

Minimum Flows and Levels

Protecting water resources from significant harm.

Introduction

The Suwannee River Water Management District is working to protect and conserve Florida's water resources through the minimum flows and levels (MFLs) program. Establishing MFLs is part of the District's planning for adequate water supplies while also protecting water resources from significant harm. The District is setting MFLs for lakes, rivers, and springs.



In addition, MFLs protect nonconsumptive uses of water. Nonconsumptive uses include the water necessary for navigation and recreation, and for fish and wildlife habitat and other natural resources (Chapter 62-40, F.A.C.).

How are MFLs determined?

Florida law states that the District's Governing Board shall calculate MFLs using the best information available. MFLs are developed using available

meteorological, hydrological, and ecological data. These data typically include an historical range of drought and flood conditions.

Why set MFLs?

MFLs are established to protect water resources from significant harm resulting from permitted water withdrawals. Establishing MFLs is required by the state Legislature under Subsection 373.042(2), Florida Statutes (F.S.). In addition, establishing MFLs is required by the state Comprehensive Plan, and the water resources implementation rule (Chapter 62-40.473, Florida Administrative Code, F.A.C.).

MFLs are the minimum water levels and/or flows adopted by the District Governing Board as necessary to prevent significant harm to the water resources or ecology of an area resulting from water withdrawals permitted by the District. MFLs define how much water levels and/or flows may change and still prevent significant harm.

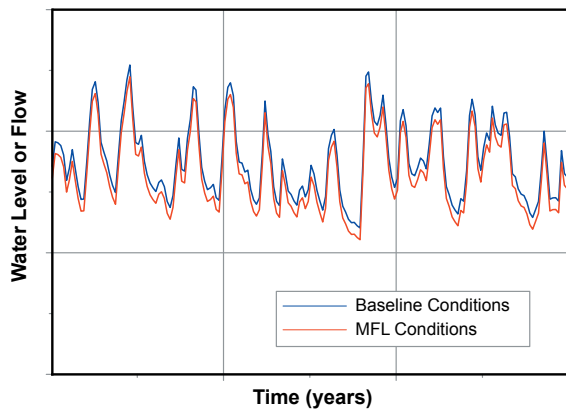
Why are MFLs important?

The MFLs program provides technical support for water supply planning, and permitting criteria for the consumptive use permitting program (Chapter 40B-2, F.A.C.) and the environmental resource permitting (ERP) program (Chapter 40B-400, F.A.C.). MFLs identify a range of water levels and/or flows above which water may be permitted for consumptive use.

MFLs take into account the ability of water resource-dependent communities to adjust to changes in hydrologic conditions. MFLs allow for an acceptable level of change to occur. When use of water resources shifts the hydrologic conditions below levels defined by MFLs, significant harm can occur.

Figure 1 represents two hydrographs depicting the fluctuation of water levels or flow in a typical stream or lake over a long time

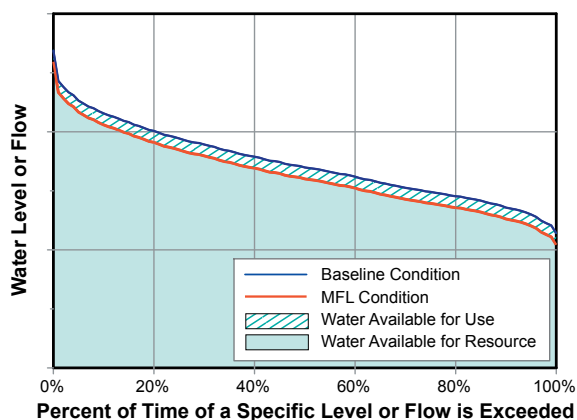
Figure One



period. The upper line represents the existing hydrologic conditions (baseline) and the lower line represents the hydrologic conditions defined by the MFLs. The hydrologic conditions defined by the MFLs are similar to, but are usually lower than, the existing hydrologic conditions.

The two curves in Figure 2 show the percentage of time each water level or flow is equaled or exceeded; this is called a water level or flow duration curve.

Figure Two



The area below the MFLs curve (the light blue shaded area in Figure 2) represents the water available for protection of fish and wildlife or public health and safety. If use of water resources shifts the water flow and/or levels below that defined by the MFLs, significant harm is expected to occur.

The distance between the baseline condition and the MFL condition (the blue hatched area in Figure 2) represents the water available for “reasonable-beneficial uses” that will not result in significant harm to the water resources. State law defines reasonable-beneficial use as the use of water in such quantity as is necessary for economic and efficient use for a purpose and manner which is both reasonable and consistent with the public interest.

How are MFLs adopted?

MFLs are adopted as water management District rules (Chapter 40B-8, F.A.C.) by the Governing Board of the district. Adoption is a four- to six-month process that involves public workshops, review by the Florida Department of Environmental Protection, and publication in the Florida Administrative Weekly. MFLs are to be reviewed periodically and revised as necessary under Subsection 373.0421(3), F.S.

How are MFLs applied?

MFLs apply to decisions affecting permit applications, declarations of water shortages and assessments of water supply sources. Computer simulation models for surface and groundwaters are used to evaluate the effects of existing and/or proposed consumptive uses and the likelihood they might cause significant harm. The District’s Governing Board is required to develop recovery or prevention strategies in those cases where a water body currently does not or will not meet an established MFL. Water uses cannot be permitted that cause any MFL to be violated.

To learn more

If you would like additional information on MFLs, you may contact the District at (386) 362-1001 or e-mail at district@srwmd.state.fl.us and refer to MFLs in the subject line.