

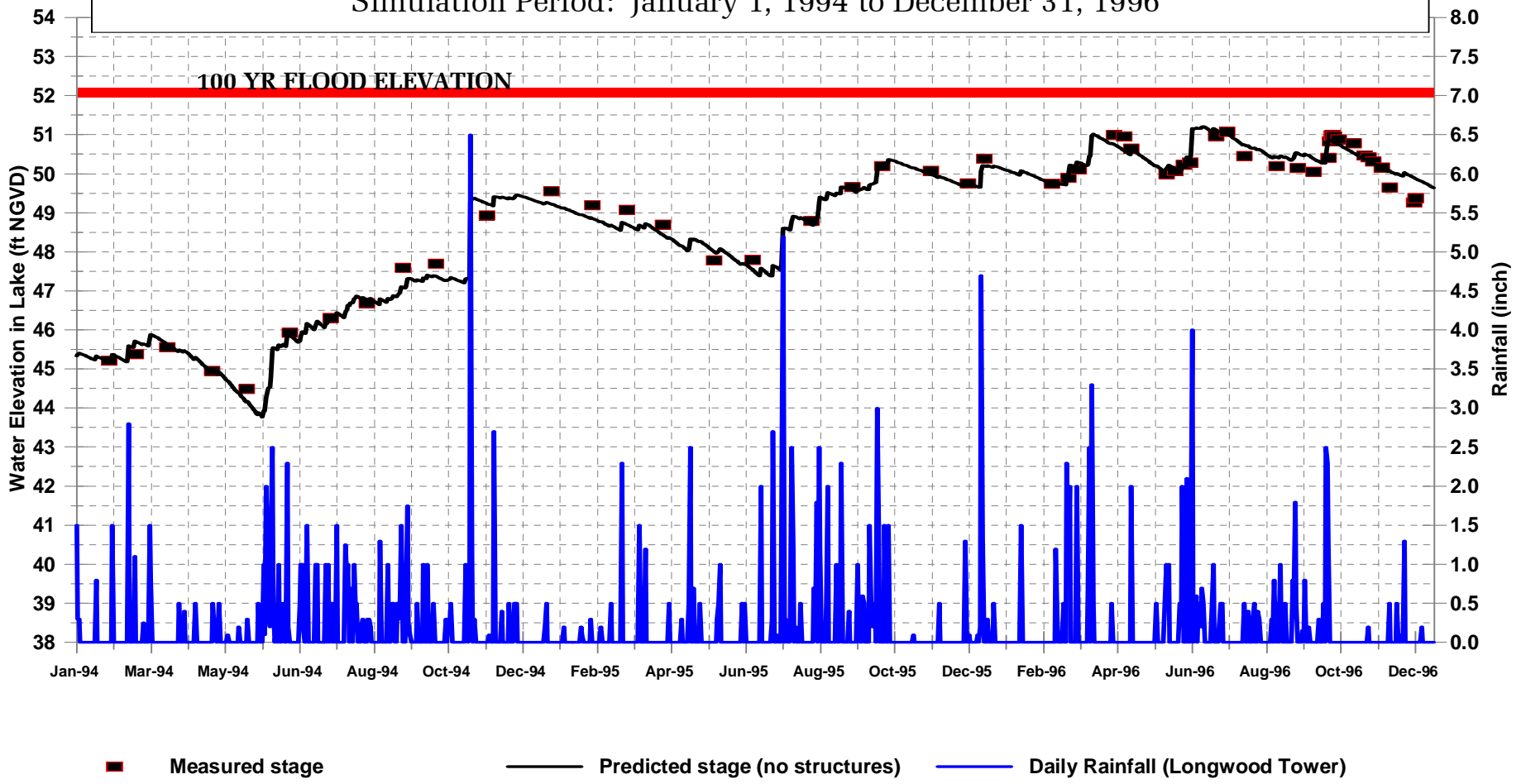
**RECENT EXAMPLE OF A CONTINUOUS
SIMULATION MODEL OF A CLOSED
BASIN**

Lake Myrtle, Seminole County

**This study was funded by
Seminole County Stormwater Dept**

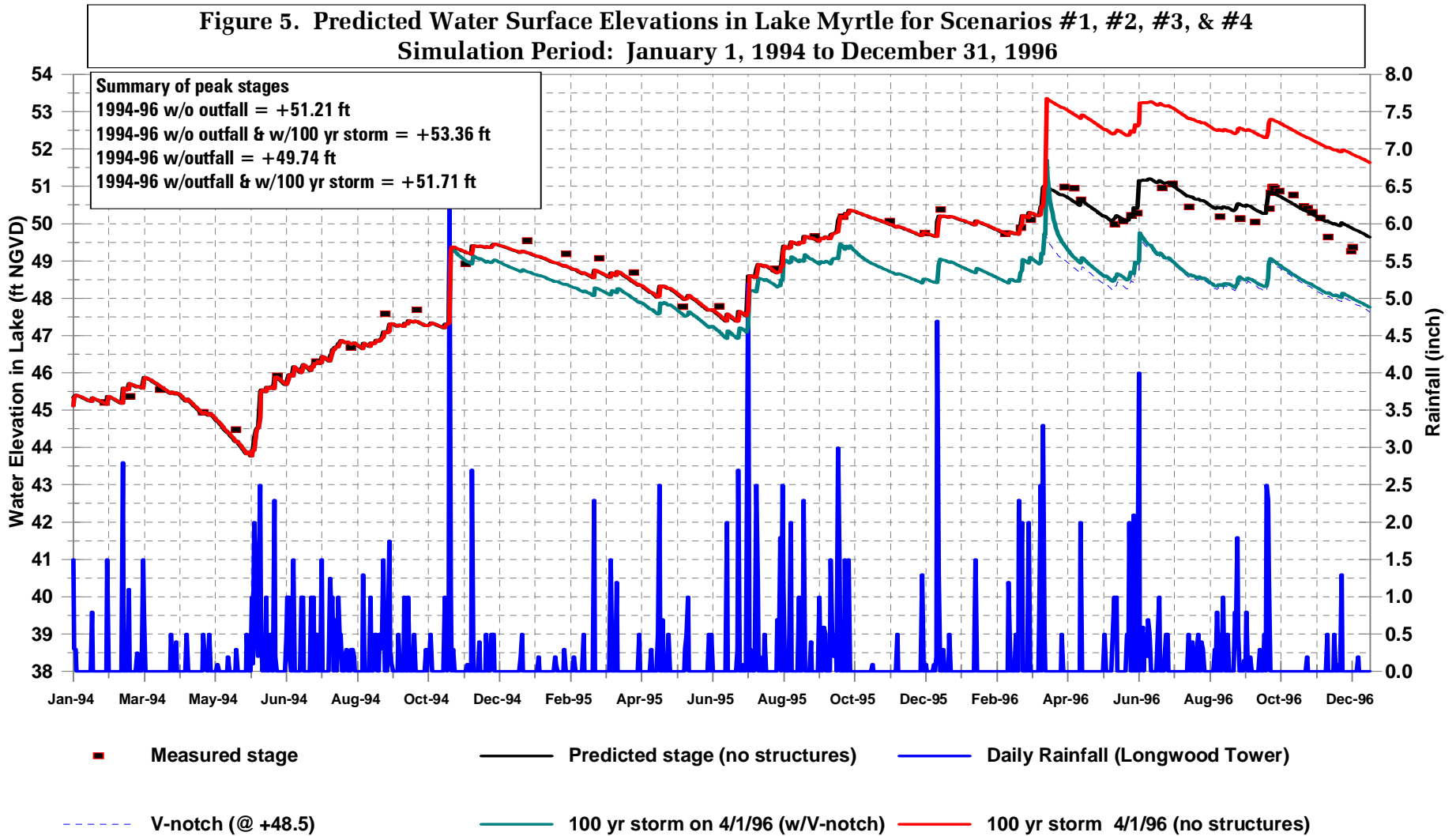
**LETS TAKE A LOOK AT THE
REMARKABLE CORRELATION
BETWEEN THE MEASURED &
PREDICTED STAGES FOR 1994 TO 1996**

Predicted & Measured Water Surface Elevations in Lake Myrtle, Seminole County
 Simulation Period: January 1, 1994 to December 31, 1996



LAKE MYRTLE, SEMINOLE COUNTY
AN EXCELLENT FIT BETWEEN MEASURED & PREDICTED RESPONSE
WATER LEVELS ROSE TO WITHIN 1 FT OF 100 YR FLOOD ELEVATION IN 1996

LOOKING AT SOME HYPOTHETICAL SITUATIONS FOR LAKE MYRTLE

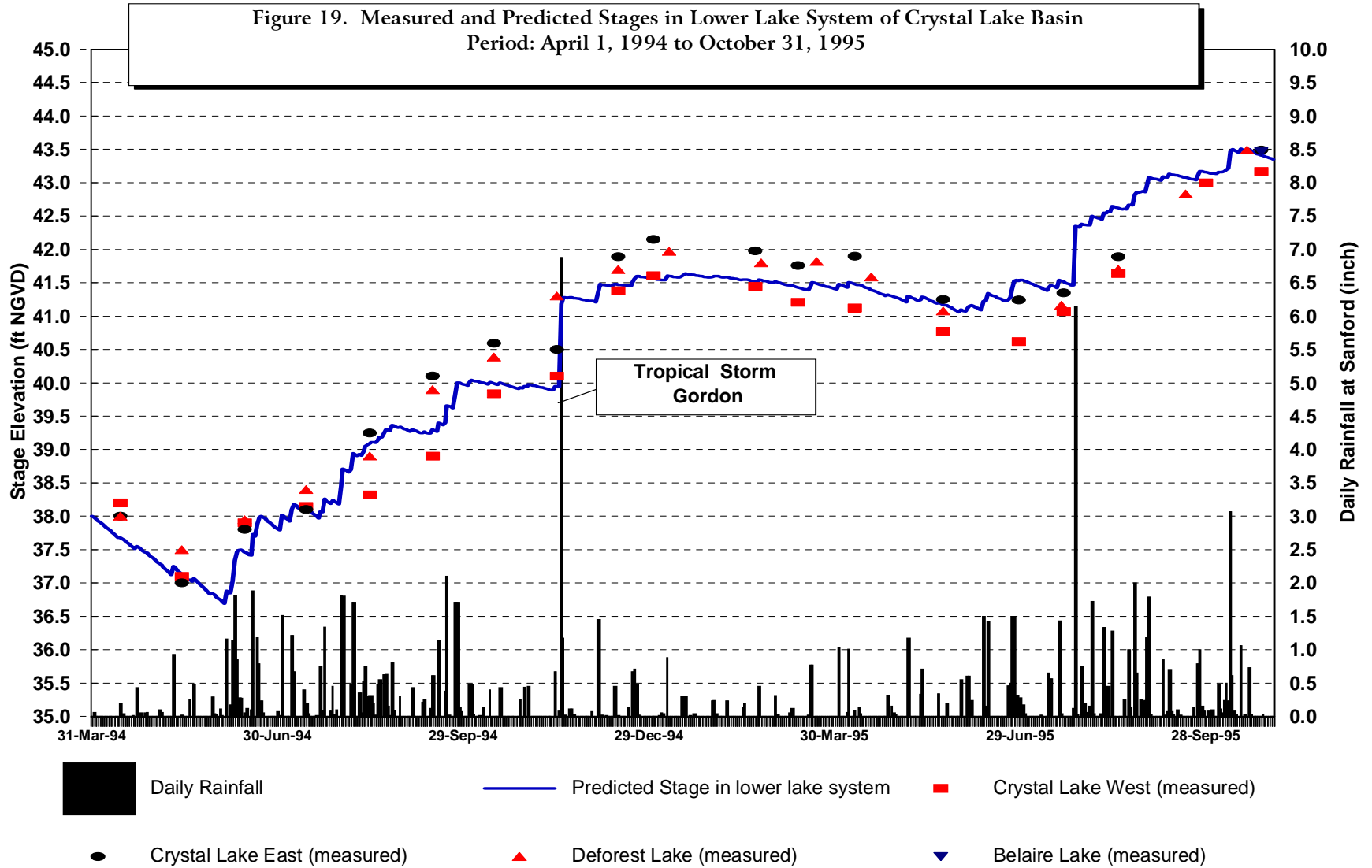


**ANOTHER EXAMPLE OF A
CONTINUOUS SIMULATION
MODEL OF A CLOSED BASIN
Crystal Lake, Seminole County**

**This study was funded by
Lake Mary & Seminole County**

**LETS TAKE A LOOK AT THE
REASONABLE CORRELATION
BETWEEN THE MEASURED &
PREDICTED STAGES**

RESULTS OF CRYSTAL LAKE BASIN MODEL - ANOTHER GOOD MATCH



**SOME MORE EXAMPLES OF
CONTINUOUS SIMULATION
MODELS OF CLOSED BASINS
City of Ocoee, Orange County**

**These studies were funded by
City of Ocoee**

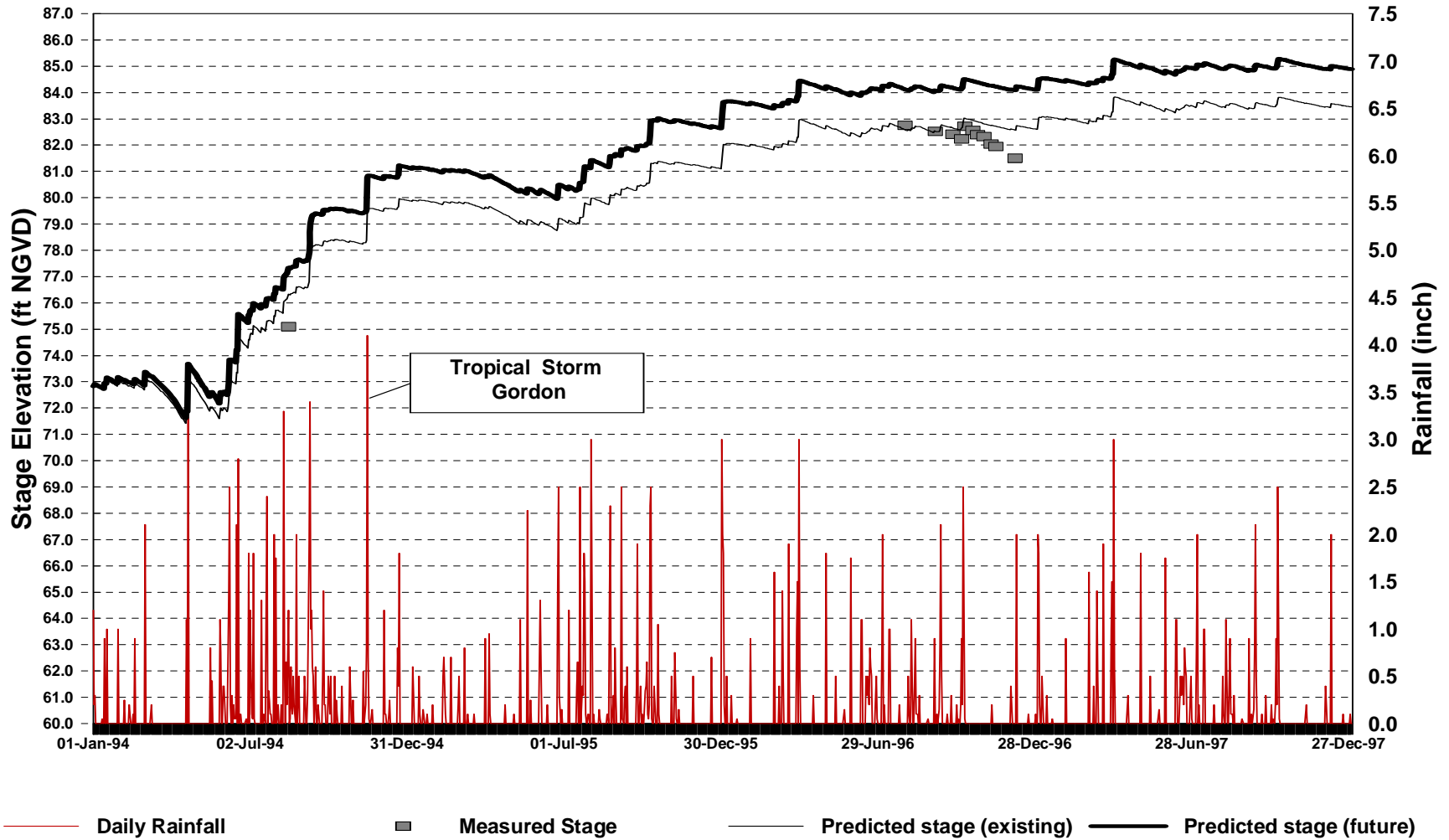
**Let us take a look at the importance of
drainwells & increase in impervious area on
water levels in some closed basins in Ocoee
(Orange County, Florida)**

PRAIRIE LAKE

CITY OF OCOEE

PRAIRIE LAKE IN OCOEE - EXISTING & FUTURE CONDITIONS

THIS INTERNALLY DRAINED LAKE HAS NO DRAINWELLS

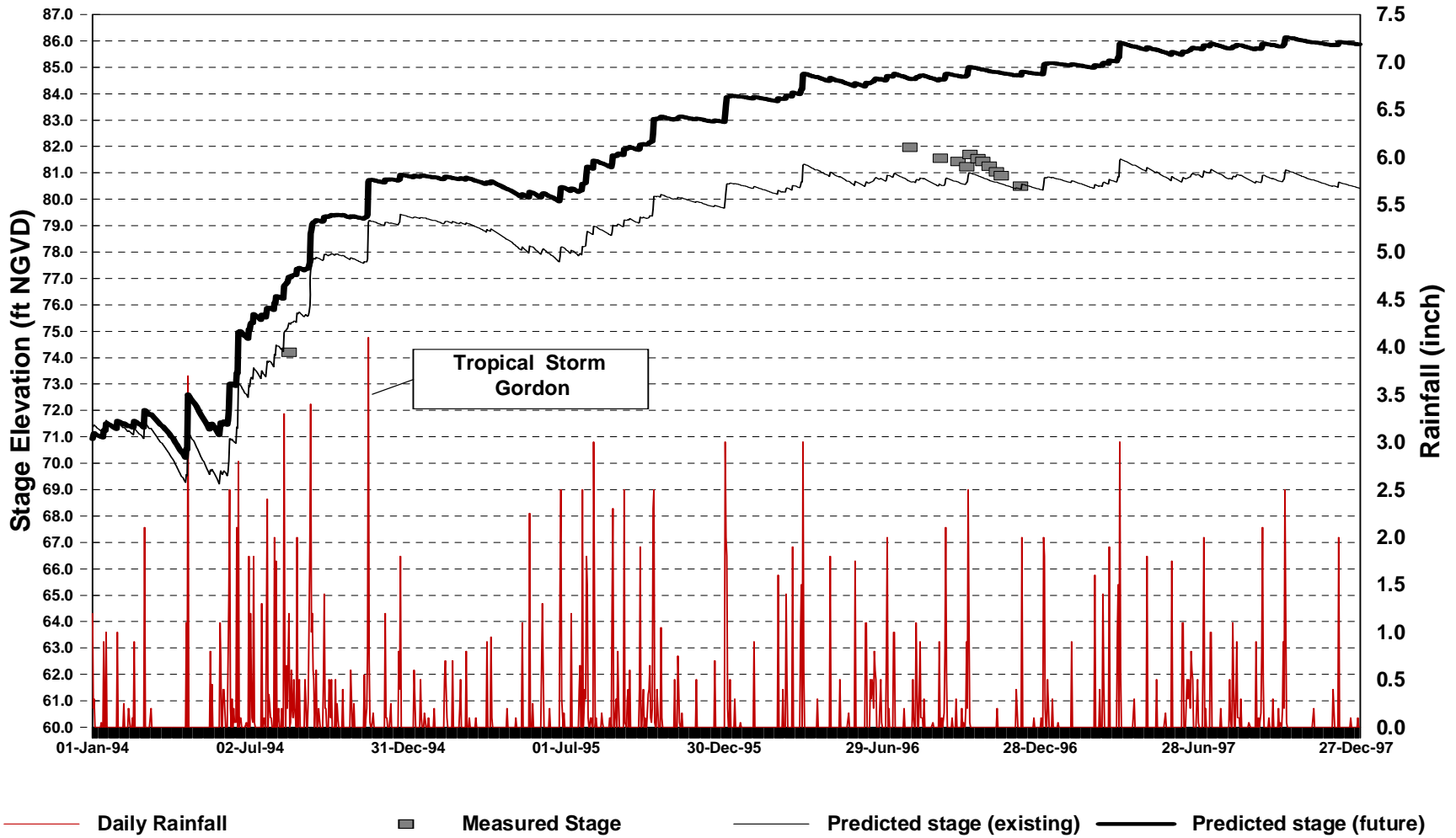


LAKE MEADOW

CITY OF OCOEE

LAKE MEADOW IN OCOEE

Note: predicted impact of future increase in impervious area on lake levels; this lake has no drainwells.

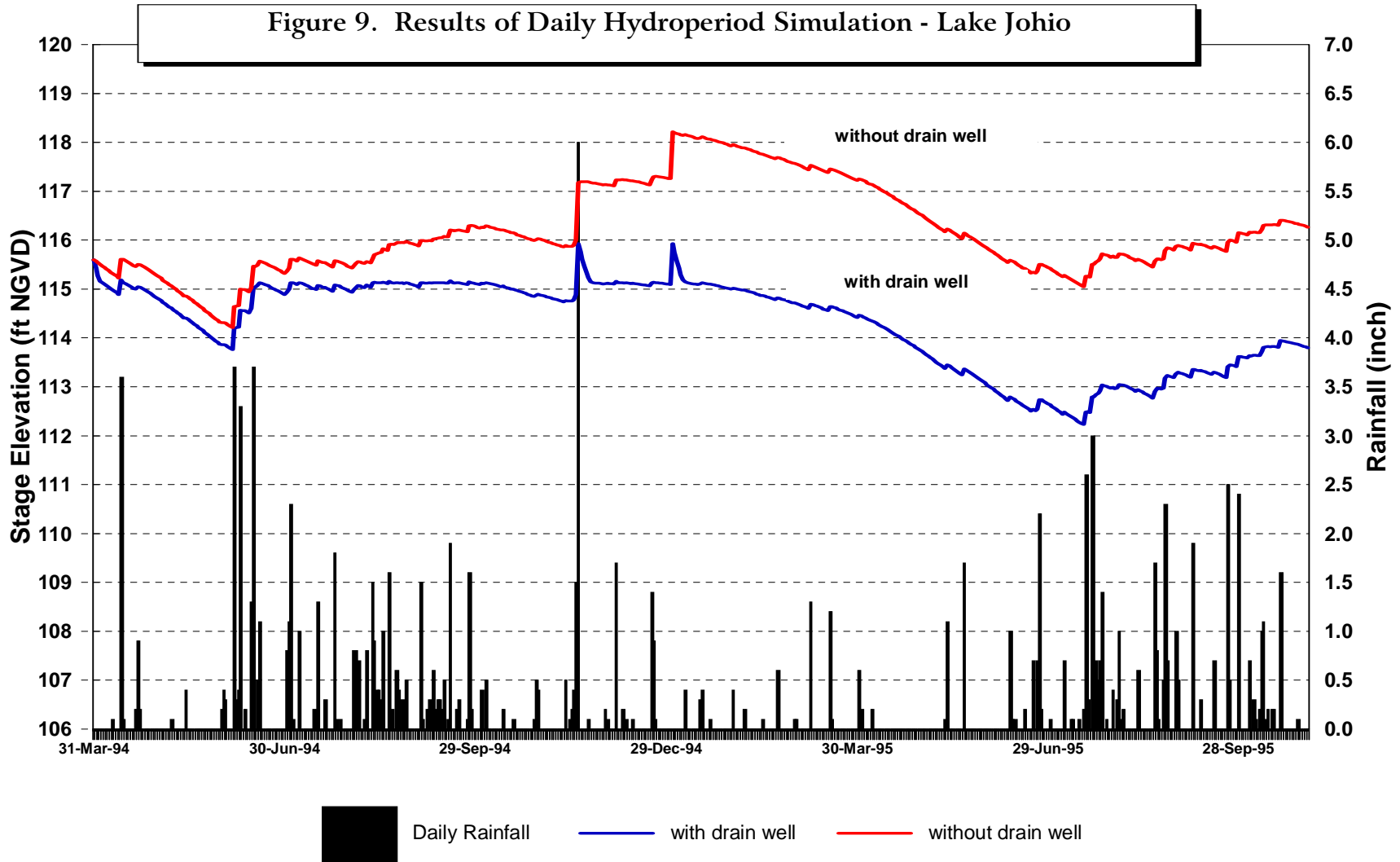


LAKE JOHIO

CITY OF OCOEE

LAKE JOHIO IN OCOEE

LOOK AT THE IMPACT IF THE DRAINWELL WERE ABANDONED

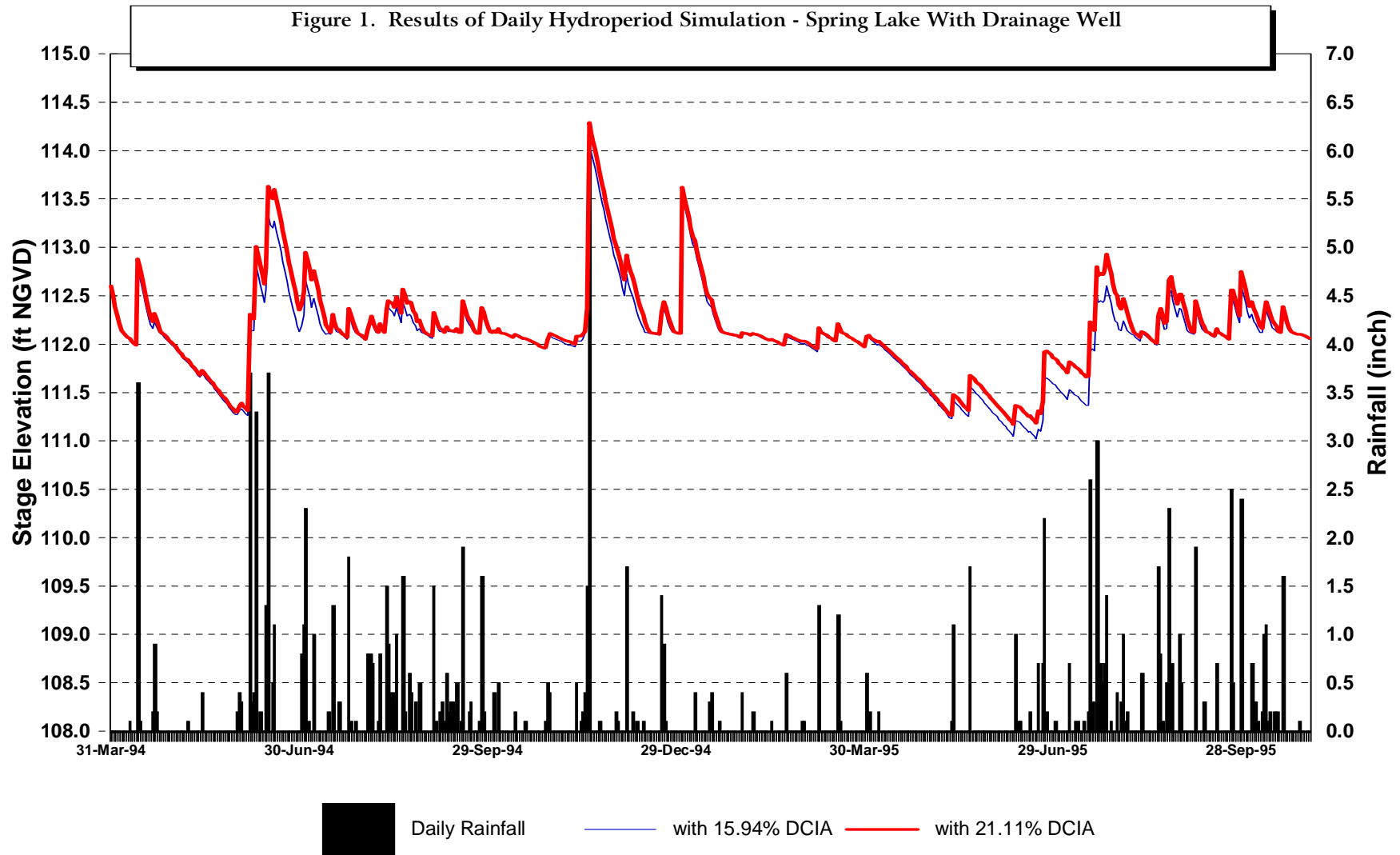


SPRING LAKE

CITY OF OCOEE

SPRING LAKE IN OCOEE

FUTURE INCREASE IN IMPERVIOUS AREA SHOWS NO SIGNIFICANT IMPACT PROVIDED THE DRAINWELL REMAINS FUNCTIONAL

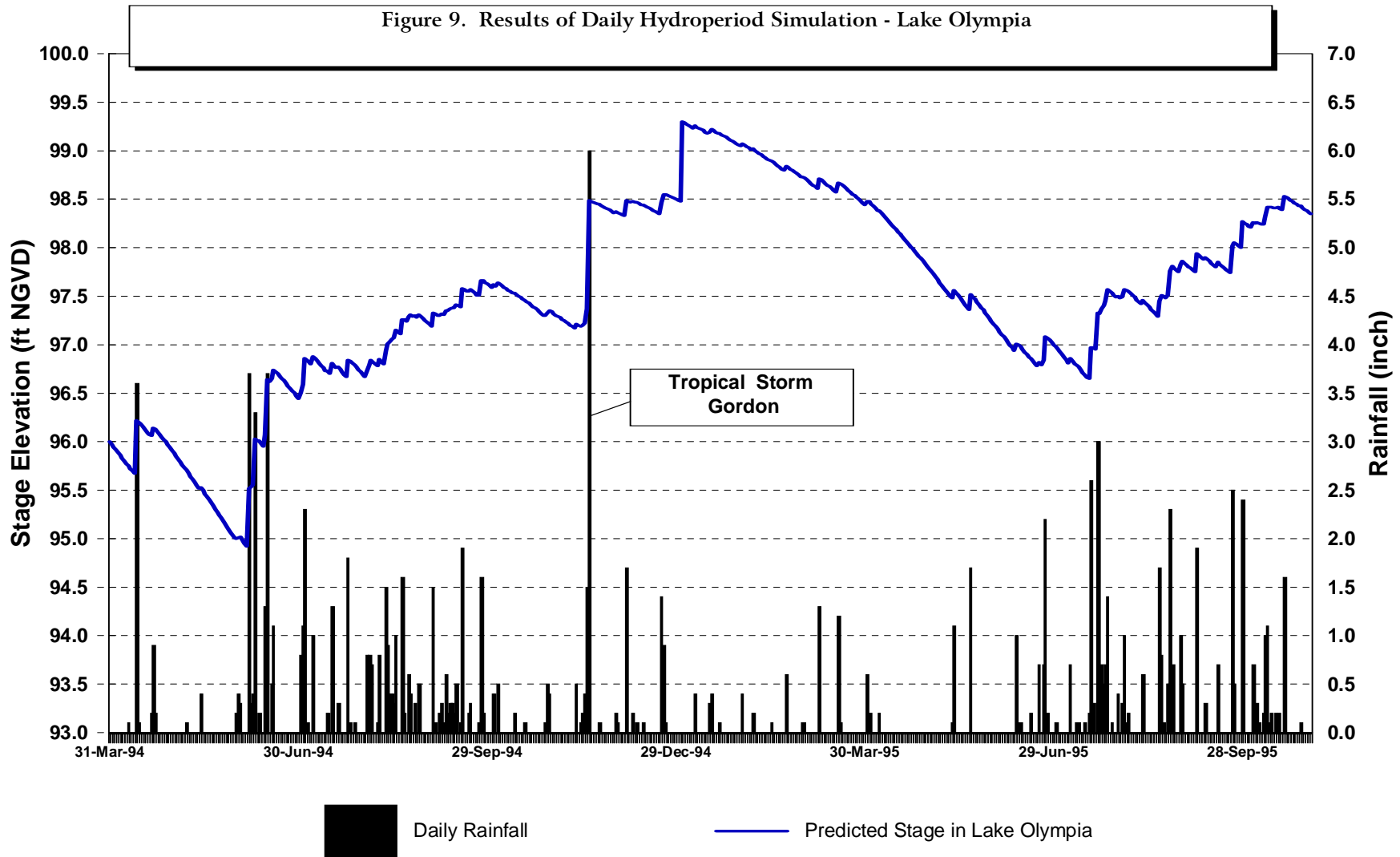


LAKE OLYMPIA

CITY OF OCOEE

LAKE OLYMPIA IN OCOEE

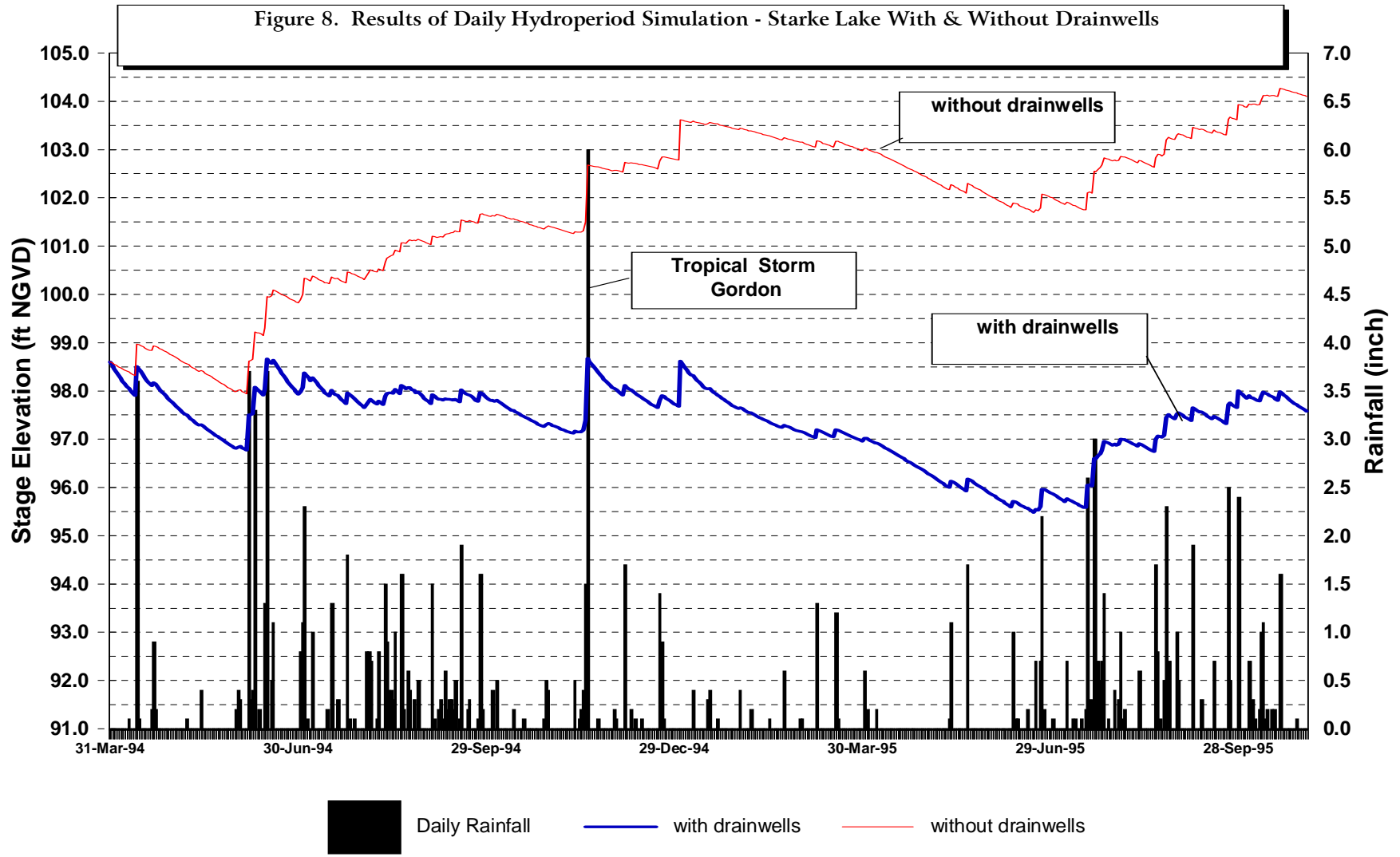
THIS LAKE HAS NO DRAINWELLS - BOAT DOCKS FLOODED IN 1995 & 1996 can overflow into Starke Lake which has a drainwell



STARKE LAKE

CITY OF OCOEE

STARKE LAKE IN OCOEE SERIOUS CONSEQUENCES IF THESE DRAINWELLS DID NOT FUNCTION



AN EXAMPLE OF CONTINUOUS SIMULATION MODELING OF INTERCONNECTED BASINS Cranes Roost, Altamonte Springs

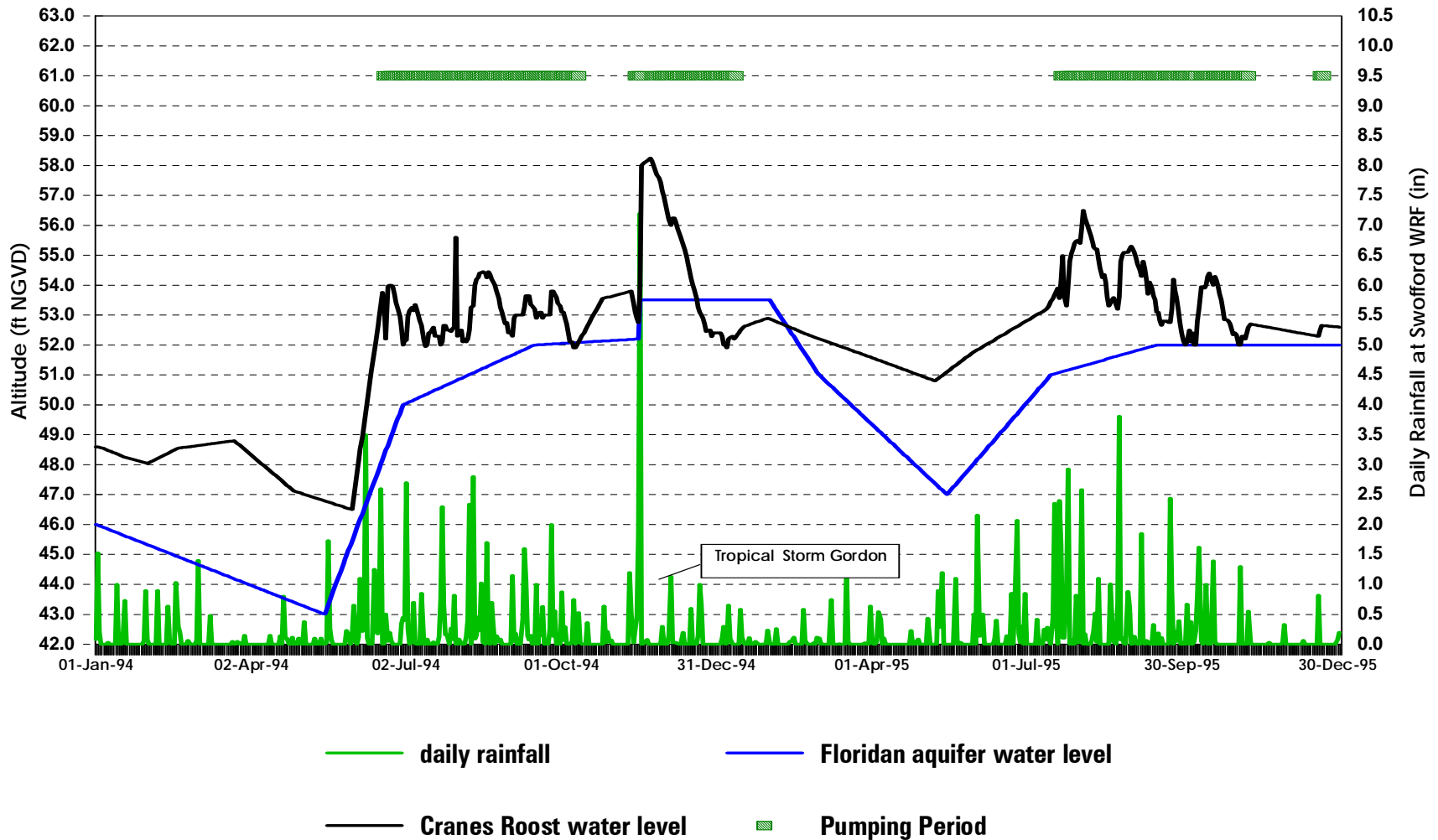
**This study was funded by
City of Altamonte Springs**

The Cranes Roost water body is the terminal receiving lake for an approximately 1960± acre watershed that contains a variety of urban land uses, and three other major upgradient water bodies (subbasins), namely:

- ❑ Lake Mobile,
- ❑ Lake Florida, and
- ❑ Lake Adelaide.

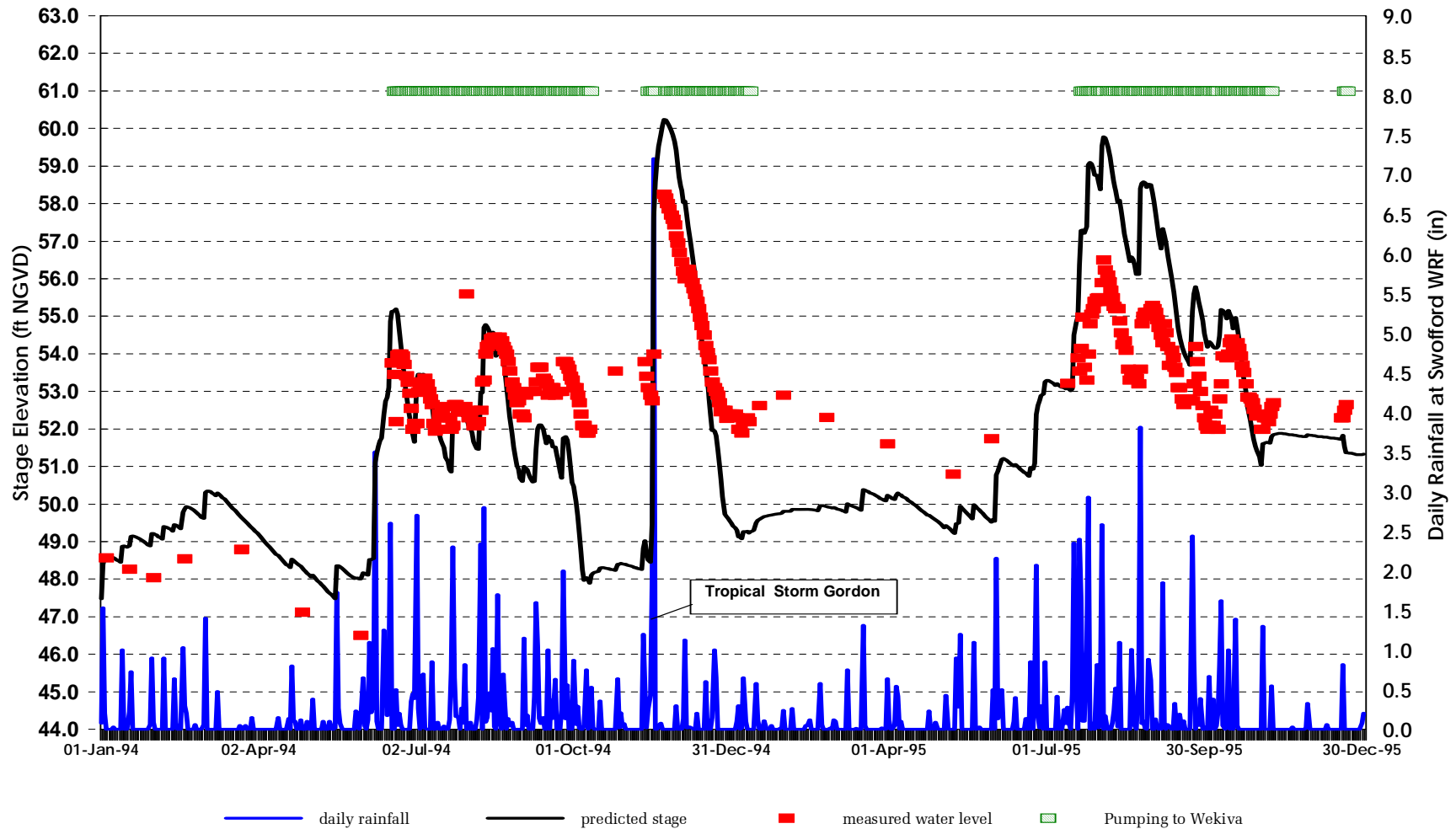
CRANES ROOST

Notice: this lake is well connected to Floridan aquifer and sometimes the Floridan aquifer discharges upward into the lake. Cranes Roost is also pumped with discharge to the Little Wekiva River when it exceeds a certain stage. Pumping periods are also shown. Four (4) upgradient lakes also flow into Cranes Roost.



CRANES ROOST IN ALTAMONTE SPRINGS

Note: A reasonable prediction by PONDSTM™ in spite of the complexity of the model.



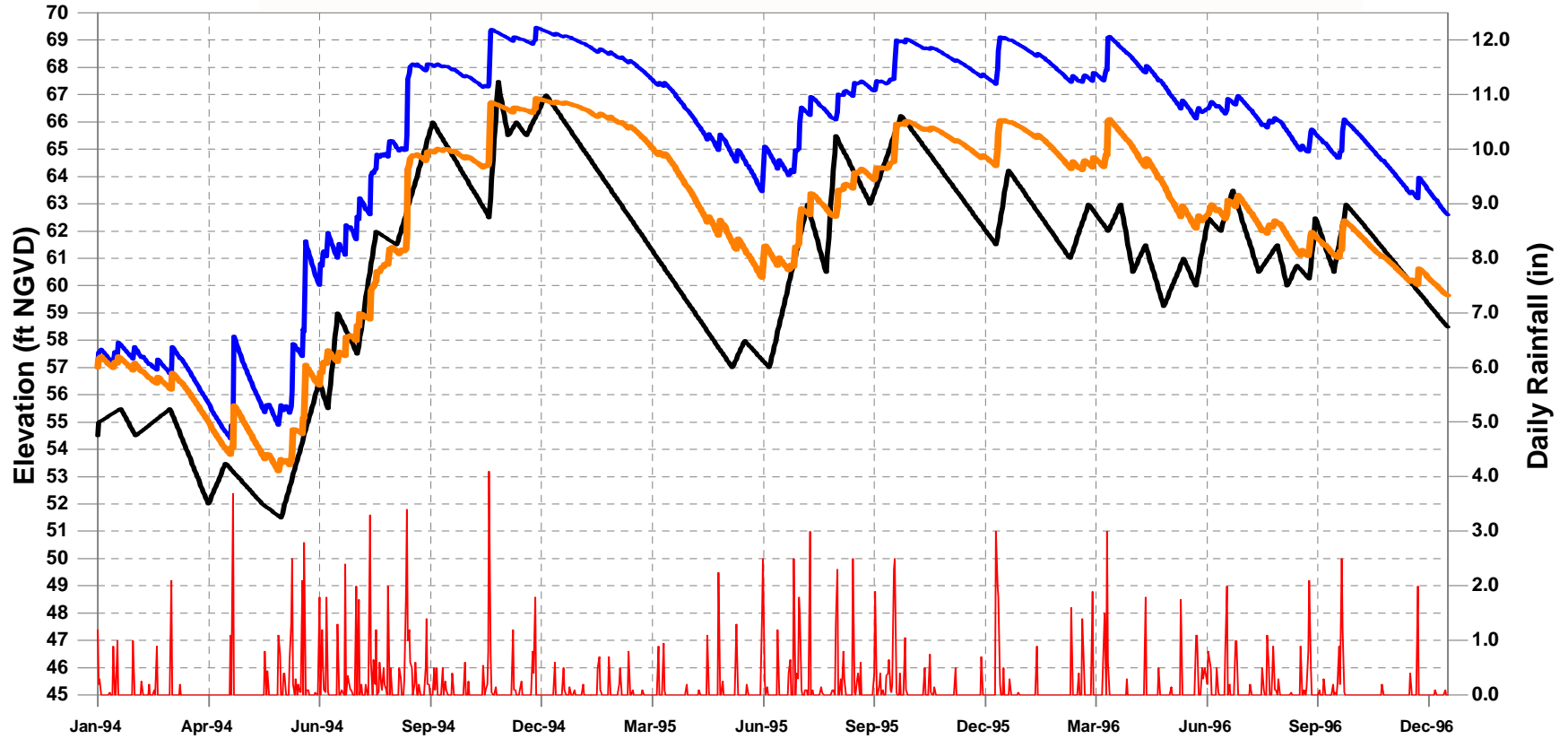
AN EXAMPLE OF CONTINUOUS SIMULATION MODELING OF LAKE ARLIE IN ORANGE COUNTY, FL

**This study was funded by
Laurel Homes Inc.**

**THIS LAKE HAS A RELATIVELY HIGH VERTICAL LEAKAGE TO THE
FLORIDAN AQUIFER UNLIKE THE OCOEE LAKES.**

**PURPOSE OF SIMULATION WAS TO EVALUATE HOW
DEVELOPMENT WITHIN THE WATERSHED (ESPECIALLY THE
ADDITION OF DCIA) WOULD IMPACT HYDROLOGY OF LAKE OVER
AN EXTENDED WET PERIOD (1994-1996)**

Continuous Simulation Model Predictions for Lake Arlie (1994-1996)



— Floridan aquifer water level

— Postdevelopment for Lake Arlie

— Daily Rainfall

— Predevelopment for Lake Arlie

AN EXAMPLE OF CONTINUOUS SIMULATION MODELING OF A SINKHOLE USED FOR STORMWATER RETENTION Orange County MSTU #6542-000

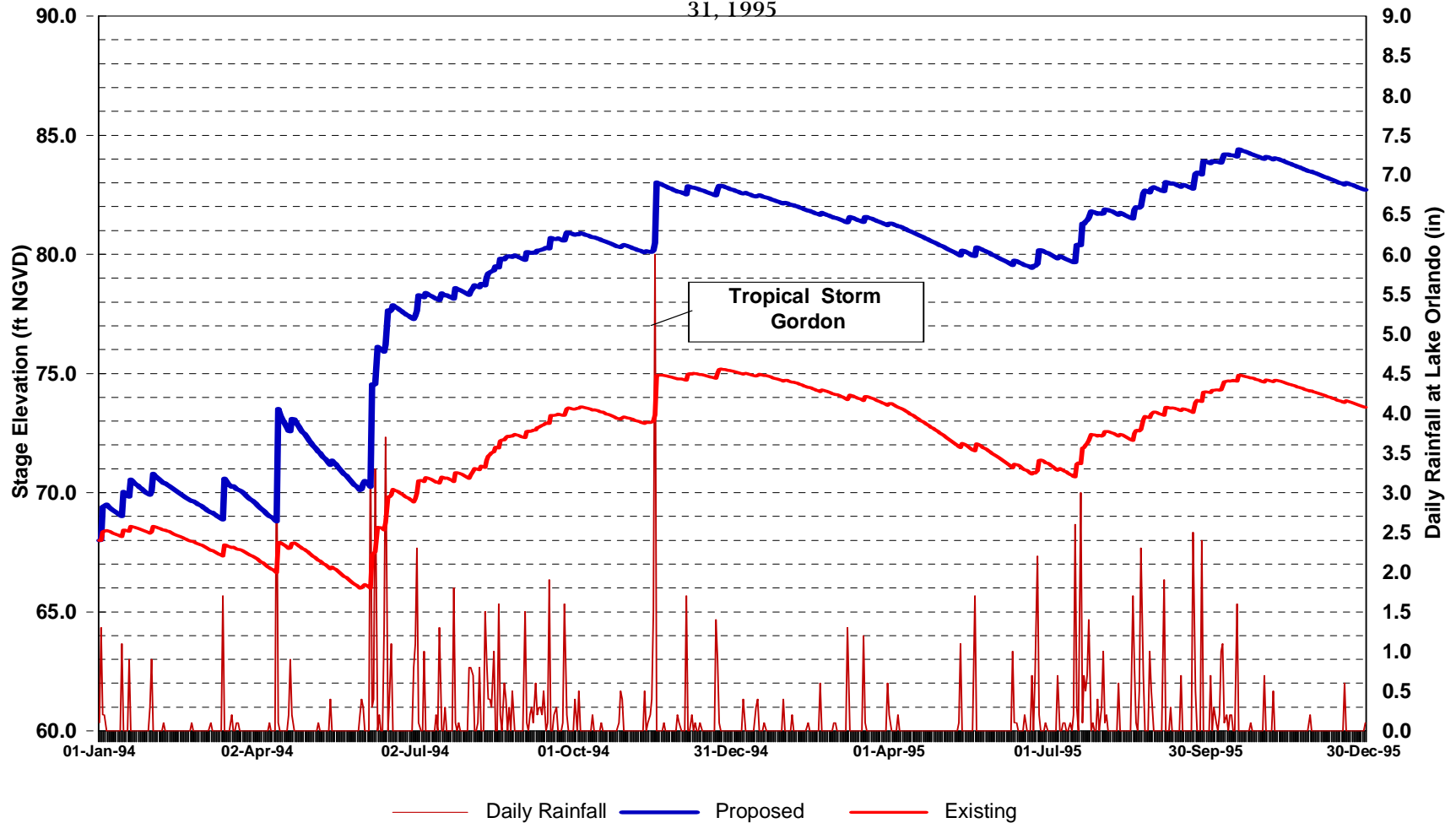
**This study was funded by
Orange County**

Quantitative Hydrologic Modeling of Orange Co. MSTU Pond #6542-000, Beggs Road, Orange County, Florida

In summary, the continuous simulation modeling indicates that, in a wet period, Orange Co. MSTU Pond #6542-000 will stage to elevations which are probably as high as or higher than the 100 yr/24 hr or 25 yr/96 hr design storm events.

BEGGS ROAD SINKHOLE IN ORANGE COUNTY SIGNIFICANT IMPACT OF FUTURE INCREASE IN IMPERVIOUS AREA

Figure 6. Predicted Stages in MSTU Pond #6542-000 for period: January 1, 1994 to December 31, 1995



AN EXAMPLE OF CONTINUOUS SIMULATION MODELING OF A SINKHOLE USED FOR STORMWATER RETENTION County Road 491, Citrus County

**This study was funded by
Citrus County**

The proposed improvements to County Road 491 will lead to a relatively small increase in the impervious area which drains toward the closed depressions. The objective of this study is to analyze the potential for the long-term accumulation of water in the depressional basins over an extended wet period (such as two consecutive “wet” years).

Although not presently required by regulatory agencies, the latter long-term scenario can sometimes be more critical, in terms of peak stage, than the design storm events used for permitting (such as the 100 year/24 hr event).

Figure 12. Predicted Stages in Basin B Depression for period: Jan 1, 1994 to Dec 31, 1995

