



## CHAPTER 2

# Why Making Environmental Improvements to Your Course Makes Sense

Protecting the environment and human health should be something we are all concerned about because it's simply in our own best interest. Even the more subtle and less obvious aspects of environmental enhancement such as improved wildlife habitat or reducing waste can benefit us by increasing the enjoyment of golf or knowing that our actions are helping the community we live in. Here are a few other reasons to think about:

### Possible Cost Savings

If through the course of good environmental planning and the application of environmental stewardship practices you can reduce your pesticide, fertilizer, water, and energy use you will see a direct savings on your operation budget. If you can replace maintained turf areas with no-mow natural zones you can not only reduce maintenance inputs, but lower your labor costs as well. This may give you the flexibility to redirect your labor to higher priorities such as greens and tees, thus improving playing conditions where they matter most.

For example, in the Ft. Benning demonstration project approximately 40 acres of no-mow natural zones were created in the rough out-of-play areas on the course. The conversion of one acre of maintained turf on a typical course to no-mow natural zones can result in significant savings over the course of a year. Golf clubs located in the south mow for an average of 50 weeks per year while those in the north mow an average of 30 weeks per year. Assuming the club has converted one acre of maintained turf to a no-mow natural zone, listed below are estimated costs:

- Labor cost savings – based on an average hourly wage of \$8/hour, it would take about 1.5 hours to mow 1 acre of rough twice per week for a savings of \$1200/year in the south and \$720/year in the north.
- Fuel savings – Assuming mowers consume about .25 gallons of fuel per acre @ \$1.75 per gallon the savings in the north would be \$26.25 per acre per year and in the south \$43.75 per acre per year.
- Pesticide savings – Estimated weed control costs would be \$400 per acre per application; insect control @ \$500 per acre per application; and fungicide applications @ \$400 per acre per application. It is assumed that insecticides

would be applied on an average of three times per year in the north and the south; herbicides once per year in the north and south; and fungicides once per year in the north and south for a total of \$2300 per acre per year in the north and south.

- Fertilizer savings – Assuming that 3 pounds of Nitrogen are applied per acre, per year in the north and 8 pounds of Nitrogen per acre in the south and that the cost per pound is \$80, it would cost \$240 per year in the north and \$640 per year in the south.
- Water savings – Assuming that turfgrass requires 1 inch of water per week during the growing season and estimating average yearly rainfall, turfgrass in the north would require 20 acre/inches of rain per season, while turfgrass in the desert southwest could require 50 acre/inches of water per year. Water costs (assuming an average cost of \$5 per cubic foot) can vary from \$3600 per acre per year in the northeast to \$9000 per acre per year in the Southwest.
- Total – The estimated cost savings per acre based on the assumptions detailed above would be:

North – savings as much as \$7,000 per acre per year depending on water costs and frequency of pesticide/fertilizer applications.

South – savings as much as \$13,000 per acre per year depending water costs and frequency of pesticide/fertilizer applications.



Pesticide storage facility at Ft. Benning





Miramar Memorial Golf Course- Marine Corp Air Station

## Recognition and Support for the Course and Management Team

By completing the environmental planning and certification process your course and management team will be recognized as environmental leaders at your military facility and within the management structure of your particular Service.

By completing an environmental plan and implementing improvements at your course you may be eligible for continuing education credits (CEU's) from the Golf Course Superintendents Association of America (GCSAA). To receive CEU's you must submit the appropriate form and receive proper notification from GCSAA prior to beginning the project (see appendix F).

Making environmental improvements to your course could also result in recognition to your course and the superintendent through the GCSAA/Golf Digest "Environmental Leaders Awards." Consideration for this national or regional award requires application to GCSAA describing your course's environmental improvements. Awards are presented nationally at the annual GCSAA Conference and Show and are determined by a panel of judges using national environmental criteria (see appendix G for more information and a description of award criteria).

## Recognition and Support from Educated Players

Educated players will also recognize the environmental improvements taking place on your course and provide support and encouragement. One aspect of the environmental planning process is to help educate players about the importance of environmental stewardship and how it affects course resources and management practices. Once players understand these principles and begin to observe your efforts to protect habitat and reduce possible negative impacts to the environment they usually provide support and encouragement for your efforts.

## Improved Wildlife Habitat and Water Quality

Most military golf courses are surrounded by undeveloped areas that provide varied opportunities for habitat enhancement on the course and at the edges of fairways and roughs. Oftentimes small improvements in wildlife cover and food sources such as bird boxes and feeders can provide significant increase in bird and other populations that are observed and enjoyed by golfers as they play the course. Through Integrated Pest Management (IPM), vegetative buffers, and other pollution prevention practices the golf course can be a leader in protecting water resources on the military base and the surrounding watershed.

## Stay Ahead of Regulatory Requirements

By having a pro-active environmental stewardship program the golf course superintendent can stay ahead of the curve in meeting regulatory requirements. This means not only being prepared for inspections by military environmental personnel, but staying abreast of emerging issues, technologies, and practices to avoid environmental problems and keeping current with changing laws and regulations. With a current environmental plan for the course, the superintendent will always know what his environmental priorities are and how his particular strategies are working. He will always be in a position to communicate this information in a convincing way to his superiors at the base or non-military visitors to the course.

