

General Frost-Freeze FAQs

Groundwater Pumping:

- 1) Why do farmers use water to protect their crops during frost-freeze events?
 - a. During frost-freeze events, farmers spray water onto their crops to protect them from the cold air temperatures. The water freezes onto the crop, a process that releases heat and provides the necessary warmth to protect the crop from the harsh freezing temperatures that could cause damage. This method of frost-freeze protection is a best management practice for the strawberry, citrus and other industries.
- 2) Are strawberry farmers the only group who use extra water during a frost-freeze?
 - a. No. Many agricultural groups use extra water during freeze events. Citrus, blueberry, fish farmers and nurseries, as well as some other agricultural activities use additional water for cold protection during frost-freeze events.
- 3) How does the District calculate the amount of water that farmers may use during frost-freeze events?
 - a. The District bases its water use permits and frost-freeze quantities on research and published information from the University of Florida's Institute of Food and Agricultural Sciences on how much water is needed to protect crops during frost-freeze events.
- 4) Are farmers responsible for damage caused by their groundwater pumping?
 - a. All water use permits have conditions that hold the permit holder responsible for any damage caused by his/her water withdrawals. In the Dover/Plant City area, the District created mitigation areas in 2002 to identify which permit holders would be held accountable for properties with wells that pre-date the farming activity's water use. If a well within that permit holder's mitigation area is unable to draw water as a result of permit holder withdrawals and the well predates the farming activity, the permit holder is required to provide water to the affected well owner and to repair or provide reimbursement for the well.
- 5) Are there other methods that farmers may use to protect their crops?

- a. Alternative methods of frost-freeze protection are available. Some examples include tree insulation, cloth covers, protective foam and tailwater recovery systems (which replaces all or part of the groundwater withdrawal). Each of these alternative methods has challenges that limit their ability to replace 100 percent of the frost-freeze groundwater withdrawals. The District's ultimate goal is to see an increase in the number of acres that use alternative methods. This will reduce the amount of groundwater being pumped.
- 6) Can reclaimed water be used to protect the crops?
- a. A Florida statute prohibits the spraying of reclaimed water on certain crops, including strawberries. It is permitted to be used on crops that will be peeled or cooked, including oranges. However, there is not a consistent enough volume of available reclaimed water at this time to make it a viable solution for frost-freeze events.

Dry Wells:

- 7) How do I report a dry well that resulted from a frost-freeze event pumping?
- a. Homeowners with dry wells should immediately report their situation to the District's Tampa Regulation Department by calling (813) 985-7481. Dry wells are wells that are unable to withdraw water. It is important to report a dry well to the District as soon as possible, as there is a reporting deadline set after the freeze.
- 8) What happens after I report a dry well?
- a. Once a dry well is reported, the District will investigate the complaint and determine if the dry well is located in a permit holder's mitigation area and predates the farming activity's water use. This would mean that the permit holder is responsible for providing water to, and fixing the well of, the homeowner. The District will then send a letter to the responsible permit holder informing them of the situation and alerting them that they have 72 hours to provide potable water to the homeowner. The letter also explains that the permit holder has 15 days to fix the well or provide reimbursement. The homeowner is copied on this letter.

- 9) If I have to purchase bottled water, will I be reimbursed?
- a. Homeowners should save all receipts for bottled water and well repairs, as they may qualify for reimbursement. This is determined on a case-by-case basis.
- 10) Will my well come back on its own or is it going to need repairs?
- a. Some dry wells will begin working properly again as aquifer levels begin to recover. Other wells may need repairs. It depends on if any damage was done to the well or well pump when the aquifer level dropped.
- 11) How does the District determine who is responsible for repairing a dry well?
- a. All water use permits contain conditions that require mitigation where appropriate. In the Dover/Plant City area, the District created mitigation areas in 2002 to identify which permit holders would be held accountable for homes with wells that pre-date the farming activity's water use.
- 12) If I don't want to wait for someone else to repair my well, and I pay for it myself, can I be reimbursed?
- a. Possibly. If you are in a mitigation area and your well predates the farming activity's water use, the permit holder who is responsible for your well should reimburse you the cost of repairs. Please keep all receipts and documentation of the repair requirements.
- 13) How much does it cost to repair a dry well?
- a. The cost of dry well repairs depends on the type of repair needed. The water in some dry wells will come back as soon as the aquifer level rises. Well repairs can range from less than \$1,000 to more than \$5,000.

Sinkholes:

- 14) What should homeowners do if they have a sinkhole on their property?
- First, provide for personal safety and evacuate if necessary.
 - If your home is threatened, contact your homeowner's insurance company.
 - If extensive damage occurs to your house or property, notify your county's Office of Emergency Management.

- If desired, you may contact a private contractor to evaluate the hole to officially determine if it is a sinkhole.

15) Where can people go for more information about the formation and repair of sinkholes?

- a. The District's web site features information about the formation of sinkholes, contact information for sinkhole contractors and links to additional information sources at

www.WaterMatters.org/hydrology/sinkholes/.

16) What options do I have if I don't have homeowner's insurance that covers sinkholes?

- a. If you have a sinkhole without the appropriate insurance coverage, you will not be compensated by an insurance company. There may be state or federal funds available to help residents with this problem. Please contact your local government officials.

17) My insurance says that what I have is house settling, not a sinkhole. What's the difference between a sinkhole and settling?

- a. Sinkholes are depressions or holes in the land surface that occur throughout west-central Florida as a result of dissolving underlying limestone. Settling is the natural movement and adjustment of the soil around a home or other structure. This can result in cracked walls or sagging floors. It is not caused by the dissolving of underlying limestone and is not the same thing as a sinkhole. Sometimes settling is a result of improper land filling and/or building practices.

January 2010 Frost/Freeze FAQs

1) How much water did farmers pump collectively during the January 2010 freeze?

- a. In the 144-square-mile area encompassing the Dover/Plant City area, there are 447 agricultural water use permits that have a provision for frost/freeze crop protection. Under normal conditions, these 447 permits allow permittees to use a total annual average daily quantity of 37.61

million gallons per day (mgd). The frost/freeze crop protection provision allows these same permittees to use a total maximum day quantity of 941.79 mgd, if needed, for frost/freeze crop protection.

- 2) Why did the District allow farmers to pump so much groundwater during the freeze?
 - a. The District's frost-freeze crop protection pumping quantities for agricultural water use permit holders are based on research done by the University of Florida's Institute of Food and Agricultural Sciences. This research determined the appropriate amount of water necessary for frost-freeze protection for various crop types.
- 3) Why was this freeze so much worse than previous freezes?
 - a. Prior to this 11-day freeze event, nearly 80 years of data showed that the longest freeze in the state of Florida lasted six consecutive days.
- 4) Will any of the farmers be fined for using too much groundwater during the freeze?
 - a. Any permit holder who exceeds his/her permitted amounts could be fined, depending of the severity, duration and impacts from the violation. However, we do not believe there will be many fines because, according to the reporting data that the District has received so far, none of the permit holders in the Dover/Plant City area exceeded their permitted quantities for frost-freeze protection. However, permit holders are being held responsible for repairing any damage their withdrawal caused.
- 5) How far did the aquifer level drop as a result of this freeze event?
 - a. The aquifer level dropped approximately 60 feet as a result of this freeze event.
- 6) How long did it take the aquifer to recover after so much water was pumped during the freeze?
 - a. Within four days after temperatures returned to normal, groundwater levels had rebounded to within 10 feet of the pre-event levels.
- 7) Why didn't the farmers use other methods to protect their crops?

- a. The pumping of groundwater for frost-freeze protection is an accepted best management practice for the strawberry and citrus industries. Alternative methods are available, but the challenges associated with each, including cost, labor requirements and practicality during specific types of cold events, limit their wide-spread use. Some examples include tree insulation, cloth covers and protective foam. These methods continue to be researched, yet they have additional limitations for freeze events with high winds. An additional option to reduce groundwater use is a tailwater recovery system, but this method has challenges related to food safety and plant disease, as well as limited land availability for storage reservoirs. While none of these alternative methods can be used on 100% of the farming acreage, the District's ultimate goal is to see an increase in the number of acres that use alternative methods. This will reduce the amount of groundwater being pumped.
- 8) Could reclaimed water have been used to protect the crops?
 - a. A Florida statute prohibits the use of reclaimed water as an overhead irrigation on certain crops, including strawberries. It is permitted to be used on crops that will be peeled or cooked, including oranges. While some citrus growers do use reclaimed water as an irrigation and frost/freeze protection source, there is not a consistent enough volume available at this time to make it a viable solution for all farms during frost-freeze events.
 - 9) How many residents reported dry wells as a result of the freeze?
 - a. The District received 753 well complaints as a result of the January 2010 freeze.
 - 10) How did the District determine who was responsible for fixing each dry well?
 - a. Mitigation areas were created by the District in 2002 to identify which permit holders, if any, would be held accountable for homes with wells that pre-date the farming activity.
 - 11) How long were residents without water after the freeze?

- a. Some residents were only without water for a day, while others waited several weeks for their wells to be fixed. Many were able to hook up to their neighbor's wells during this time.
- 12) I reported a dry well and submitted receipts for reimbursement. When will I be reimbursed?
- a. Permit holders have 15 days to fix the well or provide reimbursement once responsibility is determined. If you have not received reimbursement by this time, please contact the District's Tampa Regulation Department at (813) 985-7481.
- 13) I never reported my dry well. Can I still report it?
- a. Yes, you can still report a dry well to the District. However, you are no longer eligible for reimbursement. The deadline for reporting wells that went dry as a result of the January 2010 freeze was March 2, 2010.
- 14) Why were there so many sinkholes during the January 2010 freeze?
- a. Hydrologic conditions, including lowered water levels, can contribute to sinkhole development. The aquifer dropped approximately 60 feet during the January 2010 freeze, contributing to sinkhole activity. This drop in the aquifer level could have been a catalyst for already developing sinkholes.
- 15) Were the sinkholes caused by groundwater pumping during the freeze?
- a. The aquifer dropping was a factor in the formation of the sinkholes, but not the only factor. There are many potential causes that contribute to the formation of sinkholes. These include a lack of rainfall and lowered water levels. At the time of the freeze, the District was recovering from a four-year drought.
- 16) What is the District doing to help homeowners affected by sinkholes?
- a. The District is currently coordinating with Hillsborough County, Plant City and the Florida Department of Emergency Management to determine if emergency financial assistance may be available.
- 17) What is the District doing to prevent this situation from happening in the future?
- a. The District is holding a series of public workshops and technical work sessions to develop an action plan with solutions to prevent this situation

from happening again in the future. The District's goal is to have new measures in place by the beginning of winter.

- 18) Where can I go to get more information about future public workshops?
 - a. Information about future workshops is available on the District's web site at www.WaterMatters.org/frost-freeze.
- 19) What do I do about the farmer's runoff affecting my property?
 - a. Please contact the District's Tampa Regulation Department at (813) 985-7481.
- 20) If my well went dry, why am I not covered by a mitigation area?
 - a. The mitigation areas were drawn based on the data that was available at the time. The January 2010 frost-freeze event changed that data set and the District is currently examining the existing mitigation areas to determine if they need to be changed, or if an entirely different approach to assigning well mitigation responsibility should be taken.
- 21) Who verifies the construction of wells?
 - a. The District permits wells to ensure that they are built properly by a licensed contractor. Well pump depth for Dover and Plant City residents is regulated by Hillsborough County.
- 22) Why don't agricultural water users have to pay a severance tax to use water?
 - a. Water is a free resource in the state of Florida. Residents who are utility customers pay for the pumping, treatment, storage and conveyance of water, but not for the water itself. Individual well owners, including farmers, pay similar costs.
- 23) Will there be help for well owners who have problems that are not in a mitigation area?
 - a. The District is working with these homeowners on a case-by-case basis. If you have additional questions, please contact the District's Tampa Regulation Department at (813) 985-7481.