

# Modeling Status

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Stormwater Retrofit Project Management Team Meeting

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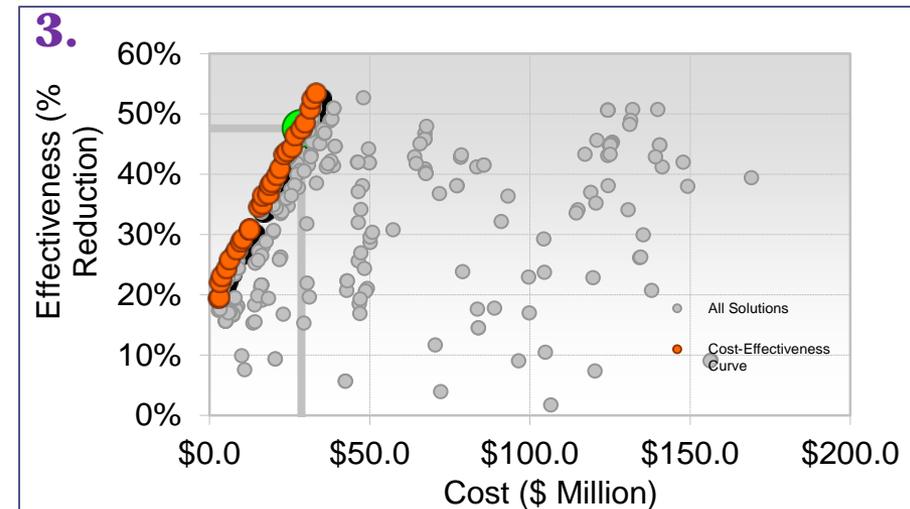
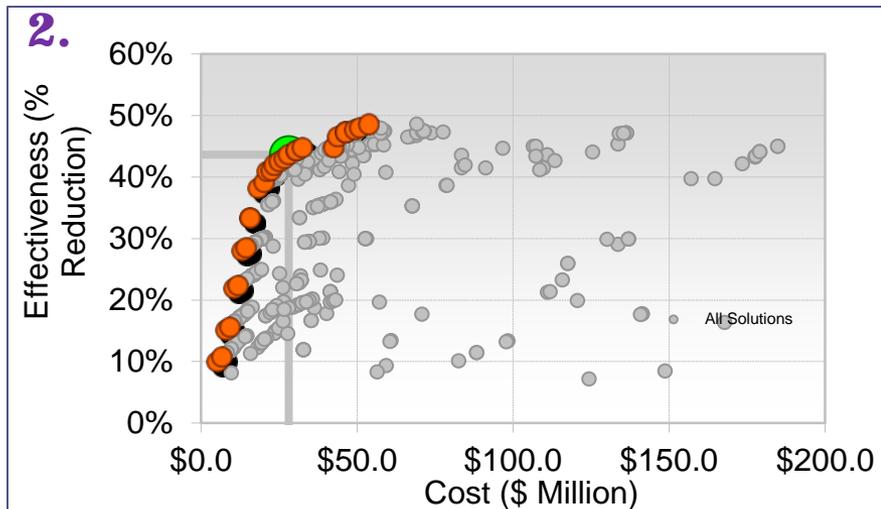
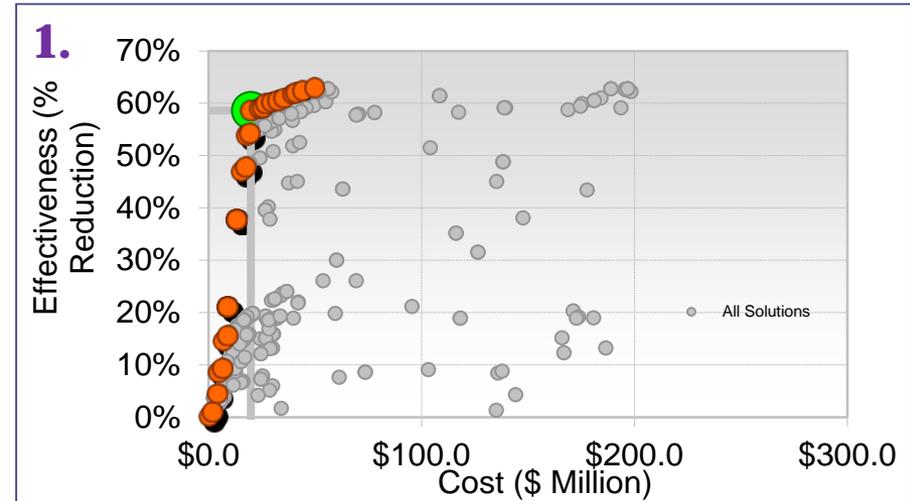
# Modeling Approach

- 135 hypothetical 100-acre catchments representing:
  - **5 generic land uses:** commercial, high residential, low residential, agricultural, forested
  - **3 soil types:** till, outwash, d soils
  - **2 slope:** flat and moderate
  - **3 precipitation zones:** low, medium, high
  - **2 land costs:** low and high
- Optimize to reduce the frequency flow exceeds a threshold (2x long term mean)
- Scale costs up to catchments and study area

# Best Solution

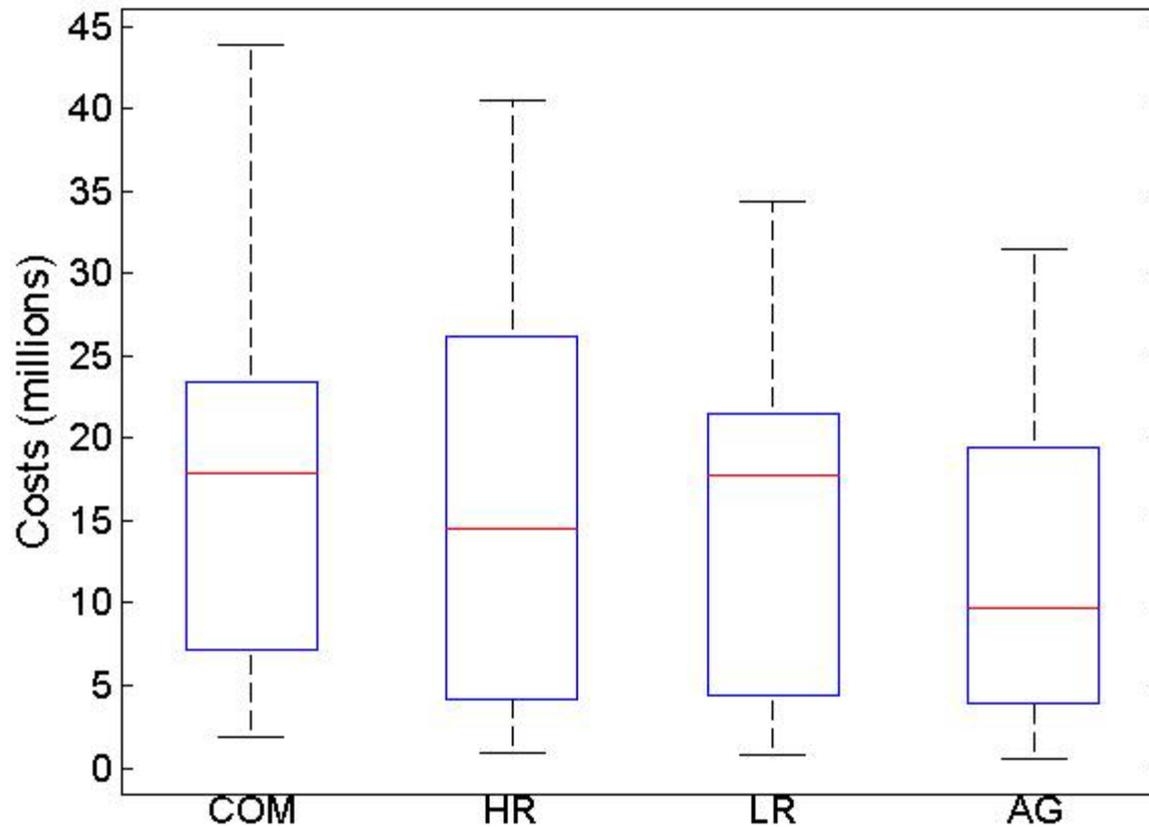
Select best solution based on 3 rules:

1. If there is an obvious 'knee', select solution at knee if within 5% of max effectiveness
2. If knee is more than 5% less than max, select solution 5% less than max
3. If no knee, select most effective solution 5% less than max

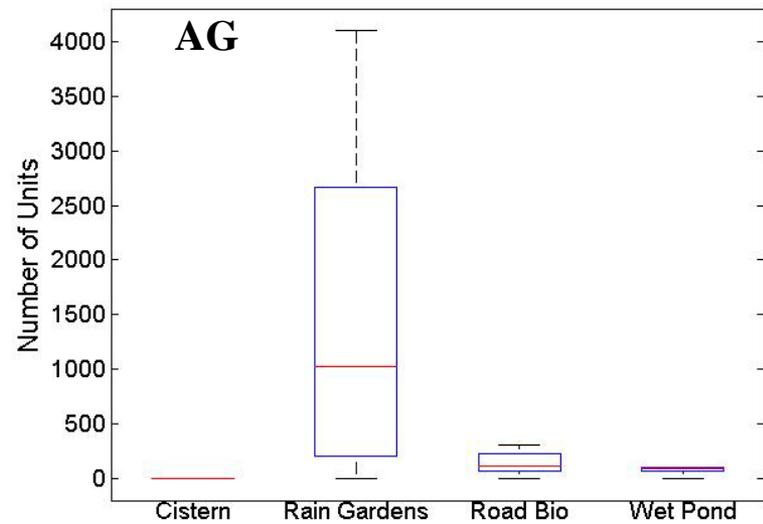
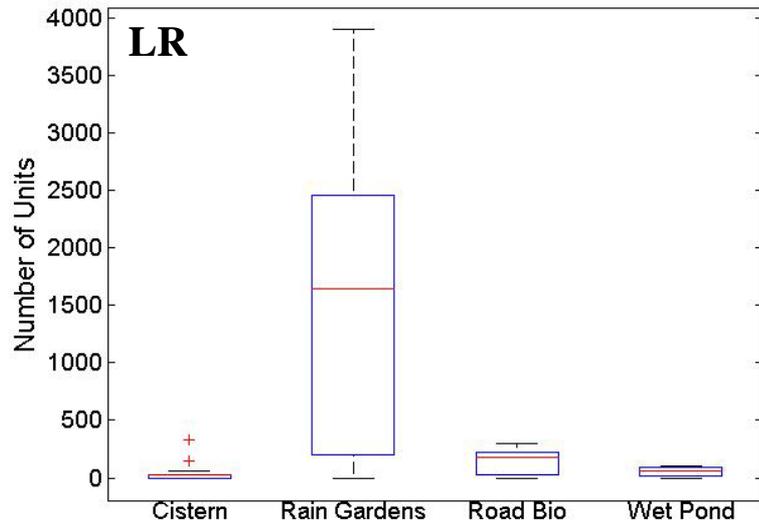
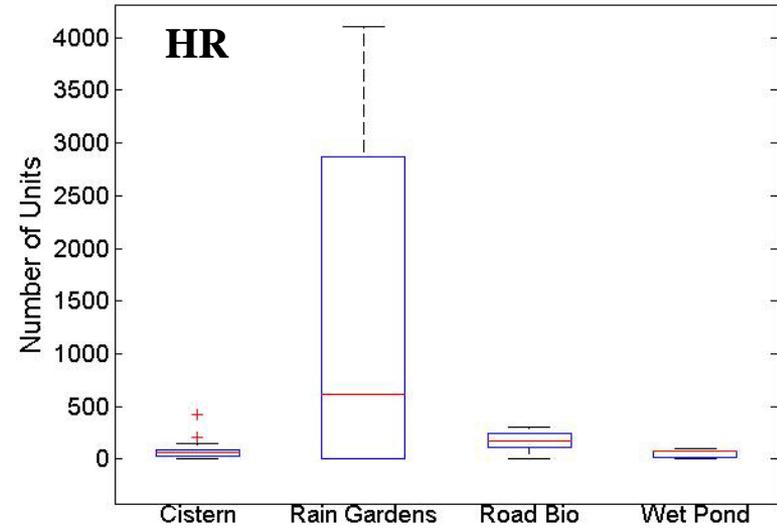
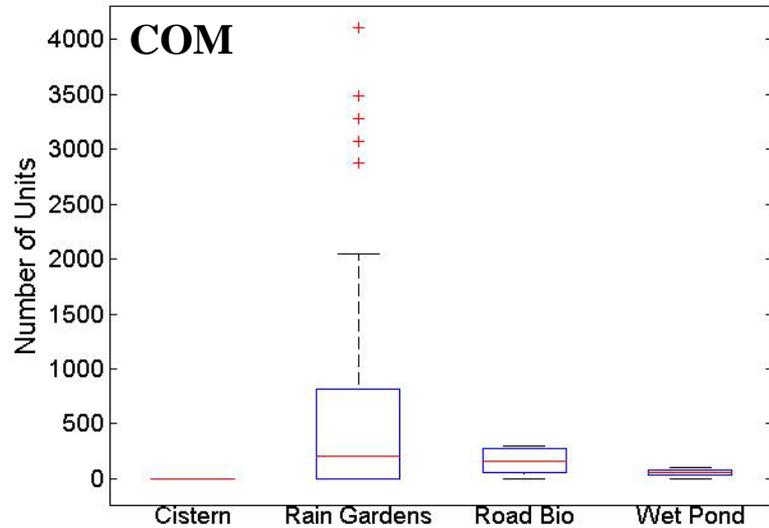


# Results Summary: Costs

Best Solution Costs: **\$0.6 to \$43.8 million**

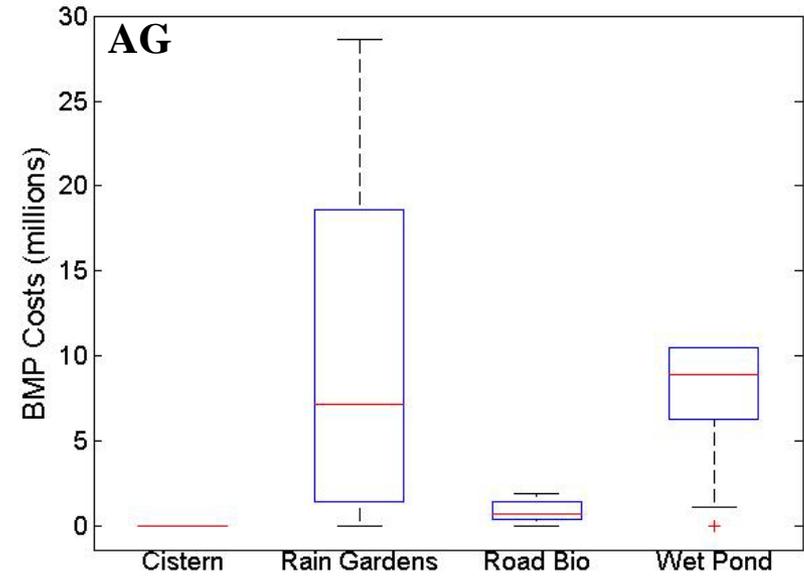
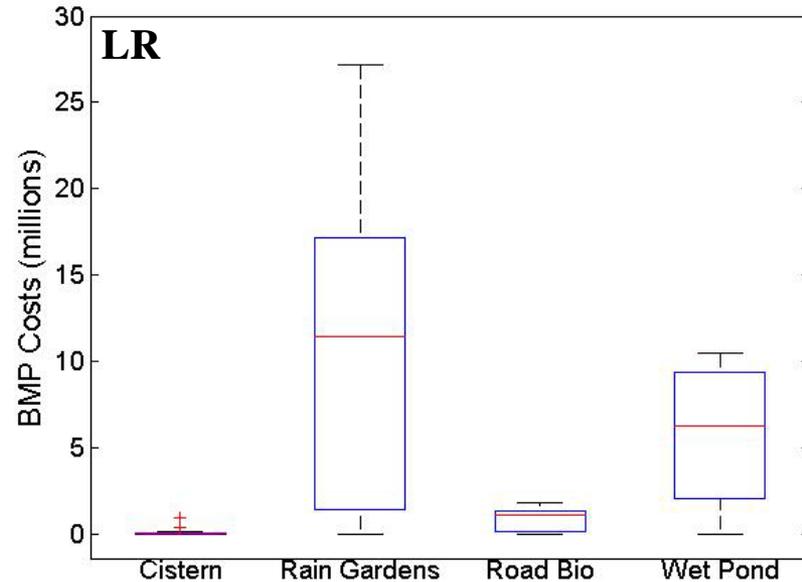
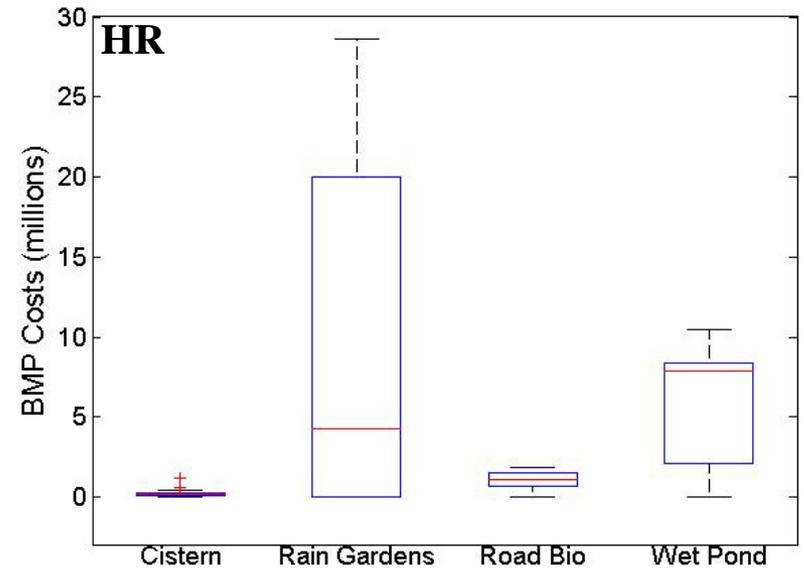
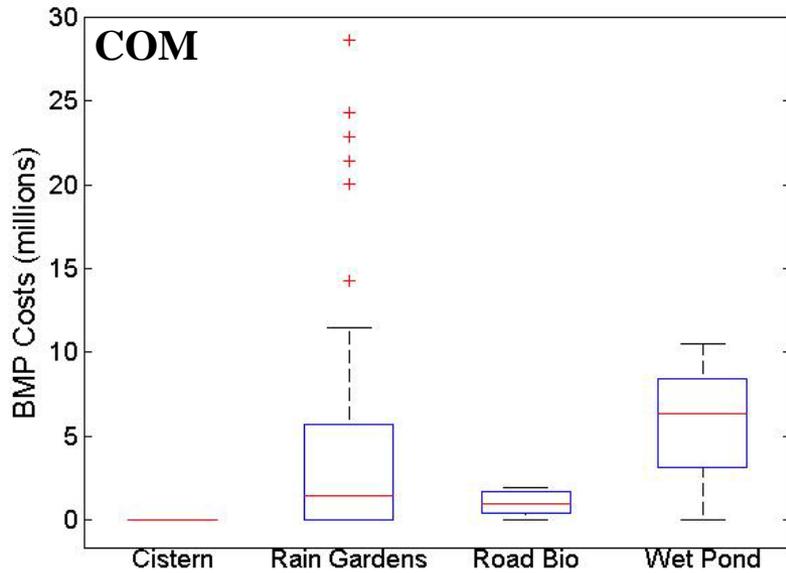


# Results: BMP Units



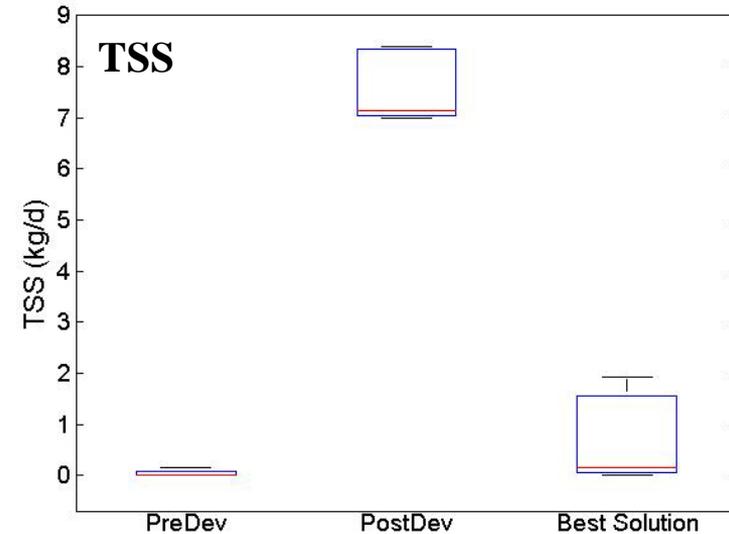
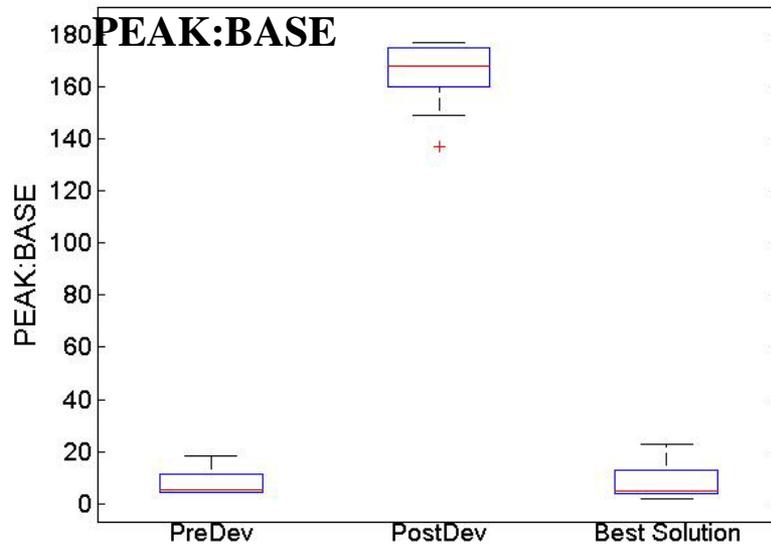
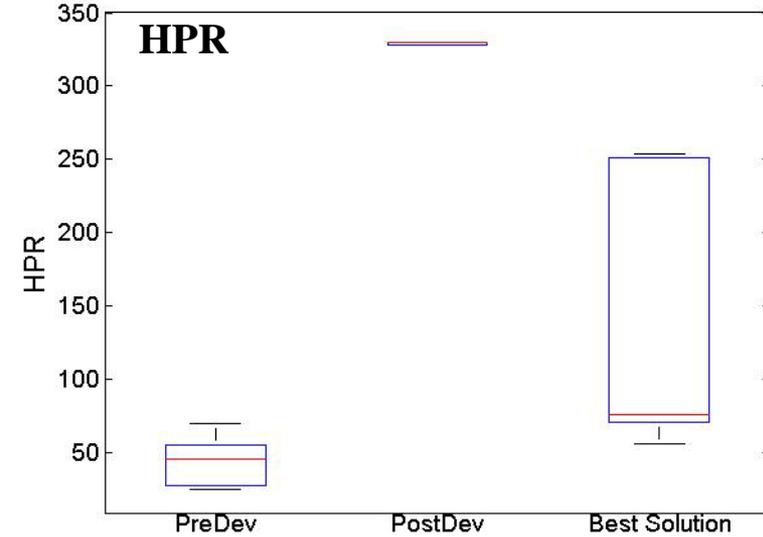
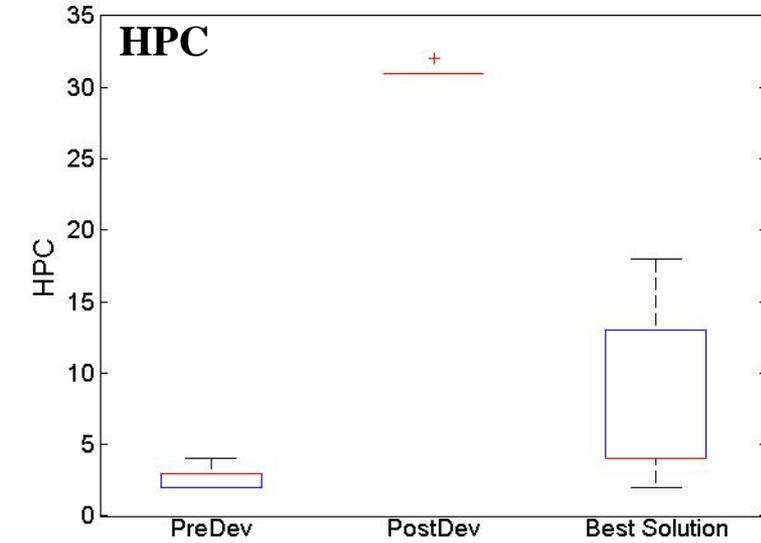
\*No porous pavement selected in best solutions

# Results: BMP Costs



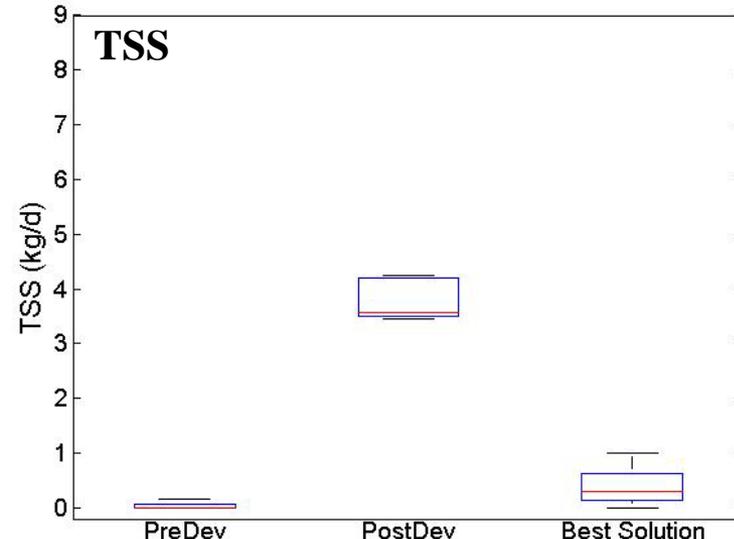
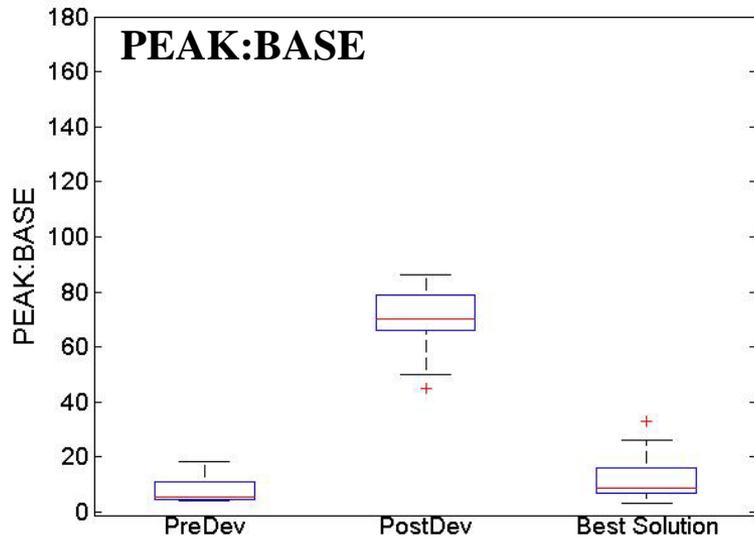
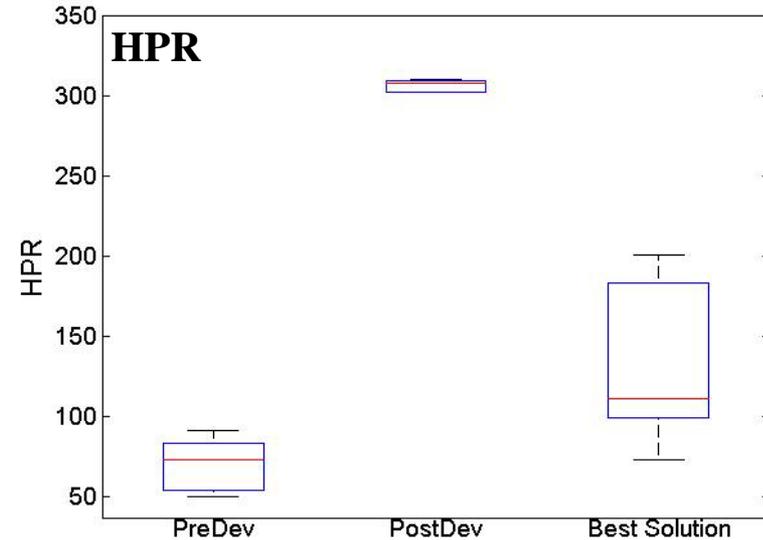
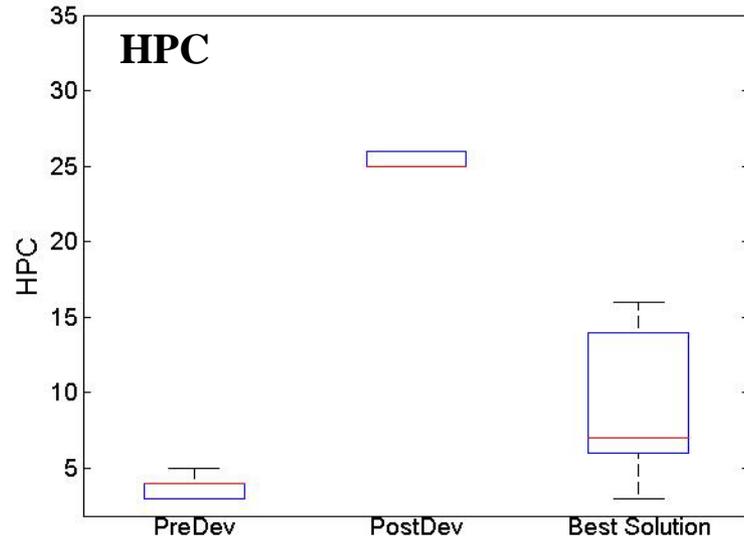
# Indicator Results: Commercial

\$1.9-43.8 M



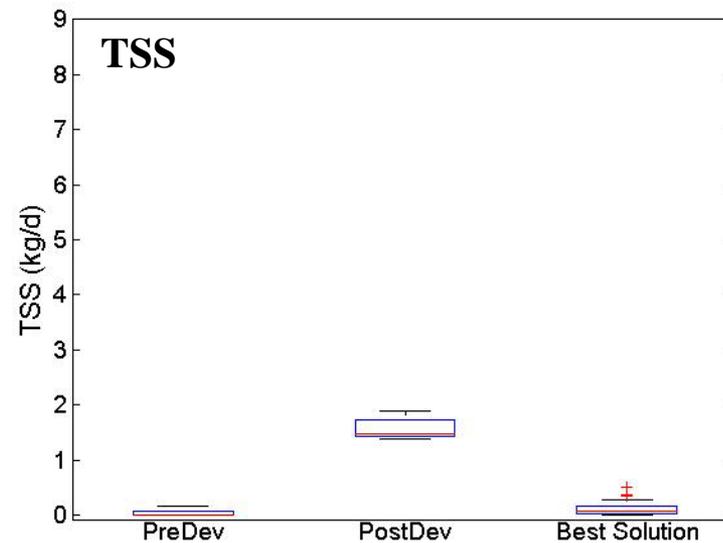
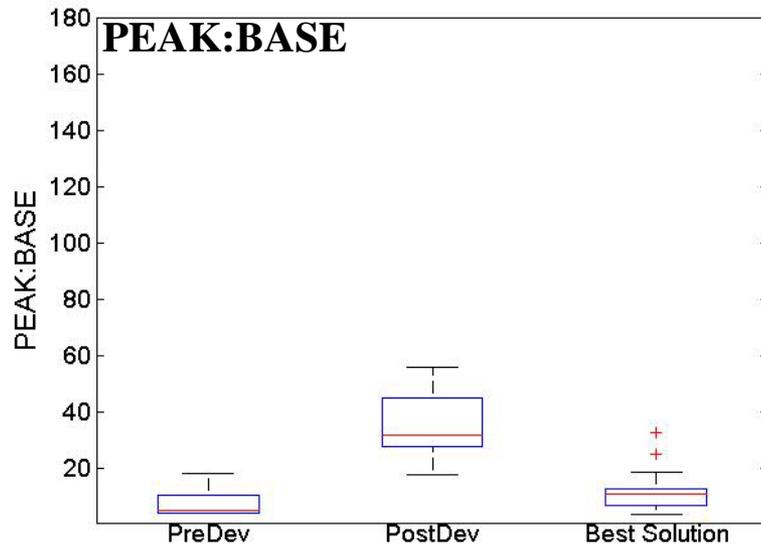
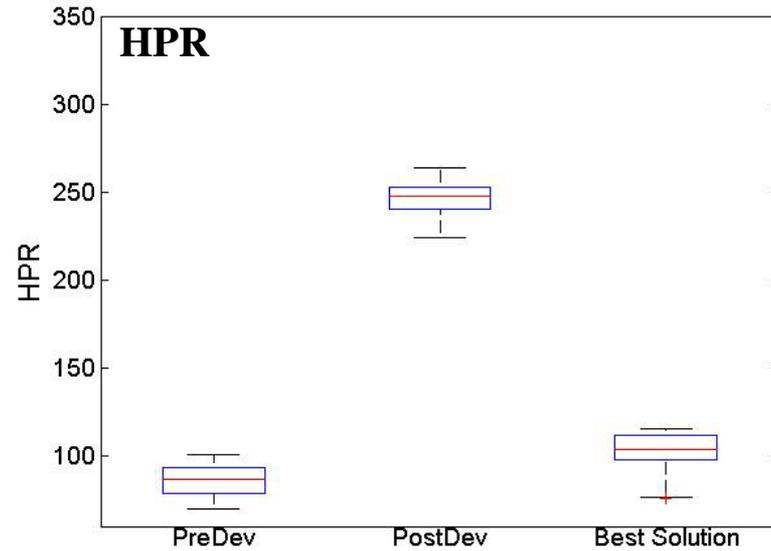
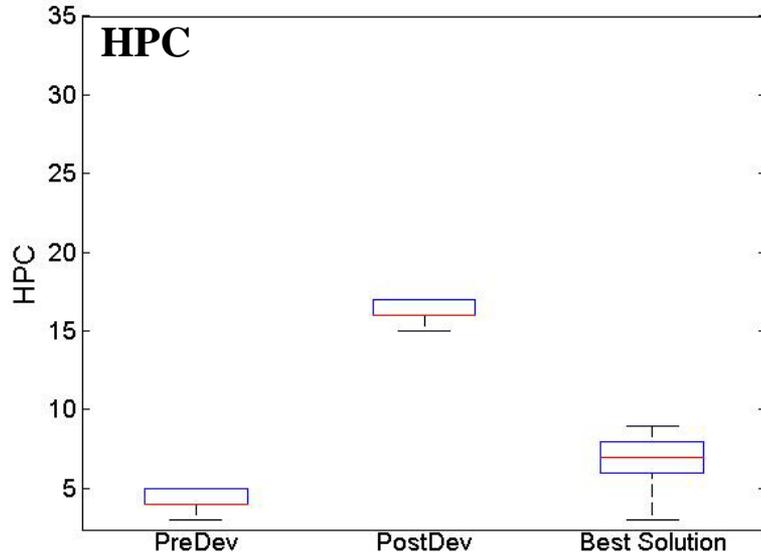
# Indicator Results: High Residential

\$0.9-40.5 M



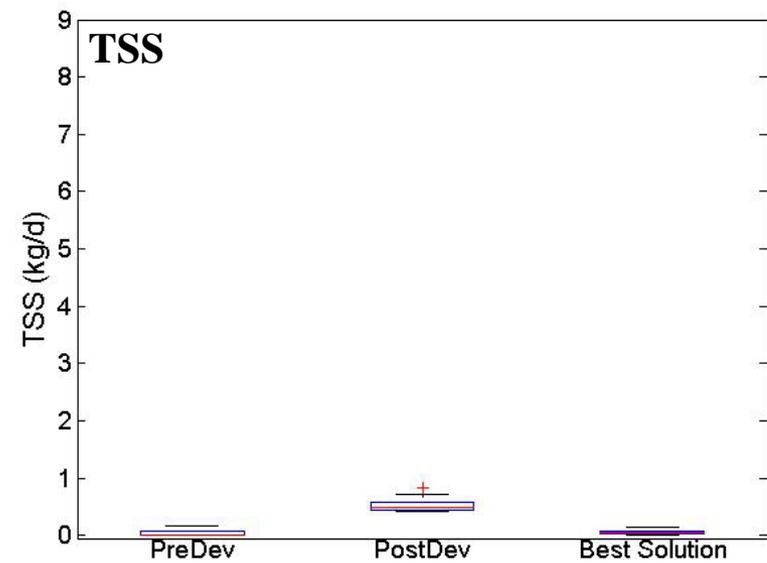
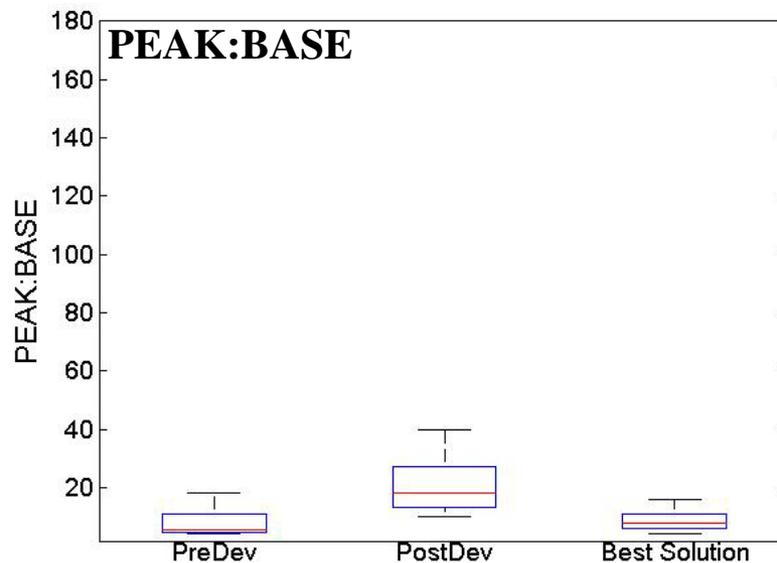
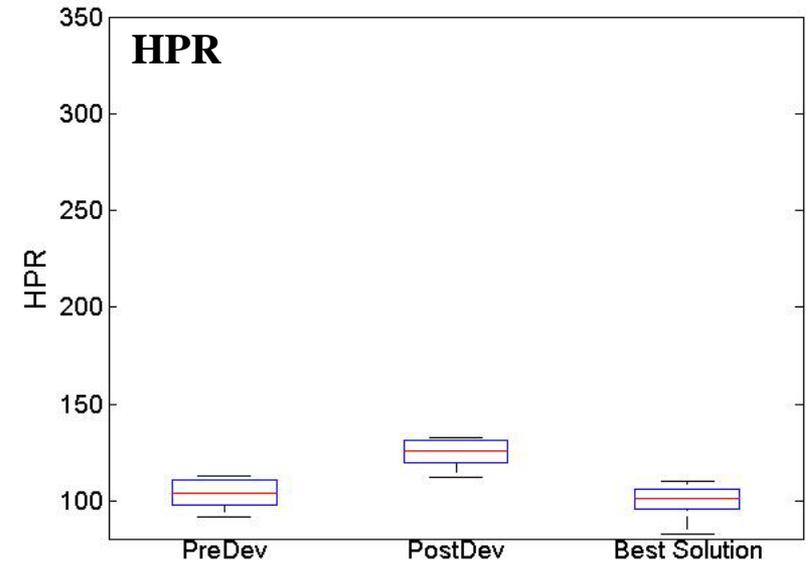
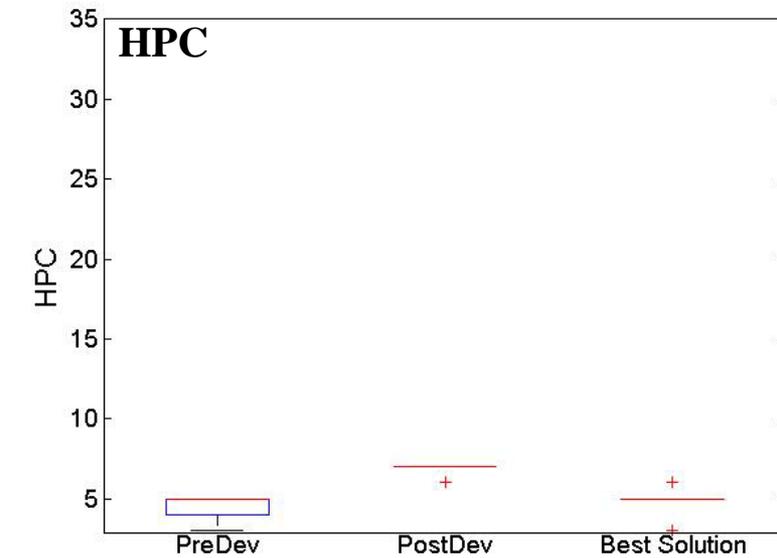
# Indicator Results: Low Residential

\$0.7-34.5 M



# Indicator Results: Agricultural

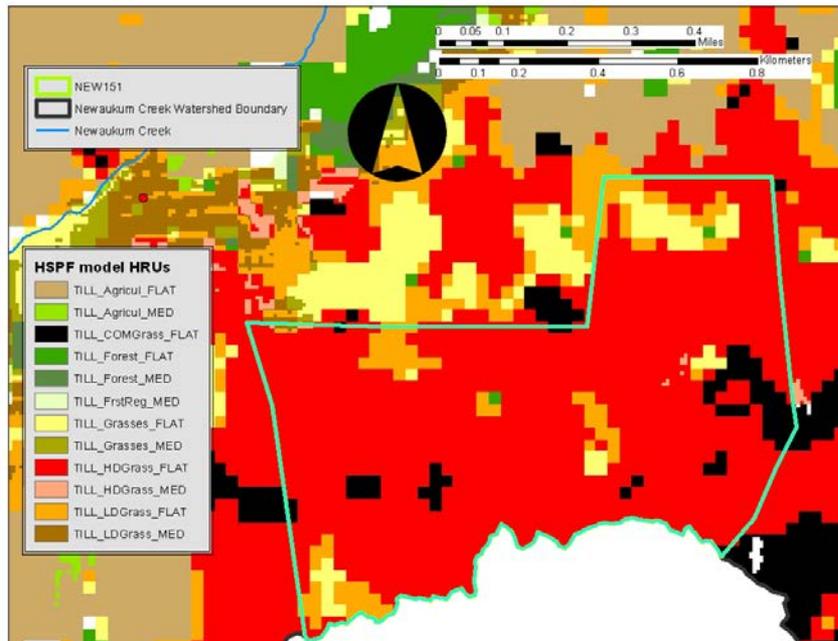
\$0.6-31.5 M



# Scaling Up

- Scale costs up or down based on actual land use distribution in study area.

## Newaukum Urban (New 151)



High costs  
High precipitation zone  
Till and D soils

~ \$28.8 M

# Schedule

September

Scale SUSTAIN results up to study area

October

Draft report ready for internal review

November

Draft report ready for Project Team review