



***Gator Lakes Golf Course***  
**Environmental Baseline Assessment**  
**Hurlburt Field, Florida      Mar 02**





## Executive Summary

### U. S. AIR FORCE GEM PROGRAM GOALS

The U. S. Air Force Golf Course Environmental Management (GEM) program is a proactive Air Force Center for Environmental Excellence (AFCEE) initiative to foster a better understanding of the environmental challenges facing our golf courses worldwide. Armed with the support and approval of the Air Force Services Agency golf program, AFCEE's goal is to facilitate the creation of an environmentally friendly golf course facility while supporting the mission.

The primary tenets of the GEM Program are to minimize or eliminate potential negative environmental impacts, attain and maintain daily compliance with all appropriate regulations, and constantly examine our processes on all aspects of golf course management to achieve the highest standards of environmental excellence.

### GEM PROGRAM PROCESS

There are five steps in the GEM program process.

- Analysis
- Documentation
- Implementation
- Evaluation
- Revision

This report is the result of the analysis step.

### GATOR LAKES GOLF COURSE HURLBURT FIELD, FLORIDA ENVIRONMENTAL CHALLENGES

The following environmental challenges were identified during the GCEBA process:

- Audubon Cooperative Sanctuary Program
- Wetlands, watershed protection, & water quality management
- Tree management
- Invasive exotics
- Hazardous waste management
- Bird/Wildlife Aircraft Strike Hazard (BASH)
- Excessive biological oxygen demand
- Protected fauna & flora

Further information on the environmental challenges at Gator Lakes Golf Course can be found in the Conclusion of this Golf Course Environmental Baseline Assessment.

### WHERE DO WE GO FROM HERE?

The golf course staff should determine their preferred management approach for the challenges above in context with their ongoing goals of providing the best golfing experience for the money. They should then coordinate these practices with the installation environmental staff to ensure their compatibility with installation wide natural resources and environmental goals and objectives followed by implementation.

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## Introduction

The golf course environmental baseline assessment (GCEBA) is the initial step in the process of creating a successful ecosystem-based Golf Course Environmental Management (GEM) Plan.

The ultimate intent of the program is to provide a foolproof, customer-driven management tool that will free up course managers and superintendents to devote more of their efforts to caring for their customers and the course. Properly designed and implemented, the GEM Plan will keep the facility in compliance with the ever-changing environmental rules and regulations while providing a vital recreational opportunity for the installation.



*Superintendent Reggie Stocker helps create new junior tees.*



*Entry sign trumpets quality and Gator Lakes delivers!*

## Goal of the GEM Program

The goal of the U. S. Air Force GEM program is to facilitate the creation of an environmentally friendly golf course facility for its customers while supporting the installation mission. The Air Force Center for Environmental Excellence (AFCEE) is dedicated to helping to identify ways that more rounds can be played on better-conditioned courses while minimizing or eliminating negative impacts to the environment. In most cases, the U. S. Air Force's golf courses are being managed compatibly with the environment. The GEM program is the vehicle to document our successes while communicating directly with the golfers, our commanders, and the local community.



*Many small water bodies improve both aesthetics and playability.*

## Program Process

Implementation is the most important phase of any initiative where practices and procedures are examined and may undergo significant change. This is especially true of the GEM Plan process. The specifics for the GEM Plan components and directions for their completion will be delineated in AFCEE's ***Golf and the Environment, Guidelines for the 21<sup>st</sup> Century***.

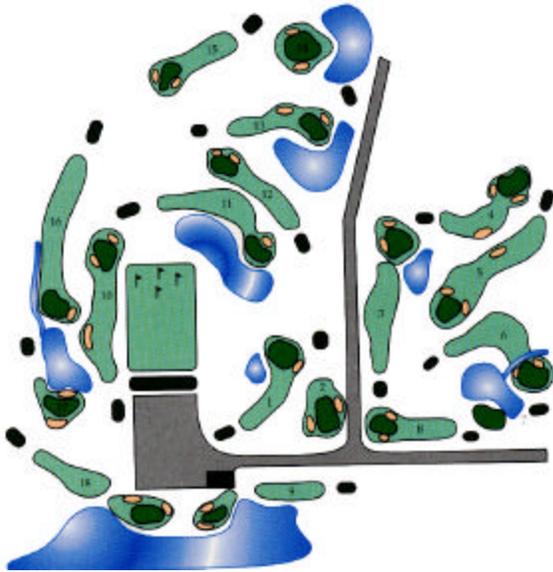
The GEM Program is derived from many diverse environmental regimes such as the National Environmental Policy Act, the Environmental Compliance Assessment and Management Program, and the ISO 14000 environmental management system. The primary tenets of the GEM Program are

to minimize or eliminate potential negative environmental impacts, attain and maintain daily compliance with all appropriate regulations, and constantly examine our processes on all aspects of golf course management to achieve the highest standards of environmental excellence. There are five basic steps in the implementation of the GEM Program process:

- Analysis
- Documentation
- Implementation
- Evaluation
- Revision



*Some of Gator Lakes' wildlife don't mix well with the golfers.*



*Layout, Gator Lakes Golf Course, Hurlburt Field FL*

## Analysis

Experienced environmental managers realize the importance of assembling all of the data relevant to a problem prior to determining its best solution. Analysis is the first and most important task of the golf course environmental baseline assessment (GCEBA) and the GCEBA is the initial step in the process of creating an ecosystem-based Golf Course Environmental Management (GEM) Plan. Properly completing the GCEBA is paramount to the long-term compatibility of an installation's golf course management practices with the GEM Program, and more importantly, the U. S. Air Force's natural resource and environmental management goals and objectives.

## GCEBA COMPONENTS

The GCEBA is comprised of the following components:

- Site visit, interviews, and data collection
- Course specific analysis
- Miscellaneous facility review
- Environmental compatibility quotient checklists
- Identification of environmental management challenges
- Summary report

## Documentation

It is not enough just to know how to create a successful golf course environmental management program. There has to be a written record of existing site data, maintenance practices, pesticide applications, and other historical golf course activities. By documenting what we know, we will be able to determine how to make better decisions in the future. The completed GEM Plan will be a comprehensive report with a map that will assist in the daily management of the course while providing a convenient vehicle to communicate to our customers the environmental issues that challenge us on our golf course and our plans to deal with them. In order to reach the environmental stewardship goals set by the U. S. Air Force, we must consistently employ only those management practices that minimize or eliminate potential negative impacts to the environment.

## **GEM PLAN COMPONENTS**

The GEM Plan will be comprised of the following components:

- GCEBA report
- Map of the entire golf course facility grounds depicting locations of the significant environmental management challenges and the golf course facilities
- Booklet that describes the environmental management challenges on the GEM Plan map
- Specific practices that will be employed by the golf course staff to deal with each environmental management challenge after coordination with and approval by the installation environmental staff
- Compilation of best management practices employed at the golf course in their implementation of the GEM program recommendations

## **Implementation**

Positive and decisive action is the only true measure of the success of a GEM Program. By implementing new practices, whether to knowingly improve the course's role in the environmental stewardship of the installation or to just try new ideas to determine their value, will the golf staff and golfers benefit. The Gator Lakes staff should adopt the GEM Program Environmental Policy and immediately begin finding ways to minimize or eliminate any and all negative impacts to the environment.

## **Evaluation**

In order to ensure the highest quality of customer service and environmental stewardship, there must be continual self-evaluation and improvement. There also should be consistent, on-going measurement of the reduction or elimination of environmental impacts the newly implemented practices have on the course. For example, documenting the reduced use of inputs such as fertilizers, pesticides, and irrigation can be used to demonstrate the increased environmental stewardship of the golf course management practices as well as the overall value of the GEM Program. It is important for U. S. Air Force golf courses to show improvement over time. This can be easily accomplished by regularly evaluating golf course maintenance methods, practices, and management approaches to day-to-day issues and changing when appropriate.

## **Revision**

The very nature of a superior GEM program implies that all documents be regularly maintained to represent the most current conditions. U. S. Air Force golf course managers and superintendents should be constantly looking for ways to improve their environmental stewardship. Acting on lessons learned is right behind initial implementation as the most important aspect of a successful GEM Program. The GEM Plan should be kept as current as possible at all times. Ideally, it should be completely updated at least every three years.

## Course Specific Analysis

One of the most pragmatic and enjoyable tasks in the GCEBA process is the course specific analysis. From a general overall description of the course to the details of the course's history and makeup to the various observations on the way the course plays, looks, and is managed, the course specific analysis sets the stage for the rest of the GCEBA report. It is comprised of the following tasks:

- Course description
- Course details
- Hole-by-hole analysis with observations
- Maintenance facility evaluation
- Miscellaneous facilities examination



*Gator Lakes' inward nine features high quality, modern golf design.*

## Course description

Blessed with a wonderful site on the far northeastern edge of the installation, Gator Lakes Golf Course is a top-notch Air Force golf facility. Featuring some of the best turf anywhere and a relatively new clubhouse, Hurlburt Field's customers are able to enjoy one of the best values in the military.

Gator Lakes features two distinctively different nines. The original course, or the outward nine, was designed and built in-house and features a minimalist approach. Small landing areas and greens with relatively narrow fairways typify the front as very little soil was moved during construction.

Built roughly ten years later, the inward nine is an example of more modern golf course construction standards. Greens and fairways are much larger with significant manipulation of the native contours resulting in greater flexibility in pin placements that minimize wear and less drainage problems.

Overall, the Gator Lakes Golf Course is a lot of fun for all levels of players. There is sufficient challenge for the low handicappers yet beginners should not be overly intimidated during their round. The turf quality, friendly staff, and the desire to continually improve the quality of the facility are testament to course manager Mike Treylinek's continued success at Hurlburt Field. The future is bright at Gator Lakes!



## Course details

Architect	Red Horse & Civil Eng.
Year constructed	Front-1976, Back-1986
Climate	Warm, humid, subtropical
Average annual rainfall	62 inches
Average growing season	275 days per year
Winds/Prevailing Direction	North/South
Total Facility Acreage	160
Par	36-36-72
Yardage/Rating/Slope	Back- 6894/72.2/129 Middle- 6273/70.1/124 Forward- 5150/69.2/116
Golf course manager	Mike Treylinek
Superintendent	Reggie Stocker
Turfgrass	Tifway 419 Bermudagrass
Tees	Tifway 419/Com.Bermuda
Fairways	Tifdwarf 328 Bermuda
Greens	Centipede/Com. Bermuda
Roughs	



*Landscape projects need sound design and adequate maintenance.*

## Hole-by-hole analysis & observations

This section begins with a short description of each hole and how it is played. Observations on course playability, aesthetics, and environmental management issues are compiled as a reference point for recommendations for improvement as well as positive reinforcement on worthy characteristics or practices. Overall trends can be identified by comprehensively examining the various observations noted for each hole.

The hole-by-hole analysis section provides a convenient vehicle to enable visitors, commanders, prospective golfers, or interested community members to more readily visualize the course.



## Gator Lakes Golf Course

## Hole #1- 368 Yards, Par 4

### DESCRIPTION

Flat, open, and unassuming, the golfer's round at Gator Lakes begins with a slight dogleg left par four. There is lots of room to get the cobwebs out and loosen up. Two fairway bunkers, one short right and one long left, define the landing area from the tee. Unnatural appearing ditch way left of intended approach shot location is marked as lateral hazard. Green is relatively small and slopes from back to front offering less than tantalizing target for those players who didn't hit a bucket of balls at the range before teeing it up.



*Sign on first tee ensures customers are aware of chemical applications.*



*Fairway bunker is in play for only the longest players who move it left.*

### OBSERVATIONS

- Improve signage at first tee to announce playing conditions, cart driving rules, or planned spraying operations during the days play
- Eliminate short right bunker in landing area as it only confounds those that will have trouble all day anyway
- Bird houses left of fairway and behind green add to overall positive experience
- Fairy ring is only blemish to otherwise extremely health fairway turf
- Bunker rake machine "drive-out" scar in right front greenside bunker

## Hole #2- 173 Yards, Par 3

### DESCRIPTION

Flat and nearly featureless, this type of par 3 hole is the bane of golf courses worldwide. Gator Lake's version does have trees that help define the hole on both sides as well as nice background trees to assist with depth perception and helping to frame the intended target for the golfer. The turf is sufficiently worn at the tee to probably justify a larger teeing area. Two narrow, but punishing bunkers threaten all but the straightest of shots ably protect the oval, approximately 6000 square foot green.



*It usually takes four well-played shots to birdie the unique par-5 10<sup>th</sup>.*



*Native pines provide an attractive background for the 2<sup>nd</sup> green.*

### OBSERVATIONS

- Teeing ground is bordering on minimum space required to accommodate the large number of rounds and players using the facility
- Drive out scar in bunker
- Location of bunker limits pathways to carts from green creating wear area
- Hole could use some topographic relief to increase interest, aesthetic appeal, and playability

## Hole #3- 487 Yards, Par 5

### DESCRIPTION

Relatively, short and sweet, the third at Gator Lakes is not an easy hole. Working backwards, the green is fronted by a small pond to discourage an attempt to reach the dance floor in two that also gets the knees a knocking on the approach shot. That is, of course, if the player has successfully negotiated the lay up shot to a comfortable personal yardage. Length off the tee is not as important as accuracy so the player has a chance of executing a quality lay up in the first place.



*The pond complicates the play at the otherwise simple par 5 third.*

### OBSERVATIONS

- Added length would make this a great hole
- Shallow, diagonal green requires well-hit shot to get close
- Fairway bunker provides equitable challenge on left side
- Need to plan for the eventual replacement of wooden retaining wall along pond fronting green



*Tee shot landing area is smaller due to the fairway sand bunker.*

## Hole #4- 341 Yards, Par 4

### DESCRIPTION

A short dogleg left from the middle tees, the long hitter is enticed to cut the corner on the tee shot. The experienced Gator Lake player, long or not, knows the left side of the landing area is being defended by an unseen water hazard and will lay up to the crook of the fairway. Once the tee shot is safely negotiated, hole is a push over for the accurate short iron player. Sink a putt and it's an easy birdie.



*Native pines frame the tee shot.*



*There's a water hazard hiding out there just past tee ball landing area.*

### OBSERVATIONS

- Fun hole...unless you drive into the hazard!
- Bluebird house in left rough a bonus to the golfing experience
- Junior tee placement will provide a fair challenge to the young stars that are the future of the game

## Hole #5- 494 Yards, Par 5

### DESCRIPTION

Straight forward and unassuming for the first time player from the tee, the three shot, par 5 fifth hole at Gator Lakes gets more and more interesting as you approach the green. An unusual dogleg from the second shot landing area to the green makes for a superb examination of a player's skill. The roughly 6500 square foot green only welcomes a precisely struck approach. Green can be tricky depending on the pin placement but astute players can still secure birdies.



*View from tee shot landing area.*



*Sand bunkers protect green yet rewards the accurate approach.*

### OBSERVATIONS

- Fairway bunker at right side of tee shot landing area could easily be eliminated without detracting from the holes' demands on most players
- Turf on back teeing ground receives too much shade from neighboring trees that should be removed to improve the situation
- Bunkers show rake access wear on turf and soil structure

## Hole #6- 382 Yards, Par 4

### DESCRIPTION

The long, sharp dogleg right is the toughest hole on the outward nine. It requires an exacting and solidly hit tee ball for any chance of par or better on the scorecard. A pond short and left of the green adds another dimension to this challenging two-shotter. A fairway bunker on the left side of the tee shot landing area further constricts the tight fairway, which measures only 75 feet wide at 190 yards from the green.



*The tee ball must be well struck for a chance at a good score at the 6th.*



*Not many topographic clues to help the approach shot...*

### OBSERVATIONS

- Great golf hole from beginning to end
- Expanding the fairway bunker may be the only way to improve this hole
- Martin house in left rough adds to overall positive golfing experience
- Teeing ground and front right of green receives too much shade to grow high quality turf

## Hole #7- 177 Yards, Par 3

### DESCRIPTION

A small pond embraces the right front edge of the green making this the best one shot hole on the outward nine. Due to the water hazard, the tendency is to miss long and left of center where a sand bunker is strategically positioned to make the recovery more difficult. The huge nearly 10,000 square foot green is relatively flat yet amazingly tough to read. Par is enough to satisfy all but the most demanding of players.



*Tee box points toward the left further complicating the play of the 7th.*



*Superintendent Reggie Stocker is not afraid to get his hands dirty.*

### OBSERVATIONS

- Wooden retaining walls around teeing area will probably require replacement. Suggest masonry block fix similar to Tinker AFB solution
- Teeing area functions well even though it is barely large enough. Suggest expanding the area if retaining walls are replaced
- Another tee box constructed in front of the main teeing ground could add greater flexibility and diversity

## Hole #8- 356 Yards, Par 4

### DESCRIPTION

Uncomplicated and nearly straight, the 8<sup>th</sup> demands nothing if not accuracy from the golfer. The fairway bunker on the left side of the landing area squeezes the tee shot. The approach shot is relatively wide open as two bunkers flank both the left and the right but are set farther away from the green than most other bunkers at Gator Lakes.



*The eighth demands a slight left to right bending tee shot.*



*Approach to the 8<sup>th</sup> offers little interest or challenge.*

### OBSERVATIONS

- Fairway bunker may be extraneous to the play of the hole while increasing maintenance efforts
- Pampas grass left of teeing area does not screen road from view yet adds character
- Junior golfer tees are a great idea

## Hole #9- 384 Yards, Par 4

### DESCRIPTION

The 9<sup>th</sup> is an excruciatingly narrow examination of skill at the end of the front nine. The tee shot landing area, all 20 or so paces wide, almost appears as if it was forgotten by the course builders. The green is dramatically tilted back toward the player and is neatly tucked into the shore of Hurlburt Lake, the installation's largest. At 384 yards from the middle tees, this is a top quality finish to the outward nine.



*'Gators, herons, and bluegills await the errant approach shot.'*

### OBSERVATIONS

- Teeing ground retaining walls will eventually need to be replaced. Use masonry block system to provide a long-term solution
- Volunteer pine tree near lakeshore needs protection as a future amenity
- Bluebird houses near junior tee has a positive impact on the overall golfing experience
- Long, skinny, and parallel to play, the fairway bunker is an instant replay of almost every other fairway bunker on the outward nine



*"Just thread it through those skinny little pine trees and you'll be fine."*

## Hole #10- 503 Yards, Par 5

### DESCRIPTION

A gentle dogleg right, the 10<sup>th</sup> offers a comfortable start to the back nine at Gator Lakes. The out of bounds on the right side for the tee shot landing area puts a premium on accuracy for one and all. Landing area is in short supply due to a well-located fairway bunker and a bunker on the right also challenges the lay up shot. All in all, a good par five that may be reachable from the back tees under favorable wind conditions.



*More open, modern character of the outward nine is evident here.*



*If you've hit two good shots, this is your view of the 10<sup>th</sup> green.*

### OBSERVATIONS

- Highly playable, yet obviously of a different design vintage than the front nine
- Bunker behind green needs drainage improvements
- Sand quality is inconsistent in greenside bunkers
- Trees should be added to screen practice range and increase safety for players
- Area left of fairway between 16 green and second shot landing area offers an opportunity for additional trees

## Hole #11- 385 Yards, Par 4

### DESCRIPTION

Toughest and most attractive hole on the course! The 11<sup>th</sup> challenges all players from the tee shot to the tap in. A long, flowing dogleg right demands the stronger drivers of the ball to gently bend the tee shot or face going through the fairway into the pines. An accurate drive is just the first test. The large pond continues almost to the green further challenging the player's ability to hit solid, accurate shots. Greenside sand bunkers do not often come into play but the back right pin placement is always tough.



*Postcard-like beauty of the 11<sup>th</sup> dazzles from behind the green.*

### OBSERVATIONS

- Landing area is a scant 90 feet wide
- Hole borders on being too scary for the all-too-common right-handed slicer to play
- Bluebird box adds to overall environmentally sound experience
- Excellent golf hole



*It usually takes four well played shots to birdie the unique par-5 10<sup>th</sup>.*

## Hole #12- 356 Yards, Par 4

### DESCRIPTION

Dogleg left entices player to bite off some real estate on the corner but the experienced Gator Lakes' regular knows straightaway is best. Wide, open fairway doesn't overly stress players from the tee. Two bunkers and a potentially alligator-infested soggy pothole of a water hazard guard the large green.



*Teeing area points right while the fairway bends left.*



*Large and receptive green leaves no excuse for poor scoring.*

### OBSERVATIONS

- Shelter near tee needs improvement
- Ornamental trees near teeing ground would be a welcome addition
- Teeing area slyly aims the golfers away from the dogleg
- Cart path is in poor condition
- Need distinctive trees planted in line with appropriate tee shot landing position
- Landscape development near teeing grounds poor at best

## Hole #13- 320 Yards, Par 4

### DESCRIPTION

Another gentle dogleg par 4 around a pond, the 13<sup>th</sup> isn't overly demanding yet fun to play. Relatively short, the fairway is 110 feet wide at the landing, and the smallish, 4000 square foot green is wide open on this "birdie" hole. The two greenside bunkers are too far from the green to normally be considered in play.



*Tee shot view on Gator Lakes' 13<sup>th</sup>.*



*Sand bunker is too far from the back of the green to be deemed in play.*

### OBSERVATIONS

- Weed species cattails just beginning to establish in the pond near the green
- Leave dead pine near pond on right side of landing area for wildlife value
- Poor drainage between green and bunker behind

## Hole #14- 142 Yards, Par 3

### DESCRIPTION

Continuing the water hazard-based golf course design motif of the inward nine at Gator Lakes, the short 14<sup>th</sup> requires a carry over a small pond while providing an alternate route for players that cannot hit that long a shot. A beautiful hole, the 14<sup>th</sup> is another candidate for postcard status. It can be stretched to a taxing 190 yards or so, plus a new tee being constructed well right of the existing teeing ground will add extra yards and will require a frightening 165 yards or more of carry over the entire pond surface.



*Another example of the great aesthetic qualities of Gator Lakes.*



*It usually takes four well played shots to birdie the unique par-5 10<sup>th</sup>.*

### OBSERVATIONS

- Fun hole with manmade aesthetic qualities that are only exceeded by its challenge to the average golfer
- Poor drainage on the green detracts from playability
- Like most par threes, this hole could benefit by adding more teeing ground
- Wooden pond edging has begun to fail near green

## Hole #15- 350 Yards, Par 4

### DESCRIPTION

Gentle dogleg left uphill par 4, the 15<sup>th</sup> demands a straight, solidly hit tee shot. The Gator Lakes regular knows that attempting to shortcut the dogleg is largely futile for all except the longest hitters. A magnolia tree pinches the left corner of the fairway while fairway sand bunkers crowd the right. Very nicely designed and testing to play, the 13<sup>th</sup> is one of the best at Gator Lakes.



*Another fine example of the beauty of the Gator Lakes course.*



*The 15<sup>th</sup> green is shallow and tiered to confound the player.*

### OBSERVATIONS

- Bunkers need repair and additional care
- Green is oriented slightly diagonal to the center of the fairway in a manner common to many of Jack Nicklaus' courses
- Check marking of lateral water hazard along right side of hole between bunkers and green
- Wear area caused by barrier along cart path on left side of hole
- Definitely one of the best holes on the course

## Hole #16- 516 Yards, Par 5

### DESCRIPTION

Superb three-shot par 5 that may qualify as a unique double dogleg forces the long hitter to move the ball from right to left off the tee. Large pond along right side confines the lay up shot as well as adds to the difficulty of the approach. The 7000 square foot green seemingly has no flat spots for easy putting. Another great golf hole that is sure to bring appreciative players back.



*This is an easy hole...if you can hit it straight off the tee!*



*Lake adds to the aesthetics and the playability of this quality par 5.*

### OBSERVATIONS

- Cart path quality declines drastically near green
- Tee shot landing area is only 90 feet wide
- Environmentally sensitive area just beyond the teeing ground is properly signed
- Trees planted along left side of second shot landing area and green could improve the hole
- Hole is nicely integrated with preserved, highly natural areas along fairway corridors

## Hole #17- 170 Yards, Par 3

### DESCRIPTION

Another quality par three, the 17<sup>th</sup> plays much easier than it appears to the average golfer. The pond is primarily an aesthetic amenity as it is largely out of play along the left side of this medium length one-shotter. The green is roughly circular and offers nearly unlimited pin placements. Bunkers protect the left front side of the green and the by now familiar mounding surrounding the green acts as a collection device for errant shots.



*Beauty plus challenge equals exciting play.*

### OBSERVATIONS

- Landscaping near teeing ground needs upgrading
- Teeing ground showing wear implying need for larger area or increasing movement of tees
- Do not prune azaleas along pond bank
- Wooden retaining walls will eventually need to be replaced



*While the pond may intimidate, there is an alternate route via dry land.*

## Hole #18- 369 Yards, Par 4

### DESCRIPTION

The 18<sup>th</sup> is a slightly left bending dogleg finishing hole. Hurlburt Lake wraps around the entire right side of the green, from front to back. Although there is plenty of room around the rolling green, two sand bunkers complicate the approach. The perfect drive carries about 220 yards with a slight right to left action as it descends softly to the verdant fairway turf. Not an overly difficult finishing hole, the 18<sup>th</sup> is the scene of many a match winning par putt.



*Green contours offer demanding putting conditions.*



*Lake can be reached off the tee by the longer hitters.*

### OBSERVATIONS

- Nice cart path turnout detail near the teeing ground
- Natural forested area to the right of the fairway is not marked as a hazard
- Otherwise beautiful hole's overall aesthetics damaged by the player's view of clubhouse utility connections near the green
- Less than attractive pesticide facility could be screened from the players view

## Miscellaneous Facility Review

Although the course is primary to the enjoyment and eventual return of most of Gator Lakes' customers, the support facilities play a huge role in the overall success of the operation. This section of the GCEBA will examine the following facilities for their aesthetic, functional, and environmental values:

- Clubhouse/pro shop/snack bar
- Practice areas
- Maintenance complex
- Pesticide mixing and storage
- Cart barn
- Infrastructure



*Clubhouse seems to be adequately sized and extremely functional.*



*Clubhouse seems to be adequately sized and extremely functional.*

### Clubhouse

The clubhouse is an attractive, architecturally compatible building newly constructed in 1997. The pro shop and snack bar are well designed and seem to provide adequate space for retail sales and dining. The recent addition of a new deck overlooking the 9<sup>th</sup> and 18<sup>th</sup> greens adds functionally attractive dining space where the action is. Locker rooms are small, but neatly kept and well outfitted.

Landscape development could be improved, largely by taking a more natural, informal approach. Unattractive utility area on north side of clubhouse needs screening from the 18<sup>th</sup> green. Last impressions may be more important than first!



*Clubhouse seems to be adequately sized and extremely functional.*

## Practice areas

Gator Lakes Golf Course is blessed with a nice putting green and a large, functional driving range. Neither is lighted for nighttime use and there is no short game practice area available for use by the customers. A coin-operated machine is utilized for range balls dispensing. All weather tee stations are provided for year round use.



*Clubhouse seems to be adequately sized and extremely functional.*

## Pesticide mixing and storage

An older facility uniquely, and incorrectly, sited between the driving range and the 18<sup>th</sup> hole. Fully compliant with all regulations, this building functions as office and pesticide mixing and storage. This is another example of golf course operations making do with less than ideal situations. A modern, “designed to order” facility would be highly desirable and recommended for the long term improvement of Gator Lakes.



*Cart barn is ideally located nearby the first tee.*

## Cart barn

The cart barn is a serviceable facility seemingly constructed in the 1970s conveniently located nearby the first teeing area. Gator Lakes uses electric carts exclusively for efficient energy use and highest customer satisfaction.



*Pump house is in need of upgrade.*

## Infrastructure

This section examines important elements of a quality golf course that are difficult to group into another category. The irrigation system is in need of improvement, in particular, the pump and pump house. Cart paths are in fair to poor condition. The parking lot is in good condition and seems large enough to satisfy the regular demands of Gator Lakes' customers. Landscape development attempts have been largely unsuccessful pointing out a need for professional assistance and direction. There is a quality site amenity group near most teeing areas. Overall, the course signage is attractive and functional.

## Maintenance complex

The maintenance complex is typical of most U. S. Air Force golf course facilities. Storage areas, equipment, assorted outbuildings, employee parking, etc. all seem to have happened by chance over the years rather than as a result of detailed planning. Despite this reality, the maintenance complex is highly functional, is well kept, and provides all required activity areas. A new maintenance facility would be a welcome addition to the Gator Lakes repertoire of high quality facilities.



*Many pieces of equipment must be stored outside.*



*Interior of primary maintenance facility.*



*The maintenance complex has been constructed over many years.*

## Environmental Compatibility Quotient Checklists

The following is a brief compilation of some of the observations in each of the ten Environmental Compatibility Quotient (ECQ) categories during the site visit.

### ECQ Categories

- Overall Management Philosophy & Documentation
- Safety, Training, And Awareness
- Compliance
- Course Playability
- Pollution Prevention
- Conservation Practices
- Aesthetics & Naturality
- Maintenance Practices
- Customer Relations & Education
- Miscellaneous Special Projects & Activities

## ECQ Checklists

The Environmental Compatibility Quotient (ECQ) checklists are a convenient method of assessing the overall performance, implementation, and completeness of an installation's Golf Course Environmental Management Plan. The checklists can be used in many ways including:

- As an analytical tool while compiling a Golf Course Environmental Baseline Assessment like this one.
- As a self-assessment tool for the golf course manager or superintendent.
- As an award nomination evaluation by a Golf Course Assessment Team (GCAT).



*Starter's shack needs a complement of native plantings.*



*Although not a view desired by the player, Gator Lakes offers both a quality golf experience and high aesthetic values.*

## Determining the Environmental Compatibility Quotient

The ECQ compiled for an installation's course is a snapshot of the overall performance and compliance with the GEM Plan. There are two ways to use the ECQ checklists to determine the status or quality of the environmental management program: determining the actual and potential environmental compatibility quotients.

- **Actual ECQ-** the total percentage of "Yes" responses for all ten checklists.
- **Potential ECQ-** the total percentage of "Yes" responses plus the total percentage of "Partial" responses for all ten checklists.

### Key to checklist responses

- **Yes** = Practice is complete or ongoing and can be verified.
- **Partial** = Practice has been initiated but needs further attention and improvement.
- **No** = Practice is not in place.

### ECQ Scoring Scale

<u>Percent Responses Yes or Partial per Category</u>	<u>Level</u>
93-100%	Advanced
83-92%	Getting there
73-82%	Showing progress
63-72%	Early stages
Less than 62%	Just started

## Overall Management Philosophy & Documentation

### U.S. Air Force GEM program goals

- Enhance the installation ecologically and economically
- Demonstrate that the golf course is managed with consideration for the unique conditions of the ecosystem of which it is a part
- Document management practices to promote more widespread understanding and appreciation for environmentally sound golf course facilities
- Share information on the environmental opportunities and constraints of your golf facility with your customers, the golfers

### Observations

- Need to compile and document actions already taken to create “continuity” document
- Plan improvements to all aspects of the golf facility management
- Course management demonstrates environmental stewardship
- Utilize installation environmental management geographic information system and civil engineering digital aerial photographs for mapping requirements
- Overcome the lack of funding and staff time by becoming more efficient
- Need to secure computer hardware and software upgrades to increase overall efficiency and provide high speed internet access
- Need to improve overall coordination and team work among installation environmental staff
- Use clubhouse wall to present environmental information to customers



*Gator Lakes has proactively taken steps to protect the environment.*

<b>Overall Management Philosophy &amp; Documentation</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Has management demonstrated that the environment is an important part of their responsibilities by initiating the GEM Planning process?	✓		
2	Has the golf course adopted and posted an Environmental Policy?			✓
3	Is the GEM Plan underway or completed, available, and updated regularly?		✓	
4	Is a map of the property highlighting environmental opportunities or constraints such as wildlife habitat, water resources, sensitive landscapes, special management zones, etc. posted for customers?			✓
5	Environmental goals, objectives, issues, projects, and progress are evaluated at least annually and are regularly communicated to employees, customers, management, and the local community?		✓	
6	Are written records of water quality monitoring activities, results, and control measures readily available?		✓	
7	Is there an inventory of bird and mammal species documented, maintained, and readily available?			✓
8	Is there a general understanding of how course management practices may positively enhance or adversely impact wildlife species and habitats?	✓		
9	Are the environmental impacts of pest control measures such as leaching and runoff potential, toxicity to non-target organisms, soil absorption capacity, pesticide persistence, water solubility, and effects on soil microorganisms and non-target species considered as part of the course management planning process?	✓		
10	Are records of pest treatments employed and their effectiveness maintained and used to guide future pest control decisions?	✓		
	<b>Point totals for each column</b>	<b>4</b>	<b>3</b>	<b>3</b>

## Safety, Training, & Awareness

### U.S. Air Force GEM program goals

- Educate all employees on the benefits of an ecosystem based golf course environmental management program
- Store and handle all potentially harmful products to minimize employee exposure
- Regularly train employees on the potential health hazards associated with their duties
- Involve entire staff in ensuring a safe golfing opportunity for their customers



*Clean, organized shops greatly contribute to overall employee safety.*



*Signs like these ensure your customers know their safety is important.*

### Observations

- Expanded training for all employees a must to completely realize GEM goals
- Ensure employee's health is prime consideration
- Demonstrate genuine concern for player health and safety through actions
- Consider using AFCEE for on-site golf course environmental management training
- Lack of funding hinders training plans
- Business tempo and training scheduling makes it difficult to involve much of the staff at one time

<b>Safety, Training, &amp; Awareness</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	All employees are familiar with the GEM Plan and are trained regularly on the importance of environmental performance and compliance with the goals and objectives of the program?			✓
2	All appropriate employees are trained to be familiar with USAF, federal, state, and OSHA regulations that apply to storage and handling of chemicals used on the property?	✓		
3	All employees are aware that chemical manufacturing, use, storage, and disposal may pose risks to human health and the environment?	✓		
4	All employees are trained to understand that poor management practices may adversely impact worker health, on- and off-site water quality, local soil health, and wildlife species and their habitats?	✓		
5	A current copy of all Material Safety Data Sheets (MSDS) for all chemicals used anywhere on the golf course property is maintained and readily available for use by employees?	✓		
6	Chemical applicators are encouraged to apply for continuing education programs and receive regular training to maintain currency?	✓		
7	The chemical storage structure/area is locked, well-ventilated, fire proof, and access is limited to select personnel?	✓		
8	Pesticides, fertilizers, and other chemicals are stored on plastic or metal shelving?	✓		
9	Are golfers notified in the pro shop and on the first and tenth tees about the day's planned or recently completed spraying of any chemical or fertilizer that may be hazardous to human health and safety?		✓	
10	Are key staff members trained regarding water quality and conservation issues?			✓
<b>Point totals for each column - Response percentage</b>		<b>7</b>	<b>1</b>	<b>2</b>

## Compliance

### U.S. Air Force GEM program goals

- Integrate management practices with appropriate regulatory requirements and procedures
- Guarantee safe, healthy, and enjoyable experience for golfers while ensuring long-term operation of the facility
- Utilize installation expertise regularly on all matters dealing with bird aircraft strike hazards, regulators, impact analysis, and cleanup



*Signage is important to complying with complicated regulations.*



*Pesticide mixing area is designed to contain spills.*

### Observations

- Assemble all documents in one place
- Do more than what is required
- Turn compliance from a chore into a marketing approach to increase playership
- Ensure ECAMP results are outstanding
- Inconsistent interpretations of compliance actions among installation, MAJCOM, and ECAMP evaluators confuses and confounds
- Incomplete technical training and experience on environmental issues creates difficulties

<b>Compliance</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Is fuel storage/delivery managed in accordance with federal, state and local regulations?	✓		
2	Are installation environmental staff members included in on-going course management discussions and plans at regularly scheduled meetings?			✓
3	Are there regularly scheduled staff meetings to discuss environmental management issues?		✓	
4	Does the director of golf and the superintendent attend ECAMP in-briefings and out-briefings?			✓
5	Does the director of golf and/or the superintendent coordinate with installation environmental staff on the various management plans that affect or include the golf course?		✓	
6	Are MSDSs readily available for all required substances?	✓		
7	Has appropriate impact analysis (NEPA) been performed on all proposed actions on or affecting the golf course property?	✓		
8	Are containers used to store used oil in good condition, not leaking, and clearly labeled?	✓		
9	Are oil/water separators operating properly and correctly maintained?	✓		
10	Are written and readily available records maintained of all applications of pesticides made by certified applicators, including the following? <ul style="list-style-type: none"> <li>- the quantity of each pesticide used</li> <li>- the chemical or common name of the active pesticidal ingredient(s) (not the product name)</li> <li>- the pest or purpose for which the pesticide was applied</li> <li>--the date and place of application.</li> </ul>	✓		
	<b>Point totals for each column - Response percentage</b>	<b>6</b>	<b>2</b>	<b>2</b>

## Course Playability

### U.S. Air Force GEM program goals

- Create desirable playing conditions through the utilization of sound, ecosystem based environmental management practices
- To daily offer an enjoyable and challenging yet fair golfing experience for all levels of golfers
- Establish an open, courteous, and friendly relationship between the course manager, the superintendent, and the customer to maintain enthusiasm and interest



*Gator Lakes shows off its natural beauty the par 3, 14<sup>th</sup> hole.*



*Attractive and well-located, the putting green gets a lot of use.*

### Observations

- Improve challenge while maintaining equitable playing conditions for all levels of golfers
- Maximize variety in course set-up by including a diversity of challenging pin placements and numerous tee locations
- Continue focusing maintenance efforts on in-play areas of the course
- Increase contour mowing for greater definition of fairway landing areas
- Incomplete cart path improvement project including curbing near greens and tees

<b>Course Playability</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Pin placements and tee markers are regularly moved to minimize the impacts of play while increasing the enjoyment and diversity of the experience of the customer?	✓		
2	Course has sufficient number of tees to satisfy need of all types of golfers and their individual talent levels?		✓	
3	At least 75% of the greens are proportionally sized for the average length of approach shot for required all levels of golfers?		✓	
4	The speed of the greens is appropriate to their contours and size?	✓		
5	Fairway width and turf quality is sufficient for equitable challenges to all levels of golfers?	✓		
6	Roughs are regularly maintained to produce an equitable challenge to all levels of golfers?	✓		
7	Course conditioning and maintenance practices do not contribute to extending average playing times?	✓		
8	Extraneous fairway bunkers have been eliminated or converted to grass bunkers to help speed play?			✓
9	Is bunker sand of appropriate quality and consistency?			✓
10	Is proper drainage maintained near at least 95% of all greens and tees?	✓		
	<b>Point totals for each column - Response percentage</b>	<b>6</b>	<b>2</b>	<b>2</b>

## Pollution Prevention

### U.S. Air Force GEM program goals

- Employ practices that eliminate or avoid the potential for polluting the environment
- Guarantee that the golf course facility will not allow chemicals, fertilizers, detergents, or petroleum products they use to migrate outside their property boundaries
- Create and utilize a comprehensive pollution prevention plan for all aspects of the golf course and its facilities



*Although this meets requirements, a new facility is desirable.*



*Covering fuel tanks is not a required but it does reduce sunburns.*

### Observations

- Further reduce solid waste streams from clubhouse operations
- Increase the use of slow release fertilizers
- Regularly provide training for all employees on the specifics of pollution prevention and how they can help
- Although pesticide facility is functional, consider purchasing state of the art facility and relocating nearby maintenance complex
- Completely cover fueling area rather than just the tanks

<b>Pollution Prevention</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Are there designated "no-mow" areas and established "no spray zones" and buffer areas around pond, stream, or lake edges and have they been communicated to mower operators and technicians?	✓		
2	A spill containment kit is readily available and spill containment procedures are in place?	✓		
3	Does the chemical storage area have a sealed metal or concrete floor and are all pesticides handled over an impermeable surface?	✓		
4	Does the chemical storage area have a lip along the edges to contain spills?	✓		
5	Are liquid products stored below dry products and are dry materials stored on pallets or shelves to keep them off the floor?	✓		
6	Wash and wastewater is kept from making direct contact with surface water and is recycled or allowed to filter through a vegetative area when cleaning and maintaining equipment?		✓	
7	Are grass clippings blown off equipment with compressed air instead of or prior to washing?			✓
8	Are gasoline, motor oil, brake and transmission fluid, solvents, and other chemicals used to operate or maintain equipment and vehicles prevented from directly or indirectly entering water bodies?	✓		
9	Does the fuel storage and delivery area comply with local, state, and federal regulations?	✓		
10	Are slow-release fertilizers used to reduce the negative potential for runoff?	✓		
<b>Point totals for each column - Response percentage</b>		<b>8</b>	<b>1</b>	<b>1</b>

## Conservation Practices

### U.S. Air Force GEM program goals

- Use natural resources efficiently while respecting their long term value to the local community and the mission of the USAF
- Provide important greenspace benefits
- Closely monitor and manage water use to prevent unnecessary depletion of installation or local water resources



*Many acres of “out-of-play” areas have been removed from regular, intense maintenance saving labor, fuel, time, and wear and tear on equipment.*

## Observations

- Incorporate contour mowing procedures
- Coordinate the designation of course areas as “environmentally sensitive” with the installation environmental staff per USGA rules
- Increase communication with customer on conservation practices that are already in place
- Work to establish or strengthen relationships with installation natural resources manager and other environmental professionals
- Provide detailed input to the scheduled update of installation integrated natural resources management plan (INRMP)
- Compile native tree planting program strategy and work with the installation environmental staff to coordinate removal of bothersome trees that hinder high quality turf growth

<b>Conservation Practices</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Are all motorized golf course equipment checked regularly for excessive air polluting emissions?			✓
2	Has the irrigation system been completely checked for proper water distribution in all irrigated areas and are water leaks fixed in a timely manner?	✓		
3	Has the irrigation system or its components recently been upgraded to reduce inefficiency, malfunction, and overall water use?			✓
4	Has all "non-target" irrigation (ponds, out of play areas, etc.) been eliminated or minimized?			✓
5	Have flow meters been installed to monitor water use and detect potential waste?	✓		
6	Have part circle irrigation heads been installed where possible to save water resources?	✓		
7	Are employees encouraged to minimize their trips around the course to conserve on the use of fossil fuels?	✓		
8	Does the snack bar utilize reusable plates and silverware for use by customers throughout the facility's operating hours?			✓
9	Have all potential wildlife habitats and their maintenance practices been coordinated with the installation BASH officer and environmental management personnel?	✓		
10	Are recycling containers conveniently provided for customer and employee use throughout the golf course facility?	✓		
<b>Point totals for each column - Response percentage</b>		<b>6</b>	<b>0</b>	<b>4</b>

## Aesthetics & Naturality

### U.S. Air Force GEM program goals

- Create and maintain an attractive golf course facility that requires minimal outside chemical or fertilizer inputs
- Utilize native or indigenous plant materials exclusively
- Consider every aspect of the golf course facility as a positive contributor to the overall satisfaction of the customer



*The 18<sup>th</sup> green at Gator Lakes Golf Course.*

### Observations

- Increase number and variety of new native trees added to course every year
- Elimination of patchy turf areas in roughs through the use of pine straw and revised cultural practices
- Plant native understory trees and shrubs in areas where play will not be impacted
- Increase the use of “contour” mowing of fairways to highlight hazards and landing areas
- Improve signage and cart paths
- Funding to expand landscape improvements to select areas on the course
- Screen cart barn and relocate the pesticide facility

<b>Aesthetics &amp; Naturality</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Is the area near the clubhouse attractively landscaped and maintained?	✓		
2	Is there an appropriately located and attractive facility sign and has the on course signage been designed and maintained attractively?	✓		
3	Does the course seem to be part of the natural landscape and overall contours?	✓		
4	Are pest-resistant and drought-tolerant native trees, shrubs, groundcovers, or their cultivars used in landscaped areas?	✓		
5	Are there "targeted", highly visible areas where flowering annuals or perennials are appropriately maintained?	✓		
6	Are the relative numbers of the prominent deciduous, evergreen, and flowering golf course trees balanced and at least 75% native species?	✓		
7	Are the maintenance facility and the course's miscellaneous "outbuildings" maintained sufficiently and/or screened from view?		✓	
8	Is there an attractive and well-maintained site amenity group (bench, washer, etc.) at least 75% of the tees?	✓		
9	Do the driving range, practice areas, and parking areas present a positive image?	✓		
10	Is the cart barn integrated into the overall landscape plan of the course or the area in which it is located?			✓
<b>Point totals for each column - Response percentage</b>		<b>8</b>	<b>1</b>	<b>1</b>

## Maintenance Practices

### U.S. Air Force GEM program goals

- Integrate the concept of ecosystem management into all course management decisions and practices
- Employ the principles of integrated pest management
- Document all activities for future reference
- Constantly examine management practices to look for improvements
- Insist on a well-trained staff



*Heavy shade and minimal teeing area limits the quality of the turf here at the par-three, eighth.*



*Heavy shade and minimal teeing area limits the quality of the turf here.*

### Observations

- Incorporate increased contour mowing procedures
- Increased training and involvement of staff on integrated pest management procedures
- Compile written pest profiles of common pest species
- Improve tree care to eliminate risk, improve aesthetics, and grow better turf
- Eliminate poorly drained, in-play areas
- Increase number of trained scouts

<b>Maintenance Practices</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Is contour mowing used to conserve fuel and increase playability and aesthetics?	✓		
2	Are there designated non-maintained or minimally maintained buffers around core wildlife habitats?	✓		
3	Are green, tee, and fairway mowing heights maintained at reasonable levels without continually stressing turf or maximizing chemical inputs?	✓		
4	Are there regular procedures in place to continually improve soil health such as organic amendments, aeration, and drainage?	✓		
5	Is there a map of the course's "hot spots" requiring special care or regular attention?			✓
6	Are there trained scouts on staff other than the superintendent to monitor turf and plant health and pest populations using scouting forms to record the type, severity, location, and treatment of pest problems and organized into a report or guide so that they can be used for future pest control solutions?	✓		
7	Are there written pest profiles of common pest species with a variety of potential control measures pre-evaluated including alterations in cultural management, biological, physical, and mechanical controls prior to treating the problem on the course?	✓		
8	Are there established and documented aesthetic and functional thresholds for insects, fungal diseases, and weeds for all managed areas to precisely and effectively manage pest populations and reduce chemical inputs?		✓	
9	Have all playing surfaces been inventoried and mapped for soil types including soil structure, nutrient levels, organic content, compaction, and water infiltration?	✓		
10	Are soil tests and plant tissue analysis used to determine nutritional requirements?	✓		
	<b>Point totals for each column - Response percentage</b>	<b>8</b>	<b>1</b>	<b>1</b>

## Customer Relations & Education

### U.S. Air Force GEM program goals

- Ensure that the customer knows that their opinions count and will be acknowledged, assessed, and acted upon
- Educate the customers about the benefits of environmentally responsible golf course management and the future of the game and the environment
- Enlist customer support and assistance on caring for the course and its facilities as well as GEM Plan goals



*The customer is always first at Gator Lakes Golf Course.*



*Continue improving overall golfing experience for the customer.*

### Observations

- Provide a more convenient, on-going method to solicit customer opinions and concerns
- Create a location to communicate environmental management goals and maintenance plan
- Involve installation youth through rules and instruction clinics

<b>Customer Relations &amp; Education</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Are the course manager and superintendent involved in a long-term customer educational program that is regularly updated and documented?		✓	
2	Is there a conveniently located and highly visible place at the course or clubhouse where golf course environmental management notices and informational messages are regularly posted?			✓
3	Do the course manager and superintendent actively communicate with customers to determine and document their points of view?	✓		
4	Is there active and regular communication with the Golf Council, Civil Engineering, Environmental Management, the Services manager, and commanders by course management?	✓		
5	Are there warning signs posted near parking lots to make highly sensitive individuals aware of the potential danger to their health and are all state posting requirements being met?	✓		
6	Is there consistent and attractive signage around the course and grounds that would increase the awareness of the average golfer to the environmental management practices employed?	✓		
7	Are there signs appropriately located to warn golfers of hazards when drinking reclaimed or otherwise non-potable water?	✓		
8	Are there interpretive signs posted to highlight key habitats or have appropriate areas been designated "Environmentally Sensitive Zones" per USGA rules?		✓	
9	Are course staff members trained regularly on how to improve their dealings with customers?	✓		
10	Are there clinics provided to teach beginning golfers the basics of the game and to teach all levels of golfers the rules of the game?	✓		
	<b>Point totals for each column</b>	<b>7</b>	<b>2</b>	<b>1</b>

## Miscellaneous Special Projects & Activities

### U.S. Air Force GEM program goals

- Educate the local community about the benefits of an environmentally responsible golf course management approach is for the future of the game and the environment
- Reach out to school children to raise their awareness and appreciation for the game of golf and the GEM Plan principles
- Further the great game of golf at all times in as many ways as possible



*A new teeing area for the par three.*



*Bird boxes are located throughout the course in non-play areas.*

### Observations

- Conduct field trips at the course for local school children
- Enlist the assistance of local city and county officials on golf course environmental planning initiatives
- Initiate Earth Day environmental awareness golf tournament
- Educate customers about the benefits of an environmentally friendly golf course
- Need to demonstrate dedication to “growing” the great game of golf to young airmen, other installation non-golfers, and youth

<b>Miscellaneous Special Projects &amp; Activities</b>				
<b>#</b>	<b>Environmental Compatibility Indicator</b>	<b>Yes</b>	<b>Partial</b>	<b>No</b>
1	Are there projects planned and funded for the next year that would communicate the compatibility of the course's management methods with protection of the environment?	✓		
2	Are there projects planned and funded to reduce the course's potential negative environmental impacts?		✓	
3	Are there fundraising tournaments planned that may provide for future environmentally-related projects?	✓		
4	Are there regular field trips for local students or other local community groups hosted at the course?	✓		
5	Are there projects planned to eliminate or minimize a potential erosion problem?		✓	
6	Does the course have a native tree installation program complete with planting plan and maintenance schedule?	✓		
7	Are any of the local schools or universities involved in educational or research activities at your course?	✓		
8	Are there special facility-wide recycling programs underway?	✓		
9	Is your course an active participant in the USAF Golf Environmental Management Program?	✓		
10	Has your facility been nominated by your MAJCOM for the golf course environmental management award in the last 3 years?			✓
	<b>Point totals for each column</b>	<b>7</b>	<b>2</b>	<b>1</b>

## ECQ Summary

#	Environmental Compatibility Quotient Category	Yes	Partial	No
1	Overall Management Philosophy & Documentation	4	3	3
2	Safety, Training, & Awareness	7	1	2
3	Compliance	6	2	2
4	Course Playability	6	2	2
5	Pollution Prevention	8	1	1
6	Conservation Practices	6	0	4
7	Aesthetics & Naturality	8	1	1
8	Maintenance Practices	8	1	1
9	Customer Relations and Education	7	2	1
10	Miscellaneous Special Projects & Activities	7	2	1
	<b>Composite points &amp; response percentage</b>	<b>67</b>	<b>15</b>	<b>18</b>

## GCEBA Results

- \* **Gator Lakes Golf Course, Hurlburt Field, FL**
  - **Actual ECQ (# of “Yes”) = 67 “Early Stages”**
  - **Potential ECQ (Actual ECQ plus “Partial”) = 82 “Showing Progress”**

## Conclusion

Gator Lakes Golf Course is one of the Air Force's best facilities as evidenced by the results of this study and, more importantly, the course being named "Best in the Air Force" for 2001. Mike Trelinek and his staff have fashioned a highly playable track that not only satisfies but also draws players back time and time again. The golf course design works well with the regular clientele while the conditioning of the course is nearly unmatched in the Air Force inventory. The clubhouse and pro shop have been recently improved and seem to function well.

Environmentally, the Gator Lakes staff has taken a supportive, yet relatively passive role. In general, they utilize environmentally sound practices, like most golf course managers in the 21<sup>st</sup> century, yet still fall short when ideas such as documentation and sharing environmental issues with the customer are broached.

## Areas needing improvement

The ECQ Summary on the previous page highlights the following areas for relative improvement at Hurlburt Field:

- Overall Management Philosophy & Documentation
- Conservation Practices

## USGA Green Section study recommendations

The course has recently had a visit from the USGA Green Section Turf Advisory Service. Their report had the following environmentally related recommendations:

- Gator Lakes G. C. should consider correcting poor drainage issues on its greens through extensive renovation
- Removal of selected trees that are shading greens number 4 and 8
- Removal of selected trees shading the teeing ground at the 9<sup>th</sup> hole
- Utilize spring and summer applications of fungicide to control fairy ring in the fairways that drain poorly
- Using mapping to help create an integrated pest management program to address weeds, especially sedges
- Generally improve surface and subsurface drainage as budgets allow
- Repair deficient pump station
- Realize potential for use of recycled water if budget allows

## The gallery

This section of the report will be where some of the more revealing photographs (of the literally hundreds taken during the site visit) of pests, maintenance practices, and other areas where improvements may be made to create the best possible golf facility.



*Drainage problem in sand bunker near the 10<sup>th</sup> green.*



*Bunker rake operator is creating drive out area in several locations.*



*Poor landscape development planning and execution.*



*There aren't many good places for formal hedges on golf courses.*



*Wear area caused by the design of the cart path and tee access.*



*Mole crickets are troublesome golf course pests at Gator Lakes.*



*Utilities do not provide a good impression at the end of the round.*



*Several cart paths show poor drainage qualities.*



*Systemic contact herbicides can clean up bunkers in no time.*



*Thankfully, fairy ring is not a common pest problem.*



*Water lilies should be controlled before they become large problems.*



*Unattractive culvert may also be a safety hazard.*

## Environmental challenges

One of the important results of the GCEBA process is the identification of significant issues or challenges that should be addressed in the long term GEM Planning process. Ideally, the golf staff will address each issue from the best way to satisfy the goals of the golf facility and acceptable levels of course playability and customer satisfaction. The golf staff's preferred management approach for these issues should then be coordinated with the installation's environmental staff for refinement, coordination, and approval.

The GEM Plan would then consist of the environmental challenges, the approach to their management, a map showing where these challenges occur on the golf course, a booklet that describes the mapped challenges, goals and objectives for future years, and a set of best management practices.



*A diverse natural wildlife population thrives on Hurlburt Field.*

The following environmental challenges were identified during the GCEBA process at Gator Lakes Golf Course, Hurlburt Field, FL:

- Audubon Cooperative Sanctuary Program
- Wetlands, watershed protection, & water quality management
- Tree management
- Invasive exotics
- Hazardous waste management
- Bird/Wildlife Aircraft Strike Hazard (BASH)
- Excessive biological oxygen demand
- Protected fauna & flora

### AUDUBON COOPERATIVE SANCTUARY PROGRAM

Under a discussion of an issue to enhance habitat for urban wildlife, the Integrated Natural Resources Management Plan (INRMP) recommends that Gator Lakes Golf Course obtain certification status in the Audubon program. Although the program is internationally recognized for its contribution to the increased environmental stewardship of golf courses, increasing wildlife habitat should not be the reason. U. S. Air Force golf courses almost should never manage with a goal to increase wildlife habitats. We can take credit for habitat we already have, but we may actually want to manage these areas to reduce rather than increase wildlife numbers. The prescribed airfield mowing procedure is a prime example. We must never forget, the mission of the golf course is to provide recreational opportunities on quality turf while supporting the overall mission of the U. S. Air Force.

## **WETLANDS, WATERSHED PROTECTION, & WATER QUALITY MANAGEMENT**

Approximately 70% of Hurlburt Field's 6,634 acres of land can be classified as wetlands. The golf course facility is surrounded by many of these specially managed lands including the 25-acre Hurlburt Lake, the largest water body on the installation and the source of the course's irrigation supply.

The sustainability and protection of the Floridan aquifer is prime environmental concern for Hurlburt Field managers. There is a recommendation from engineering consultants to utilize locally produced recycled water sources for golf course irrigation use. Unfortunately, this change will require significant outlays of funds to implement. Current estimates approach \$750K for storage tank and irrigation system upgrades. An alternative discussed in the water management study to utilize drip irrigation technology for the golf course is not practical economically or functionally.

Turf buffers, no mow, and no spray zones should be created around all Gator Lakes water bodies and all pertinent golf course staff should be trained concerning water quality issues. Slow release fertilizers should be used whenever possible. No pesticides should be applied when potentially severe rainfalls are predicted or expected.

## **TREE MANAGEMENT**

The management of native longleaf pines is a chief concern of the installation environmental staff. Several pines, most likely longleaf pines, have been

identified as creating a less than ideal turf growing situation on the course. Since Hurlburt Field is a "Tree City USA" program member, there is a specific process to gain approval for removal of any trees on the installation. If permission is obtained, three trees must be planted for each tree removed. The course has several areas where additional trees can be located.

## **INVASIVE EXOTICS**

With minimum expenditures, the Gator Lakes course can assist the installation's overall goal to eliminate invasive exotics such as Chinese tallow and cogon grass, considered one of the 10 worst weeds in the world, while greatly improving their facility and the surrounding ecosystem. Coordination with the environmental staff and a little training and education are the only aspects lacking.



*Gator Lakes' natural areas may harbor invasive exotics.*

## HAZARDOUS WASTE MANAGEMENT

By regulation, all federal facility operators are required to turn in used oil, transmission fluid, batteries, and fluorescent bulbs. Consult with the appropriate installation environmental contact for compliance directions and ensure that they are followed.

## BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH)

Nuisance wildlife species, as defined in the INRMP, include migratory birds, deer, and alligators. Each of these species can pose a threat to flying operations safety at Hurlburt Field. The golf course staff must coordinate any and all activities that affect this issue directly with the base flying safety office BASH experts. U. S. Air Force golf courses must never be connected in any way, shape, or form to BASH damage or losses.

A proposed bluebird trail where there would be approximately 30 or 40 nesting boxes distributed throughout the course is a fine example of appropriate management activities that also qualify as special projects that can involve the community's youth in golf and the environment.

## EXCESSIVE BIOLOGICAL OXYGEN DEMAND

Some of the smaller created water bodies on the course have experienced BOD problems resulting in disturbing, somewhat natural, yet avoidable fish kills. Aerators have been installed in the ponds where this situation has recurred and most of the problems have been solved. The pond on the 17<sup>th</sup> will receive an aerator as soon as funds are made available.



*C-130 shooting approaches behind the 18<sup>th</sup> green.*

## PROTECTED FAUNA & FLORA

According to the INRMP, the Southern Red Lily and Chapman's butterwort, both State of Florida threatened species, occur in the vicinity of or on the golf course grounds. A scattered population of the white-top pitcher plant, an endangered species, has been located between the golf course and the northern installation boundary.

Only three federally listed species have been discovered within or adjacent to the installation: the flatwoods salamander, bald eagle, and red-cockaded woodpecker. None have been sited on the course.

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