Bringing a Putting Green Back to Life

Success is measured as much by one´s response to a crisis as one´s ability to avoid a crisis.

BY JIM SKORULSKI AND ADDISON BARDEN

After saltwater flooding from hurricane Sandy, Bill Morton and Dean Bozek assess damage and begin to formulate recovery plans for the 13th green at Misquamicut Club in Watch Hill, R.I.

Putting greens are living systems. Like all living systems, they are impacted by biological factors and a variety of stresses. Despite even the greatest efforts from superintendents, putting green turf occasionally does die. Every superintendent who has been in the business long enough will have dealt with the trauma of experiencing putting green damage. The pressure to restore damaged greens can be immense; after all, putting greens are the lifeblood of any golf course.

Successful recovery programs do not happen by chance. The recovery process requires a well-thought-out plan of action that is appropriate for the level of damage, but the plan must also be successfully executed. This article will take a closer look at different levels of putting green damage and the processes used to formulate and implement a successful recovery plan.

SEVERITY OF DAMAGE

Estimating the severity of damage can be challenging, but it is an important part of formulating a recovery plan. The level of damage will determine the appropriate recovery strategies. For the purpose of this article, putting green damage has been categorized

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into three levels. Appropriate recovery strategies for each level also are recommended:

LEVEL I

Size of damage: Small areas — i.e., no larger than a foot in diameter — of turf decline and loss. The damage does not directly impact putting quality near hole locations. Several areas may be damaged, but each area is small.

Potential causes of damage: Animal foraging, fallen tree or limb, equipment, golfer divot, aggressive scalping of the turf canopy, etc.

Recovery options: Various forms of plugging, sodding with a manual sod cutter, spiking and seeding, or natural regrowth if the damaged area is small enough.

Closure and traffic management: Likely not needed because the damage is small and reparable with relatively non-disruptive recovery methods. However, seeded areas will require special care prior to mowing.

Special considerations: Depending on the turf species, areas that are plugged might be visible for several months.

Repair tools such as manual sod cutters, spikers, and hex or small-diameter pluggers should be on hand for quick repair. Plugs can be taken from a nursery green or the perimeter of a putting green to maintain turf uniformity.

LEVEL II

Size of damage: Areas larger than a foot in diameter or width and impacting less than 50 percent of hole location areas. Also includes small areas of damage that are widespread across a putting green.

Potential causes of damage: Cold-temperature injury, disease, insect injury, abiotic stresses, vandalism, etc.

Recovery options: Sodding, large-scale plugging, spiking, and seeding.

Small-diameter damage can be quickly repaired with a plugs and sand topdressing without disrupting play.

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Diffuse areas of damage away from hole locations or small areas of damage in areas used for hole locations can sometimes be repaired with minimal disruption to play.

Closure and traffic management: Anticipate some disruption to play. Avoid placing hole locations in damaged areas and treat them as ground under repair (Rule 16) until fully healed. Minimize traffic in the damaged areas for as long as possible.

Divert traffic with rope lines or provide a plywood walkway in heavily trafficked areas such as entry and exit points. In some cases, placing ball retrievers near recovering areas can help golfers retrieve their balls without stepping on newly sodded or seeded turf.

Special considerations: Source enough sod to patch all damaged and thinned areas to achieve surface consistency.

Large areas that have been repaired from seed or sod will be visible and more susceptible to stress until they fully mature. If Level II damage occurs, the entire putting green should be treated with care until the recovering areas are fully established.

LEVEL III

Size of damage: Large areas of turf loss or damage to more than 50 percent of available hole locations.

Potential causes of damage: Cold-temperature injury, flood damage, summer decline, etc.

Recovery options: Sod, seeding, or sprigging

Closure and traffic management: Putting greens with Level III damage will likely require complete closure because of a lack of useable hole locations. Even in situations where half of the hole locations are still useable, increased traffic in areas that have not been damaged will likely lead to additional turf decline or loss. For proper recovery, temporary greens are recommended for this level of damage.

DEVELOPING A PLAN

Once damage levels and recovery options are defined, a recovery plan that addresses common turf loss situations should be developed. Include recovery plans in standard operating procedure documents so procedures and expectations are clearly communicated.

The formulation of a recovery plan will depend largely on the degree of the surface damage and the time needed to bring the greens back in play. It is critical to estimate the extent of the damage as early and as accurately as possible. This may require early sampling in some areas where turf has not yet broken dormancy. Recovery plans for Level II and Level III damage usually involve seeding programs or the use of sod or sprigs. Each option has its pros and cons, so it is important to determine which is best suited for your situation as early as possible.

PLANNING A SEED RECOVERY PROGRAM

Seed germination and establishment are mostly driven by temperature. In-

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Widespread damage that affects more than 50 percent of hole location areas requires significant recovery efforts. Severely injured greens will likely need to be closed for major recovery work using seed or sod.

clude methods that promote favorable soil temperatures — i.e., 60 degrees Fahrenheit or higher — in recovery plans. Methods to raise soil temperature could involve the use of clear plastic drop cloths, permeable agricultural or turf covers, or darkening agents. Plan ahead to ensure that you will have access to enough cover material should damage occur. Check to see if covers can be borrowed from other golf facilities or consider purchasing some covers as an insurance plan. Also, check with your topdressing suppliers to see if they provide darkening agents such as black topdressing sand. If you decide to use a darkening agent, determine how and when it will be used.

Seed placement is also critical to achieve good germination. Recovery plans should provide the steps used to prepare a seedbed and outline seeding procedures. Include the equipment and personnel that will be used in the plan. If seeding cannot be accomplished with the equipment you have available, check in advance to see if it can be borrowed. You may also be able to identify contractors in your area that provide seeding services.

Often, more than one seeding event is required to achieve complete recovery, so recovery plans should account for multiple seedings. Plan to use less-disruptive spike or drill seeding equipment or hand spiking tools to minimize damage to establishing plants.

PLANNING A SOD RECOVERY PROGRAM

Sod offers the fastest route to recovery and is usually the most practical choice for greens with Level II and Level III damage that need to be put back into play quickly. However, using sod can be difficult. Complications of using sod include difficulty maintaining surface uniformity and potential for soil-layering issues. Whether patching isolated weak areas or repairing extensive damage, using sod requires considerable planning.

The first and most important consideration when using sod is its source. Sod can be sourced from a putting green nursery, existing greens, or a commercial grower. Using sod from a well-maintained nursery is desirable for patching or plugging work. An effective recovery plan should reflect the amount of sod available from on-site nurseries. It should also include contingencies for sourcing sod from other greens or commercial growers in the event of extensive damage.

Commercial sod may be the only viable option when widespread damage occurs. Selecting sod is a critical component of any such recovery plan. Factors to consider include the availability of sod and the grass species and cultivars that are offered. It is also important to consider the parent rootzone material of any available sod. If the sod's rootzone is incompatible with that of your playing surfaces, it may need to be washed. Ideally, sod

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should not have an excessively thick thatch layer. Quality sod can be in high demand, so it is advantageous to establish relationships with sod growers before you experience severe damage.

Plans for recovering from Level III damage may involve regrassing entire putting greens. Such extensive work provides an opportunity to address other deficiencies in a green complex, so consider including drainage projects, green expansions, surface restorations, regrading work, or even complete green reconstruction in recovery plans. At the very least, remember to plan adequate time and resources for sod removal, surface preparation, and sod installation should Level III damage occur. Also, make sure to establish in your plan an appropriate timeline for plugging and patching work that identifies who will be responsible for completing the work. Plans for large-scale regrassing projects should also consider the potential scope of any work that may need to be done. The plan should provide guidelines for determining what can be accomplished in-house and what is best achieved using a contractor.

PUTTING GREEN CLOSURE AND TRAFFIC MANAGEMENT

Deciding to close a putting green or control traffic can cause controversy, but these decisions are important components of any recovery plan. Ultimately, the level of damage and the recovery method employed will help dictate decisions about putting green closures and traffic-management measures. Unfortunately, unpredictable weather conditions make it difficult to define recovery periods. When seeding, anticipate a minimum of 60 to 80 days before a severely damaged surface is mature enough to tolerate traffic. Although variable, expect approximately four to five weeks before sod repairs can be subjected to normal traffic.

Pressure will mount to reopen putting greens as they begin to show signs of recovery. In your recovery plan, provide some basic guidelines that establish when damaged greens can be reopened and how traffic should be managed over newly sodded or seeded surfaces to minimize the risk of further injury. Consider the number of rounds to allow on recovering greens and establish plans to proactively close putting greens if the recovering turf show signs of decline or stressful weather occurs. Traffic problems associated with prematurely opening recovering putting greens are common causes of delays and failures. Clearly identify in your recovery plan who will be given the authority to make decisions about opening and closing putting greens.

Sod harvested from an on-course nursery or another putting green is preferable for patching and repair work in areas where surface uniformity is important.

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COMMUNICATION

Arguably, the most important component of a successful recovery is communicating before and during the recovery process. Putting green closures are never desired, but clearly defining the purpose behind closures will help facility managers communicate their occasional need to golfers. During the recovery process, weekly memos to golfers can help update them on the recovery progress and when to expect recovering greens to be reopened. Remember, there will always be pressure to open greens as early as possible. However, stay strong and focused on completing the recovery program. Avoid prematurely opening greens to ensure the best quality and most durable playing surfaces going forward. Recovery is one time when patience truly is a virtue.

TIPS FOR RECOVERY SUCCESS

- Evaluate and categorize the level of damage on each putting green as early as possible.
- Determine which recovery methods are most practical for each putting green.
- Secure seed, sod, covers, seeding and cultivation equipment, or other materials as early as possible.
- Work some level of flexibility into the recovery plan for poor weather and other unforeseeable events.
- Try to establish quality temporary greens and establish guidelines to determine when and how to reopen putting greens.
- Include post-establishment management procedures for juvenile turf established from seed or sod in the recovery plan.
- Provide regular updates on the recovery progress.

Plastic drop cloths, permeable covers, and darkening agents may need to be included in a recovery program to elevate soil temperatures and promote seed germination in cold climates.

- Try to make a positive out of a negative situation by using the recovery process to address other issues that contribute to poor putting green performance. Doing so will provide long-lasting benefits.

CONCLUSION

Unfortunately, putting green turf loss is something that can happen despite your best efforts. Remember, successful recovery programs do not happen by chance. The recovery process requires a well-thought-out plan of action that is appropriate for the level of damage, execution of the plan, and regular communication with course officials and golfers. Take advantage of the opportunity and stay positive. Repairing damaged putting greens provides you with an opportunity to demonstrate your expertise and value at a golf facility.

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