Ocklawaha River Restoration
Water Flow

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KEY REFERENCE: *Ocklawaha River restoration would increase flows in the Lower Ocklawaha River by an estimated 150 to 412 cubic feet per second (cfs) due to uncovering more 20 or more springs flooded by the Rodman Pool and by approximately 8 to 16 cfs due to a net decrease in evapotranspiration. - Tibbals, 1990; Wycoff, 2010*

Existing Conditions

- 5 to 10 million gallons per day net loss of freshwater by evapotranspiration from the Rodman pool compared to a natural river corridor. This estimate does not include effects of water temperature and wind which increase the net loss of freshwater.
- 20 known springs are inundated by the impoundment of the Rodman pool.
- Silver River discharge has decreased by approximately 35 percent since the dam was put in place largely due to groundwater pumping.

Benefits of Partial Restoration

- Net increase in freshwater flow of 5 to 10 million gallons per day to the Lower Ocklawaha and St. Johns rivers just from reduction of evapotranspiration
- Additional inflow into the Lower Ocklawaha River and St. Johns Rivers from springs now drowned by the Rodman impoundment
- Increased flow, temperature reduction, improved clarity, and reduced use of herbicides would improve overall water quality

Ocklawaha River Watershed & Sources of Water

The combined Silver and Ocklawaha watershed encompasses approximately 2,000 square miles in north central Florida. The Silver Springs Group is a first magnitude group of spring vents located near the center of Marion County.

Major flows into the Ocklawaha River can be subdivided into three general categories:

- Large karst lake regions: These include both 1) the southernmost areas starting in the Green Swamp through the Clermont chain of lakes and the Harris chain of lakes, and 2) the Orange Creek basin to the northwest (64% of drainage area, 14% of water)
- Watershed along the river (36% of drainage area, 20% of water)
- Silver River (negligible drainage area, 66% of water)

Water Conservation Benefits of Restoration

Ocklawaha River restoration would increase flows in the Lower Ocklawaha River by an estimated 150 to 412 cubic feet per second (cfs) due to uncovering more 20 or more springs flooded by the Rodman Pool (Tibbals, 1990; Wycoff, 2010) and by approximately 8 to 16 cfs due to a net decrease in evapotranspiration.

The Rodman Pool as a Water Supply Source

The Rodman Pool has been considered as an alternative water supply (AWS). Several older studies and plans evaluated the pool as a source. More recent information has cast doubt on

the utility of using the Ocklawaha River as a source of water supply. Surface water sources are more expensive for production, treatment, and transmission compared to traditional sources. The unit production costs for potable water from the Rodman would potentially be two to four times more expensive than traditional source, the Floridan aquifer.

The value of a surface water reservoir is due to the availability of freshwater in storage when other sources are constrained by short-term variations in supply. However, because the Rodman pool is very broad and shallow, there is very little water in storage. For any likely rate of withdrawal that would justify the higher unit production costs for withdrawal, treatment, and transmission facilities, the duration of supply would be very limited. Moreover, managing the pool as a water supply reservoir would draw pool levels down to very low levels, adversely impacting both aquatic species and sport fishing.

Herbicides are used extensively to control aquatic vegetation in the Rodman impoundment and river reaches upstream of the dam. Hence, advanced surface water treatment facilities may be needed to achieve primary drinking water standards. Moreover, due to elevated concentrations of organic compounds, it is likely that disinfection byproducts would occur in the treated water supply. The USEPA has identified health risks, including cancer, from prolonged ingestion of disinfection byproducts. These risks may be more acute for pregnant women and their unborn children. Hence, additional and more expensive pretreatment processes would likely be needed prior to disinfection.

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