

# THREE STRIKES YOU'RE OUT!

A LANDSCAPE MANAGEMENT survey paints a bleak picture for athletic field managers. But some innovative managers are changing the scene.

by Heide Aungst, managing editor

**L**ack of community support, low budgets and over-scheduling fields are three strikes against even the best athletic field managers.

"When a field goes bad we receive negatives, but no support," says Bill Dunn, parks and recreation director in Medina, Ohio. "We're expected to have the fields in good shape."

"They just want an area to conduct their events," echoes Bob Marchesano, landscape grounds administrator at California State University in Long Beach.

Most of the field managers in a LANDSCAPE MANAGEMENT survey complained about minimal community support. But one had a different story to tell.

"It's excellent," says Harry Gross, parks director in St. Petersburg, Fla. "The leagues assist in renovations."

Gross is responsible for six acres at a softball complex, seven acres at a baseball complex and 21 acres of soccer fields. They are used about 9,300 hours year-round. "There is no off-season in Florida," Gross says.

### Reviving renovations

Every five years, Gross and his crew of five for athletic fields (18 overall) completely renovate the Bermudagrass/sand fields. The renovation includes removing the existing turf, regrading the area and

sodding or sprigging. Cost is about \$12,500 to sod; \$7,000 to sprig.

Some respondents never renovated fields. Others renovate only when problems arise. Still others have regular renovation programs.

One respondent, Rod Perry, landscape supervisor at a community college in Marysville, Calif., renovates baseball fields every two years. He spends about \$5,000 to regrade, topdress, reseed and upgrade the drainage systems.

Every five years Perry renovates football fields for \$2,500; softball every two years for \$1,000; and track every five years for \$1,500.

He says his fields are used up to seven days a week, 10 months out of the year. His crew of three spends about 20 hours a week on the fields.

Henry Indyk, Ph.D., of Rutgers University has compiled some of the first statistics on field renovation (see table). A complete field excavation and replacement costs between \$167,000 and \$223,000. Indyk worked with consultants who reconstructed high school fields in New Jersey to get his figures.

Most field managers spend well below \$167,000 for field renovations, when they renovate at all. Indyk says he doesn't have figures for field maintenance.

Maintenance budgets varied

greatly among survey respondents. School budgets often included the surrounding landscape, while park budgets included everything from public cemeteries to roadsides. Respondents said it was difficult to break out figures for chemicals and equipment used solely on athletic fields. But the average annual budget among respondents—including labor, equipment and chemicals—was \$63,991.

Budgets seemed to correlate with community support. When support was low, so was the maintenance budget.

### Injuries

Support from coaches and athletic staffs got a mixed review from respondents. Tom Rudberg, grounds supervisor at a college in St. Paul, Minn., says he feels coaches and athletic directors need information to understand the problems and procedures in maintaining and renovating fields.

"I now have the coaches and athletic director justify and budget for major work on athletic areas," Rudberg says. "If they don't like the condition of a field, then they are responsible to correct the problem. I am used as a consultant and estimator. If a project is approved, then I oversee it. If it is not approved, then it is not my problem, but the athletic director's. This makes the athletic department realize the total actual cost of their fields."

Doug Jacobs, superintendent of parks in Sterling, Ill. says his coaches point out areas which may cause injuries to players.

Most respondents agreed that ankle sprains and knee injuries are the most common natural field-related injury.

In order to prevent such injuries, managers perform a variety of cultural practices. "We aerate often in order to eliminate compaction," says Dunn. "Grass is mowed according to sport and weather conditions."

"We try to keep turf areas even and consistent," Marchesano says. "We have been replacing old brass heads with new plastic pop-up rotors."

"We have formal and informal inspections on a scheduled basis as part of the department of safety program," says Walter Stasavich,

superintendent of parks in Greenville, N.C.

#### A standard?

Respondents varied in their opinions of setting a standard for natural fields. "I would like to have a national non-profit organization (not government), research, develop, and promote standards," Stasavich says.

"I do not believe an effective determiner could be set up which would hold up in court," disagrees Gross.

"Ideally, yes, but it's not practical in our case," says Jack Cook, a high

school grounds foreman in Ferguson, Mo. "We have neither the time nor funds available to correct problems."

"Yes, it would reduce injuries and allow athlete's some consistency (practice fields vs. playing fields)," says Marchesano. "This could be done by possibly an egg drop test or some type of pressure compaction test."

Field management problems may vary between warm-season and cool-season turf areas and depending on the soil type, but most managers face the same challenges.

LM

## FIELD COSTS: NATURAL vs. ARTIFICIAL

by Henry Indyk, Ph.D., Rutgers University

### ESTIMATED FIELD COST BASED ON A 20-YEAR LOAN AT 12 PERCENT INTEREST.

#### Natural:

Principle:	\$250,000
Interest:	\$315,000
Total:	\$565,000
AVERAGE ANNUAL COST:	\$28,250

#### Synthetic:

Principle:	\$1 million
Interest:	\$1,260,000
Total:	\$2,260,000
AVERAGE ANNUAL COST:	\$113,000

(Editor's note: It's important to note that this is based on a 20-year loan . . . studies prove that artificial surfaces must be replaced after about five years.)

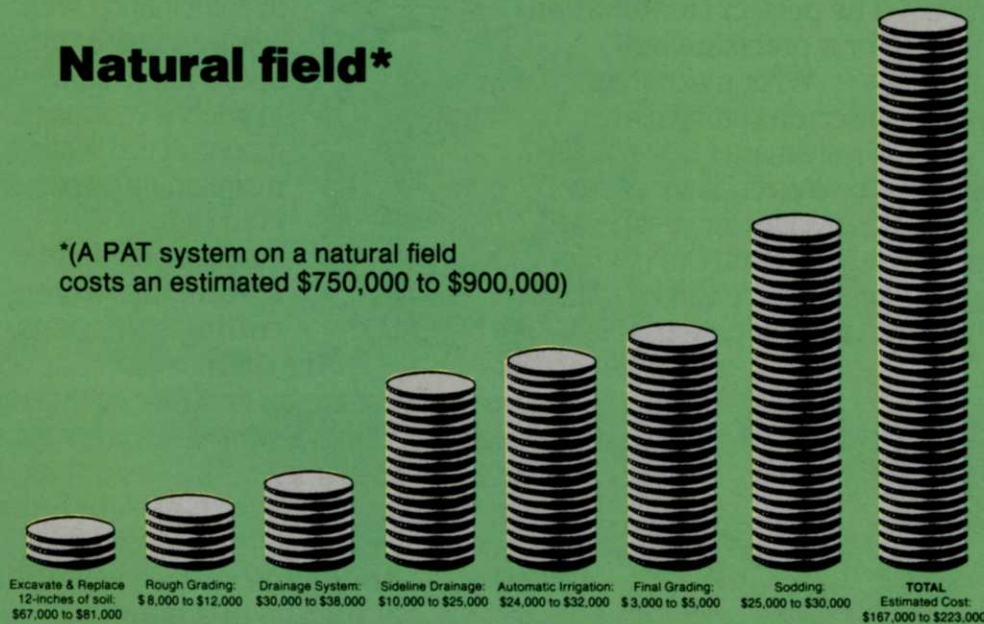
### Synthetic field



TOTAL Estimated Cost: \$500,000 to \$1.5 million  
This figure does not provide for internal drainage of the field.

### Natural field\*

\*(A PAT system on a natural field costs an estimated \$750,000 to \$900,000)





# AN OLD MASTER

Harry Wilcox uses the knowledge of more than half-a-century in the turf business to help save teenaged knees and ankles in Pennsylvania. He works his magic like the old master he is.

by Jerry Roche, editor

**T**urf consultant Harry O. Wilcox has celebrated the ninetieth anniversary of his birth. He is hard of hearing and slow of foot. But a soil probe in his hands is like a sip from the Fountain of Youth.

One day not long ago, Wilcox spryly raised the trusty custom-made probe over his head and thrust it into a small bare spot on the varsity football practice field at Warren (Pa.) High School.

"Look at that," he told a handful of observers. "That's good, loose topsoil. I've been on fields where my probe bounces right off the ground."

Wilcox takes particular interest in Warren's practice field. The cultural

practices used on the field are the same ones he suggested for Upper Merion (Pa.) High School more than 20 years ago.

John "Toby" Shea, then varsity football coach at Warren, read a June, 1965 article in *Athletic Journal*, entitled "Safer Athletic Fields." Its author was Harry O. Wilcox.

Wilcox moved to Warren in 1979 and met Shea one day in 1980, a copy of "Safer Athletic Fields" in his hand.

"I'm familiar with that article," noted Shea. "I'm glad to meet the author. We've been trying to follow the practices the article describes since I first read it."

When Wilcox and county extension agent Bernie Wingert first inspected Warren's practice field (at Shea's request), they had few suggestions.

"Harry and Bernie recommended we put tile down because we had a bad drainage problem," remembers Shea. "So we tiled along a bank next to the field and along the outside of the track's straightaway on the other side. We now also have six-inch tiles along the inside of the entire track."

In 1980, Warren varsity football players suffered exactly two injuries during practices: both sprained ankles, both occurring on the cinder track during calisthenics.

Two years later, Wilcox again visited Shea (who is a practicing athletic trainer), and again asked him about injuries. The reply: "We had to tape a few ankles due to hardness of the field during dry weather when we couldn't water the field. But we had no injuries serious enough to cause any players to miss either practice or play."

## The program

Warren is a small school district, and thus must manage fields using limited financial resources. Though varsity games are at the local municipal field which is mowed by city crews, Warren High employees must aerate, seed and fertilize that field. What money is saved goes toward improving three practice fields, especially the varsity field behind the high school.

Annual cost for materials used on the practice fields is \$440. Here is what the cultural program looks like:

**Early spring:** Aerate fields to break up compaction. After the field

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Harry O. Wilcox (left), probe in hand, believes that soil compaction is the athletic field manager's biggest problem. He shares that observation with Arden Walter (center) and Toby Shea of Warren (Pa.) High School.

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has been aerated, bare and thin areas should be overseeded with Scott's Sports Turf Seed. A seeding rate of 2 to 3 lbs. per 1,000 sq. ft. is recommended. Apply Scott's ProTurf High Density Starter Fertilizer to the entire field to stimulate early spring growth.

**Spring:** Apply ProTurf High Density Starter Fertilizer to improve root development and density.

**Early summer:** Apply Scott's Fertilizer Plus Dicot Weed Control to eliminate dandelions and 23 other broadleaf weeds while providing a full feeding of fertilizer.

**Early fall:** A couple of weeks prior to the opening of the season, apply Scott's ProTurf High Density Super Fairway Fertilizer, for thick dense turf with crowd-pleasing color.

### Other practices

"Compaction is potentially our worst enemy," says Wilcox, a past president of the Pennsylvania Turfgrass Council. "If you're on a limited budget, the best thing to use your money for is aeration. At least two times a year—the more the better. I've never seen a field ruined by over-aerating."

Wilcox recommends using open-  
spoon tines because, he says, they

penetrate into the soil up to five inches. Other kinds of tines only penetrate two to three inches, he believes.

Some turf managers put too much emphasis on applying seed, according to Wilcox. "Seed is important if you have large bare

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**ANY BARE SPOTS IN ATHLETIC FIELDS LARGER THAN THIS (4-5 INCHES IN DIAMETER) SHOULD NOT BE SEEDED, ACCORDING TO TURF CONSULTANT HARRY O. WILCOX.**

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spots," he notes. "But it just doesn't pay to seed areas smaller than four or five inches across. If you aerify and fertilizer those spots, they'll heal by themselves."

Warren High School personnel applied 50 pounds of seed to the area inside the running track, which includes the practice field, this year.

Wilcox also believes that lime should be applied according to the type of grass in use. Bluegrass

definitely needs periodic liming while turf-type tall fescue may not.

According to district maintenance supervisor Arden Walter, the fields are mowed at 3 inches during the summer and 2½ inches when football practice begins. "We don't believe in mowing too low," he says. "And the way we fertilize, we find that we've got to mow at least once a week."

Keeping the three fields playable—and safe—takes two people 30 hours per week, according to Walter.

### Constant cooperation

One of the most critical requirements of good field management is cooperation from the coaching staff.

Wilcox says that coaches should try and spread out practices. He says that Northampton (Pa.) High School uses the areas beyond the end zones of its practice field so three groups of players can each use a field 60 yards long.

Shea, when he was at the controls of the Dragon football team, didn't waste opportunities to cooperate with others like Arden Walter and Norge Luvison, director of buildings and grounds. "Men like Toby Shea are doing a wonderful job," says Wilcox. "I've never seen a coach who cared so much about his players." **LM**

# THE ONLY GAME IN TOWN

During the fall, the townspeople of Findlay, Ohio direct most of their attention at Donnell Stadium. So when the field tried to hide under mud, it was noticed.

By Jeff Sobul, assistant editor

**T**he field was only two years old. But it had aged well beyond its years. Eleven Findlay High School and Findlay College football games each year, numerous soccer games and other events, coupled with wet weather and poor drainage, had taken their toll. By the end of the second football season, in November, 1985, the Donnell Stadium field was unplayable.

In fact, an NAIA Division II playoff game between Findlay

College and St. Ambrose, Iowa, had to be played at nearby Bowling Green State University.

Something obviously had to be done.

And something was done. In addition to building a separate field for soccer to distribute field use, the Donnell field was replaced again, this time with a Prescription Athletic Turf (PAT) System perfected and patented by Purdue University professor Bill Daniel, Ph.D.

Artificial turf was considered. "It was either put in a PAT system or a similar system or go to artificial turf, which I won't do," says Jack Volkmer, business manager for Findlay Schools. "It's a horrible thing to make people compete on an artificial surface."

### A little help

Now, boasts Volkmer, "Donnell is probably one of the nicest high school facilities around." The installation cost slightly less than



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\$250,000, no small change for anyone, including a small town.

All stadium maintenance is funded by the Donnell Foundation, Volkmer says. "The money doesn't come from tax money. Otherwise, we wouldn't have been able to afford to do this." The Donnell Foundation is a fund set up by the Donnell family, former owners and operators of Marathon Oil, a primary employer in the small, industrial western Ohio town.

This major undertaking began in December of 1985. Daniel, Laurel Meade and David Heiss, who are marketers of the system, all came out to survey the field after Volkmer contacted them. (They were also in attendance for the first game on the new field.)

Excavation began in December and continued through the winter, with problems other than some occasional bad weather hampering construction. "We had some real terrain problems," Volkmer notes.

"That's built on solid rock. That's a

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At the end of the season, after 11 games, two played in downpours, there were no visible signs of heavy wear down the middle of the field.

In one off-season, the Donnell Stadium field went from a mud hole to a near perfect playing surface when the season opened in September, 1986, after the PAT System was installed.





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quarry out there," he says of the ground the field is built on.

The headaches didn't stop there. "The field when it was originally built in 1927 had an 18 inch drop-off, which nobody really knew," he explains. "When you look at the track you can see we had to move the field because it needed to be perfectly flat. One end is down and the other end is up."

### Laying it down

The PAT system is constructed with a flat subgrade and plastic barrier under a system of perforated pipes. The pipes set below a special mixture of sand, peat and nutrients. Pumps connected to the pipe system can

draw off excess surface water in minutes.

When weather cleared in the spring of 1986, the PAT people began installing the system. "We have our graduation out there (on the field)," Volkmer recalls. "By graduation, they had just put in all the sand.

"If you can imagine everybody sitting in the stadium; I mean everybody looked at me like 'what did they do to the football field?' If they could have had my ass, they would have had it. Everybody goes to the games. We've got 5,000 to 8,000 for every football game. It's like the only game in town."

Volkmer adds the pumps are only used in heavy downpours on

or near game days. This occurred twice during the 1986 season. "The first game we had just a huge rainstorm. Huge. We had to hold up the game until 8:30."

"You couldn't see from one end of the field to the other," adds field maintenance manager Chuck Andrus. His job has been relatively easy. The PAT system worked so well, the field looked as good last November, after 11 football games, as it did before the season started.

"The footing was never bad (during the first game)," Volkmer notes. "That's the key thing: the footing and the safety of the ball players."

And that's no small change either. **LM**

# RESOURCEFUL RENOVATION

Even when budgets are low, school systems can renovate athletic fields. Here's how a Philadelphia area school system tackled the job.

by Heide Aungst, managing editor

**B**are spots speckle the field. Stressed turf clumps fight to hang onto life. Twelve gym classes, a soccer league and a junior high football team trample and tear up what's left. A kid cries after a fall on the rock-hard surface. The field cries for renovation. The field manager cries for more money. The school board cries for the lack of money.

Everybody loses.

Money may be hard to come by for some school systems, but excuses are abundant. Field managers jump at the "we-can'ts" before fully exploring the "how-tos."

Every industry has tricks of the trade and corners to cut. It's possible in athletic field management, too. Just ask the Springfield, Pa. County School District. They've used almost every trick in the book, and some they dreamed up themselves, to renovate dwindling fields on a dwindling budget.

"About 35 percent of the ground on one field was bare," says Bruce Thomas, maintenance supervisor for the Philadelphia area school district. "The school was complaining about the bare ground



Bruce Thomas, Andy McNitt and Bob Scanzaroli look at the deep root system of the turf on the newly renovated E.T. Richardson field.

and the field was lower."

### Personnel

Thomas took the first step by hiring Bob Scanzaroli as grounds manager in mid-August. The school system couldn't afford to create such a position, but when the grounds

manager left for another job, Thomas made sure the replacement had the necessary turf knowledge. Scanzaroli is an '84 graduate of Penn State University.

Together Thomas and Scanzaroli consulted with the Philadelphia County extension agent, Andy

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McNitt. States differ on their approach to extension agents. In western Pennsylvania, McNitt explains, agents sometimes cross county lines depending on their specialty.

Besides seeking McNitt's advice, Thomas looked at other fields in the area that had been renovated. He consulted with managers at local Swarthmore College, where he could see results.

### Equipment

The next step was to take an inventory of the equipment the school system already had, and that which would be needed. The pair resurrected a more than 20-year-old reel mower from the grave. They got the cooperation of the local parks and golf course in sharpening the reels for free.

They did decide to replace a 30-year-old tractor with a new 40 hp version. "It was a \$25,000 expenditure from the replacement equipment budget," says Thomas. "Some school districts choose to lease them. We feel it's worth our while to purchase it. In the winter we use it to push snow."

They bought a new rotovator. The two new purchases have since been lent free of charge to other "poor" school districts which can't afford to purchase their own equipment.

### Materials

The third step was to decide which fields should be renovated and what seed and other materials would be used to do it. Thomas chose two fields to start with. A third, the varsity football field, is currently undergoing similar renovation.

The first field they chose to renovate was at E.T. Richardson Junior High School. The field is used by soccer teams, lacross, softball and gym classes. The field isn't irrigated.

"We chose rye because it enabled us to put the field in use by spring," Thomas says.

The key to the field renovations is an organic material called Earthlife. The material is made from the city of Philadelphia's sewage sludge, similar to Milorganite. The difference is that Earthlife is mixed with wood chips.

Scanzaroli renovated the field—practically by himself in five days. "That was as early as we could get the field," Thomas says. "We also got



When goal areas wear away, field renovation is necessary.

a lot of support from the school district and community.

"The first day and a half, I aerated the field more than 20 times," Scanzaroli explains. He aerated with a Westpoint aerater then dragged the field to break up the cores.

By the third day, he dumped five trailers (250 yards) of Earthlife on the field and dragged it. The next day Scanzaroli aerated and fertilized. "That allows the material to drop into the holes," he explains.

The final step was to fill in the holes with Champion perennial ryegrass mix of 49 percent SR4100, 24 $\frac{1}{2}$  percent SR 4000 and 24 $\frac{1}{2}$  percent Tara. They did this using a Jacobsen verticut seeder.

The entire project cost only \$4,300: \$2,900 for Earthlife; \$450 for seed; \$300 for fertilizer; and \$650 for labor.

### Multipurpose field

The next field, Halderman, is a multipurpose field used for varsity soccer, varsity lacross and community softball.

Because of the intense use, the school district decided to spend more money on the renovation to provide a good sand base. "But it

won't need to be renovated again for 10 or 12 years," says Thomas.

"Sand cuts down on compaction, but the particles have to be uniform or it will compact more," McNitt says. "You have to use more than 50 percent sand or it will turn into cement.

"Because it's an all-weather playing field the sand aids in drainage," adds Thomas.

During the renovation of this field, Scanzaroli rotovated the field three times. Then brought in the Earthlife and sand and rotovated again another three times. Then Scanzaroli graded the field and seeded with a special Springfield mix. The mix included Adelphi, Merit, Eclipse and Glade Kentucky bluegrass and Premier, Jazz and Fiesta perennial rye.

The field used 500 cubic yards of one millimeter sand at \$13,000; 300 lbs. of Earthlife at \$2,300 and \$690 of Springfield seed mix.

Scanzaroli and two other workers maintain a total of 83 acres of athletic fields on an annual budget of \$22,000. They plan more low budget renovations in the future.

After all, they'll admit, where there's a will, there's a way. **LM**