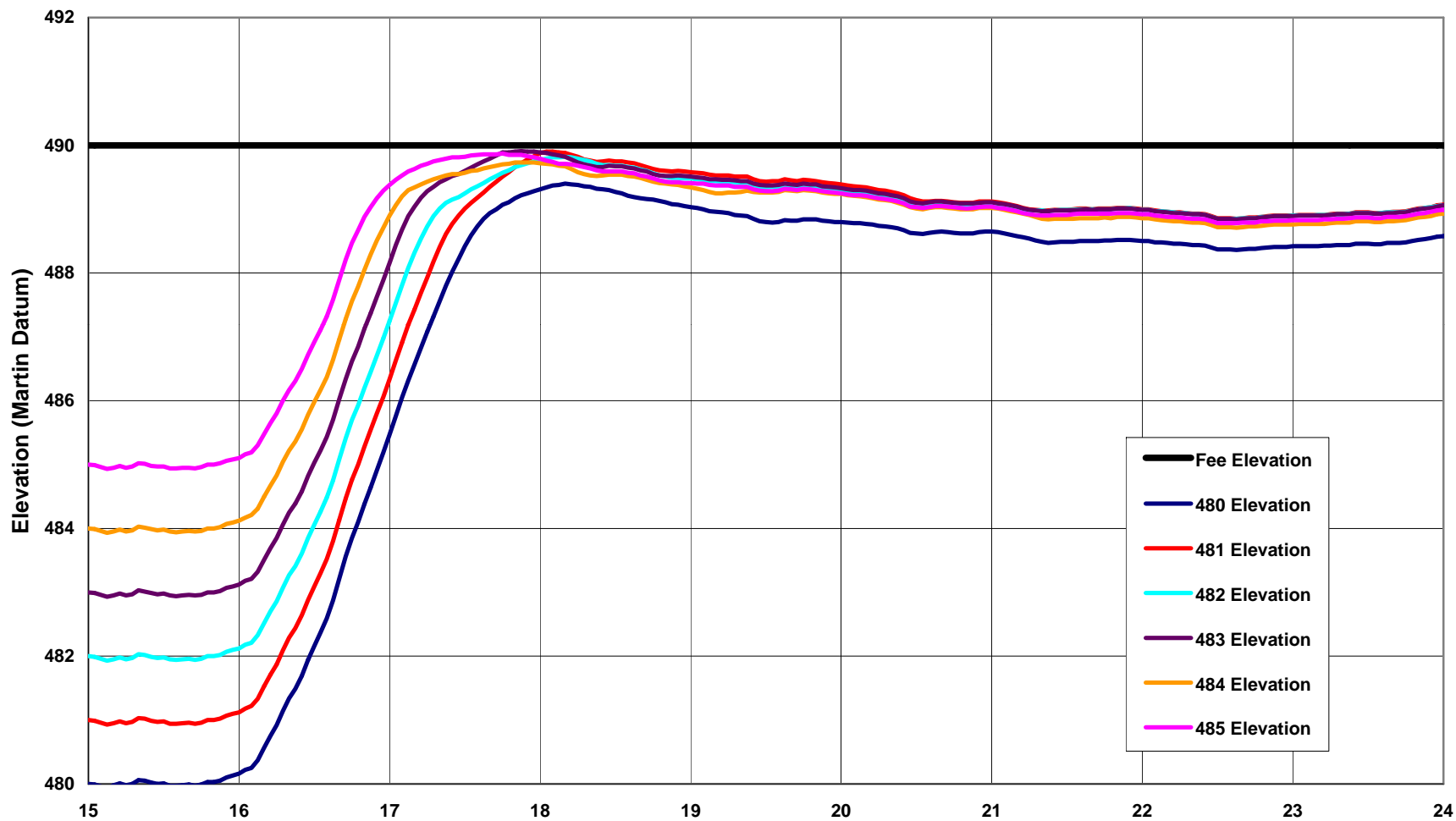
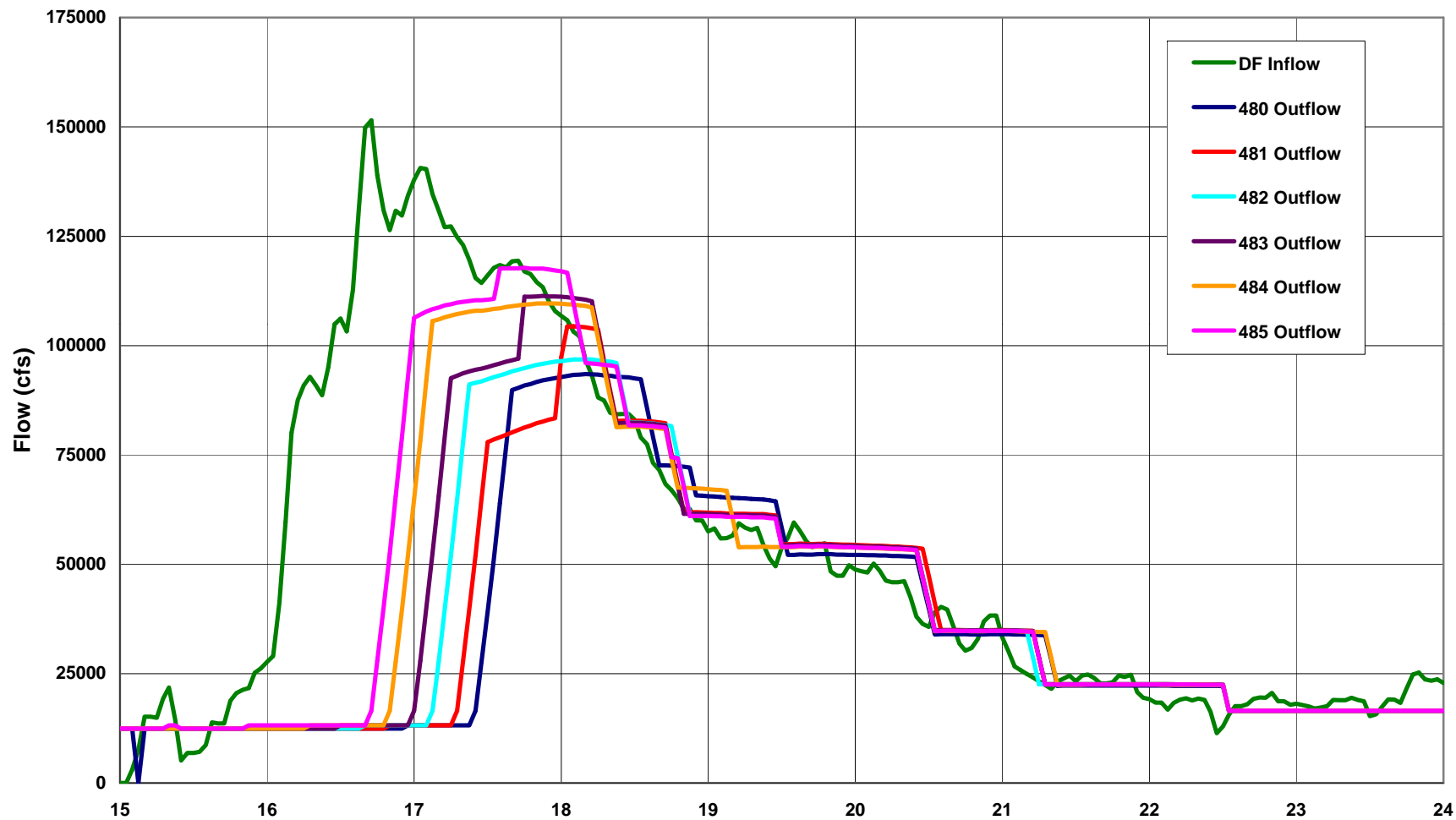


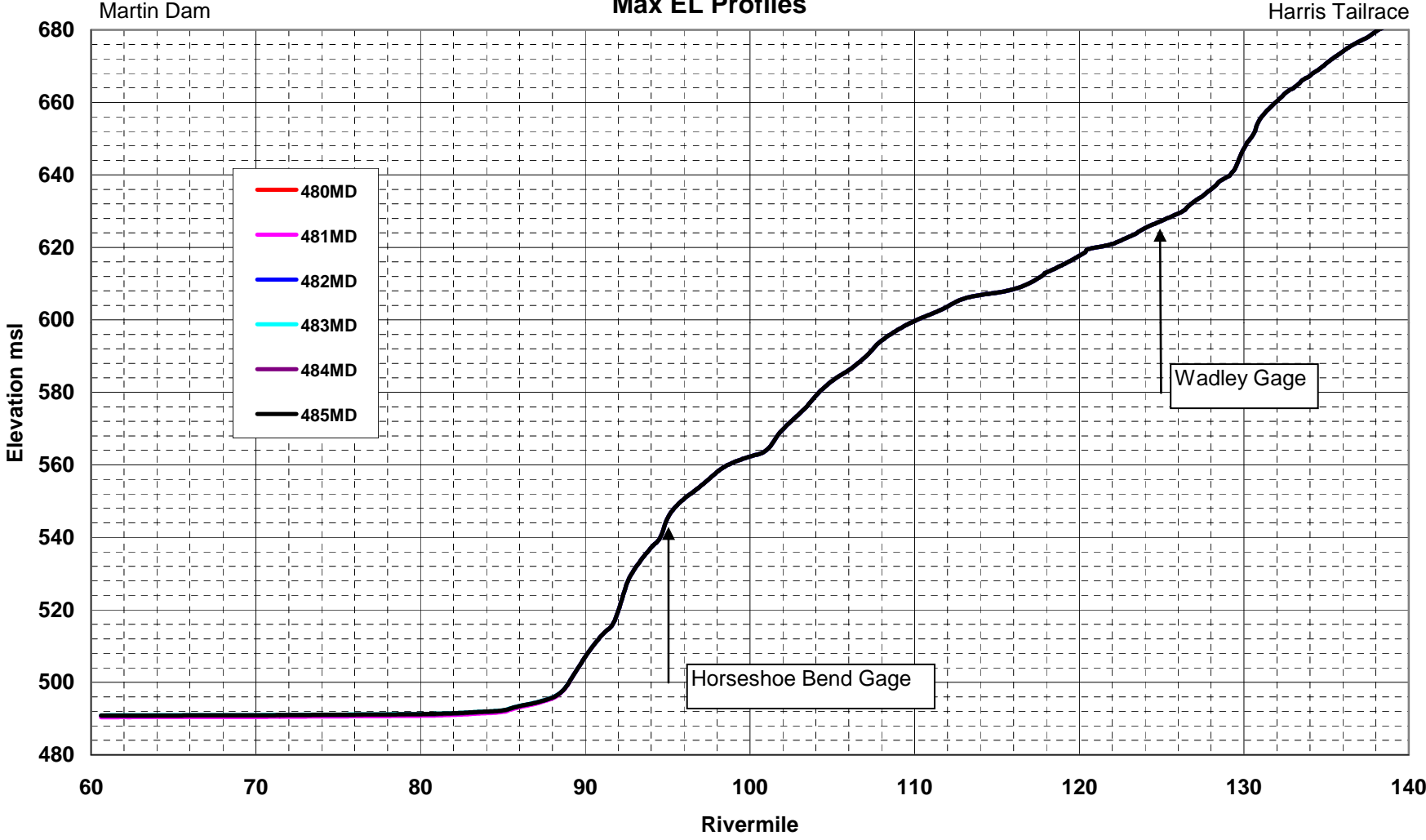
### Martin Reservoir Project Routing Model Winter Pool Evaluation



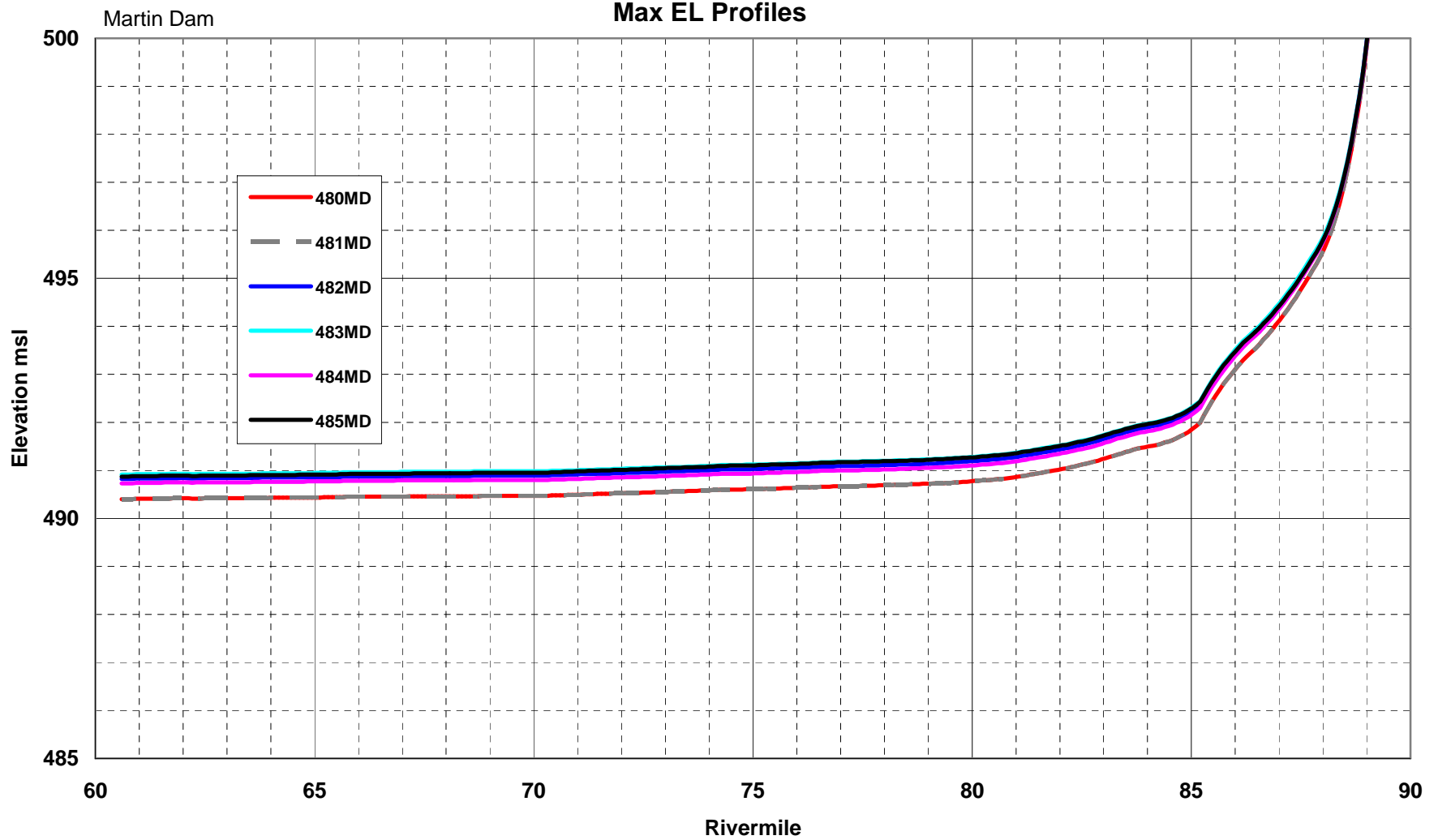
### Martin Reservoir Project Routing Model Winter Pool Evaluation



# Design Flood Max EL Profiles



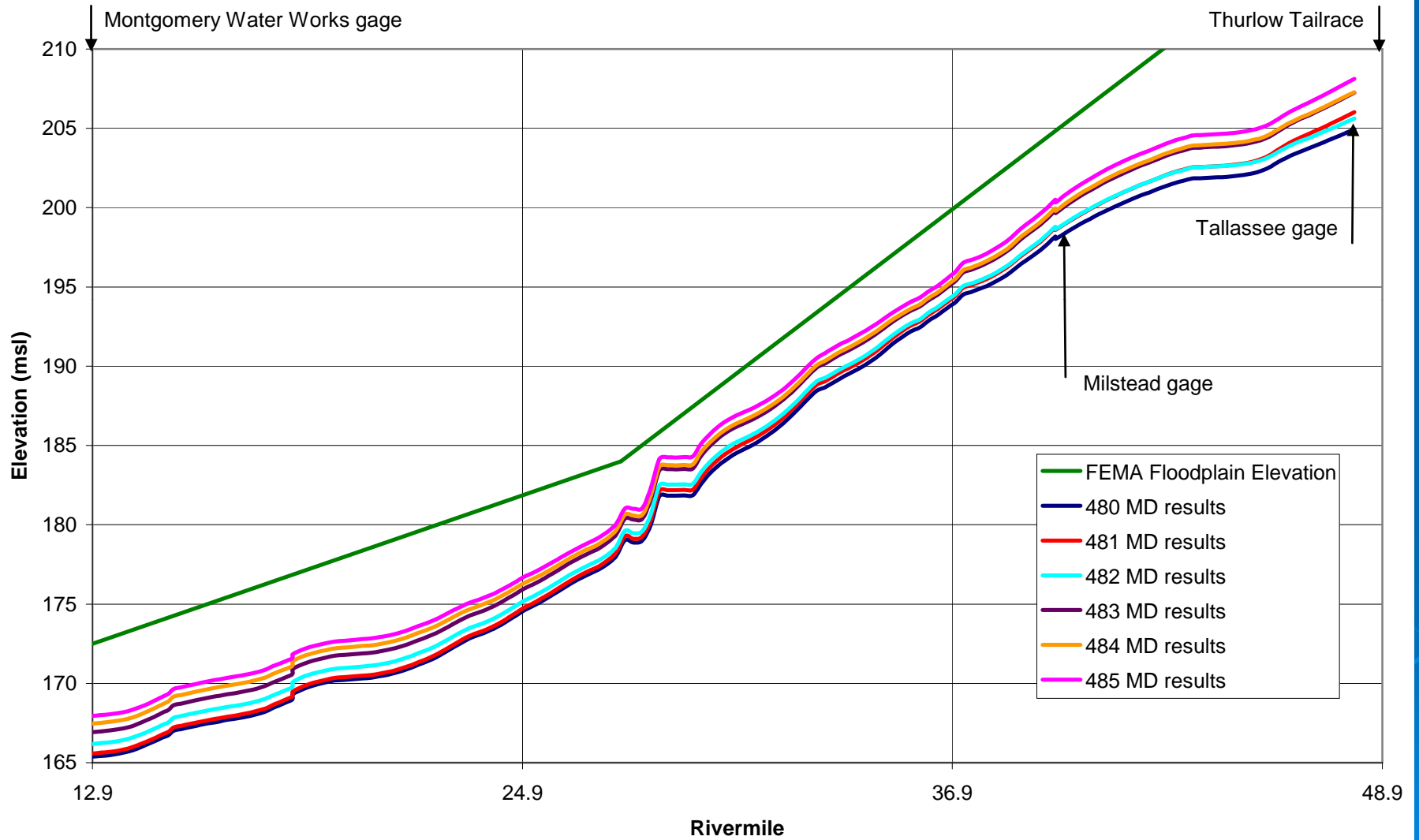
# Design Flood Max EL Profiles



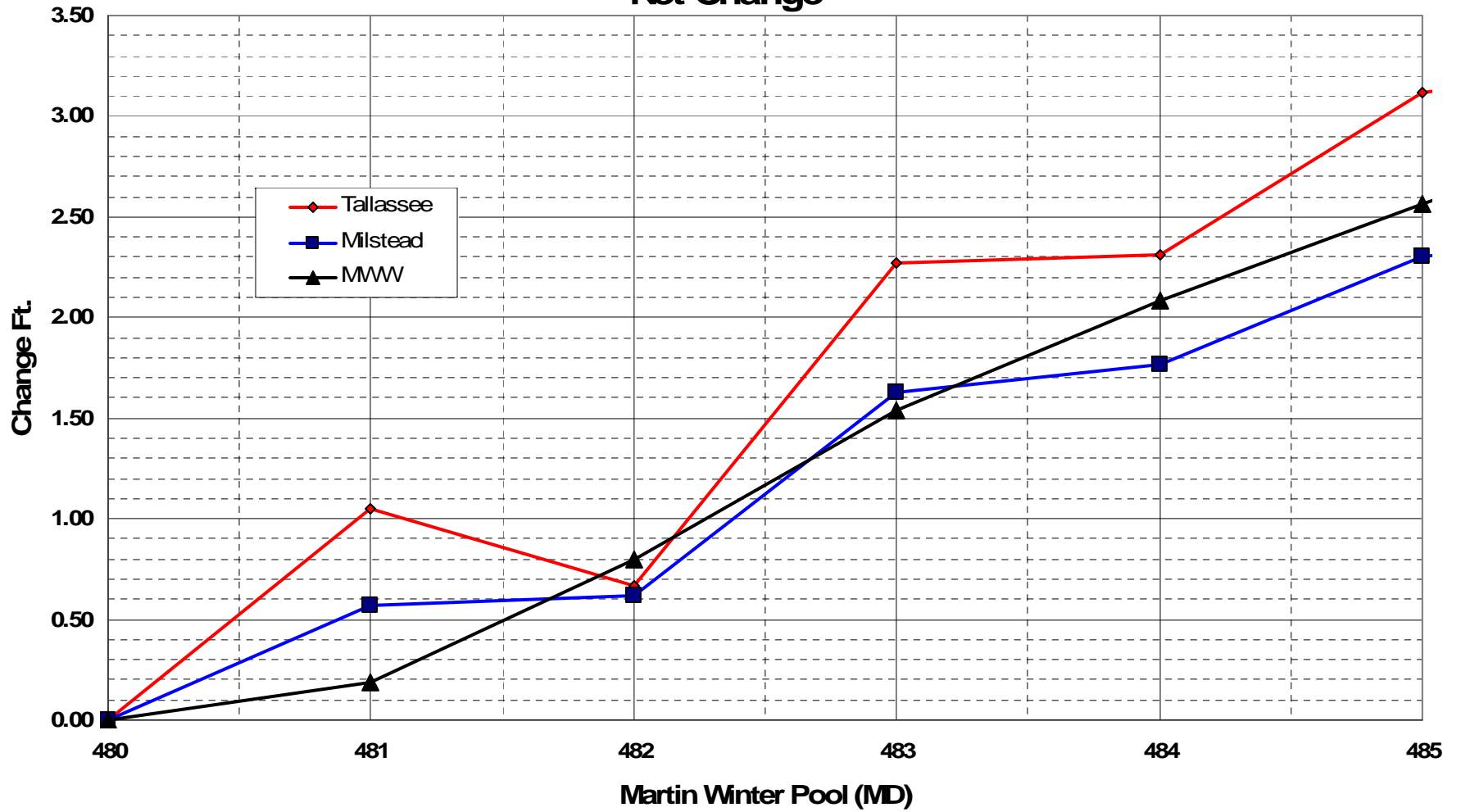
# Martin Reservoir Modeling Results

- At each of the proposed winter pool elevations the design flood is:
  - Kept within the 490 ft Martin Datum free elevation
  - No impacts that would effect current operations at Harris
  - Outflow is still much lower than inflow i.e. the dam is still providing flood protection for downstream

### Lower Tallapoosa Profile Elevations Winter Pool Evaluation



## Net Change



← Upstream Gauge

Downstream Gauge →

#### Flood Categories (in feet)

Major Flood Stage:	53
Moderate Flood Stage:	46
Flood Stage:	40
Action Stage:	15

#### Historical Crests

- (1) 54.00 ft on 12/10/1919
  - (2) 51.50 ft on 02/26/1961
  - (3) 50.90 ft on 03/15/1929
  - (4) 49.85 ft on 03/17/1990
  - (5) 49.00 ft on 11/28/1943
- [Show More Historical Crests](#)

#### Low Water Records

- (1) -1.3 ft on 10/30/1978
  - (2) -1.1 ft on 11/17/1935
  - (3) -1.0 ft on 12/22/1939
- [Show More Low Water Records](#)

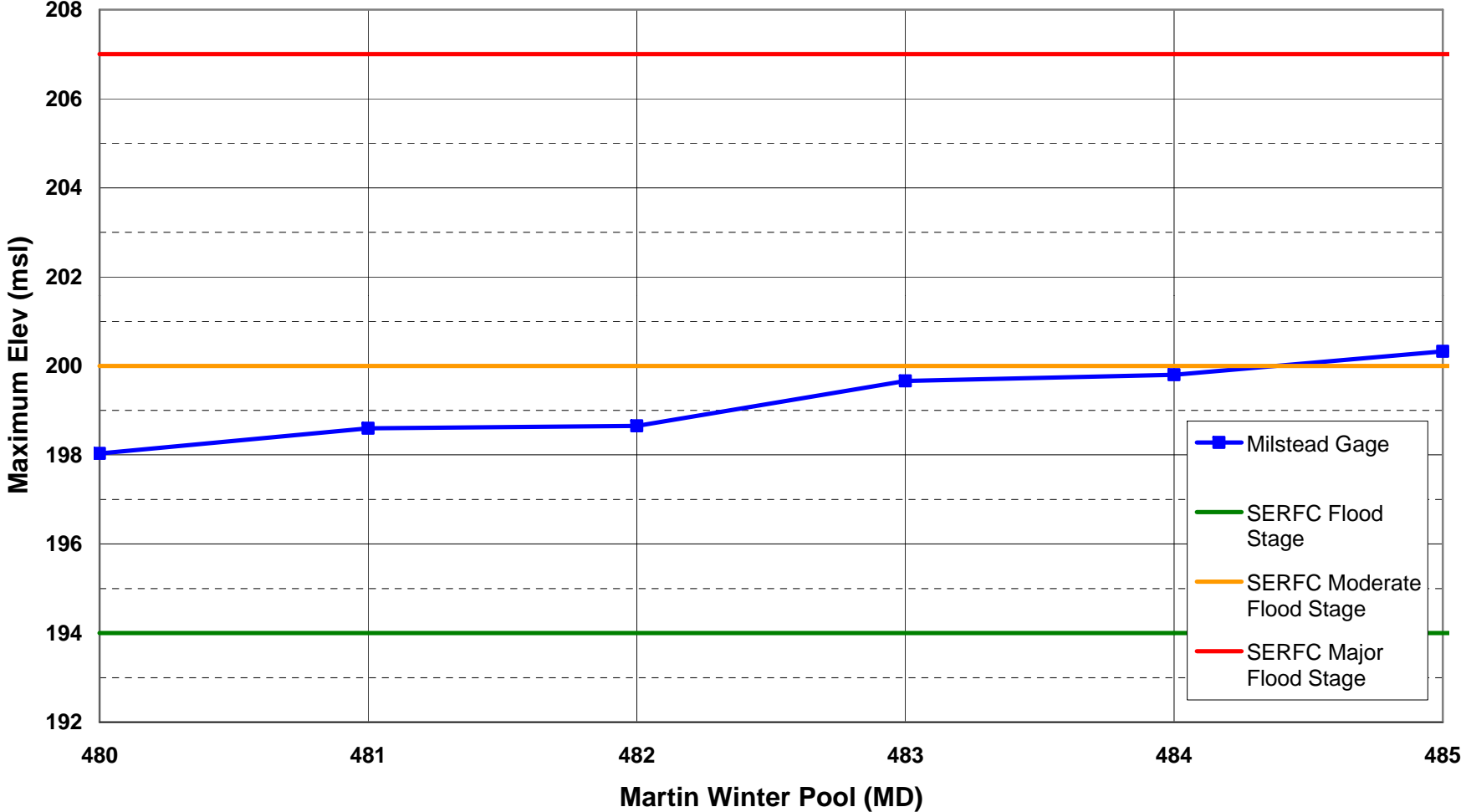


#### Flood Impacts

Collapse

- 53.0 AT 53 FEET WATER OVERFLOWS THE YARDS OF SOME HOMES IN THE MILSTEAD AREA
- 46.0 FLOODING OF SOME ROADS IN THE AREA BEGINS AT 46 FEET
- 40.0 EXTENSIVE FLOODING OF THE PASTURELANDS IN THE AREA OCCURS
- 25.0 CONSIDERABLE LOWLAND FLOODING OCCURS AT STAGES OF 25 FEET AND ABOVE...ESPECIALLY NEAR THE JUNCTION WITH THE COOSA RIVER. LIVESTOCK SHOULD BE MOVED TO HIGHER GROUND

# Milstead Gage Rivermile 39.8



← Upstream Gauge

**Flood Categories (in feet)**

Major Flood Stage:	38
Moderate Flood Stage:	32
Flood Stage:	25
Action Stage:	15

**Historical Crests**

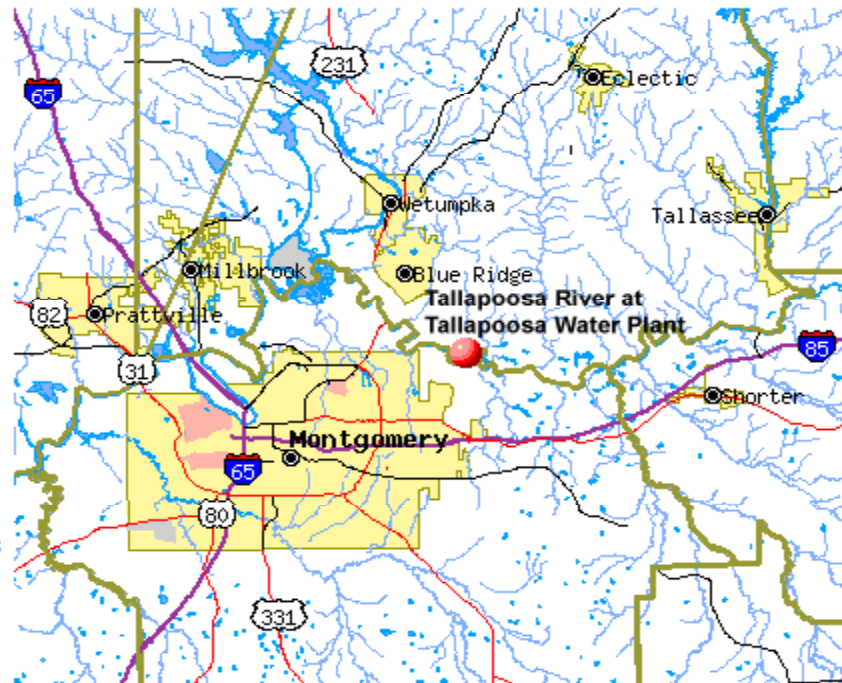
- (1) 42.13 ft on 03/18/1990
- (2) 38.75 ft on 04/15/1979
- (3) 35.32 ft on 06/21/1989
- (4) 35.00 ft on 03/05/1971
- (5) 34.59 ft on 03/11/1998

[Show More Historical Crests](#)

**Low Water Records**

- (1) 0.1 ft on 10/17/1978
- (2) 0.5 ft on 09/02/1980
- (2) 0.5 ft on 09/05/1978

[Show More Low Water Records](#)

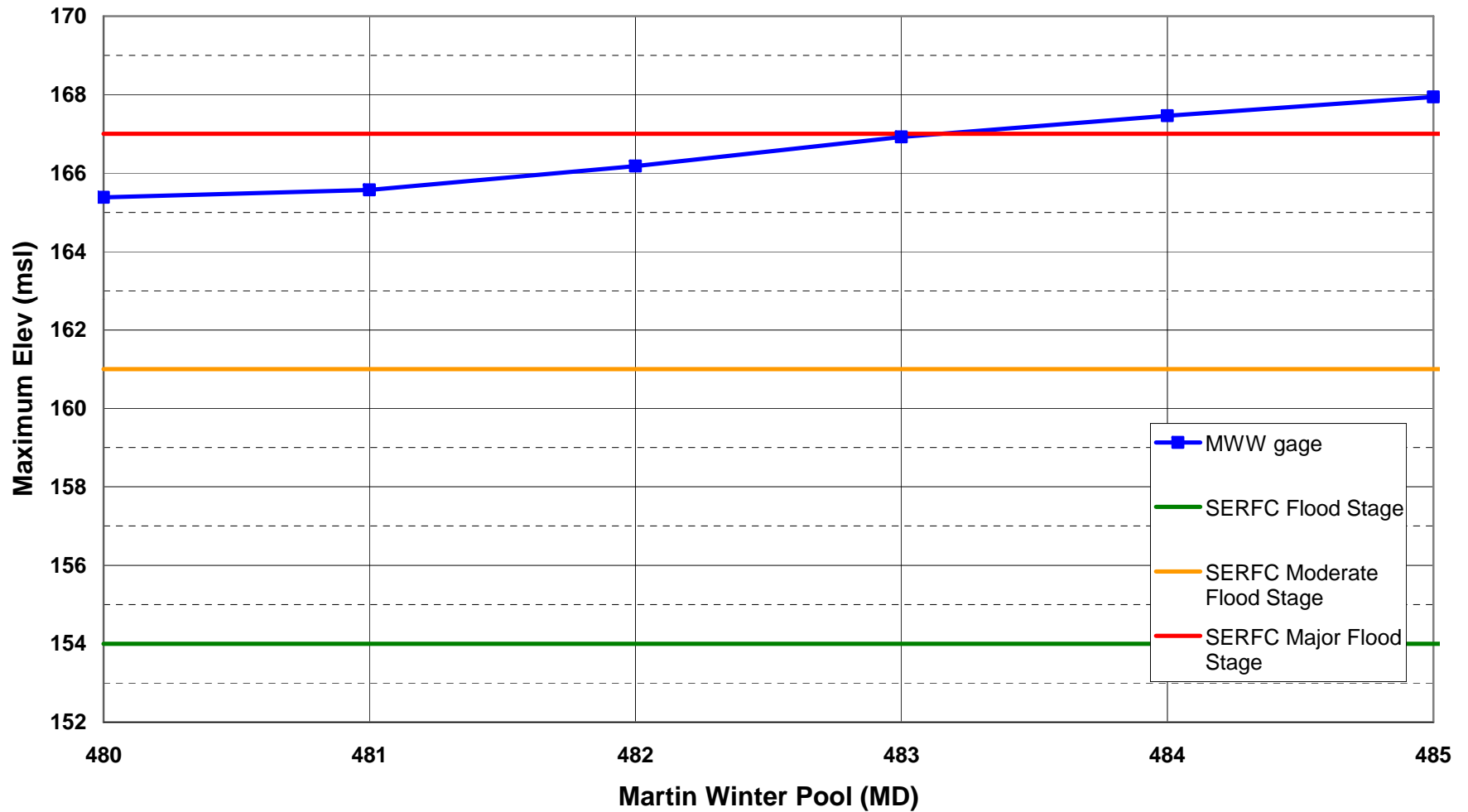


Flood Impacts

Collapse

- 45.0 WATER REACHES THE FLOOR OF THE U.S. HIGHWAY 231 BRIDGE AT 45 FEET
- 43.0 AT 43 FEET WATER COVERS PORTIONS OF U.S. HIGHWAY 231
- 38.0 WATER REACHES SEVERAL RESIDENCES ALONG LOWER WETUMPKA ROAD, BROOKS ROAD AND ANDERSON ROAD WHEN THE RIVER LEVEL AT TALLAPOOSA WATER PLANT REACHES 38 FEET. RED EAGLE FARM IS ALSO FLOODED AT THIS LEVEL
- 32.0 AT 32 FEET SOME RESIDENCES ALONG LOWER WETUMPKA ROAD, BROOKS ROAD AND ANDERSON ROAD BECOME THREATENED. AT HIGHER STAGES EVACUATIONS BECOME NECESSARY AT RED EAGLE HONOR FARM
- 25.0 LOWER WETUMPKA ROAD STARTS TO FLOOD AT 25 FEET. EXTENSIVE FLOODING OF LOWLANDS OCCURS AND LIVESTOCK AND FARM EQUIPMENT SHOULD BE MOVED TO HIGHER GROUND
- 20.0 CREEKS START TO BACK UP AND CUT OFF ACCESS TO PASTURES. A FEW SECONDARY ROADS BEGIN TO FLOOD.
- 15.0 LOW AREAS NEAR THE JUNCTION WITH THE COOSA RIVER BEGIN TO OVERFLOW.

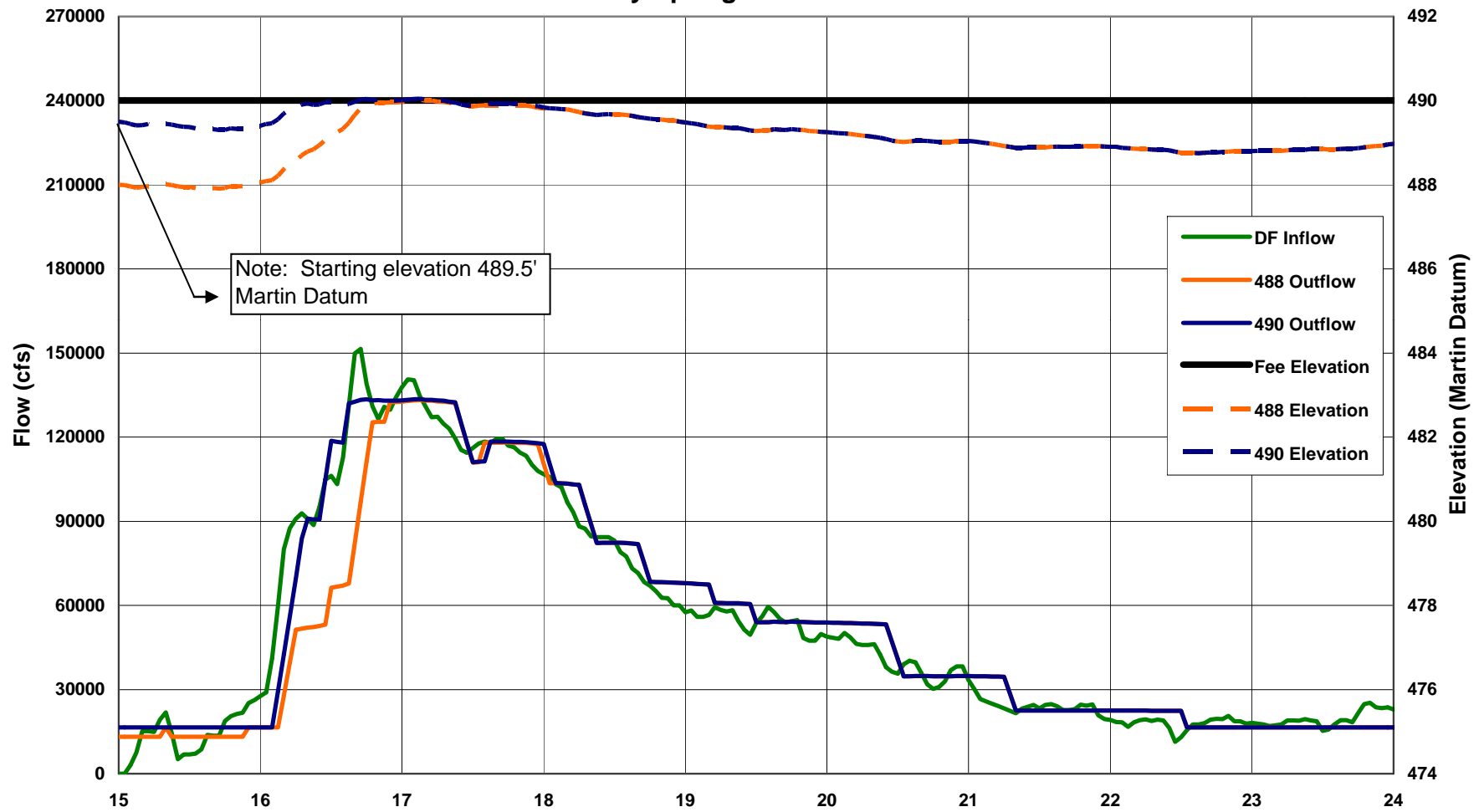
## Montgomery Water Works Gage Rivermile 12.9



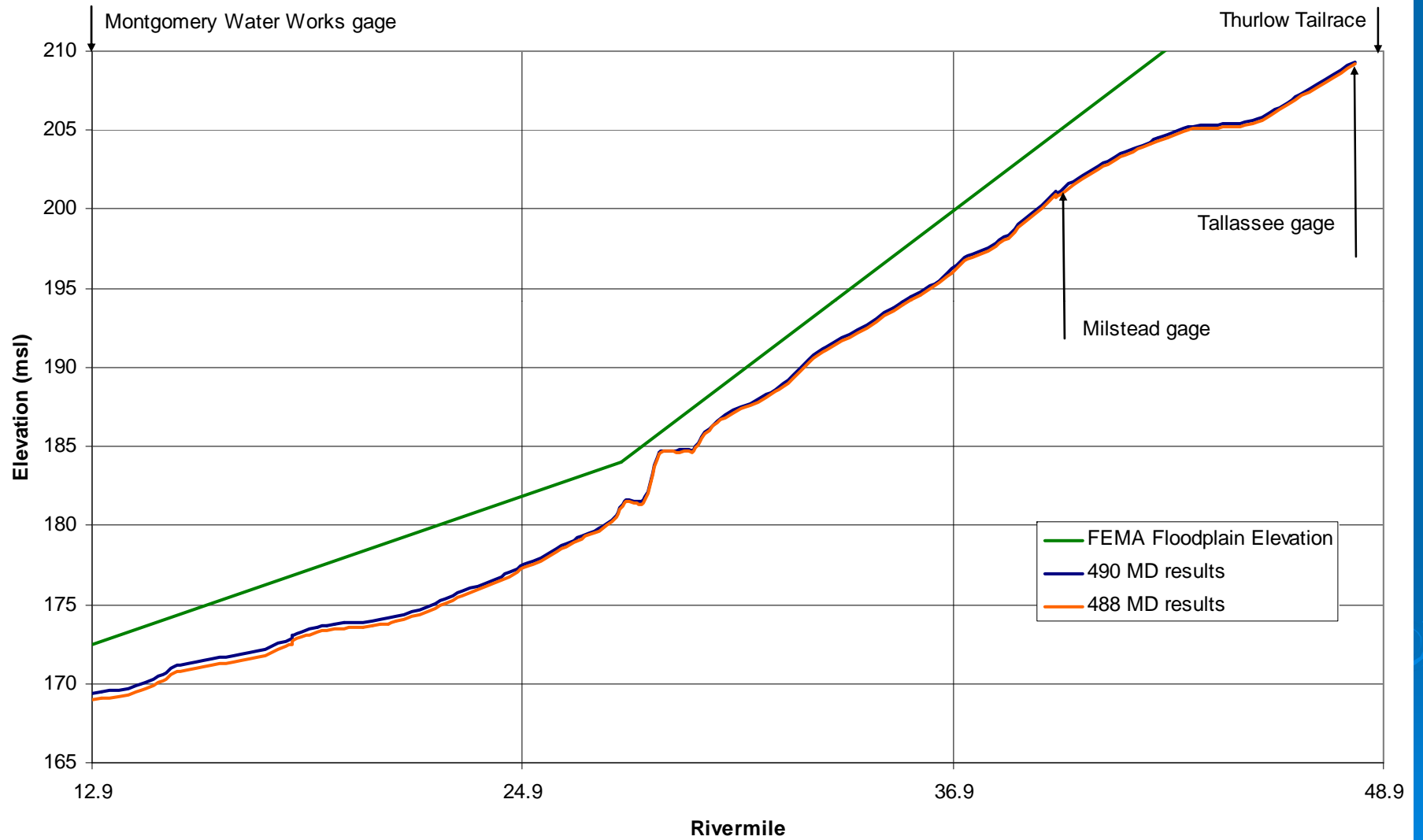
# Lower Tallapoosa Modeling Results

- Conclusions from downstream model results:
  - Alternatives have varying degrees of change from baseline
  - Elevation changes downstream range from .75 ft to 3 ft for all the alternatives
  - Elevation changes are dependent on both the peak outflow and the volume of the outflow

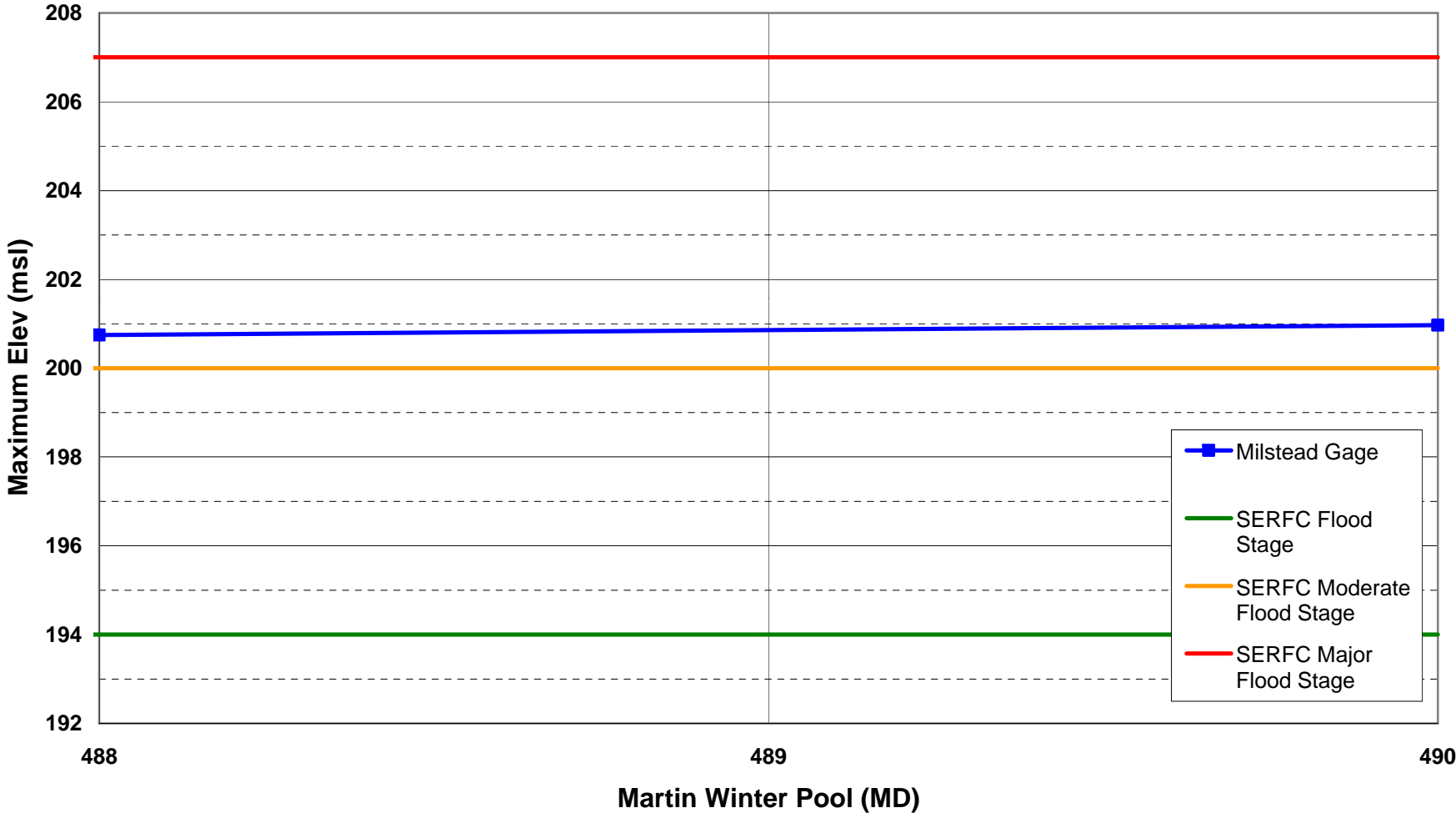
### Martin Reservoir Project Routing Model Early Spring Fill Evaluation



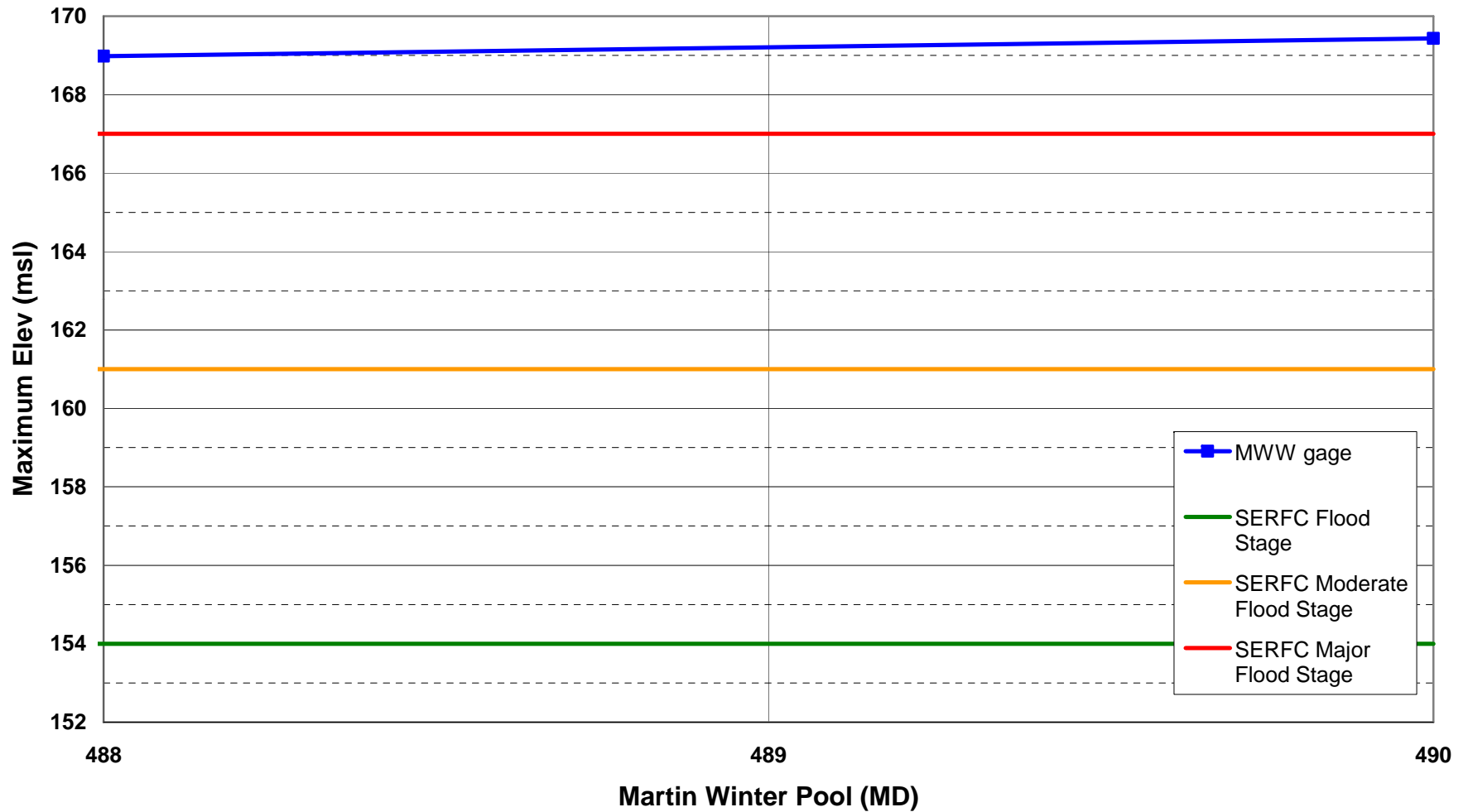
### Lower Tallapoosa Profile Elevations Early Spring Fill Evaluation



# Milstead Gage Rivermile 39.8



## Montgomery Waterworks Gage Rivermile 12.9



# Early Spring Filling Alternative Modeling Results

- Conclusions from the early spring filling alternatives are:
  - Both baseline and early fill are kept to elevation 490' md
  - The peak outflow is the same however the duration of the peak outflow is different
  - The change in elevation downstream ranges from .13 ft to .45 ft

# Next Steps

- Quantify the amount and type of acreage using GIS that is affected by each of the proposed rule curve changes
- Provide documentation of models and results in report form