



# New Jersey Water Supply Authority Watershed Protection Programs Fact Sheet #6 River-Friendly Program Case Study: Quail Brook Golf Course

Through the River-Friendly Golf Course program, the New Jersey Water Supply Authority (NJWSA) works with golf courses to improve water quality by implementing actions in 4 categories:

- ⇒ Water Quality Management & Nonpoint Source Pollution Management,
- ⇒ Water Conservation,
- ⇒ Native Habitat & Wildlife Enhancement, and
- ⇒ Education & Outreach.

NJWSA staff contacted Quail Brook Golf Course (QBGC) in 2005, and they entered the River-Friendly program later that year. The course is owned and operated by the Somerset County Park Commission. This 18-hole course was constructed in 1979 within a residential development, and is within the Cedar Grove Brook watershed. A description of pre-certification conditions is provided below.

## I. Water Quality Management

Quail Brook staff classified water quality on the course as fair with no specific water quality problems. Runoff from the front nine flows into Quail Brook Pond; the back nine flows into Cedar Grove Brook. Quail Brook Pond was dredged many years ago; it is 8-10 feet deep in most areas and shallow near the edges. The vegetative buffer adjacent to the pond is adequate in most areas. There is an algae problem on the pond. NJWSA's observations indicated that the stream was in relatively good shape, and had a fair riparian buffer in most areas. NJWSA identified several actions for QBGC to take to improve water quality.



## II. Water Conservation Techniques

Watering practices are an integral part of conserving water. Proper watering also leads to increased water quality due to a reduction in runoff. Quail Brook's irrigation system is quite antiquated compared to many courses; it is the original system installed in 1979. Replacing the irrigation system was not an option, due to the limited budget for this county golf course. NJWSA identified actions QBGC could take to improve water conservation on the course.



## III. Wildlife and Habitat Enhancement

QBGC contains several types of habitat, including forest and riparian areas, which provide habitat for many species of wildlife. The overall goal in this category of actions is to help the golf course staff make decisions regarding habitat enhancement based on the types of wildlife that utilize different areas of the course while maintaining playability of the course. Several opportunities for wildlife management and habitat enhancement were identified at QBGC. In addition, the superintendent was very enthusiastic regarding these actions.



## IV. Education and Outreach

Education of both the golfing public and the surrounding community is an important component of the River Friendly program. NJWSA identified several opportunities to successfully reach Quail Brook's clientele and surrounding communities.



No-mow area by Tee #6.

**Summary of actions:**

As a County owned and operated course, QBGC operates on a limited budget. This presented a challenge for NJWSA and QBGC staff—to identify actions that could be completed with existing staff and resources. An additional challenge, not unique to QBGC, was the need to maintain the playability of the course while completing River-Friendly actions. Highlights of the River-Friendly actions completed by QBGC are discussed below; the full list of actions is available at [www.raritanbasin.org](http://www.raritanbasin.org).

**Water Quality Management**

NJWSA worked with QBGC staff to develop and implement an integrated pest management (IPM) plan. As part of the plan, soil tests were performed on the greens to identify the proper level of fertilization. Soil tests will be performed on additional areas in 2008. The stormwater runoff system was mapped and reviewed to determine if areas existed to re-route drainage for better filtration prior to discharge to waterbodies.



No-mow area and sign near Tee #6

**Water Conservation**

QBGC developed a monitoring sheet for the irrigation system. The system is checked for leaks on a regular basis.



Bat house near Tee #1

**Wildlife & Habitat Enhancement**

Many actions were completed by QBGC in this category. The course superintendent was very enthusiastic about the actions, and many were completed without significant cost. Several bird and bat houses were installed on the course. The houses are inventoried and maintained throughout the year. Multiple areas were designated as reduced or no-mow throughout the course. NJWSA worked with QBGC staff to identify areas that where a modified mowing schedule could be implemented without impacting play.



No-mow area behind Green #6

**Education & Outreach**

QBGC installed signs in several areas to designate no-mow zones, to inform both golfers and course staff. Stormwater education posters developed by NJDEP have been displayed at the clubhouse. The course superintendent has involved the staff in planning and implementing the River-Friendly actions; information about River-Friendly has been included in meetings throughout the year.

**Summary:** Nearly two years were required for QBGC to implement and document their River-Friendly actions. Certain actions were not completed due to budget constraints and/or the need for actions to be completed at a more global level for all the Somerset County golf courses. QBGC received their certification in July 2007. At that time, the technical advisory committee developed recertification actions for QBGC to take during the next three years to maintain their certification and receive renewal.

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