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## NEWS RELEASE



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### **Three Sisters Springs upcoming winter management based on day-to-day protocols of environmental and biological factors**

Three Sisters Springs is a small confined buffered spring basin less than one acre in size. The springs' shallow waters and multiple spring vents discharge millions of gallons of water per day, which provide essential wintering habitat to hundreds of Florida manatees. Over the past 3 years, over 500 manatees have been documented to have used the interior of these springs at one time during cold days. Over 100,000 visitors snorkel at Three Sisters Springs each winter seeking to witness the phenomenal connection between the manatees and these crystal clear springs. However, some of these encounters have resulted in unintentional manatee disturbance. By identifying and anticipating the circumstances that lead to manatee disturbance inside Three Sisters Springs, the Service has adopted new management protocols that will improve the protection of the wintering manatees that use these springs.

Over the past three years, with the recent increase in numbers of manatees and visitors to this small spring basin, management has been challenging, prompting several winter research projects on the manatee behavior and usage of the springs. Those research projects have provided the U.S. Fish and Wildlife Service some of the answers needed to manage Three Sisters Springs more efficiently for manatees and for visitors during the winter months. Between the winters of 2014 and 2016, the Service has conducted manatee population and ethology studies at Three Sisters Springs in correlation to several environmental factors that will be used as "general predictors" of manatee activity at Three Sisters Springs.

For this coming winter, the U.S. Fish and Wildlife Service has established new protocols based on these studies, which provide the Service with the predictable factors that trigger winter manatee use of the springs. The Service will monitor several environmental and biological variables that affect the Three Sisters Springs basin to make objective decisions that ensure the protection of wintering manatees found inside the springs.

Some of the environmental and biological variables that the Crystal River NWR staff will monitor include: weather (air and water temperature in the Gulf and Kings Bay), tidal fluctuation, water clarity, manatee usage of the springs, spatial distribution of manatees inside the springs, and other factors that will determine the closure of the springs or the winter visitor access to the springs for in-water wildlife viewing. These variables are represented in two separate protocol flowcharts: 1) Flowchart of predictable environmental and biological factors (e.g. manatee population dynamics associated with weather and tides), and 2) Flowchart of unpredictable environmental and biological factors (e.g. water clarity, specific manatee behaviors, and manatee distribution inside the springs).

These management protocols will be used at Three Sisters Springs throughout this season until the latest Environmental Assessment is finalized, which is likely to be implemented during the 2017-2018 manatee season.

These protocol measures will only be addressed at Three Sisters Springs and not on the other Kings Bay springs that are opened to the public. Other areas opened to visitors where manatees gather in Kings Bay are not under any new protocols, restrictions or new regulations.

In addition to implementing the two protocol flowcharts, the refuge staff will continue last year's implemented measures from the 2014-2015 Three Sisters Springs Emergency EA, which include: the lobe closures of the western and eastern spring lobes, restriction of paddlecraft access, and the requirement of commercial special use permit holders to guide/escort their guests (visitors) into the springs. The USFWS will also increase the refuge staff presence at the springs during the winter and will continue to conduct additional research at the springs.

“The Service’s goal is to be fully transparent on how we make day-to-day decisions, particularly in areas that are so important to manatee survival and local stakeholders”, said Joyce Palmer, the new Project Leader for the Crystal River National Wildlife Refuge Complex. “While it is clear that cold weather and high tides trigger high manatee counts inside the springs, there are other factors considered in this protocol, such as manatee distribution, behavior and water visibility, that will determine in-water public access to Three Sisters Springs this winter,” added Palmer.

The full set of protocols and guidelines that the Service will use to determine opening and closing of the Three Sisters Springs are available at the homepage of the refuge’s website: [www.fws.gov/crystalriver](http://www.fws.gov/crystalriver).

The day-to-day springs’ management protocols will require that a trained uniformed refuge staff be present at the Three Sisters Springs boardwalk each day. The staff will recommend to the Manager if and when to close or reopen the spring run to public access on a daily basis. “These protocols are not based on any specific formula or a specific manatee number in the springs. Rather, the protocols are based on avoiding and preventing any potential manatee disturbance by visitors if they are inside the springs under identifiable circumstances that may cause the disturbance of a manatee”, added Palmer.

Fortunately during the days when the springs are closed to in-water visitor access, the high manatee activity at the springs may be witnessed by visitors from the boardwalk. “The best time to enjoy this phenomenal aggregation of manatees in the springs is during cold days and high tides”, said Palmer. “Most manatees come to the springs to rest, but boardwalk visitors can also witness manatee cavorting, milling and even mating,” added Palmer. For more information on the visitor experience at the Three Sisters Springs boardwalk, please visit: [www.threesistersspringsvisitor.org](http://www.threesistersspringsvisitor.org)

Daily updates of Three Sisters Springs’ closures and openings will be available in the refuge’s website: [www.fws.gov/crystalriver](http://www.fws.gov/crystalriver), under icon: “Important Information”, which prompts viewers to the Refuge’s Facebook page. A Facebook account isn’t needed to view the updates on this Facebook link. For those wanting to link directly to the Facebook page without going through the website, please visit: [www.facebook.com/crystalrivercomplex](http://www.facebook.com/crystalrivercomplex)