



Raritan Basin Watershed Management Project

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Draft Strategies for Water Supply Management

Many of the WMA Goals & Objectives address water supply management in some manner. To assist the WMA Committees with strategy development, the following general strategies are provided. Please note that these are not “recommended” or “required” strategies, but rather are just some alternatives available. WMA Committees should feel free to add, delete or modify from these approaches. In other words, think of this paper as an “idea dump” – the ideas are here to reuse, recycle or compost. Some of the strategies can be altered or focused depending on the type of water supply (surface water, hard rock aquifer, coastal aquifer).

Strategy Options – Physical Implementation

- Sprinkler systems retrofit programs to ensure that systems will not go on when the soil is wet
- Lawn reduction programs to replace lawn areas with permeable, non-grass landscaping such as gardens, shrubs, bushes and trees that use native plants or other drought-tolerant species
- Increase ground water recharge on private property by redirection of rooftop runoff from impervious surfaces to permeable surfaces, creation of “rain gardens,” use of french drains for infiltration, etc.
- Increase ground water recharge from malfunctioning stormwater recharge basins through improved operation and maintenance (O&M)
- Increase ground water recharge from existing stormwater detention basins through retrofits combined with long-term O&M programs
- Create ground water recharge basins in developed areas, with long-term O&M
- Enhanced replacement of older toilets, showerheads and sink faucet aerators (applicable to fixtures installed prior to 1991)
- Enhanced maintenance of water supply distribution lines to reduce losses (aka “unaccounted for water”) to levels below the State target of 15%
- Creation of new surface water supply facilities as recommended by the NJ Statewide Water Supply Plan for the Raritan Basin
- Substitution of reused water for potable water supplies in existing land uses where the substitution will not harm the sustainable level of water supplies
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Strategy Options – Non-regulatory

- Public education about water supply, water uses and water conservation related to in-home, landscape and pool uses (e.g., the latter includes the use of pool covers)
- Education of landscaping and development firms about landscaping alternatives that reduce water use, enhance retention of water on-site, and maintain recharge rates
- Education of municipal staff and officials about landscaping alternatives that reduce water use, enhance retention of water on-site, and maintain recharge rates
- Potable water supply rate structures that encourage conservation
- Modify the Water Supply Rehabilitation Loan Program to provide additional financial support (e.g., partial grants, zero interest loans) for water supply system maintenance and replacement in low-income municipalities
- Creation of drought tolerant public landscapes and related educational programs
- Provide regular, accessible information to the public about the need for lawn watering based on local weather and soil moisture information (South Jersey Resource Conservation & Development Council)
- Hotel/motel “green room” programs that encourage water conservation through re-use of towels, etc.
- Create a non-profit coalition of environmental, municipal, landscape and other interests to promote water conservation, better site design, etc.
- “Water audit” program for residences and businesses, providing advice regarding water conservation and use reduction methods, and perhaps subsidized or reduced costs for implementation
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Strategy Options – Investigations

- Assess water use per capita, to identify areas with high consumption rates that can be targeted for public education or other conservation programs
- Increase monitoring of ground water levels to identify trends and drought impacts
- Project water supply demands against availability for aquifers and surface water supplies to identify potential shortfalls
- Review all Water Conservation and Drought Management Plans submitted to NJDEP by major water users of the Raritan Basin and identify opportunities for improvement of these plans, including by integration or idea exchanges
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Strategy Options – Regulatory

- Limit the percent or total area of lawn allowed for each new housing unit, with the remainder of the yard being placed into landscaping requiring very low water use
- Modification of passing flows (i.e. stream flows that must be maintained or below which no further withdrawals are allowed) to provide more water supply safe yield

(passing flow reduced) or to provide more water flow for maintenance of ecosystems or downstream uses (passing flow increased).

- Restrict the artificial movement of water resources among watersheds such that sustainable water resource levels are not harmed
- Municipal delineation of public and non-public water supply service areas through master plans and zoning (analogous to wastewater management plans)
- Zoning for land uses, densities or patterns that use less water per capita
- Zoning that limits projected aquifer demands within sustainable levels (Bethlehem Township)
- Mandatory aquifer testing for new development proposals (Lebanon Township)
- Mandate that new lawn areas exhibit a certain rate (e.g., natural, some percentage of natural) of water infiltration, based on the pre-existing soil type
- Mandate that new, small water systems be constructed to allow for their integration as a municipal system (Sparta Township, Sussex County)
- NJDEP requirement that wastewater management plans identify the source and service areas for water supplies, mechanisms to minimize impacts on water resources, and how the water demands will not exceed sustainable levels for the relevant supply source
- Impose a water use surcharge in areas where ground water demands exceed sustainable levels, with the surcharge revenue being provided for water conservation and enhanced recharge from existing land uses
- Mandate that new development achieve a certain net water demand rate per capita (e.g., allowing excess ground water use if balanced by ground water recharge that is equally above natural levels)
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References

NJ Department of Environmental Protection. 1996. Water for the 21st Century: The Vital Resource (New Jersey Statewide Water Supply Plan). Including Appendix B, Water Conservation Strategy, Issues and Recommendations.