

Agyei, E., D. Munch and P. Burger. 2005. *Application of optimization modeling to water resource planning in East-Central Florida*. Technical Publication SJ2005-2. St. Johns River Water Management District, Palatka, FL.

Due to increasing demands on water supplies, legislation in the state provides for future water supply planning programs. As part of the work to find alternative sources of potable water and to optimally distribute the water resources available today to east-central Florida, the District designed two models — a deficit model and a decision model — to assist in decision-making. This report documents those models.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2005-2.pdf>

Applied Technology and Management, Inc. [ATM]. 2012. *Evaluation of the effects of hypothetical flow reductions on water resource values of Silver Springs and the Silver River, Marion County*. Draft report prepared for the Bureau of Water Supply, St. Johns River Water Management District, Palatka, FL.

Battelle. 2004. *Sensitivities of “filtration and absorption of nutrients and other pollutants” and “water quality” to alterations in hydrologic regimes*. Special Publication SJ2004-SP37. St. Johns River Water Management District, Palatka, FL.

This report identifies and documents a series of appropriate methods for assessing changes to filtration and absorption of nutrients and other pollutants and water quality related to hydrologic conditions imposed by minimum flows and levels.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP37.pdf>

Birdie, T.R., P. Burger, C. Huang and D. Munch. 2008. *Northeast Florida regional groundwater flow model: model revision and expansion*. Special Publication SJ2008-SP26. St. Johns River Water Management District, Palatka, FL.

The report documents the modeling study conducted in order to develop a technical tool for management of groundwater resources in northeast Florida.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2008-SP26.pdf>

Boniol, D. 1996. *Summary of groundwater quality in the St. Johns River Water Management District: 1990–94*. Special Publication SJ96-SP13. St. Johns River Water Management District, Palatka, FL.

Accurate and reliable water quality data are required to characterize groundwater chemistry for use in groundwater resource management. This report summarizes the groundwater quality of the Floridan, intermediate, and surficial aquifer systems in the St. Johns River Water Management District.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ96-SP13.pdf>

Boniol, D., M. Williams and D.A. Munch. 1993. *Mapping recharge to the Floridan aquifer using a geographic information system*. Technical Publication SJ93-5. St. Johns River Water Management District, Palatka, FL.

Recharge areas of the Floridan aquifer in the St. Johns River Water Management District were mapped using a geographic information system to analyze the geologic and hydrologic factors that affect recharge.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ93-5.pdf>

Bonn, M. 2004. *Visitor profiles, economic impacts and recreational aesthetic values associated with eight priority Florida springs located in the St. Johns River Water Management District*. Special Publication SJ2004-SP35. St. Johns River Water Management District, Palatka, FL.

This project was undertaken to establish a baseline of knowledge for visitor characteristics, including economic impacts and associated recreational values, for eight priority springs in the St. Johns River Water Management District, priority springs being those springs prioritized for the establishment of minimum flows and levels.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP35.pdf>

Butt, P. and A. Aly, edited by D. Toth. 2008. *Silver Springs spring vent documentation and geochemical characterization*. Special Publication SJ2008-SP6. St. Johns River Water Management District, Palatka, FL.

The report documents flow discharge measurement and water quality sampling of all of the spring vents in the Silver Springs spring group.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2008-SP6.pdf>

Cohen, M.J. , J.B. Heffernan, A. Albertin, R. Hensley, M. Fork, C. Foster, and L. Kohnak. 2011. *Mechanisms of Nitrogen Removal in Spring-Fed Rivers*. St. Johns River Water Management District, Palatka, FL.

Cohen, M.J., S. Lamsal, and L. Kohnak. 2007. *Sources, transport and transformations of nitrate-N in the Florida environment*. Special Publication SJ2007-SP10. St. Johns River Water Management District, Palatka, FL.

The report discusses the global significance of nitrogen enrichment and how Florida's environment is notably different due to two facets: the abundance of wetlands that act as effective sinks and the intrinsic vulnerability of nitrogen to pollute and transport in karstic areas. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2007-SP10.pdf>

District water supply plan. 2005. St. Johns River Water Management District, Palatka, FL.
<http://www.floridaswater.com/dwsp.html>

Dunn, W., P. Burger, S. Brown, and M.C. Minno. 2008. *Development and application of a modified Kinser-Minno method for assessing the likelihood of harm to native vegetation and lakes in areas with an unconfined Floridan aquifer*. Special Publication SJ2008-SP24. St. Johns River Water Management District, Palatka, FL.

The report summarizes the development of a depth to water in the upper Floridan aquifer, ranking criteria for use as an additional step to the methods for estimating the likelihood of harm to native vegetation and lakes from groundwater withdrawals.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2008-SP24.pdf>

Fischl, P. 1994. *Projected aquifer drawdowns, city of Ocala wellfield, Marion County, Florida*. Professional paper SJ94-PP1. St. Johns River Water Management District, Palatka, FL. A linear analytical groundwater model, DRAWDOWN, was used to simulate changes in the potentiometric surface of the Upper Floridan aquifer, based on 2010 projected

pumpages at the city of Ocala wellfield. The model calculates the drawdown in a two-layered, coupled, leaky-artesian aquifer.

<http://www.floridaswater.com/technicalreports/pdfs/PP/SJ94-PP1.pdf>

Florida Natural Areas Inventory. 2001. *Report on the rare and endemic species of the St. Johns River Water Management District*. Special Publication SJ2001-SP10. St. Johns River Water Management District, Palatka, FL.

This study was conducted as part of the St. Johns River Water Management District's (SJRWMD) minimum flows and levels program within the SJRWMD Division of Water Supply Management to determine the potential harm to species that live in wetlands if the hydrology of the wetlands were to be altered. The report lists the natural wetlands community types by county.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2001-SP10.pdf>

———. 2004. *Report on the rare plant and animal species and rare wetland communities occurring adjacent to priority springs and spring-runs in the St. Johns River Water Management District*. . Special Publication SJ2004-SP39. St. Johns River Water Management District, Palatka, FL.

Information from the Florida Natural Areas Inventory database is provided for rare species and rare natural wetland community types for 19 priority springs within the St. Johns River Water Management District.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP39.pdf>

Fulton, R.S., G. Bethune, G. Caputo, M. Coveney, C. Fall, B. Gisondi, W. Godwin, G. Hall, J. Richmond, D. Walker, and C. Ware. 1995. *SWIM plan for the upper Ocklawaha River basin*. St. Johns River Water Management District, Palatka, FL.

http://www.floridaswater.com/SWIMplans/1995_UORB_SWIM_Plan.pdf

German, E.R. 2006. *Assessment of spring discharge measurement data for priority springs in the St. Johns River Water Management District*. Special Publication SJ2006-SP9. St. Johns River Water Management District, Palatka, FL.

This report was prepared as part of the process to establish minimum flows and levels for water bodies. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2006-SP9.pdf>

———. 2010. *Evaluation and recomputation of daily discharge for Silver Springs near Ocala, Florida*. Special Publication SJ2010-SP9. St. Johns River Water Management District, Palatka, FL.

This report describes the methods used to recompute daily discharge of Silver Springs, near Ocala. Recomputed daily discharge values for the period 1948–2005 are compared with the historical (USGS) record. Hydrographs and summary tables are presented. Daily discharges are specific to a single reference station, located about 3,900 feet downstream from the main spring boils. Recomputation considers the effects of measurement location on rating-curve development. Also, new discharge rating curves based on head difference between the spring pool and the aquifer were used to recompute discharge values for the period 1948–2002. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2010-SP9.pdf>

Hall, G. 2005. *Ocklawaha River water allocation study*. Technical Publication SJ2005-1. Palatka, Fla.: St. Johns River Water Management District.

The St. Johns River Water Management District (SJRWMD) performed the water allocation study reported in this document in response to a directive from the 1994 Florida Legislature. The information contained in this document describes the methods and assumptions; the data; the evaluation and results of the effects of the consumptive use withdrawals on groundwater, surface water, and the aquatic and wetland communities; and the recommendations for the Ocklawaha River Basin. The availability of water from the lower Ocklawaha River subbasin for human consumption was also evaluated.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2005-1.pdf>

Herring, B. and A. Davis. 2004. *Inventory of rare and endemic plants and rare land and riverine vertebrates of Silver River and Silver Springs: Final Report*. Special Publication SJ2004-SP36. St. Johns River Water Management District, Palatka, FL.

This report contains brief descriptions of each of the rare endemic and non-endemic plants and rare land and riverine vertebrates, non-rare endemic plant species, and rare natural communities that were documented in a survey done by the Florida Natural Areas Inventory. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP36.pdf>

Hill, J.E. and C.E. Cichra. 2002a. *Minimum flows and levels criteria development: Evaluation of the importance of water depth and frequency of water levels/flows on fish population dynamics: Literature review and summary: The effects of water levels on fish populations*. Special Publication SJ2002-SP1. St. Johns River Water Management District, Palatka, FL.

This report summarizes published and unpublished literature concerning the effects of water flow and level changes on fish populations, with an emphasis on freshwater fishes in Florida and the adjacent southeastern United States.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2002-SP1.pdf>

———. 2002b. *Minimum flows and levels criteria development: Evaluation of the importance of water depth and frequency of water levels/flows on fish population dynamics: Literature review and summary: Annotated bibliography for water level effects on fish populations*. Special Publication SJ2002-SP2. St. Johns River Water Management District, Palatka, FL.

This document is an annotated bibliography of the effects of water levels on fish populations, with special reference to Florida fishes, habitats, and systems. The coverage is primarily 1980–2000. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2002-SP2.pdf>

———. 2005. *Biological synopsis of five selected Florida centrarchid fishes with an emphasis on the effects of water level fluctuations*. Special Publication SJ2005-SP3. St. Johns River Water Management District, Palatka, FL. This report presents a review of the literature for five selected centrarchid species to provide information for the determination of biologically meaningful minimum flows and levels.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2005-SP3.pdf>

HSW Engineering, Inc. [HSW]. 2012. *Minimum flows and level: Water resource and human-use values assessment of the Lower Ocklawaha River*. Draft report prepared for the Bureau of Water Supply, St. Johns River Water Management District, Palatka, FL.

Insightful Corp. 2008. *Cluster analysis and principle component analysis of water quality data from Silver Springs and wells in the spring shed*. Special Publication SJ2008-SP20. St. Johns River Water Management District, Palatka, FL.

Levels of nitrate and 12 other water quality parameters were examined from published data from 56 wells in the Silver Springs springshed in an effort to locate specific regions that may be sources of elevated nitrate concentrations.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2008-SP20.pdf>

Intera, Inc. 2007. *Multivariate Statistical Analysis of Water Quality Data for Silver Springs, Marion County, Florida: final report*. St. Johns River Water Management District, Palatka, FL.

———. 2012. *Adaptation of the USGS megamodel for the prediction of 2030 groundwater impacts*. Special Publication SJ2012-SP9. St. Johns River Water Management District, Palatka, FL.

This report describes modifications to the U.S. Geological Survey Peninsular Florida Model to assist SJRWMD in water supply planning activities, with modeling reflecting data through 2030. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2012-SP9.pdf>

James, A., K. Hatfield, and W. Graham. 2000. *Review of integrated surface water/groundwater computer models*. Special Publication SJ2000-SP8. St. Johns River Water Management District, Palatka, FL.

Interactions between groundwater and surface water levels is discussed and evaluated using various models. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2000-SP8.pdf>

Johnson, R. 1979. *Geology of the Ocklawaha Basin*. Technical Publication SJ79-2. St. Johns River Water Management District, Palatka, FL.

Electric normal resistivity curves, natural gamma ray logs, and drillers' logs from 50 wells were used to investigate the geology of the Ocklawaha Basin, Florida.

<http://www.floridaswater.com/technicalreports/tpubs4.html>

Karst Environmental Services. 2005. Discharge measurement: Silver Springs main spring, Marion County, Florida: March 24, 2005. St. Johns River Water Management District, Palatka, FL.

———. 2008. *Submerged springs site documentation: August and September 2007*. Special Publication SJ2008-SP7. St. Johns River Water Management District, Palatka, FL.

The District contracted for assistance in ground-truthing investigations and site documentation of various submerged springs and other undocumented sites that were

identified as possible groundwater discharge locations by aerial thermography. This report documents the findings.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2008-SP7.pdf>.

Kindinger, J.L., J.B. Davis, and J.G. Flocks. 2000. *Subsurface characterization of selected water bodies in the St. Johns River Water Management District, Northeast Florida*. U.S. Geological Survey Open-File Report 2000-180. U.S. Geological Survey, Denver, CO. <http://coastal.er.usgs.gov/publications/ofr/00-180/index.html>

Kinser, P. and M. Minno. 1995. *Estimating the likelihood of harm to native vegetation from groundwater withdrawals, St. Johns River Water Management District*. Technical Publication SJ95-8. St. Johns River Water Management District, Palatka, FL. A geographic information system model was developed to estimate the likelihood of harm to native plant communities from groundwater withdrawals. The model was developed using soil permeabilities, sensitivities of plant communities to dewatering, and projected declines in the water table of the surficial aquifer system. The results of the model highlight those areas having the highest likelihood of harm to native vegetation from proposed groundwater withdrawals.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ95-8.pdf>

Kinser, P., M. Minno, S. Brown and C. Denizman. 2006. *Estimating the likelihood of harm to lakes from groundwater withdrawals in the St. Johns River Water Management District for the year 2025*. Professional paper SJ2006-PP1. St. Johns River Water Management District, Palatka, FL. A geographic information systems-based model was developed to predict the likelihood of harm to lakes in the St. Johns River Water Management District from future groundwater withdrawals. Six spatial data layers were combined to produce a map of lake susceptibility to groundwater withdrawals.

<http://www.floridaswater.com/technicalreports/pdfs/PP/SJ2006-PP1.pdf>

Kinser, P., M. Minno, P. Burger, and S. Brown. 2003. *Modification of modeling criteria for application in the 2025 assessment of likelihood of harm to native vegetation*. Professional paper SJ2009-PP1. St. Johns River Water Management District, Palatka, FL. Since 1995, a geographic information system model has been used to define areas of the St. Johns River Water Management District where wetlands vegetation is likely to be harmed from future groundwater withdrawals for agriculture, industry, and public water supply. For the 2025 likelihood of harm assessment, a set of detailed constraints was generalized to create a new drawdown scale. This revised scale, in conjunction with drawdown estimations for 2025, was tested in the likelihood of harm model for the east-central Florida area.

<http://www.floridaswater.com/technicalreports/pdfs/PP/SJ2003-PP3.pdf>

Knowles, Leel. 1996. *Estimation of evapotranspiration in the Rainbow Springs and Silver Springs basins in North-Central Florida*. U.S. Geological Survey Water-resources Investigations Report 96-4024. U.S. Geological Survey, Denver, CO.

<http://pubs.er.usgs.gov/publication/wri964024>

Mattson, R.A. 2009. *Relationships between benthic algae and benthic macroinvertebrate communities in Florida spring-run streams*. Professional paper SJ2009-PP1. St. Johns River Water Management District, Palatka, FL.

Existing data from published studies of benthic algae and macroinvertebrates were analyzed to evaluate the existence of relationships of how changes in algal communities may affect the fauna of springs and spring-run streams.

<http://www.floridaswater.com/technicalreports/pdfs/PP/SJ2009-PP1.pdf>

Mattson, R.A., M. Lehmensick, E.F. Lowe. 2007. *Nitrate toxicity in Florida springs and spring-run streams: A review of the literature and its implications*. Professional paper SJ2007-PP1. St. Johns River Water Management District, Palatka, FL.

Human activity has increased the amounts of nitrogen going into surface waters and groundwater in the last century. This report documents the emerging body of research data that suggests that there are toxic effects of nitrogen enrichment on aquatic fauna.

<http://www.floridaswater.com/technicalreports/pdfs/PP/SJ2007-PP1.pdf>

McDonald, K. 2005. *Monitoring of sinkhole development in the St. Johns River Water Management District*. Special Publication SJ2005-SP14. St. Johns River Water Management District, Palatka, FL.

The St. Johns River Water Management District initiated a project to update a sinkhole database to include sinkholes that had occurred since 1992 and to make initial evaluations of sinkhole occurrences throughout the District. This report does this and expands on a database that documents sinkholes from 1984 to 1992 that was compiled by the Florida Sinkhole Research Institute at the University of Central Florida.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2005-SP14.pdf>

McGurk, B.E. and P. Presley. 2002. *Simulation of the effects of groundwater withdrawals on the Floridan aquifer system in East-Central Florida: model expansion and revision*.

Technical Publication SJ2002-3. St. Johns River Water Management District, Palatka, FL.

A numerical groundwater flow model was developed for the east-central Florida region that is a revision and expansion of several previous regional models that cover the area. The model was calibrated to average, steady-state 1995 hydrologic conditions. The model was also calibrated in a qualitative fashion to estimated predevelopment conditions by comparing simulated water levels and spring flows to available estimates. The calibrated model was used to predict the potential changes to average surficial aquifer system and Floridan aquifer system water levels, and to average springflow rates as a result of projected 2020 magnitudes and locations of Floridan aquifer system withdrawals.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2002-3.pdf>

Appendix: <http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2002-3Appendix.pdf>

McGurk, B.E., J.B. Davis, J.A. Stokes, D.J. Toth, with URS Corp. and Karst Environmental Services, Inc. 2012. *Silver Springs nutrient pathway characterization project, final report*. Special Publication SJ2012-SP3. St. Johns River Water Management District,

Palatka, FL. This project seeks to identify dominant groundwater pathways and travel times between specific locations and the Silver Springs spring group, and the potential sources of groundwater nutrient contamination that appear to be directly connected to spring discharge vents. <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2012-SP3.pdf>

Motz, L.H., W. Beddow II, M. Caprara, J. Gay, and S. Sheaffer. 1995. *North-central Florida regional groundwater investigation and flow mode (final report)*. Special Publication SJ95-SP7. St. Johns River Water Management District, Palatka, FL.

A north-central Florida regional groundwater flow model was developed to determine the magnitude and causes of the regional decline in groundwater levels in the Upper Floridan aquifer in an area extending westward from Duval County to Alachua County, and southward to Marion County.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ95-SP7.pdf>

Motz, L.H. and A. Dogan. 2005. *North-central Florida active water table regional groundwater flow model (final report)*. Special Publication SJ2005-SP16. St. Johns River Water Management District, Palatka, FL. This report documents how the flow model simulates the effects that increased groundwater pumpage in north-central Florida will have on water levels in the surficial aquifer system and the upper Florida aquifer, groundwater system water budgets and spring flows.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2005-SP16.pdf>

Munch, D.A., D.J. Toth, C. Huang, J.B. Davis, C.M. Fortich, W.L. Osburn, E.J. Phlips, E.L. Quinlan, M.S. Allen, M.J. Woods and P. Cooney, R.L. Knight, R.A. Clarke and S.L. Knight. 2007. *Fifty-year retrospective study of the ecology of Silver Springs, Florida*. Special Publication SJ2007-SP4. St. Johns River Water Management District, Palatka, FL.

This report documents work between 2003 and 2005 by the St. Johns River Water Management District, in collaboration with Wetland Solutions Inc. and the University of Florida Department of Fisheries and Aquatic Sciences to evaluate the ecological health of Silver Springs. The report was prepared for the Florida Department of Environmental Protection. This report was intended to provide an assessment of land use and water quality changes in Silver Springs and a development of cause-and-effect relationships, if any, to the springs' ecology.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2007-SP4.pdf>

Osburn, W., D. Toth and D. Boniol. 2006. *Springs of the St. Johns River Water Management District*. Technical Publication SJ2006-3. St. Johns River Water Management District, Palatka, FL.

This report includes the location of individual springs, their physical description and, when available, a picture of the spring and spring area, tabulations of spring flow and quality, and historical trends in discharge and concentrations of chloride, sulfate, and total nitrogen. <http://www.floridaswater.com/springs/>

Phelps, G.G. 1984. *Recharge and discharge areas of the Floridan*

Aquifer in the St. Johns River Water Management District and vicinity, Florida. U.S. Geological Survey Water-resources Investigations Report 82-4058. U.S. Geological Survey, Denver, CO.

- . 1994. Hydrogeology, water quality, and potential for contamination of the Upper Floridan aquifer in the Silver Springs ground-water basin, central Marion County, Florida. U.S. Geological Survey Water-resources Investigations Report 92-4159. U.S. Geological Survey, Denver, CO. <http://pubs.er.usgs.gov/publication/wri924159>
- . 2004. *Chemistry of Ground Water in the Silver Springs Basin, Florida, with an Emphasis on Nitrate.* U.S. Geological Survey Scientific Investigations Report 2004-5144. U.S. Geological Survey, Denver, CO. <http://pubs.usgs.gov/sir/2004/5144/>
- Phelps, G.G., S.J. Walsh, R.M. Gerwig, and W.B. Tate. 2006. *Characterization of the hydrology, water chemistry, and aquatic communities of selected springs in the St. Johns River Water Management District, Florida, 2004.* U.S. Geological Survey Open-File Report 2006-1107. U.S. Geological Survey, Denver, CO. <http://pubs.usgs.gov/of/2006/1107/>
- Rao, D. 1986. *Magnitude and frequency of flood discharges in Northeast Florida.* Technical Publication SJ86-2. St. Johns River Water Management District, Palatka, FL.
This report presents data on past floods and the highest flood elevation recorded for 68 locations that have five or more years of streamflow records.
<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ86-2.pdf>
- Rogers, M. and M. Allen. 2004. *Relationships between river surface levels and fish assemblages in the Ocklawaha and Withlacoochee rivers, Florida, and the general implications for setting minimum flows and levels: Final report.* Special Publication SJ2004-SP18. St. Johns River Water Management District, Palatka, FL.
The objective of this study was to determine how river levels affected fish abundance and communities, using a long-term dataset from several Florida rivers to evaluate trends, in order to facilitate the establishment of minimum flows and levels.
<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP18.pdf>
- Rohrer, K. 1984. *Hydrologic reconnaissance of Marion County.* Technical Publication SJ84-6. Palatka, Fla.: St. Johns River Water Management District.
This report provides water resources information needed for water management decisions by state and local government agencies. An investigation of the water resources in Marion County was conducted from June to October of 1981 in order to delineate special problems and to set objectives for future research. Data from long-term records of precipitation, evaporation, stream discharge, lake stages, and groundwater levels were evaluated. <http://www.floridaswater.com/technicalreports/pdfs/TP/SJ84-6.pdf>
- Shelton, D.N. 2006. *The rare and endemic snails of selected springs within the St. Johns River Water Management District.* Special Publication SJ2006-SP17. St. Johns River Water Management District, Palatka, FL.

This report supports the Minimum Flows and Levels (MFLs) Program because the existence of rare and endemic snail species within spring boils and their runs will be considered in setting MFLs for the protection of springs.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2006-SP17.pdf>

Shoemaker, W.B., A.M. O'Reilly, N. Sepulveda, S.A. Williams, L.H. Motz, and Q. Sun. 2004. *Comparison of estimated areas contributing recharge to selected springs in North-Central Florida by using multiple ground-water flow models*. U.S. Geological Survey Open-File Report 03-448. U.S. Geological Survey, Denver, CO.
http://fl.water.usgs.gov/Abstracts/ofr03_448_shoemaker.html

Szell, G. 1993. *Aquifer characteristics in the St. Johns River Water Management District*. Technical Publication SJ93-1. St. Johns River Water Management District, Palatka, FL. The information used to compile this report has been reduced into a series of tables containing data from aquifer tests.
<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ93-1.pdf>

Tankersley, C., W. Graham, and K. Hatfield. 1992. *Statistical characterization of groundwater fluctuations and hydrogeological properties in the Floridan aquifer*. Special Publication SJ92-SP8. St. Johns River Water Management District, Palatka, FL.
This study was initiated to develop the capability of forecasting critical low groundwater levels in space and time using stochastic modeling techniques. These models, founded on the principles of probability theory, provide a systematic method for estimating and predicting water levels and recharge rates, which vary erratically in space and time.
<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ92-SP8.pdf>

Toth, D. 1999. *Water quality and isotope concentrations from selected springs in the St. Johns River Water Management District*. Technical Publication SJ99-2. Palatka, Fla.: St. Johns River Water Management District.
Water quality and stable and radioactive isotope concentrations were determined for selected springs. Seventeen springs (two of which are submerged), eight wells in the Upper Floridan aquifer, and one well in the Lower Floridan aquifer were sampled (1) to document water quality, (2) to determine the isotopic characteristics of spring water, (3) to determine the source of spring water, (4) to determine the age of spring water and to evaluate the nature of the spring flow system, and (5) to determine the sources of elevated nitrate-nitrogen concentrations in these springs.
<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ99-2.pdf>

———. 2003. *Water quality and isotope concentrations from selected springs in the St. Johns River Water Management District: part 2*. Technical Publication SJ2003-1. Palatka, Fla.: St. Johns River Water Management District. Seventeen springs (three of which are submerged) in the St. Johns River Water Management District were sampled to assess water quality and stable and radioactive isotope concentrations. The purposes of the sampling were (1) to document water quality, (2) to determine the isotopic characteristics of spring water, (3) to determine the age of spring water and to evaluate the nature of the springflow system, and (4) to determine the source of nitrogen in springs with nitrate-

nitrogen concentrations above 0.2 milligrams per liter.

<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2003-1.pdf>

Vergara, Barbara, ed. 2004. *East-Central Florida water supply planning initiative phase II: annual report of activities and accomplishments 2003*. Special Publication SJ2004-SP4. St. Johns River Water Management District, Palatka, FL. The East-Central Florida Water Supply Planning Initiative is designed to assist local governments and water supply utilities in meeting future water supply needs while protecting the water resources and related natural systems. Initiative activities in 2003 were focused on Volusia, Brevard, Orange, Seminole, Lake, and Osceola counties. The primary focus was on developing new water supply <http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2004-SP4.pdf>

Walsh, S.J., L. Knowles, B.G. Katz, and D.G. Strom. 2009. *Hydrology, Water Quality, and Aquatic Communities of Selected Springs in the St. Johns River Water Management District, Florida*. U.S. Geological Survey Scientific Investigations Report 2009-5046. U.S. Geological Survey, Denver, CO. <http://pubs.usgs.gov/sir/2009/5046/>

Water and Air Research, Inc. 2000. *Benthic macroinvertebrate data from 148 surface water sites within the St. Johns River Water Management District*. Special Publication SJ2000-SP7. St. Johns River Water Management District, Palatka, FL.
A survey of the benthic macroinvertebrate communities of the region's lakes, streams, and estuaries was performed to determine the degree to which biological communities in the water bodies of the St. Johns River Water Management District has been impaired by organic and toxic metal contamination of sediments.
<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2000-SP7.pdf>

Winkler, S. and A. Ceric. 2004. *Status and trends in water quality at selected sites in the St. Johns River Water Management District*. Technical Publication SJ2004-3. Palatka, Fla.: St. Johns River Water Management District.
This study assesses ambient water quality data for a variety of water body sampling sites within the St. Johns River Water Management District for the purpose of characterizing the current status of and trends in water quality for water bodies districtwide.
<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2004-3.pdf>

———. 2006. *2004 status and trends in water quality at selected sites in the St. Johns River Water Management District*. Technical Publication SJ2006-6. Palatka, Fla.: St. Johns River Water Management District.
Ambient water quality data for a variety of water body sampling sites within the St. Johns River Water Management District were compiled and analyzed to evaluate status and trends. This report documents the analysis of the data.
<http://www.floridaswater.com/technicalreports/pdfs/TP/SJ2006-6.pdf>

Water Supply Solutions, Inc. 2010. *Lower Ocklawaha River Basin hydrologic data review and discharge analysis*. Special Publication SJ2010-SP10. Palatka, Fla.: St. Johns River Water Management District. Available hydrologic data including rainfall records,

stream discharge records, and individual spring discharge measurements were compiled, reviewed, and compared, for the purpose of identifying long-term trends or underlying causes of changes in discharge. Stream discharge locations in the lower basin were consistent in data except for Riverside Landing, which showed a very large increase in measured flow relative to upstream measurements. Further investigation would be required for realistic hydrologic modeling to be developed.

<http://www.floridaswater.com/technicalreports/pdfs/SP/SJ2010-SP10.pdf>.