

## GIS Services: Watershed Mapping

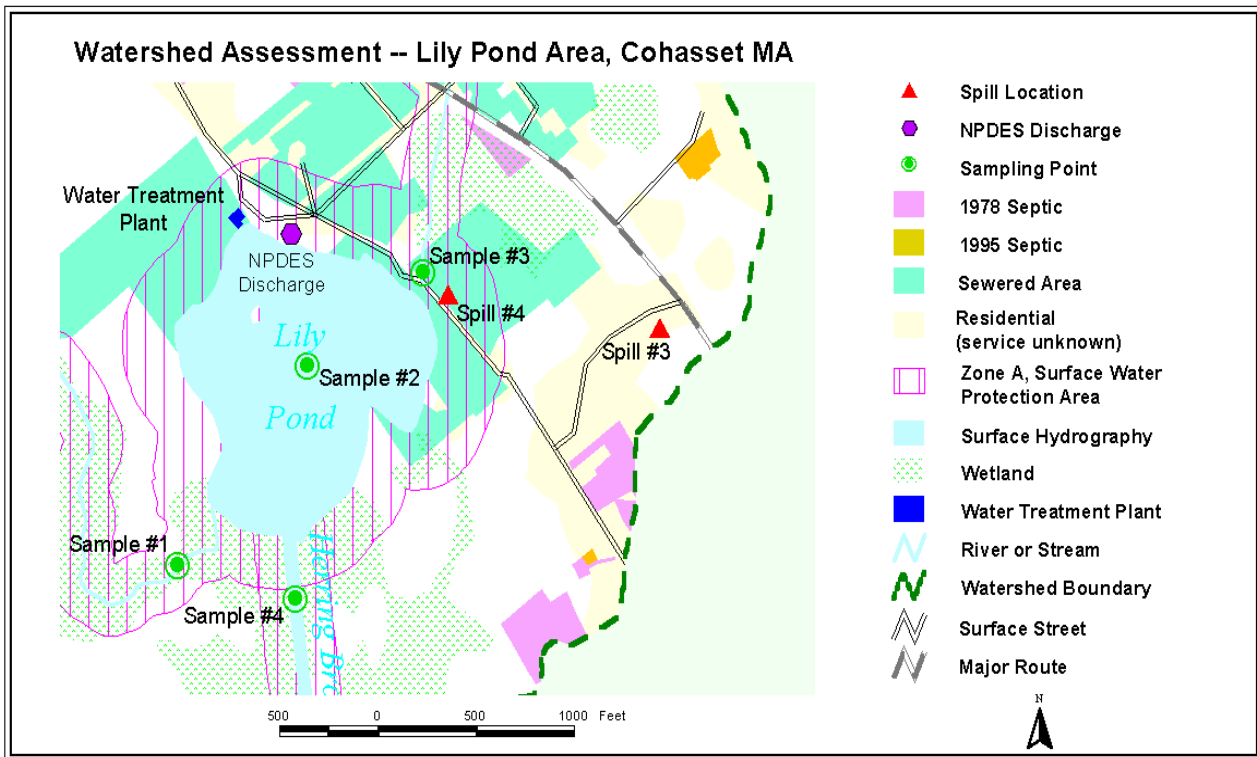


Figure 1, Watershed Assessment -- Lily Pond/Aaron River Reservoir Watershed

### Watershed Mapping

ArcView is a type of Geographic Information System (GIS) software that facilitates the organization, visualization, and analysis of maps and spatial data. Norfolk Ram Group, LLC (NRG) utilized ArcView to develop a suite of maps of the Lily Pond/Aaron River Watershed for the Cohasset Board of Water Commissioners.

The maps were generated to delineate the following characteristics associated with the Lily Pond/Aaron River Watershed:

- Land-Use Activity
- Potential Threats to the Watershed (e.g. spills, releases, and the presence of 21E sites)
- Municipal Zoning and Open Space/Protected Areas
- Parcels of Unknown Ownership
- Parcels Deemed Undevelopable

An ArcView map excerpt depicting some key points for the watershed is illustrated in Figure 1.

In this example, an ArcView user has the ability to query historical sampling data point locations within the watershed. The sampling data might include information such as conductivity, turbidity, nitrate concentration, and alkalinity. Based on this information, trends in water quality can

be assessed and graphed using the graphics function within ArcView.

The map excerpt in Figure 2 illustrates the spatial relationships between protected areas, recreational open space, and municipal zoning.

By utilizing ArcView's functionality, a user can readily examine and map the relationships between protected areas, use of open space, and municipal zoning. An analysis of data layers could provide a user with such information as the number of acres of the residentially zoned land existing within the watershed. With this information, town planners could potentially re-zone areas adjacent to environmentally sensitive areas to enhance the protection of the watershed.

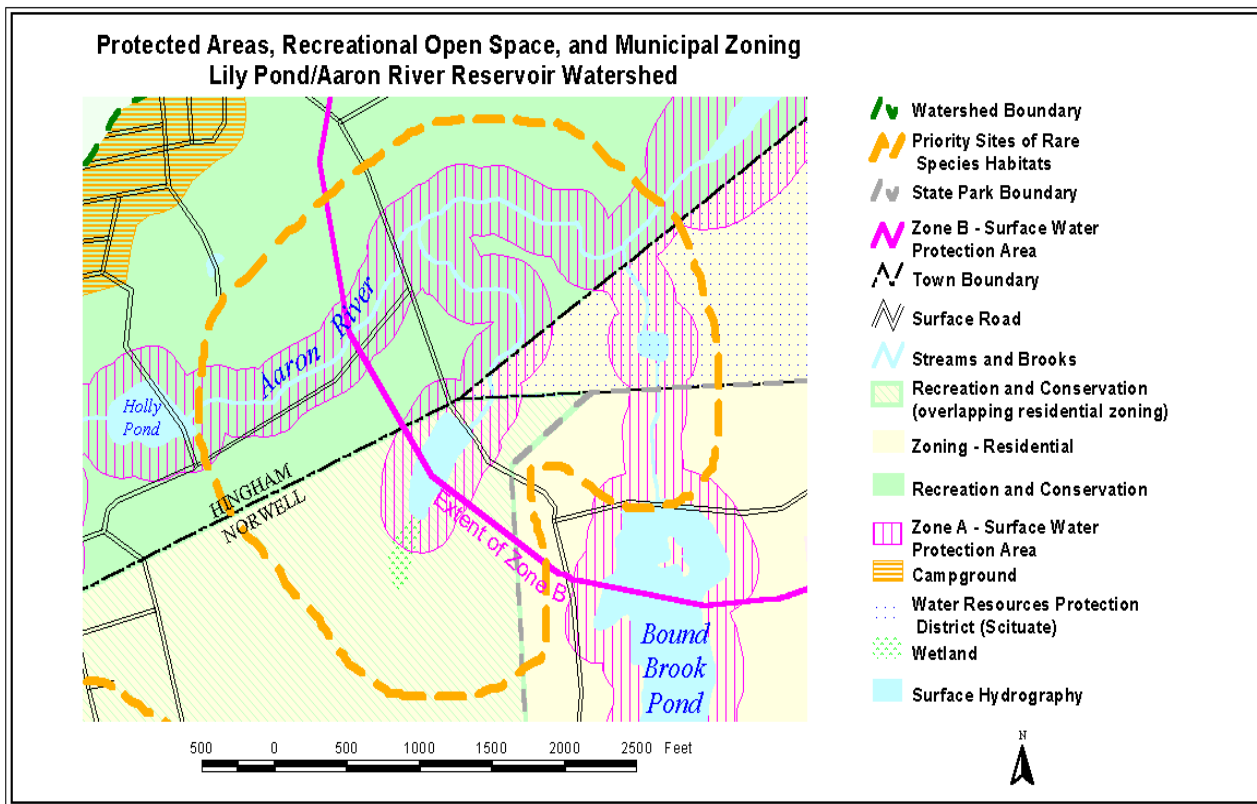


Figure 2, Map of protected areas, recreational open space, and municipal zoning within the watershed.

**Contact Information:** For more information regarding NRG’s work on watershed mapping or other services, please contact Mark Bartlett, P.E. at 508-747-7900 or reach us online at [www.norfolkram.com](http://www.norfolkram.com).

**Norfolk Ram Group Services**

NRG is an engineering, consulting and project management firm specializing in comprehensive environmental management for industrial and real estate clients, municipal and government agencies, and the military. The company’s capabilities include, regulatory compliance, environmental permitting, environmental due-diligence, site assessment, remedial design and construction, site remediation, waste minimization, and water management. NRG’s primary goal is to provide clients with a full-service commitment, immediate responses, high quality consulting, and cost-effective solutions to environmental concerns.

**Core Service Areas**

- Site Assessment & Remediation
- Brownfields Sites
- Forensic Work
- LSP Services
- 21J Management
- Environmental Permitting
- Civil/Site Development
- Municipal Consulting
- Stormwater Controls & Management
- Air & Wastewater Treatment Controls
- Watershed Management
- Industrial Consulting
- TURA/Waste Minimization



**One Roberts Road • Plymouth, MA • 02360**  
**Phone: (508) 747-7900 Fax: (508) 747-3658**

**100 Kuniholm Drive • Holliston, MA • 01746**  
**Phone: (508) 429-2368 Fax: (508) 429-3246**