

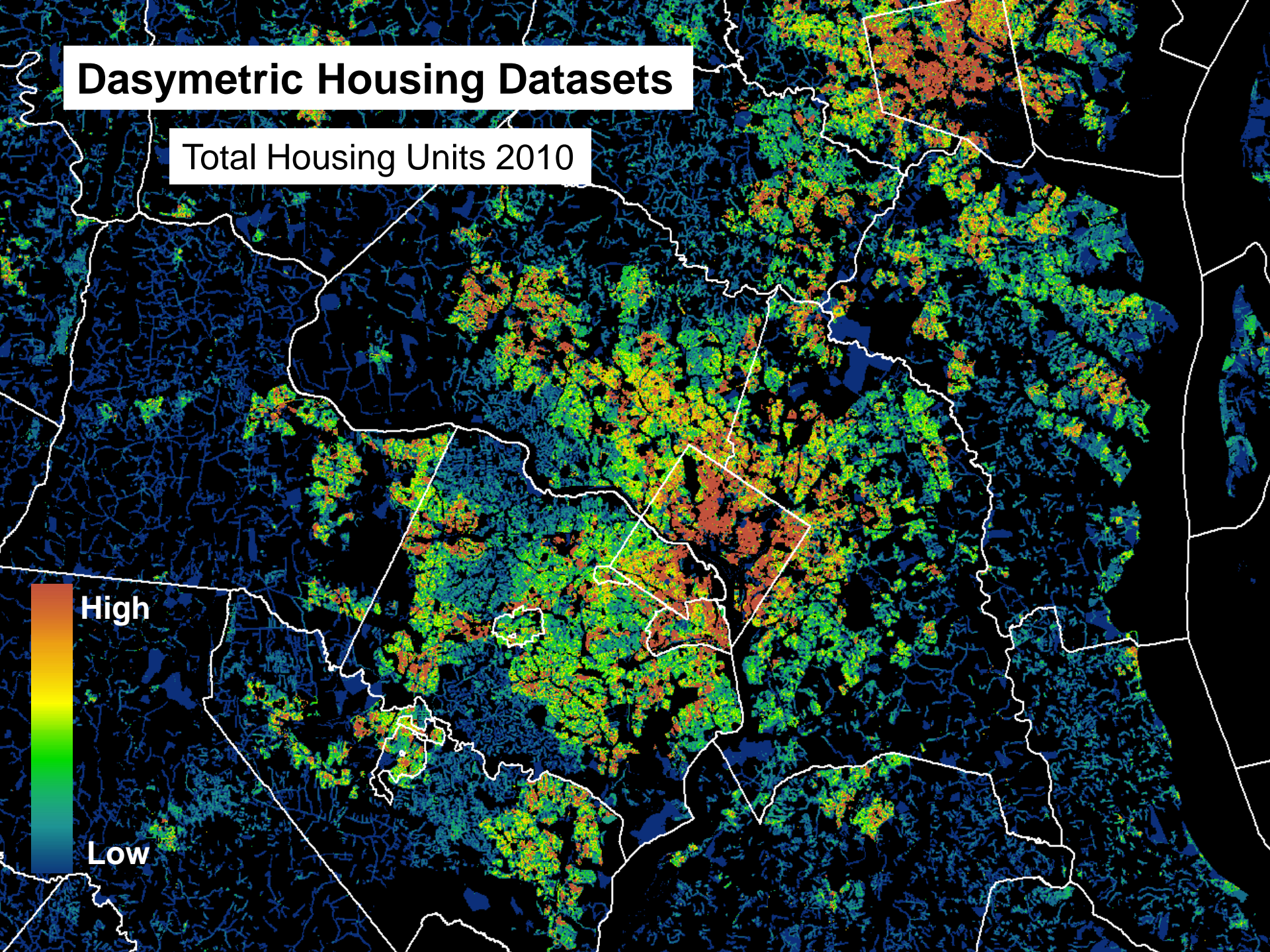
Septic Forecasts supporting 2015 Milestone Development

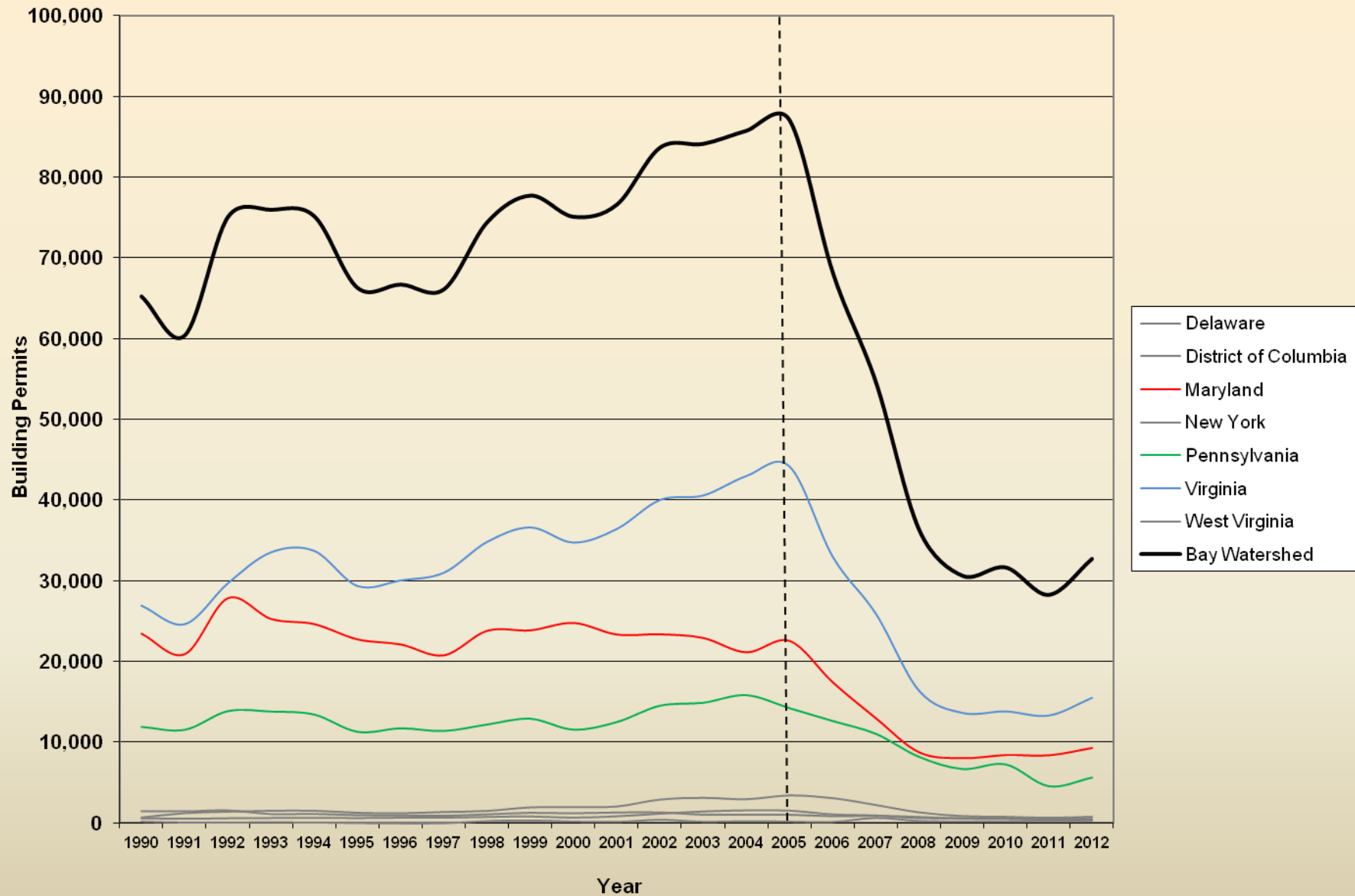
Peter Claggett, Fred Irani, Renee Thompson, and David Donato

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Wastewater Workgroup Meeting

Dasymetric Housing Datasets

Total Housing Units 2010





Estimating Population on Sewer and On-site Septic Systems 2010 – 2015 by Modeling Segment

of septic systems in 2010 =

total housing units outside yr. 2000 sewer service areas *
ratio of single-detached households to total housing units outside sewer service
areas

of septic systems in 2015 = septics in 2010 +

total housing units change (2010 – 2015) * potential growth on septic[†] * ratio of
single-detached households to total housing units outside future sewer service
areas * County 5-yr rate of change in proportion of single-unit building permits

[†] Potential growth on sewer considers:

proportion of historical growth (1984 – 2006) on sewer
proportion of change in total housing units on sewer (2000 – 2010)
proportion of remaining land available for development within future sewer
service area

Estimating Population on Sewer by Modeling Segment

Population on Sewer in 2010 =

$$\begin{aligned} & \text{(Total Population 2010)} \\ & - (\# \text{ of Septic Systems} / \text{Average Household Size 2010}) \end{aligned}$$

Population on Sewer in 2015 =

$$\begin{aligned} & \text{(Total Population 2015)}^\dagger \\ & - (\# \text{ of Septic Systems} / \text{Average Household Size est. 2015}) \end{aligned}$$

† Total population in future years =

$$\begin{aligned} & [\text{Total housing unit change} * \text{ratio of households to housing units} * \text{average} \\ & \text{household size in 2010} * (1 - \text{proportion of pop change due to migration})] + \\ & [\text{Total housing unit change} * \text{ratio of households to housing units} * \text{average} \\ & \text{household size in 2015} * (\text{proportion of pop change due to migration})] \end{aligned}$$

Some Important Issues

- Ground-truth data comparison
- Single-attached households on septic?
- Vacant housing units on septic?
- Segment vs County vs State scale generalizations
- Consideration of migration when converting households to population