state golf course associations. A plan that is four fold in its current rough draft: a two page 'white paper' describing typical and responsible irrigation upon golf courses, a more in-depth reference manual to be used as a resource for all environmental initiatives moving forward, BMPs to be shared with all golf courses encouraging the most practical management tools currently available and last but of most importance, a site assessment template to include immediate reductions in permitting where applicable and a staged crisis management plan to be implemented should individual clubs be required to by the DNR.

The end game as you have read is to generate a plan of self-regulation through staged reductions to prevent the total elimination of any golf club's water source.

It was interesting to learn early in the general review process that many golf courses are permitted for significantly more gallons of water than they actually use…even in a year of drought. This begs the question, are water allocation projections estimated by the DNR based upon permitted totals or actual usage? If the former, than each club must take a hard look at their actual need for total gallon use in a monthly and annual basis.

What if in the initial self-regulation negotiations (actually a rather inaccurate word for we are at the mercy of the DNR regulators) the golf industry, in general and across the state, arrived at the table with an immediate cut of 5 percent from the total amount permitted for golf course irrigation? As the first industry to ***ever*** pursue a reduction, much less self-regulation, we would be setting a precedent well worth consideration.

Imagine the surprise of the water-regulating agency when the golf industry presents a staged plan of water reduction, when called upon, with the goal of never loosing the ability to water the fine playing surfaces. Consider this idea of an example program… and bear in mind that it is rough, unapproved and still in the formative stages… each club crafts its own crisis management plan reducing water use upon their course in areas of the Superintendent's choosing based upon staged increments of 6%, 6%, 6% and 2% every thirty days and not to exceed 20%.

What if this self mandated accountability, supported by all golf-allied associations, state agencies and local authorities indicated such progressive thinking that specific exemptions were created to protect golf destinations from unreasonable regulation. Imagine how helpful this solidarity would go when other issues such as nutrient fate and pesticide use come under the scrutiny and predation of uninformed sectors of society.

Here is the catch though…the MGCSA needs everyone, yes everyone including those who are not currently members of the Association, to participate in this endeavor. This isn't a membership rally cry, this is a true "come to Jesus" as without the majority…over 90 percent of all courses buying in the proposal… our industry could meet some hard opposition.

Am I scared of golf loosing its access to irrigation water? Yes! Too the point of embarrassing myself? Well maybe not so much, as I believe in the power of the Association as leaders in this initiative and the respect we have garnered as stewards of the environment.

I'd like to think that we are the sharks in this tank!

A Good Year For B

by Peggy Boike, Bluebird Trail Monitor at Chisago Lakes Golf Club

Bluebirds have been in the news lately - record numbers of young bluebirds were reported all around the state this year. And, that's certainly the case for the bluebird trail at the Chisago Lakes Golf Course in Lindstrom, as 71 new bluebird chicks fledged from 13 nest boxes, an average of 5.5 chicks per nest box location. This is the highest number of fledglings since I took over as the bluebird trail monitor in 2007 - not bad, but could be better.

I report my statistics every year (eggs laid, eggs hatched, young fledged) to the Bluebird Recovery Program of Minnesota (BBRP). In 2011 the BBRP received 525 reports from Minnesotans, including 38 from golf course trail monitors. If you monitor bluebird houses, whether on a golf course or elsewhere, BBRP would like to hear from you. To learn more about this organization and the work it's been doing since 1979 to help the bluebird, visit their website at: bbrp.org.

The 2012 season at Chisago

rates is how many boxes actually attract bluebirds. This is where the "fledged per nest box location" statistic is important to consider. A good rule of thumb is that if a location (usually a pair of nest boxes) has not attracted bluebirds for two years, it's time to make a change. Sometimes moving a nest box a short distance will do the trick.

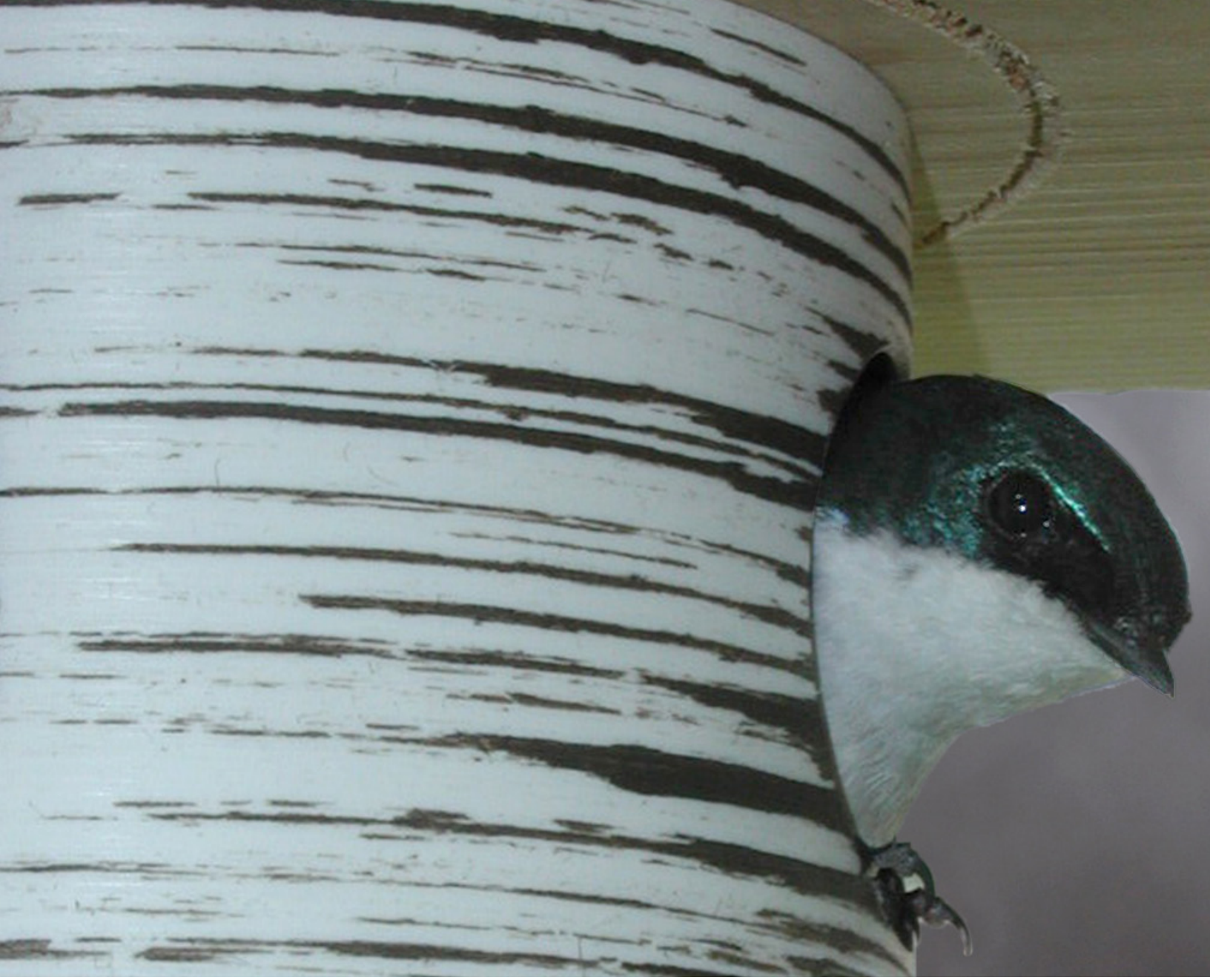
For example, a pair of nest boxes on the course was located in what I thought was perfect bluebird habitat. Tree swallows nested there in past years, but never bluebirds. At the BBRP Expo in April, I learned that bluebirds like to be at the highest elevation in the area, so I moved the pair of boxes from the side of the knoll to the top, and that was all it took to attract a nesting pair of bluebirds. That helped to increase my "fledged per nest box location" value.

What else can impact that value?

Opposite: Building the nest. Below: First born of four.

Lakes GC started earlier than usual, with the first bluebird egg being laid on April 17th, nine days earlier than last year. That pair of "early birds" nested three times this year, an unusual occurrence this far north. Typically, the nesting season in our area is long enough to support only two nestings.

Another aspect of a bluebird trail that obviously contributes to higher fledging



Predators are always a concern. The nest boxes on my trail are mounted on BBRP-recommended polished metal conduit poles, but some kind of predator occasionally gets into a box. Stovepipe predator guards have helped, but in several cases, I believe the boxes were mounted too close to an object - in one case a short out-of-bounds stake from which a predator was able to leap onto the box. I moved them further from the objects, which apparently fixed the problem.

Each year brings new challenges to a bluebird trail monitor. Next spring I may have to move a nest box that has been very productive in the past, because it's located in an area where small evergreens were planted for future landscaping needs. But the trees have grown, and it is no longer a suitable nest box location.

Golf courses have a limited number of suitable nest box locations.

the box in the evergreen area. When the trees are transplanted elsewhere on the course in the future, I can mount a nest box there again.

When nesting season is over, I take down the boxes and store them over winter, but I delay doing this task until late October for a very important reason. In late summer and early fall, bluebirds repeatedly lead their young back to the nest boxes around the course, apparently teaching them how to find suitable nest cavities of their own. This interesting behavior is fascinating to watch.

Let's hope next year's bluebird season will be as great as 2012 was!

Opposite: A pesky neighbor. Below Gene Rabel moves a nest

Ideally, boxes should be placed at least 1,000 feet apart to accommodate bluebirds' territorial requirements. Installing too many boxes for the property size is counterproductive. Also, they should not be placed where they might interfere with golfers or grounds maintenance personnel. Sometimes the only option is to remove a nestbox, and that may be the case with

Imprelis: What You Don't Know Will Cost You

by John E. Lloyd, Ph.D. and Manuel Jordán, B.S., ISA Certified Arborist

Imprelis® herbicide has killed over a million trees in urban landscapes, parks and golf courses throughout the United States. Many golf course superintendents and managers are unaware of the long-term impact on their own courses. Damage caused to trees by the herbicide can be in the millions of dollars for just one 18-hole course. DuPont and its product distributors are assisting property managers with claims and are paying to replace trees that were killed or to 'treat' damaged.

DuPont contracted with tree care companies throughout the United States in fall of 2011 to evaluate trees on impacted properties. And, based on the replacement formula DuPont developed, have offered most claimants settlements based on that initial evaluation. For most properties, most with less than 5 trees, the settlements are very reasonable. However, as we discovered during the 2012 growing season, properties with large numbers of trees, such as golf courses, stand to lose more trees to the herbicide over time than those that were identified as damaged in fall of 2011.

Figure #1: Dead tips on a Black Hills spruce (Picea abies 'Black Hills') impacted by the herbicide Imprelis®.

Without a re-evaluation of trees inventoried by the DuPont contractors, golf courses could be short changed significantly by the proposed settlements.

Figure #2 Dead terminal buds on a Colorado blue spruce (Picea pungens) impacted by the herbicide.

What can golf courses do?

Step #1: Did we use Imprelis®?

Identify if your staff or a contactor used the Imprelis® herbicide in 2011. Imprelis® was only available in 2011 and was subsequently taken off the market. Your land care manager and any contractors your staff hire are required by law to list what herbicides are used where and at what time. Look though those records and see if Imprelis® is listed on any treatments. If it isn't breathe a sigh of relief.
If it is, identify the areas that were treated and plan to examine the trees and shrubs along the fairways and in any rough areas that may have been treated. If you did use Imprelis® and also had a DuPont contractor evaluate your trees, plan to do a cursory re-evaluation. Carefully examine the trees on the original survey as well as trees in the same treated areas that may not have been listed by the contractors.

Step #2: What are we looking for?

Since it is winter don't bother with the deciduous trees (those with leaves), instead look at the conifers (spruce, pine and arborvitae) to see if there is damage. Most conifer damage occurs on new tissue at the end of the branch tips.

Figure #3: Fused needles on a Colorado blue spruce (Picea pungens) impacted by the herbicide Imprelis®.

On spruce (Colorado, Norway and Black Hills) the damage can range from entirely dead tips to just dead terminal buds. Also look for distorted, misshaped or otherwise abnormal needles and twigs. Needles fused together, twisting and curling of needles, along with tumor-like gall formations on twigs are three indicators of Imprelis® damage on spruce. (Figures 1-5 illustrate damage associated with Imprelis® on spruce.

Above: Figure #4: Twisted and curled needles on a Colorado blue spruce (Picea pungens) impacted by the herbicide Imprelis®.

Right: Figure #5: Twig tumors (galls) on a Black Hills spruce (Picea abies 'Black Hills') impacted by the herbicide Imprelis®.

Below: Figure #6: Distorted needles and dead terminal buds on a) Austrian pine (Pinus nigra), b) Ponderosa pine (Pinus ponderosa), c) Red pine (Pinus resinosa), d) Scots pine (Pinus syvestris) and e) Eastern white pine (Pinus strobus) impacted by the herbicide Imprelis®.

On Austrian, Red, Scots and Ponderosa pine the most common symptoms are dead terminal buds and twisted and distorted needles. Arborvitae damage appears as distorted scales at the terminal end of the needles as well as reddening of the impacted tissues that eventually turns a grayish-tan color as it dies. (Figures 6-9 illustrate damage associated

with Imprelis® on pines and arborvitae.) The symptoms indicate that the trees were impacted by the herbicide. More thorough examinations in the spring will be necessary to determine the extent of the damage as well as whether or not the trees will survive or be permanently deformed.

Above: Figure #7: Close-up of distorted needles on Arborvitae (Thuja occidentalis) impacted by the herbicide Imprelis®.

Left: Figure #8: Close-up of reddening needles on Arborvitae (Thuja occidentalis) impacted by the herbicide Imprelis®.

Below: Figure #9: Close-up of dying needles on Arborvitae (Thuja occidentalis) impacted by the herbicide Imprelis®.

Step #3: How are we going to deal with this in 2013?

Develop a plan for evaluating the trees in 2013 and connect with your attorney to see what options are available for submitting a claim in 2013. If you've submitted claims, have your attorney negotiate with DuPont over adding trees or changing the status of

trees from the 2011 survey. Impacted properties have until December 31, 2013 to submit claims for damage due to the application of Imprelis® herbicide.

Keeping Track:

While the problems caused by the use of Imprelis® are massive, DuPont is negotiating in good faith with properties that were impacted by using the herbicide. Unfortunately, Since Imprelis® was a brand new product, neither DuPont nor the Universities or government agencies know how many years the damage to trees will continue. Developing an inventory of affected trees is the first step to making sure that every damaged tree is accounted for in any settlement and that each impacted tree can be monitored over the next several years to see if decline continues.

Inventories can range from hand drawn maps to computer generated maps with GPS coordinates. What golf courses can use is dependent on the size of the property, number of trees and labor available to assist with damaged tree identification. Photographs of damaged trees must also be included with the inventory. When claims are submitted photographic evidence is required to support the addition of new trees to the surveys that were completed in fall 2011. In cases where tree decline has continued, DuPont may also choose to send their contractor to revaluate the based upon the new reports that are submitted.

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