



Raritan Basin Watershed Management Project

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Strategies for Riparian Areas and Stream Channels

Many of the WMA Goals & Objectives address riparian areas 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 leave in the dump.

Strategy Options – Physical Implementation

- Streambank stabilization/restoration that incorporates physical alterations, vegetation and hydrology to ensure permanence (South Branch Raritan River project, Trout Unlimited/NRCS; Watts Branch Initiative, Washington, DC Department of Health; South Branch Rahway Project, Middlesex County/NRCS; Stony Brook Millstone Watershed Association; many others)
- Reforestation of riparian areas (Stony Brook Millstone Watershed Association; Blue River Riparian Reforestation, Indiana)
- Restoration of native plant systems in riparian and streambank areas (Flint Creek Watershed Restoration Project, Illinois)
- Biological engineering of riparian corridors in agricultural areas to serve as a filter for pollutants and to eliminate channeled flow of stormwater runoff (USDA Conservation Reserve Program and Conservation Reserve Enhancement Program); also possible strategy in developed areas
- Recreation of “natural channel” features such as stream-side wetlands, pools and riffles, dam removal/modification and both removal and placement of large woody debris for aquatic habitat (Flint Creek Watershed Restoration Project, Illinois; Vermont Hydroelectric Facility Licensing)
- “Daylighting” of streams (taking them out of storm sewers into which they were forced) and de-channelizing of streams (eliminating armored channels)
- Reducing direct discharges of stormwater flow into streams through rerouting, sheet flow methods, artificial wetlands, artificial recharge, etc. (Silver Spring Brook Watershed Demonstration Project, Maine; Broad March River Storm Water Remediation Project, Massachusetts; Strawbridge Lake Project, NJ)
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Strategy Options – Regulatory

- Adoption of municipal ordinances to minimize or avoid land uses within the riparian corridor; can vary intensity of controls by NJDEP stream classification (Stony Brook-Millstone Watershed Association Riparian Corridor Model Ordinance; East Millstone Township; many others)
- Adoption of municipal ordinances to require that new developments restore riparian corridors within their properties
- Adoption of municipal ordinances requiring offsite riparian corridor restoration as mitigation for on-site impacts; can also be triggered if total riparian corridor losses for a stream exceed some percentage, based on stream type and classification
- NJDEP imposition of riparian corridor requirements on developments requiring NJDEP land use or water permits, or Areawide WQM Plan amendments
- NJDEP requirement that wastewater management plans ensure compliance with thresholds for maximum allowable riparian corridor losses, based on stream type, classification and historic riparian area losses
- NJDEP regulation of stream crossings and roads to minimize riparian alteration
- Regulation of stormwater systems to minimize the extent to which they short-circuit the beneficial effects of riparian areas for flow control and water quality
- Regulation of stormwater to ensure that stormwater runoff does not create erosive effects within stream systems, including through watershed-based stormwater plans
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Strategy Options – Non-regulatory

- Voluntary restrictions on mowing, landscaping and chemical application in publicly-owned riparian areas to minimize stream and wetlands damage
- Voluntary restrictions on mowing, landscaping and chemical application in riparian areas within private lands (e.g., corporate centers, golf courses, residences) to minimize stream and wetlands damage (Braeburn Golf Course Project, Kansas)
- River Friendly Resident/Business/Golf Course Programs (Stony Brook-Millstone Watershed Association; Florida Yards & Neighborhoods “Florida Friendly” Program)
- Acquisition of riparian areas through conservation easements or in fee simple (Ghost River Land Acquisition Project, Tennessee)
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Strategy Options – Investigations

- Evaluation of stream crossings, flow restrictions and aquatic biota passage to determine significant causes of disruption to riparian areas and stream channels (Tongass National Forest, Alaska)
- Visual Assessment Survey of stream systems (USDA Natural Resources Conservation Service)

- Development of watershed-based stormwater management models to determine the most appropriate levels of stormwater controls for new and existing land uses (South Branch Rockaway Creek, NRCS; Devil's Brook, Killam Associates)



References

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