Tokatee Golf Course, Blue River, Oregon.

Controlling Golf Course Maintenance Costs - An Owner's View

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MY FORMAL EDUCATION is in engineering, and, in the business world, my work has been running sawmills, plywood plants, logging operations, building roads, planting trees, financing the same and fighting the bureaucrats. Many of these experiences have been important to me as a background in operating a golf course. I know the importance of controlling costs. I know how to measure them. I know also that, just like in the lumber business, I must have a saleable product, and that translates into a well-maintained and well-operated course.

I was once an 8-handicapper and so I understand the conditions good golfers want. Because of my logging background, I also know the importance of good, well-maintained equipment. I know the importance of good, well-taught labor. And I know the importance of good productivity and how to measure it.

In our golf operations at Tokatee, we never forget that we are running the course for the pleasure and enjoyment of our customers. Fulfilling their needs is the only reason for all the jobs on the course to exist. We are nothing without the customer and the member. This was one of the first things I wanted my course superintendent to understand. Another was to tell him in detail and in writing the condition I wanted and expected the golf course to be in. For example, we have a rule that no employee, including the superintendent, is ever to drive or walk past a beer can or piece of paper without picking it up. I require the superintendent to prepare annually a maintenance schedule, with fertilizers, manhours, equipment, etc., to do the job as expected. Then, we stick with it.

One of our first needs was the development of a method to control costs. We came up with a work assignment sheet, time sheet, and time worked control sheet (see *Figure 1*). With this form, our superintendent develops his daily priorities and makes his daily job assignments. When a workman finishes an assignment, he marks down the time it has taken. These figures are tabulated weekly and eventually are totaled into a yearly report (see *Figure 2*). This permits me to keep track weekly and make comparisons with prior years as well.

At the end of each year, my superintendent and I go through these manhours, one year compared to the next, in detail. When I see an increase of

hours in one area, I ask for an explanation. Sometimes the explanation is satisfactory and the increase is allowed to stand. Such a case happened with us when our electric cart maintenance costs increased. When we found that they increased not only because the usage of the carts had increased but also because we had more of them, the increase was logical. Another benefit of this kind of control is actually having a record of the number of manhours devoted to each function. Take tee slopes. Last year we spent 257 manhours doing this job. At $10 per manhour, our cost was $2,570 for the year. With this figure, we can decide whether to continue the same level of maintenance or cut it back, and how much we can save.

WE USE ABOUT 11,000 manhours per year, not counting the superintendent, but this does count golf cart maintenance and service hours. This compares, to my knowledge, with other courses that run from this up to 20,000 manhours per year, and courses that are really not any better maintained, as far as playability is concerned, than Tokatee. This, I realize, is a serious criticism of the golf course maintenance industry, but I'm afraid it's true. Most of these courses I am referring to are private clubs.

I don't know the reason for this for sure, but I have noticed, having served on the boards of several private clubs and on green committees of three different clubs, that it seems it's always easier to spend, unwisely, somebody else's money than to spend your own, and I think herein lies the secret. Also, too often I hear the comment, "Money will solve the problem." This is not necessarily true. The problem in most instances is not the green superintendent; rather, it is the green committee or the board, which change from year to year, and whose members are doctors, lawyers, CPAs, salesmen, etc. These people, who work primarily with professional people, are not acquainted with the blue-collar worker. They really don't know what the word "productivity" means, and they believe that if they spend $200,000 to $250,000 a year, they must have a course in top condition. They equate spending with good. On top of that, most of these people — and I do say this advisedly — don't really know when a golf course is in good condition.

While it is true I am speaking in generalities, I hope to stimulate your thinking by some examples of my own. To repeat, one must definitely specify, in writing, the condition in which the course is to be maintained. Then, by keeping proper records, one can keep track of costs. If it takes Joe four hours to mow nine holes of fairway, and when Joe quits you hire Bill, and Bill takes four-and-a-half hours, you, the superintendent, must do something about it. Then, when Bill quits and you get Frank, and Frank takes five hours to do the job, your manhour costs have increased 20 percent. This can happen and happen very easily. And it does happen!

Let me give you an example. I watched a tee being mowed recently. The operator drove the mower onto the tee, got off, took a walk around the tee picking up the tee markers and placing them about 12 inches out in the rough. The trip around the tee took him a minute and a half. He then mowed the tee. This I did not time. When he was finished, he got off, again walked around

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FIGURE 1

TOKATEE GOLF CLUB — **WORKMAN'S DAILY TIME SHEET**

Name — **Date**

HRS. OPERATION	HRS. OPERATION	HRS. OPERATION
GREENS	**TEES**	**NURSERY - Grass**
_____ Mowing	_____ Mowing	_____ Planting
_____ Poling	_____ Irrigating	_____ Mowing
_____ Irrigating	_____ Fertilizing	_____ Trimming
_____ Change Cups	_____ Repair	_____ Spraying
_____ Fertilizing	_____ Cultivating	_____ Irrigating
_____ Cultivating	_____ Spraying	_____ Fertilizing
_____ Vertical Mowing	_____ Ball Washers	_____ Other
_____ Topdressing	_____ Other	
_____ Spraying		
_____ Brushing	**TEE SLOPES**	**NURSERY - Trees, etc.**
_____ Other	_____ Mowing	_____ Planting
	_____ Fertilizing	_____ Spraying
GREEN COLLARS	_____ Spraying	_____ Irrigating
_____ Mowing	_____ Cultivating	_____ Fertilizing
_____ Fertilizing	_____ Other	_____ Cultivating
_____ Spraying		_____ Other
_____ Cultivating	**WATER HAZARDS**	
_____ Other	_____ Trimming	**MISC. MAINTENANCE**
	_____ Weed Control	_____ Irrigation System
GREEN APRONS	_____ Other	_____ Equipment
_____ Mowing		_____ Roads
_____ Irrigating	**BUNKERS - Sand**	_____ Service Buildings
_____ Cultivating	_____ Raking	_____ Benches, etc.
_____ Spraying	_____ Weed Control	_____ Topdressing prep.
_____ Fertilizing	_____ Trimming & Edging	_____ Paths
_____ Other	_____ Other	_____ Electric Carts
		_____ Other
FAIRWAYS	**BUNKERS - Grass**	
_____ Mowing	_____ Mowing	**TREES**
_____ Irrigating	_____ Other	_____ Pruning
_____ Fertilizing		_____ Leaf Pickup
_____ Cultivating	**WOODLAND**	_____ Planting
_____ Spraying	_____ Brush Control	
_____ Weed Control	_____ Tree Care	
_____ Dew Removal	_____ Mowing	**PRO SHOP**
_____ Other	_____ Other	_____ Garbage Removal
		_____ Clean Up
ROUGH	**SWAMPLAND OR BOG**	_____ Gardening
_____ Mowing	_____ Drainage	_____ Maintenance
_____ Trimming	_____ Weed Control	_____ Other
_____ Weed Control	_____ Other	
_____ Irrigating		
_____ Other		

the tee, replacing the tee markers back on the tee surface, again in a minute and a half. Total of three minutes of what I call wasted time, times 18 tees, equals 56 minutes — almost one hour.

You may ask, how can that be solved? Let me tell you what we do at Tokatee. We have a person who goes around and specifically changes the tee markers each day. On the days that we are mowing tees, the tee markers are placed out in the rough, or just off the closely mowed tee surface. On the days we are mowing the sides of the tees, the tee markers are placed just at the edge of the tee. In either case, the mower operator does not have to get off the mower, and rarely do we have a conflict where we mow the sides of the tees and the tee itself on the same day.

ON A GOLF COURSE, almost without exception, every job is dependent upon the method, the speed, and the desire of the individual. He first must be taught, and then he must be supervised, and then he must be taught again to make sure the job is done properly and in proper sequence and in the proper length of time. Your teaching job, as a superintendent, never ends.

As a golf course gets more play, we have to try to figure out how we can do the maintenance when the play isn't as heavy. We at Tokatee, for instance, have split shifts. The employees come back in the late afternoon when the play is light, and they can mow without interruptions. (At least interruptions are minimal.) If the play gets to the point where it is really difficult, I have given my people the authority to actually stop the play on one nine for half an hour or so, and then with that vacant spot in the course the two mowers should be able to mow nine holes in two hours quite easily — the length of time it takes a group to play nine holes.

ANOTHER COST control area is equipment. It must be good and it must be kept in good shape. The superintendent must know what it can do and the length of time to do specific jobs. Example: we have an F-10 which mows the front side of Tokatee in four hours and 15 minutes. Our F-20 does it in three hours and 30 minutes. This is a seven-gang versus a nine-gang. Also, some equipment comes with several accessories that help immeasurably — the topdresser, aerator, and sprayer are examples. But good, well-maintained equipment makes for lower costs, because it sets the tone for your total maintenance program.

Another area which is perhaps a small point, but one I feel important, is that the shop be kept clean and orderly (not fancy), with every tool put away when finished and in its place *every night*. That has been a rule at Tokatee from day one. This helps from several standpoints: (1) when a person wants a tool, he spends a minimal amount of time looking for it, (2) when tools are found and hung up every night, I don't lose nearly as many tools, therefore my

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FIGURE 2

TOKATEE GOLF CLUB - MANHOURS WORKED

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Greens	1,953	1,867	1,933	3,452	2,057	1,988	2,175	1,975.5	1,812	1,791.5	1,882	1,813
Mowing	751	813	909	1,084	874	790	824	785	828	849.5	873	848
Irrigating	595	420	433	525	236	155	228	256	82.5	144	136.5	116.5
Change Cups	195	270	251	436	498	399	397	431.5	473	354.5	370	382.5
Green Collars	77	65	95	92	118	150	125	196	153	154.5	142	128
Green Aprons	584	460	481	404	496	403	374	481	572	551	541.5	549
Mowing	463	374	425	352	398	298	301	315	350	259	289.5	276
Fairways	1,175	751	687	784	1,274	955	1,005	984	991	1,085	1,056.5	939
Mowing	533	542	386	616	689	668	685	686	650	498.5	570	487.5
Cultivating	104	16	58	74	155	111	161	152	153.5	185	222	167.5
RGH	1,037	977	700	703	654	881	1,355	1,095	1,243	1,144	1,077	1,113
Mowing	392	532	359	336	447	422	462	476	650	390.5	520.5	513.5
Other	425	251	217	231	103	342	790	475	496	566	556.5	599.5
Tees	425	447	488	446	484	469	622	691	649	772	706	694.5
Mowing	235	230	302	300	273	218	220	257.5	260	276	269.5	294.5
Tee Slopes	214	278	285	221	150	175	184	251	242	186.5	293	257
Water Hazards	140	159	147	18	74	91	61	310	168.5	69.5	98.5	94
Bunkers	559	331	469	569	421	514	482	432	724	849.5	509	600
Raking	297	262	314	432	387	358	362	352	373	274.5	374.5	409.5
Woodland	252	57	37	113	69	138	498	733.5	422.5	207	465	450
Nursery - Grass							40	58	1.5	1		1
Nursery - Trees	30	10	7				6	2.5			2	
Maintenance	1,980	2,060	2,418	2,788	3,433	2,908	2,577	2,911.5	4,334.5	3,985.5	3,832.5	3,922.5
Irrigation System	188	118	149	175	127	174	101	119	171.5	260.5	294	212.5
Equipment	990	886	1,155	1,115	928	989	735	948	1,330.5	1,298.5	1,030	1,176.5
Roads	55	113	109	55	88	53	56	41.5	88.5	76	36	32
Service Buildings	159	179	85	93	148	97	71	182	211.5	170.5	100	107.5
Benches, etc.	65	163	189	132	167	106	90	196	170.5	326	123	145.5
Topdress Prep.	28	5	5	10	5						5	
Paths	256	25	43	60	66	69	62	125	175.5	131	98.5	100
Electric Carts	155	491	505	901	1,133	1,151	1,128	1,078.5	1,376.5	1,474.5	1,840	1,890.5
Other	79	77	175	245	719	267	334	221	510	248.5	306	258
Trees	667	413	279	300	754	472	405	448	347	539.5	586	495.5
Prune & Remove	259	172	66	118	529	267	54	126	122	232.5	277.5	205
Leaf Pickup	387	239	206	181	222	194	323	298	223	305	306.5	290.5
Pro Shop										173.5	192	129
Garbage & Maintenance	203	155	158	141	167	246	118	116	120	79	100.5	48

additional visits are possible, and many clubs already take advantage of them.

Question: There is so much free advice today (from state university specialists, commercial consultants, salesmen, turf conferences, magazines, etc.), why should we *pay* the Green Section for its advice?

Answer: All that you say is true and all of this is to the good. Indeed, the more *factual* information one has, the better he will perform. But there is also an old Scottish proverb that reads, "You get nothing for nothing — and very little for sixpence." Good advice is only as good as its source. "The source" is only as good as its background, experience, and actual performance. The USGA Green Section is the *only agency in the country* devoted solely to golf course turf, its playing conditions, and its management. It has nothing to sell. Each Green Section agronomist averages over 150 on-site golf course visits a year. The total service offered to a club cannot be matched by any individual or agency anywhere in the world!

Question: Our club has subscribed to the Turf Advisory Service in the past. However, we have found the visits too general and the reports really didn't tell it like it is. What say you?

Answer: We have occasionally heard such criticism from others as well. Believe it or not, we have also been criticized for being too critical and for expecting too much. The Green Section agronomist's training is to deal with agronomic fact; the clear purpose of a Green Section visit is to offer sound agronomic advice. Sometimes it may also be necessary to consider and deal fairly with other facts and circumstances as they affect a particular situation. Nevertheless, if a club or superintendent asks specific questions relating to turfgrass science, they deserve and can expect to receive specific answers from the Green Section scientist.

Question: Will the Turf Advisory Service save our club money?

Answer: Almost anyone can study a golf course maintenance budget and soon find ways of cutting costs and saving money. The real trick is to save money without impairing the long-range quality or condition of the golf course, i.e., to spend wisely what is available. Our knowledge of golf course budgets leads to the belief that considerable sums are frequently wasted. The waste comes in a variety of forms:

A. Membership whims and requests that add little to long-range improvements but much to the budget.

B. Unnecessary equipment purchases.

C. Not purchasing *needed* equipment and labor-saving items.

D. Purchasing high-cost supplies and materials because some outside agency promises *better growth, less water use, released locked soil nutrients, eliminate tile and drainage needs, reduce labor requirements* (but doesn't get the job done), *will eliminate compaction, etc.*

Yes, the Green Section can save your club money! It will do so by strengthening the hand of the golf course superintendent, the green committee and the entire turf management operation. It will assist your club in maintaining the best possible golfing turf at whatever expenditure level chosen.

The Turf Advisory Service is being used by the biggest and smallest golf courses in the land today. Day after day, year after year, the USGA Green Section has helped advance the cause of quality turf for golf. Write Golf House, Far Hills, New Jersey 07931, for the sake of your turf management program in 1983. Remember, GOLF MAKES AMERICA BEAUTIFUL — and the Green Section plays its role every day of every year.

MAINTENANCE COSTS *(Continued from page 8)*

replacement cost is also minimal. I believe this further sets an example for the complete operation of a golf course, that is, neatness and cleanliness.

Another important item for control is gasoline. I am absolutely amazed at the sloppiness I have seen in this area. We keep track of every gallon pumped and where it goes. The tank is measured before and after gas is delivered, and is checked at the end of every month, and the inventory had better be in close balance.

Shop heat. Everyone should be using a wood stove to heat the maintenance shop, at least in the Northwest. First, you have your wood for free. You now do at least some cutting and hauling to the shop area. So, with a little more labor you can have your wood prepared on site.

I recently read an article in *American Forests** that analyzed cost of wood versus other fuels. It showed that oil, at $1.20 per gallon (perhaps higher than ours), and wood, starting with the cutting down of the tree, cutting, hauling, and stove tending, using $6 per manhour for labor costs, had the same approximate cost per 1,000 BTUs. On most of our golf courses, the trees and the material are already down, or must be cut, and must also be cleaned up. And many must spend money to take or send this material to the dump. So by this analysis, our wood is cheaper than oil. This is another way to save costs, and controlling costs is the name of the game.

TO SUMMARIZE, I believe we must have everything orderly, neat, and clean. Budget manhours for all maintenance functions. We must be organized in the assignment of work. We do it in writing so there is no misunderstanding. There is no "make-work time" and our equipment is well maintained and as modern as we can get. We go through it every winter, and we get it ready for the growing season, and we are continually looking for ways to save wasted time, as well as looking for equipment that will do the job more efficiently, which means doing the same job with a lower overall cost.

We are maintaining our golf course for the enjoyment of our customers, not to satisfy our personal ego. We are spending our money as if it is ours — or mine — which it is.

*"Does It Really Pay to Heat with Wood?" by David E. White and G. Edward Wilson from the December, 1981, issue of *American Forests.*

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