ecosystem functions, and safe for human recreation and fish consumption.

Surface Water Quality
The portion of NJ’s water bodies that meet quality standards for various uses is declining. Fewer than 25% of water bodies in New Jersey are rated as “fully supporting” recreational use and fewer than 1% are safe for fishing for consumption.

River and Stream Biodiversity
Surveys of streambed life (benthic macroinvertebrates) show that the number of stretches of New Jersey rivers with health rated “excellent” is in decline. The number rated “poor” is also in decline.

Water supply, including stream flow and groundwater recharge, is sufficient both for human uses (household, agricultural, and recreational) and for ecosystems, providing for healthy aquatic and riparian habitat and biodiversity.

Surface Water Flow
Four of ten NJ watersheds had impaired surface water flow from 2000-2009. This figure would be higher if we accounted for sensitive species and critical water supply regions, this figure would be higher.
Solid waste production is minimized in New Jersey.

Solid Waste Generation
The total amount of municipal solid waste generated in NJ per year has oscillated since about 2003.

Reuse and recycling of the waste that is produced are maximized.

Recycling and Disposal
The percentage of municipal waste in NJ that is recycled has risen in recent years, finally exceeding 1995 levels in 2014.
Solid Waste in NJ: Generated, Recycled, Disposed

Total Tons Generated
Total Tons Recycled
Total Tons Disposed
Waste Dimension

Solid waste production is minimized in New Jersey.

Solid Waste Generation
The total amount of municipal solid waste generated in NJ per year has oscillated since about 2003.

Reuse and recycling of the waste that is produced are maximized.

Recycling and Disposal
The percentage of municipal waste in NJ that is recycled has risen in recent years, finally exceeding 1995 levels in 2014.
Negative impacts from extraction, production, and consumption of energy on environmental, social, and human health are minimized. Greenhouse gas (GHG) emissions are reduced in time to help avoid catastrophic climate change.

**Greenhouse Gas Emissions from Energy**

Annual greenhouse gas emissions from energy consumption have declined since 2006. Yet, the recent upturn in emissions has taken us off the necessary trajectory, established by state policy, to avoid the worst impacts of climate change.
Actual vs. Target Emissions: MM Tons of CO₂
Energy Dimension

**Vulnerabilities** are reduced through a transition to a diverse mix of safe, renewable energy sources that are relatively invulnerable to disruption or depletion over the long term.

**Energy from Renewable Sources**

The portion of NJ’s total energy that comes from renewable sources has steadily risen since 2005.
Economy: some good news...

- **Median income** continues to rise
- % households living in **poverty** finally began to decline in 2013
- **Official unemployment rate** finally recovered to near pre-recession levels.
- % **underemployed** (working part time while wishing to work full-time) still higher than before the recession
Equity

• Sustainability not just concerned with \textit{total} environmental/social harms and benefits ... but with their \textit{distribution}.

• Thus, equity is a theme across all the dimensions of our sustainability in the SSSR assessment.
Equity trends in NJ

Not so good news...

• Increasing income inequality

• Stubborn and large racial and class disparities in:
  o Health
  o Education
  o Geographic (by neighborhood) distribution of air pollution and toxic waste
The good news is ...

- Sustainable Jersey = “collective impact”!

- We are:
  - committed and networked social actors
  - with a common agenda for solving specific environmental & social problems (our sustainability goals)
  - through a structured form of collaboration (our certification program & partners).