


USGA GREEN SECTION

Granted, I would think twice about applying bensulide to a weak, shallow-rooted bent/Poa green in August when every millimeter of rooting is precious. On the other hand, am I really all that worried about a little root loss, assuming it even occurs, at a golf course in Wisconsin where the new A-4 bentgrass greens possess a mass of roots growing down 12 inches into the gravel layer of a sand-based green? A bit of root loss on these

greens is the least of my worries considering the high potential for Poa annua encroachment during the cool weather of October and November.

No way is bensulide going to solve all your problems with respect to Poa annua encroachment in new greens, but why not use all the tools in the toolbox available to address this challenge? If well-timed, split applications of bensulide only prevented half of the Poa from germinating in ball

marks or aeration holes without causing significant injury to the bentgrass, aren't making the treatments well worth the modest cost and minimal effort?


Every Poa annua seed that the herbicide barrier prevents from germinating represents one less plant to cull out of the putting surface by hand the next spring...and a penny saved is a penny earned. 




Only a year after re-seeding quarter sized spots of poa annua encroach on this 40 year old nursery green despite 3 applications of Glyphosate before seeding.


Design-BUILD

- ◆ Single-point responsibility
- ◆ Full project management
- ◆ Onsite problem solving
- ◆ Continual value engineering
- ◆ No lengthy bidding process
- ◆ Efficient field modifications
- ◆ Direct client participation



*Blackstone Golf Club, #11
Marengo, Illinois*





www.lohmanncompanies.com
MARENGO, ILLINOIS
815.923.3400

LOHMANN COMPANIES

DESIGN, CONSTRUCTION & PROJECT MANAGEMENT

Results from the UW-Madison 2010 Golf Course Irrigation Use Survey

By Dr. Doug Soldat, Department of Soil Science, University of Wisconsin - Madison

In 2005, the GCSAA conducted a national survey of golf course water use. The survey found that golf facilities account for 0.5% of all water withdrawn in the US, and only 1.5% of all water used for irrigation. In general, the survey found most golf course superintendents were utilizing technology and scientific information to make decisions about how to irrigate. One of the key conclusions was that golf courses must continue to be proactive in their water conservation practices to achieve environmental and economic sustainability.

While the GCSAA survey (which can be found on the Environmental Institute for Golf web page), was eye-opening, it painted in broad strokes and grouped results from Wisconsin with ten other states, including Nebraska and Missouri which seem pretty different than Wisconsin to me from a climate perspective. So last year, I sent a letter and survey to 491 golf courses in Wisconsin to characterize the typical water use. We received 102 responses for a response rate of 21%, which was slightly disappointing. On the other hand, the GCSAA survey was returned at a rate of only 15%. The primary concern with a low re-

turn rate is the potential for sampling bias – which is the idea that the group returning the survey is fundamentally different (i.e. more conscientious about water use) than the group that did not return the survey. However, a growing body of survey research (e.g. Holbrook et al., 2007) suggests that response rates of 20% often yield statistically similar results to surveys with high response rates (>50%).

The following are some of the highlights from the Wisconsin Water Use Survey.

General Findings

- The average maintenance budget was \$370,000 per 18 holes (which ranged from \$20,000 (believe it or not) to \$1.4 million).
- The average total irrigated acreage was 65 acres. 70% of courses had kept the same irrigated acreage over the last five years, with 15% increasing the acreage, and 15% decreasing it.
- The average amount of irrigation applied was 12.6 inches per year from 2007-2010.
- The average reported cost of annual water use was \$2,656 (range: \$0 to \$28,000)

Water Conservation Practices in Place

- 87% use wetting agents on putting greens, 45% use them on fairways
- 60% handwater portions of the golf course
- 40% have partially upgraded their irrigation
- 39% have raised mowing heights
- 31% say they irrigate fewer acres – this is interesting when you consider that bullet point #2 in the “general” category above indicated that only 15% decreased the area they were irrigating.
- 14% employ a rain shut off switch
- 14% are monitoring soil moisture to schedule irrigation
- 13% are using ET-based irrigation
- 10% have recently completely upgraded their irrigation
- 10% practice root pruning
- 9% use drought tolerant landscape plants
- 7% are harvesting some water for re-use
- 6% have switched to lower water using species or varieties
- 4% conducted an in-house irrigation audit
- 4% use drip irrigation
- 2% reported “other” but did not elaborate
- 1% have had an outside irrigation audit

Irrigation Technology for Water Conservation

- 55% recently installed new irrigation heads
- 39% have recently upgrade nozzles
- 30% recently upgraded irrigation software
- 28% upgraded irrigation controller, with 19% upgrading the master controller
- 22% reported injecting wetting agents into the water
- 21% installed a new pump, with 13% installing a new pump station
- 20% added more heads, while 7% removed heads
- 12% added new lateral or irrigation main lines
- 4% indicated they had a water management plan in place



ARTHUR CLESEN INC.
arthurclesen.com

Our reputation is spreading....



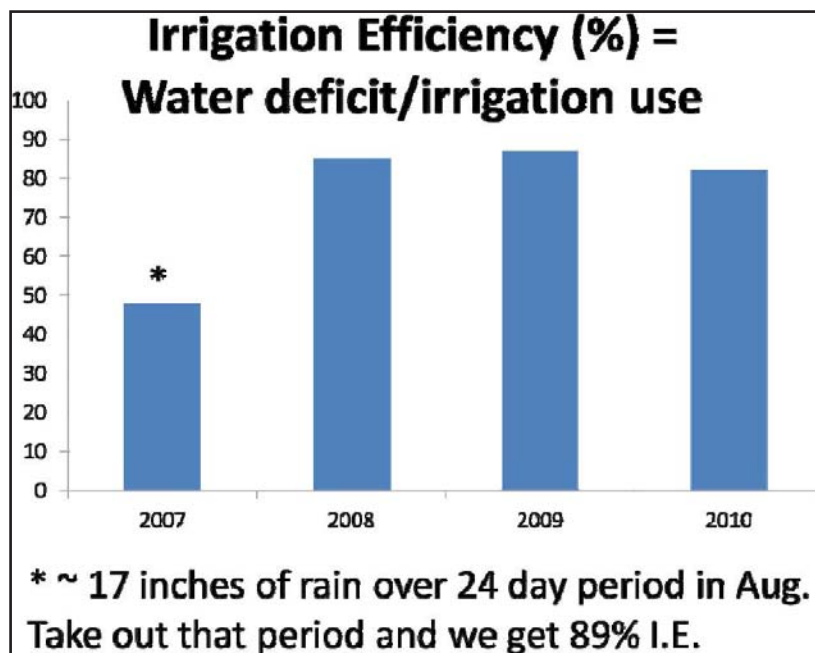
Anderson, John.....630-669-0519
Bartosh, Scott.....262-221-5524
Hamilton, Dennis..608-295-2494

WISCONSIN SOILS REPORT

It seems that there are many water conservation practices already in place on Wisconsin golf courses, including: continual updating of irrigation systems and components, wetting agent use on greens and fairways, use of hand-watering. But, what about the total amount of water used? Is 12.6 inches of water (the average amount of water applied by our golf courses per year) an excessive amount? While it's hard to know for sure, we can do a simple calculation of irrigation efficiency. I will define irrigation efficiency as summer water deficit divided by irrigation applied. The water deficit is the amount of evapotranspiration during that season minus the effective rainfall. Effective rainfall is simply the amount of rain divided by two. This is a pretty gross assumption that accounts for the fact that about half of the rain that falls during the year either drains to the groundwater or runs off before entering the soil. If you get a nice light rain, chances are all of the rain will enter the soil and remain available for plant uptake, but during a five inch rainstorm very little of that rain will be made available to the plants. So the textbooks have concluded that it's dividing the rainfall by two is as good an approximation of effective rainfall as any for this region.

Let's take a look at the irrigation efficiency of Wisconsin golf courses in 2008. We will define the irrigation season as May 1 through Sept 30. During that period we had 18.4 inches of rain. We divide that number by two to get 9.2 inches of effective rainfall. The evapotranspiration during that same period was 25.3 inches. We will assume a crop coefficient of 0.8, which brings the total ET down to 20.2 inches. So 20.2 inches of ET (or plant water use) minus the 9.2 inches of effective precipitation equals 11 inches of water deficit (basically the irrigation requirement of the turf). In 2008, Wisconsin golf courses reported using an average of 13 inches of irrigation. So the estimated statewide irrigation efficiency was 11 inches of water required divided by the 13 inches that were applied which equals 85% efficient. I am impressed!

Similarly, the statewide irrigation efficiency in 2009 was 87%, and in 2010 it was 82%. However, in 2007, the irrigation efficiency was only 48%. That year we had 26 inches of rain, but still applied 14 inches of irrigation. What happened? Many may remember that we had (in Madison at least) 17 inches of rainfall over a 24 day period. The majority of those 17 inches did not become plant available, therefore making our assumption that half of all rainfall will be available for use. When we exclude that 24 day period, the irrigation efficiency for the rest of the year jumps up to 89%.



When you use the best, it shows.

With a portfolio of products unmatched in the industry, Syngenta is a necessity for every great business. From herbicides to fungicides to growth regulators, we have everything you need to maintain healthy turf.

Contact Phil Spitz to learn more about Syngenta products.
Cell: 414-429-2015 phillip.spitz@syngenta.com

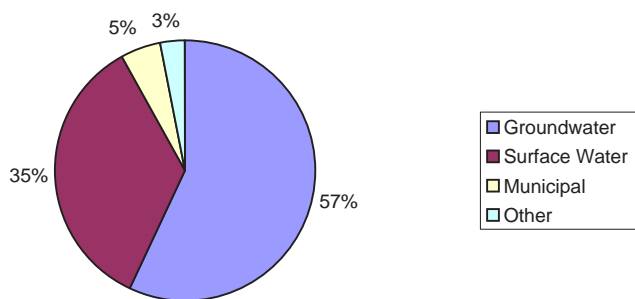
syngenta.

www.greencastonline.com

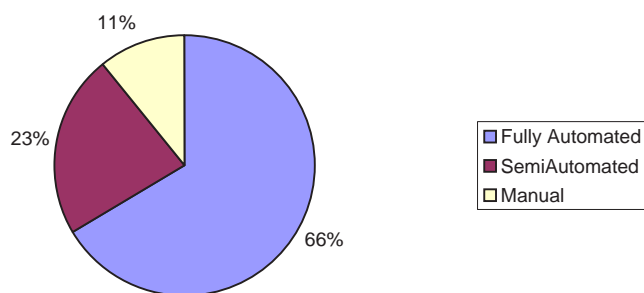
©2011 Syngenta Crop Protection, LLC, 410 Spring Road, Greensboro, NC 27409. Important: Always read and follow label instructions before buying or using Syngenta products. The label contains important conditions of sale, including limitations of remedy and warranty. Meridian®, Renown®, and Tencity® are not currently registered for use in all states. Please check with your state or local extension service prior to buying or using these products. Scimitar® GC is a Restricted Use Pesticide. Avar®. Banner MAX®. Barricade®, Concert®, Decol® LURE®, Dazol® Weather-Bulk®, Decol® Zif®, Decol® Zif®, Fungicide®, Heavymix®, Heritage®, Insecticide®, Medallion®, Monument®, Penetrol MAGNOLIA®, Primo MAX®, Prince® Liquid®, Renown®, Reward®, Scimitar® GC, Subdue MAX®, Tencity®, Trinit®. and the Syngenta logo are trademarks of a Syngenta Group Company.

WISCONSIN SOILS REPORT


Golf Course Irrigation Water Sources



Irrigation Systems



So overall, I think an 80 to 90% irrigation statewide efficiency is outstanding! There is not much room for improvement. But it's never a good idea to rest on your laurels, and the survey also revealed many opportunities for improvement. The calculation for irrigation efficiency takes into account the evapotranspiration and the available moisture in the soil (effective rainfall), but less than 15% of the superintendents were using the two outstanding tools to manage their water use. While collectively, superintendents seems to be doing a good job at intuitively getting the irrigation right, using a water budget approach which utilizes soil moisture monitoring and estimates of daily ET can make water management less intuitive and more scientific. It will also be easier to train your assistants to manage the irrigation this way.

Another opportunity for improvement is in irrigation system auditing. Only 5% of you admitted to having conducted an irrigation audit. While I am not necessarily a proponent of traditional catch-can style irrigation auditing, I think using a soil moisture meter to conduct a soil moisture uniformity audit is a very important task for maintaining consistent moisture on the course. For a detailed explanation on this process and its merits, check out my article in the September 2011 issue of the Grass Roots on irrigation distribution uniformity. I am also planning a workshop on soil moisture monitoring and irrigation auditing during the afternoon session at WTA Field Day on July 31st. Hope to see you there! 

References:

Holbrook, A., J. Krosnick, and A. Pfent. 2007. The causes and consequences of response rate in surveys by the news media and government contractor survey research firms. In *Advances in Telephone Survey Methodology*. Eds. J.M. Lepkowski, et al. New York: Wiley.

Coming Events!

Monday June 25th WGCSA Tournament, Oshkosh CC, Oshkosh

Tuesday July 31st Summer Field Day at OJ Noer Center, Verona

August 20th Joint Meeting w/NGLGCSA, Lake Arrowhead Golf Club, Nekoosa

Monday September 17th Wee One Fundraiser, Pine Hills CC, Sheboygan

Fri Oct 5th and Sat Oct 6th Couples Weekend, Edgewood GC, Big Bend

October 1, WTA Fundraiser, Ozaukee Country Club, Mequon

Tuesday & Wednesday December 4th and 5th, Golf Turf Symposium, American Club, Kohler



See how equipment and
agronomics can work together.

Only John Deere Golf offers both a full selection of golf maintenance equipment and soft goods from top name brands. Plus advice on how to pick the best of each for your course. Call us today.

Equipment Sales:
Frontier Ag & Turf,
West Salem, WI
800-950-4180

J.W. Turf, Inc.,
Hampshire, IL
847-683-4653

Agronomic Sales:
Wisconsin: Steve Wasser,
920-362-1809

South Wisconsin: Micah Wise,
262-613-2386



JOHN DEERE
GOLF

Think Ahead.

PAR 4 Research Auction Recap

By **Brett Grams**, Chapter Manager, Wisconsin Golf Course Superintendents Association

What a Spring! Hard to believe it is already late May. Almost everyone I talk to is reporting a great start to the season. I am happy to report that the PAR4 Auction is complete and we had a successful event. We will be donating the proceeds at this fall's WTA Fundraiser Outing. Over \$8200.00 was raised in our third year. Many thanks to the courses and members who participated.

The 2012 Members Handbook and Directory is at the printers. All current members will be receiving a copy in the mail. Please use the directory as a reference it contains all current data we have for the 400+ members of the association.

I look forward to seeing you at remaining events of the season. Please come and network with fellow members and your peers. Our attendance at the first meetings of the year have been very good and I hope that this trend continues.

Please have a great summer and please contact me if I can be of any assistance.



WELCOME NEW MEMBERS

Eric Bucholz SM	Waushara Country Club
Bruce Buckert D	JW Turf Inc.
John Femal SM	Stevens Point Country Club
Craig Filley SM	Nakoma Golf Club
Ryan Fritsch C	Northbrook CC
Brad Gilbertson D	River Run Golf Club
Chris Goeben D	
Brennen Herther C	Oconomowoc Country Club
Brian Holz SM	Crystal Springs Golf Club
Benjamin LaBarre SM	Legends at Bristlecone Pines
Joel Larsen C	Milwaukee Country Club
James McAdam SM	Rolling Hills Golf Club
John Meyer E	Koch Agronomic Services
Jack Meyers C	North Shore Country Club
Scott Pace E	Rain Bird Services Corp.
Ted Reiersen C	Geneva National GC
Josh Smith C	Milwaukee Country Club
Nicholas Strain D	Barenburg Seed
Matthew Sullivan SM	Currie Golf Course, Milwaukee County Parks
Eric Swenson D	
Andrew Thompson D	Davenport Country Club
Mark Wallace D	Western Lakes Golf Course
Brett Ziegler E	ProGro-Solutions



Winter Service Work
Tune-Ups
Oil & Filter Changes
General Maintenance
(Call for other repairs)

1306 W B-R Townline Rd
 Beloit WI 53511-9002
800-443-1840
 sales@wisconsinturf.com

REEL SHARPENING
 Spin & Relief Ground

Deep Solid Tine Aeration Services

Reserve your date today!
 10 Greens\$1,250.00
 19 Greens\$1,750.00

CORE AERIFICATION AVAILABLE TOO!

CHAPTER CONVERSATION

Thank You to our PAR4 Research Auction Donors!

Company	Contact
Abbey Springs GC	David E Smith, CGCS
Autumn Ridge GC*	Chad Harrington
Baraboo Country Club	Jeremy Braudt
Bishops Bay CC	Grayson Harms
Blackhawk CC	Chad W Grimm
Bull's Eye CC	Mark Kienert, CGCS
Christmas Mountain GC	Chuck Wollner
Drugan's Castle Mound *	Mike Drugan
Eau Claire CC	John Granholt
Edgewood GC*	Jeff Millies, CGCS
Evergreen GC	William J Rogers
Fox Valley GC	Scott Bushman
Geneva National GC	Kevin Knudtson
Glen Erin GC	David Braasch
Golf Courses of Lawsonia	Michael Lyons
Green Bay CC	Marc Davison
Greenwood Hills CC	Scott Sann, CGCS
Horseshoe Bay GC	Brian Ferrie
Kettle Hills Golf Course	Lee Suwalski Jr.
Koshkonong Mounds CC	James Van Sickle
Lake Breeze GC	James Hasz, CGCS
Lauderdale Lakes CC	Chris White
Legends at Bergamont	Daniel Barrett
Maple Bluff Country Club	Josh LePine, CGCS
Mascoutin Golf Club	Bruce M Livingston, CGCS
Meadowbrook Golf Club	Jeff Normandt
Mid Vallee GC	Pete VanDeHey

Company	Contact
Milwaukee County Parks	Jon Canavan
Nakoma Golf Club	Craig Filley
New Berlin Hills GC	Joel Peterson
North Brook CC*	David Marach
North Shore Country Club	Garrett Luck
Oconomowoc GC	Dustin Riley, CGCS
Old Hickory Golf Club	Lee Mahnke
Oshkosh CC	Kristopher Pinkerton, CGCS
Ozaukee CC	Colin Seaberg
Rhineland CC	Eric Eggman
Rolling Meadows GC	David Brandenburg, CGCS
Sentry World GC	Gary Tanko, CGCS
Shamrock Heights GC	Cory Kluge
South Hills Golf & CC	Jim Van Herwynen, CGCS
Spooner Golf Club	Eric Ritter
Stoughton CC	Mark Livingston
The Club at Strawberry Creek	Matt Kregel
The Golf Club at Camelot	Pat Zurawski
Tuckaway CC	James Poitz
Turtleback Golf & CC	Todd Severud
Tuscumbia CC	Mike Berwick
Two Oaks North	James Ryerson
University Ridge GC	Aron Hogden
Voyager Village POA	Steven Johnson, CGCS
Wausau CC	Randy Slavik, CGCS
Westmoor CC	Bryan Bergner
Wisconsin Club	Michael Bremmer

Special Thanks to PGA of Wisconsin / Joe Stadler for donating PGA Championship Tickets and Dustin Riley for donating USGA US Women's Open Tickets

Thank you to PGA Player Steven Stricker for endorsing our event!

* indicates multiple donations.

Wisconsin Turfgrass Summer Field Day

Tuesday, July 31st 2012



at the O.J. Noer Turfgrass Research and Education Facility in Verona, WI



Research updates occur in the morning of Field Day. In the afternoon, you will have the option to attend a sports turf or golf turf focused session. Between sessions you can experience the popular trade show and enjoy a Wisconsin-style cookout for lunch.



Research updates: Humic acids, methiozolin (Poa Cure), reduced-risk herbicide performance, soil moisture monitoring tools and technology, crabgrass pre-emergent demonstrations, fertilizer trials, compost evaluations, new Kentucky bluegrass NTEP, disease trials, Japanese beetle control, and more!



The Wisconsin Sports Field Managers Association is hosting their summer meeting in conjunction with Turfgrass Field Day. They will be visiting Verona Area High School's reconstructed stadium field.



The trade show displays a wide variety of equipment, and turf supplies/services to help you manage your maintenance program better. Get expert advice from the many helpful exhibitors.

Registration Form and additional details on back or go to www.wisconsinturfgrassassociation.org to register and pay online

Questions - Contact Audra Anderson, WTA administrative assistant, at (608) 845-6536 or ajander2@wisc.edu

Field Day Schedule

8:00 - 9:00	Attendee Registration
9:00 - 9:30	Welcome Session
9:30 - 11:00	General Turf Education/ Research Updates
11:00 - 1:30	Trade Show Only Time
12:00 - 1:00	Lunch
1:30 - 3:00	Golf Turf Education
1:30 - 3:00	WSTMA - Verona Area High School Stadium Field Reconstruction Tour
All Day	Trade Show

Registration includes:

- Donuts and coffee at registration
- Morning general turf education and research updates
- Wisconsin style cookout
- Trade show
- In the afternoon you may choose between golf turf or sports turf education. The golf turf session is at the Noer Facility. The sports turf session is sponsored by the WSTMA and takes place 1 mile south of the Noer Facility where you'll learn all about the major renovation of Verona Area High School's Stadium Football/Soccer Field.
- Become a new WTA member and receive free admission to Field Day 2012. Contact Audra Anderson for details 608-845-6536 or ajander2@wisc.edu

Turfgrass Education and Research Updates

- Compost Evaluations
- Crabgrass Pre-emergent Demonstrations
- Disease Trials
- Dollar Spot Water Volume
- Fertilizer Trials
- Fiesta Trials
- Grub Management Strategies for 2012
- Humic Acids
- Japanese Beetle Research
- Kentucky Bluegrass Varieties For Wisconsin

- Methiozolin (Poa Cure) Update
- Ocean Organics
- Reduced-Risk Herbicide Performance
- Soil Moisture Monitoring Tools and Technology
- Surfactants

O.J. Noer Facility Directions

3101 North County Road M
Verona, WI 53593
608-845-6536

From Madison Beltline Highway 12-18
Take Mineral Point Road exit.
Go West on Mineral Point Road 1 block to South Junction Road (also called North County M)
Turn Left on South Junction Road (North County M)
Go 1 mile to roundabout
From roundabout, go South on South Pleasant View Road (also called North County M) 1.5 to O.J. Noer Facility



COST

These prices are for preregistration if postmarked by July 25. Add \$5 if mailed after July 25 or for onsite registration.

WTA member	\$30.00/ea	x # attending	_____	=	\$ _____
Non WTA member	\$35.00/ea	x # attending	_____	=	\$ _____
					TOTAL \$ _____

**Mail check to O.J. Noer Turfgrass Research / 2502 Highway M / Verona / WI / 53593
or register online with your charge card at www.wisconsin-turfgrass-association.org
Contact Audra if you have any questions at 608-845-6536 or ajander2@wisc.edu**

Name of Registrants: _____

Company: _____

Address: _____

City: _____ State _____ Zip _____

Phone: _____

Email: _____

Leavin' Your Mark

By Jeremiah Hoffmann, PGA Golf Professional, Rolling Meadows Golf Course

An important task that is often shared between the golf professional and the superintendent is marking the golf course. At Rolling Meadows this really depends on the timing of the event. The person that marks the course is usually the one with the more "open" schedule. As we know, "open" is a very relative term. I will be the first to admit that often times David is the one that has the responsibility at our club!

At this point, a few thoughts might be going through your mind: 1) Our regulars don't play by the rules anyway, so why bother? 2) Why is this important? Or, 3) I understand the importance, but where are you headed with this?

In basketball, the boundaries are easily defined. Everyone knows where the out of bounds lines are, where the half court line is, the free throw line, the 3 point line, even where the coach's box is located. You could say the same about base-


"An Unmarked Golf Course is similar to a basketball game being played on a plain wooden floor."

ball, football, or any other sport.

An unmarked golf course is similar to a basketball game being played on a plain wooden floor. No one would know where the out of bounds are, what is a 3 pointer or a 2 pointer. So, what is the point? It's very important that we have our golf courses marked as often as possible. More importantly, I think it's very important that golf professionals and superintendents have many discussions about how their golf course is marked. Some things to consider: Are there safety concerns that would merit an in-course

out of bounds? Can we mark an area a lateral hazard to speed up play?

Would a drop zone clear up rules questions and allow players a similar drop? And there are many more situations that are unique to your golf course. By discussing how the golf course is marked and sharing the responsibility, you are ensuring that your customers are playing on a well defined course.

As always seems to be the case, the more you communicate, the easier things become. Extending that communication to your better players and most active members may also help you mark the golf course in a way that makes the course the most playable for everyone. Take the time to discuss when and how the golf course will be marked and your customers will see that you understand the importance of the rules of golf. Maybe, just maybe, they will even start to play by them! 



Environmentally Protected Areas need special consideration when marked. Lines should be as close to the hazard as possible and stakes should have a green top to them.



Drop zones are used to ensure all players have a drop of equal or consistent conditions.