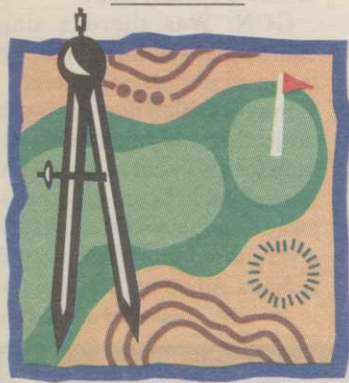


BRIEFS



**FAZIO, BARBARON FINISH EASTPOINTE**

**PALM BEACH, Fla.** — Barbaron has constructed a complete greens renovation for the Golf and Raquet Club at Eastpointe here. The project, which also included renovating the driving range and putting green, was under the direction of Tom Fazio Golf Course Designers. It was completed in less than eight weeks while remaining open.

**FOSTER BEGINS D'ANDREA RANCH**

**SPARKS, Nev.** — Construction has begun on the Keith Foster-designed D'Andrea Ranch here. The course is routed through an 800-acre site that features sweeping elevation changes. The par-71, 6,900-yard upscale facility is part of a new community. Jonathan Cohen is the managing partner.

**HARRINGTON A CHARTER MEMBER**

**LYNCHBURG, Va.** — Harrington Corp. of Lynchburg, has become the 26th Charter Member of the Golf Course Builders Association of America. Harrington manufactures HARCO brand PVC and ductile iron pipe fittings at its plant here, and operates warehouses here and in Florida and Arizona.

**New twists tried in teamwork, problem-solving**

**Adaptive Management Planning for tough issues**

*Editor's Note: This is the first of a three-part series on Adaptive Management Planning. This first article introduces the main elements to this approach to solving problems. The second will provide some illustrations of the application of this approach from the golfing industry, and the third will be answers to questions from our readers.*

By DR. ROBERT R. ABBOTT

Whether confronted with how to control a pest on the 16th fairway, or how to deal with an endangered species on the site of a new nine holes, some in the golf industry are turning to a new strategy called Adaptive Management Planning (AMP).

AMP is not rocket science, but it can be a winning alternative to the courtroom. And it can break the toughest gridlock, whether between developer and environmental regulator, or between superintendent and general manager.

How does AMP differ from other kinds of management?

Good management of people and financial resources, or real-time management, is the name of the game in the front office.

Good management of the soil, turf and water features, often with a trial-and-error approach to solving problems, is the name of the game for the golf course superintendent.

Best management practices are the benchmark for critical evaluation of how well a superintendent or manager is running their end of the business. In today's high-velocity, action-oriented business

Continued on page 36



Dennis Lyon, second from right, manager of golf for the city of Aurora, Colo., leads a contingent of people involved in new golf construction over the project site.

**'Partnering' puts project participants on same page**

**AURORA, Colo.** — The words "cooperation," "teamwork" and "collaboration" are replacing competition, conflict and rivalry as people in the golf industry embrace a new approach to project management.

"Partnering" is the latest buzz word as developers, contractors, architects and engineers are coming together before projects get off the ground to ensure their success. The method has gained popularity over the past few years as many have realized it can be a powerful aid in the timely completion of multimillion-dollar projects without litigation.

It's key to success: A charter mission

statement based on the group's goals and objectives is developed, and then signed by each participant.

Keeping new golf course developments on schedule and on budget is crucial since owners often don't realize any returns from their projects for almost two years after the start of construction. For many, the main draw of the partnering process has been its ability to increase the level of communication between all parties and create a strong spirit of cooperation. Understanding each other's goals up front allows everyone to make decisions or suggestions which complement one another.

Continued on page 38

**Smyers 'in tune' with the rhythm of life**

Steve Smyers graduated in 1975 with a bachelor's degree in business from the University of Florida, where he played on a three-time national champion golf team, won the All-American Intercollegiate Championship and played in several U.S.

Amateur championship tournaments. He worked for architect Ron Garl for eight years before opening his own design firm in 1983 in Lakeland. His first solo, 18-hole course was the critically acclaimed Wolf Run Golf Club in Indianapolis, which opened in 1989. Old Memorial in Tampa was recently voted among the top 10 new private courses in the United States by Golf Digest magazine. He is married to professional golfer Sherrin Smyers and is the father of two boys, Scott, 6, and Trent, 8.

**Golf Course News:** What is your design philosophy?  
**Steve Smyers:** Design is a multi-layered process. Each step is a building block for the next. The first step is to get a thorough understanding of the site — the vegetation, drainage patterns, soil conditions, slopes, natural elements such as wind and climate, and to understand where the powerful points of the property are, those areas where people naturally gravitate to.



Steve Smyers on site.

From there you develop a routing

plan, which is absolutely key to developing a strong golf course. If you understand the land, and come up with a solid routing, it sets up the strategy, flow, shot values. When we build courses, it's not a feature-by-feature situation. It's the entire trip, the whole 18 holes, that fits together and makes a great course. A round of golf is not just about hitting golf shots. It's the person's interaction with the landscape.

**GCN:** What is the importance of having a course like Old Memorial rated among the upper echelon of new courses in the country?

**Smyers:** The average period to develop a golf course is 40 to 42 months, from the time you are hired until the course is complete. There is a lot of hard work put into developing a course. We've had Wolf Run (Indianapolis), Chart Hills Golf Club (County Kent, England) and Southern Dunes (Haines City, Fla.) that have been very well received. It's nice to be recognized for your efforts.

**GCN:** Has your wife, an accomplished professional golfer, had an impact on your course designs?

Continued on page 34



Wolf Run Golf Course in Indianapolis won kudos for Steve Smyers.



## Adaptive Management Planning

Continued from page 33

world, thoughtful management is often replaced by a reactive, or seat-of-the-pants, firing-from-the-hip management style. Different people have very different management styles based as much on their genetic personality type as their training and experience.

Adaptive management con-

cerns managing in the face of gridlock. Twenty different people, 20 different opinions. How do you manage when there is simply not enough information available to make a good decision? How do you manage your golf course when corporate policy and your next paycheck is up against changing public policy and the regulatory community?

Although not a science, AMP has two key science-based attributes:

- It acknowledges that there is some uncertainty about the system being managed.

- The actions taken are intended to provide useful information about the problem.

Adaptive Environmental Management Planning (AEMP) is similar but really about big-picture issues. Adaptive Environ-

*In its most elemental form, AMP is an action-adjustment cycle.*

mental Management generally refers to the uncertainties of managing ecosystems.

Arguably, golf course turf is an ecosystem and many outside groups often have concerns about how golf courses affect

the environment. But academic usage of AEMP is generally limited to large-scale ecosystems such as watersheds, river deltas, fish communities and forests where socio-economic factors and public policy must also be taken into account.

Developers and environmental regulators often find themselves at loggerheads over issues related to endangered species on or near a planned golf course development.

The National Environmental Policy Act (NEPA), the Clean Water Act, and in California, Proposition 65 can not be ignored. Regulators and environmental stakeholders can put endless demands on developers and create seemingly insurmountable roadblocks in the name of sustainability. Adaptive Management Planning is an alternative to the courtroom.

The following discussion will largely focus on AMP and look at the application of adaptive management principles to the intelligent management of a golf course.

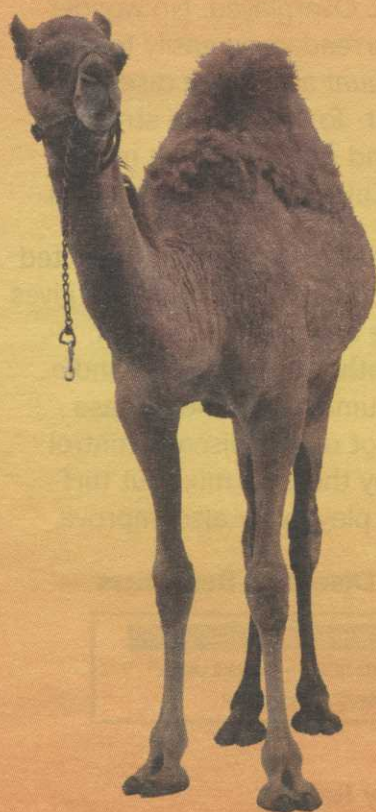
Adaptive Management Planning has its roots in system theory and theoretical engineering. Heavy stuff, but we do not have to go there. It has been distilled and reformulated for the real world. The theoretical concept has parallel expressions in American and Japanese business culture as Total Quality Management (TQM). It entered the lexicon of natural resource planners via forestry and fisheries agencies trying to arrive at optimum sustainable yield (OSY) formulas against a background of changing public policy.

In its most elemental form, AMP is an action-adjustment cycle. The manager tries something, gets some information, and then makes adjustments in their next actions that, hopefully, will achieve better results. The process is repeated endlessly. In the business world it leads to strong customer relations and responsiveness to changing markets.

If your actions are not getting the results you want, then change your actions. This is not rocket science. You do it automatically, all the time. It is a very successful paradigm of how many superintendents operate instinctively.

But let's say you have a problem and you try to fix it, but the problem does not go away. Then you try something else. If that does not work, you try something else again. In the meantime the front office is doing damage control and you are having stomach cramps about responding to some numbers that flash on your pager. Suddenly you realize you may need to go about

Continued on next page



No Water?  
No Sweat.



This Kentucky bluegrass from Jacklin Seed just keeps humpin' along regardless of how much rain has fallen in the last week or in the last month.

NuStar is a moderately dense and dark green bluegrass that stubbornly resists drought dormancy for improved recuperative ability and color even under low maintenance. NuStar also receives high marks for resistance against powdery mildew, leaf spot, melting out and leaf rust to help reduce pesticide applications.

NuStar was successfully tested in mixtures with tall fescue and other turfgrasses so you know it's versatile for sod production, landscapes and golf course roughs.

If the forecast calls for hot and dry, no sweat. Just call 800-688-SEED and find out where you can get your hands on NuStar.

**JACKLIN**  
S E E D

Simplot Turf and Horticulture

\*NTEP data available upon request.

CIRCLE #102/GCSAA BOOTH #653 & 753



## Adaptive Management

Continued from previous page

this more systematically and that you need a way to justify your actions.

You call the front office and say to the general manager, "Bill, I think we need to approach this problem from the perspective of Adaptive Management Planning. I will send you an e-mail this afternoon explaining what I want to do, and how I think we should go about it scientifically."

Superintendents are managers, not scientists, but I believe they can bring the scientific method into their management arena.

The key concepts in Adaptive Management Planning are:

1. A clear statement describing the problem and objectives acknowledging economic, social, political and sustainability factors.
2. A well-defined hypothesis that can be answered by a yes or no question.
3. An experimental design.
4. Execute the experiment with careful monitoring.
5. Analysis of the data.
6. Thoughtful interpretation of results.

Problem definition, or asking the right question, is not as easy as it sounds. "Why does the 16th fairway always look like a hog run?" is not a good question.

A better problem statement might be: "How can I control pest species X on the 16th fairway?"

Making a good hypothesis can also be challenging. The hypothesis: The 16th fairway will be greener if I improve the drainage and add more iron. If you do both at the same time you will not know as much as if you would have if you had done only one treatment at a time.

Monitoring is absolutely essential. To the superintendent who is a conscientious practitioner of Integrated Pest management (IPM), monitoring is a normal daily activity.

Monitoring hot spots, keeping good records of treatments, and an open-minded perspective on ways to maintain a healthy, balanced turf ecosystem system is what all good superintendents do anyway.

Data analysis is generally a job for a specialist. Many superintendents have strong science-based backgrounds, and others come from the fields of engineering. But generally when you have a good set of data you want to call in a consultant for a few hours to make sure the conclusions you are drawing from the data are justified. Nothing will ruin an afternoon faster than to be worrying if you are making a Type I or Type II statistical error in interpreting your data. Let the people that do that sort of thing every day work up the data and tell you how strong your conclusion is, in down-to-earth English.

The revealed beauty of AMP is the formalized approach to resolving untractable problems, and the justification for taking the time and expense to get answers that will lead to better management decisions.

For example, will a 150-foot-wide buffer will work as well as a 300-foot-wide buffer for a particular threatened or endangered species? Who knows for sure? Let's find out. How? Design a species-specific management plan that tests that question.

Run the study. Monitor the results. Have an objective third party analyze the data and make a reasoned interpretation. Knowledge is gained. Everybody, including the environment, is a winner.

Golf courses harboring species of special concern have to meet the regulatory community's demands for stewardship. Developers are often confronted with the needs to devise habitat-management plans for threatened and endangered species. How wide a buffer zone is needed? How much or how little water is needed? What kind of fertilizers are to be excluded?

The answers are usually not in text-

books, or even scientific literature. Take the AMP path to a solution.

Acknowledge that more information is needed. Involve the department of fish and game and local green organizations in your project design and then take the agreed set of actions. Costs may even be underwritten by local agencies or foundations.

Solving problems on golf courses related to the introduction of exotic pests can be very challenging.

Which treatment method works best? How much will get into the ground-water table per treatment? How do you find out?

Bring in the local water board and talk it through. Try the AMP approach to resolve complex problems in a complex world.

*Dr. Abbott is a natural resource planner with more than 25 years of experience in the assessment of natural resource information for government agencies and the private sector. He is an authority on management planning for species of special concern, and the management of ponds, lagoons and reservoirs. Telephone/fax: 415-924-8261, e-mail: abbco@woldnet.att.net, http://home.att.net/~abbco/se.html*

## One Good Turn Deserves Another...



... and Another



... and Many Others!



INTERNET HOME PAGE:  
www.woernersports.com

World Class Golf Courses  
Call for World Class Turf Professionals.

For over 45 years, **southern turf nurseries [stn]** has supplied Golf Course Projects in America, and in 30 Countries on 5 Continents. Today, partnering with ECOSHORES' 20 years of experience restoring beauty to sites with a natural plant environment, we're your LOCAL source for Turfgrass Sod • Sprigs • Native Grasses • Wetland Plants • Technical Information • Installation Services and Guaranteed Satisfaction.

We're just around the corner in Alabama • California • Florida • Georgia • Hawaii • Indiana • Louisiana • South Carolina • Texas • Virginia • Chile



**southern turf nurseries**

P.O. Box 230  
BROOKFIELD, GEORGIA 31727

1[800] 841-6413 • [912] 382-5655

FAX: [912] 382-5301



**ECOSHORES Inc.**

3869 South Nova Rd. Suite 2  
PORT ORANGE, FLORIDA 32127

1[888] 312-3967 • [904] 767-6232

FAX: [904] 756-9895