

# Q500 Scour Policy

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# Agenda

- **Background**
- **Previous standards**
- **Determination methods**



# Background

- Released in Feb. 2014 as Design Memo 14-02.
- Adds to IDM Ch 202-3.03.
- Adds additional guidance for determining Q500 for scour.



# Previous Standards

- **Formerly, Q500 estimated by multiplying Q100 by 1.7.**
- **Very conservative for Indiana.**
- **Increases foundation costs.**



# Determination Methods

- **Discharge from FEMA Flood Insurance Study.**
  - Should take precedence.

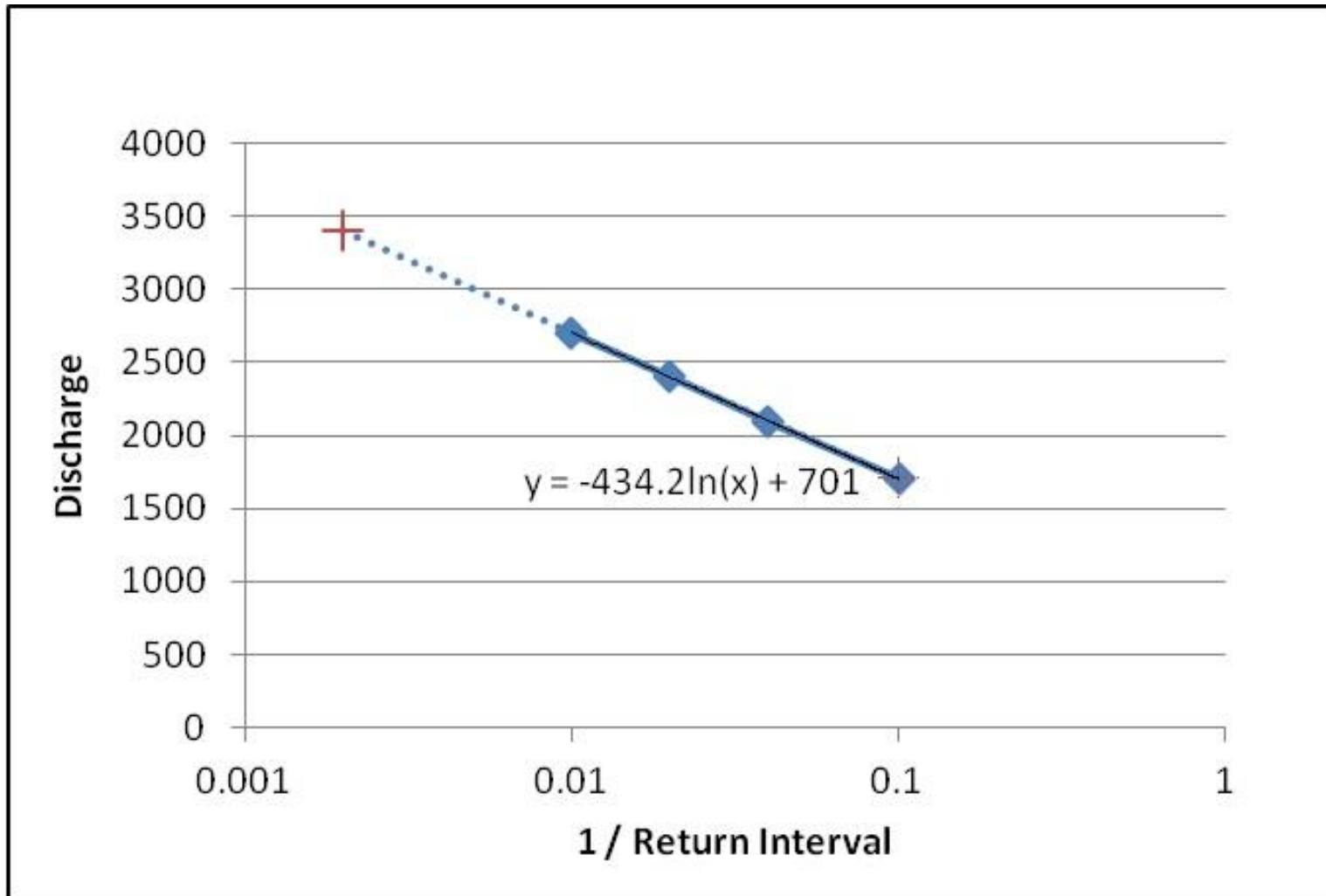


# Determination Methods

- **Derived from coordinated discharge.**
  - Use Coordinated Discharge to find 10%, 4%, 2% and 1% EP for a drainage area.
  - Plot on a semi-log graph, with discharge on y-axis and inverse of return interval on x-axis.
  - Fit a straight line between the points, and use the equation to find a value at 0.002 (0.2%).



# Determination Methods



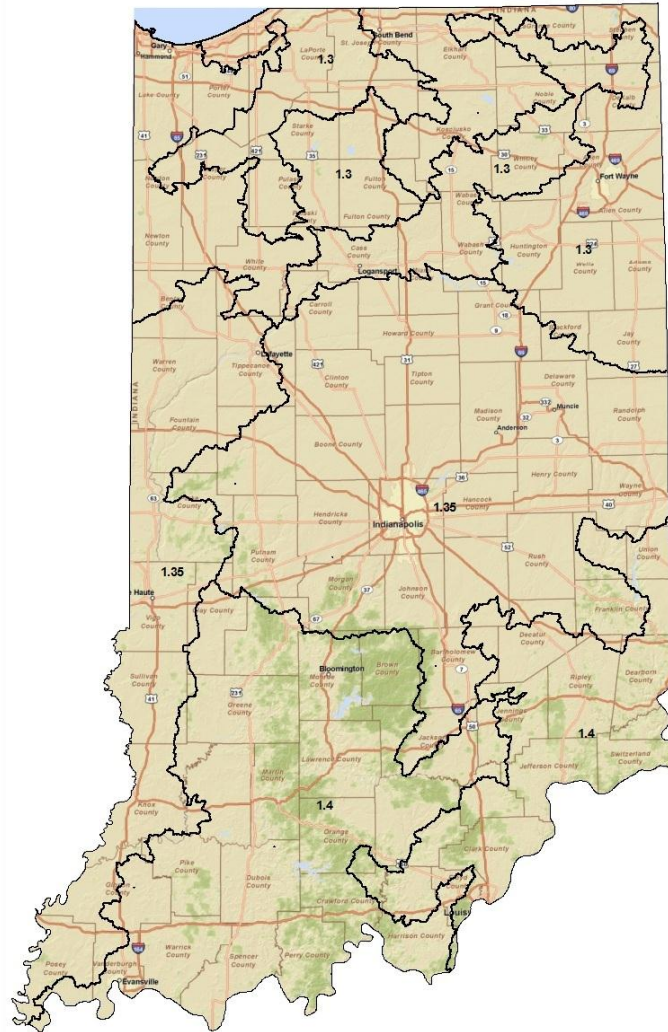
# Determination Methods

- **Use a multiplier of the 1% Annual EP.**
  - Varies by region, based on watersheds.
  - Available as a printed map and a GIS shape file.
  - Ranges from 1.3 to 1.4 across state.





# Determination Methods



# Conclusion

- **IDM Ch 202-3.03**
- **Don't use 1.7 as a multiplier!**
- **Three options for estimating Q500.**
- **Seriously, don't use 1.7 as a multiplier!**



# Questions?

