

# GIS-based approaches for classifying stream reaches by landcover/landuse

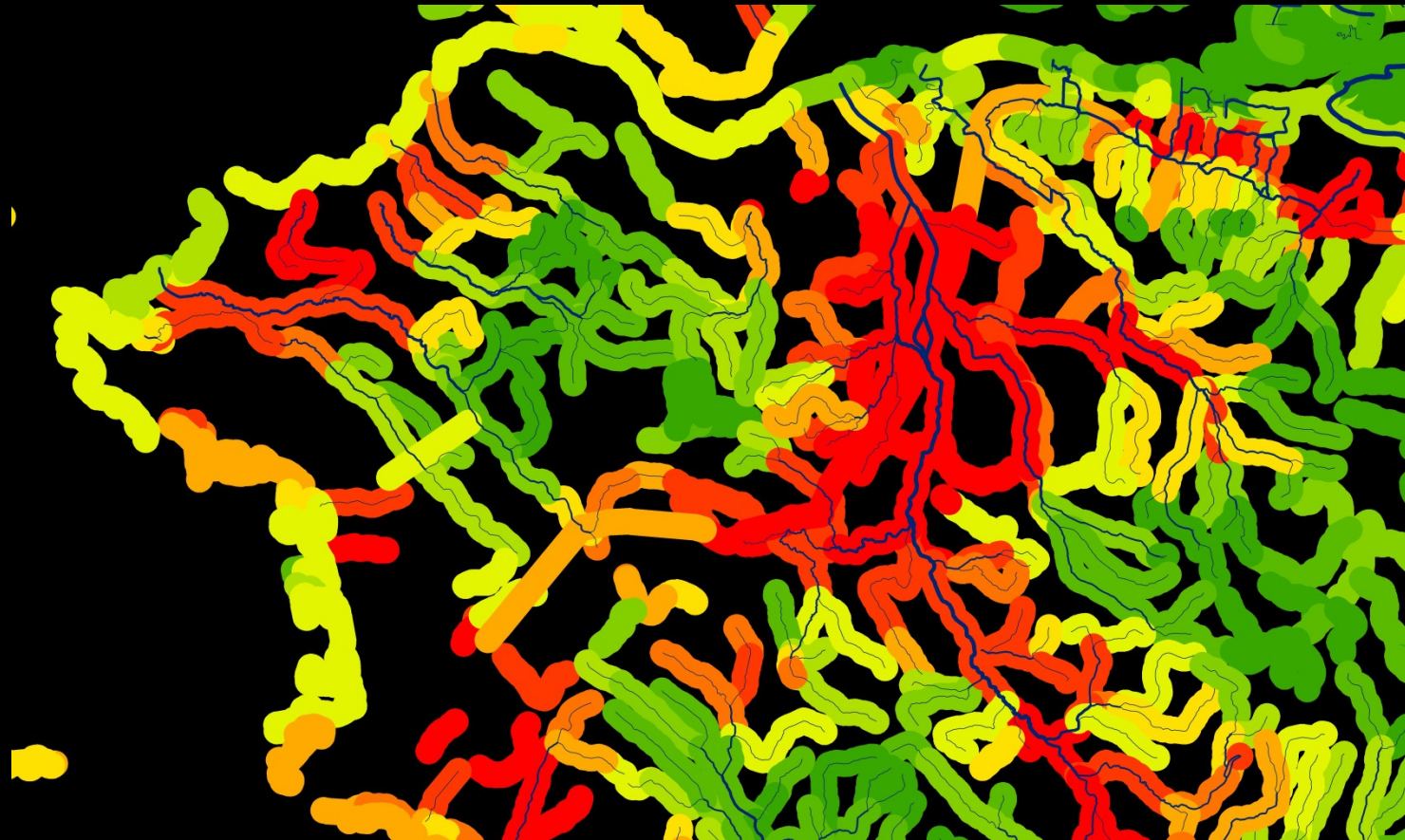
- **What it is** – technical approach that could be used to categorize streams based on landuse/landcover activities
  - Can accommodate simple rules-based classification
  - Easily modified with different input data or thresholds
- **What it isn't** – a proposal for thresholds or classification variables to be specified in the Biological Integrity Policy

## 2 approaches for spatial analysis

- Based on near-channel landuse
- Based on watershed/catchment landuse
- Examples use simple landuse/landcover parameters, could accommodate more complexity if desired (i.e., different combinations of landuses, thresholds, hybrid versions)

# Option 1: Near-channel Landuse

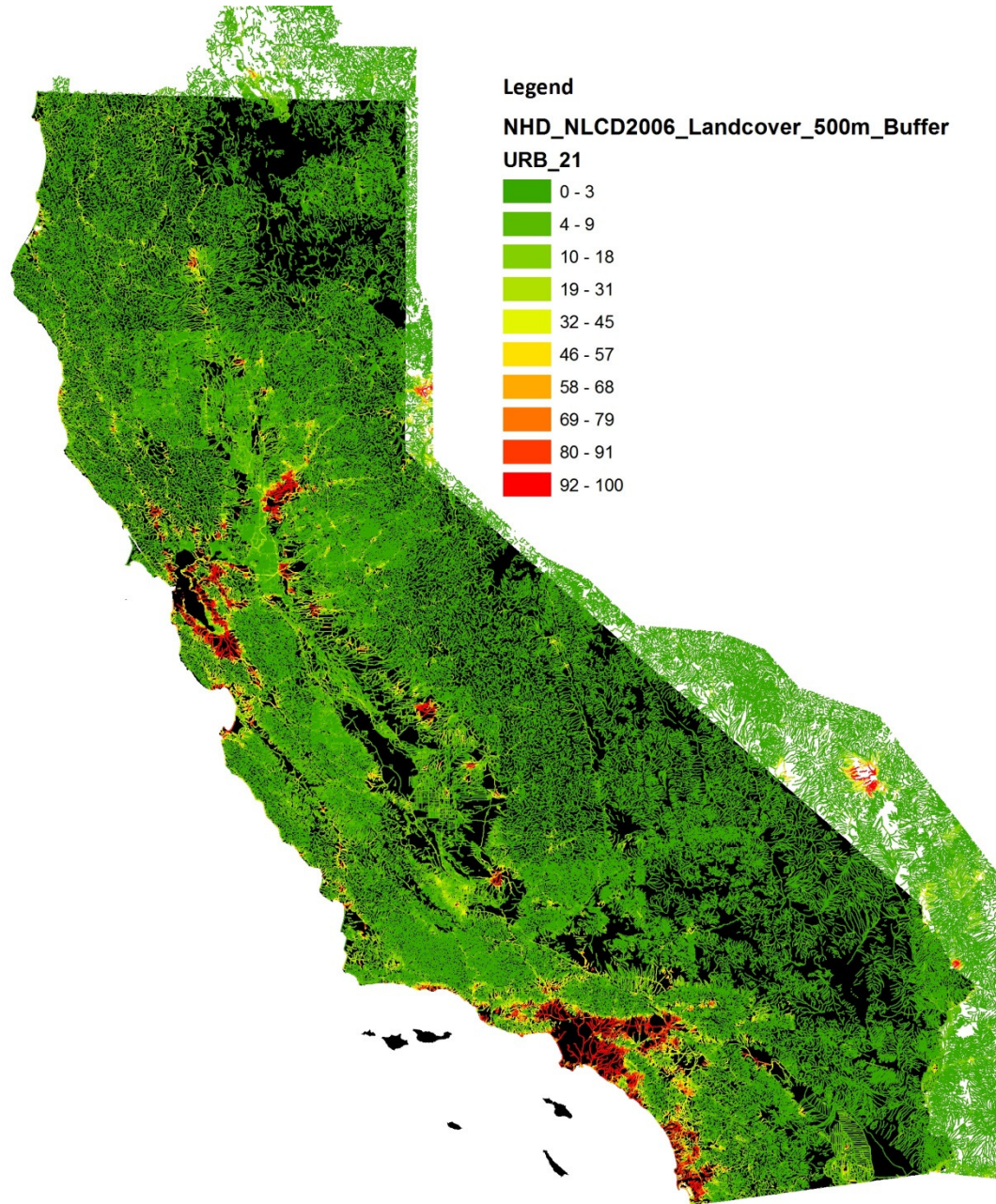
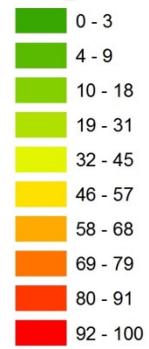
- 500 meter buffer around stream network (NHD+ 1:100k)
- Clip 30m 2006 NLCD to buffer (2011 available soon)
- Average % urban + code 21 for each NHD segment

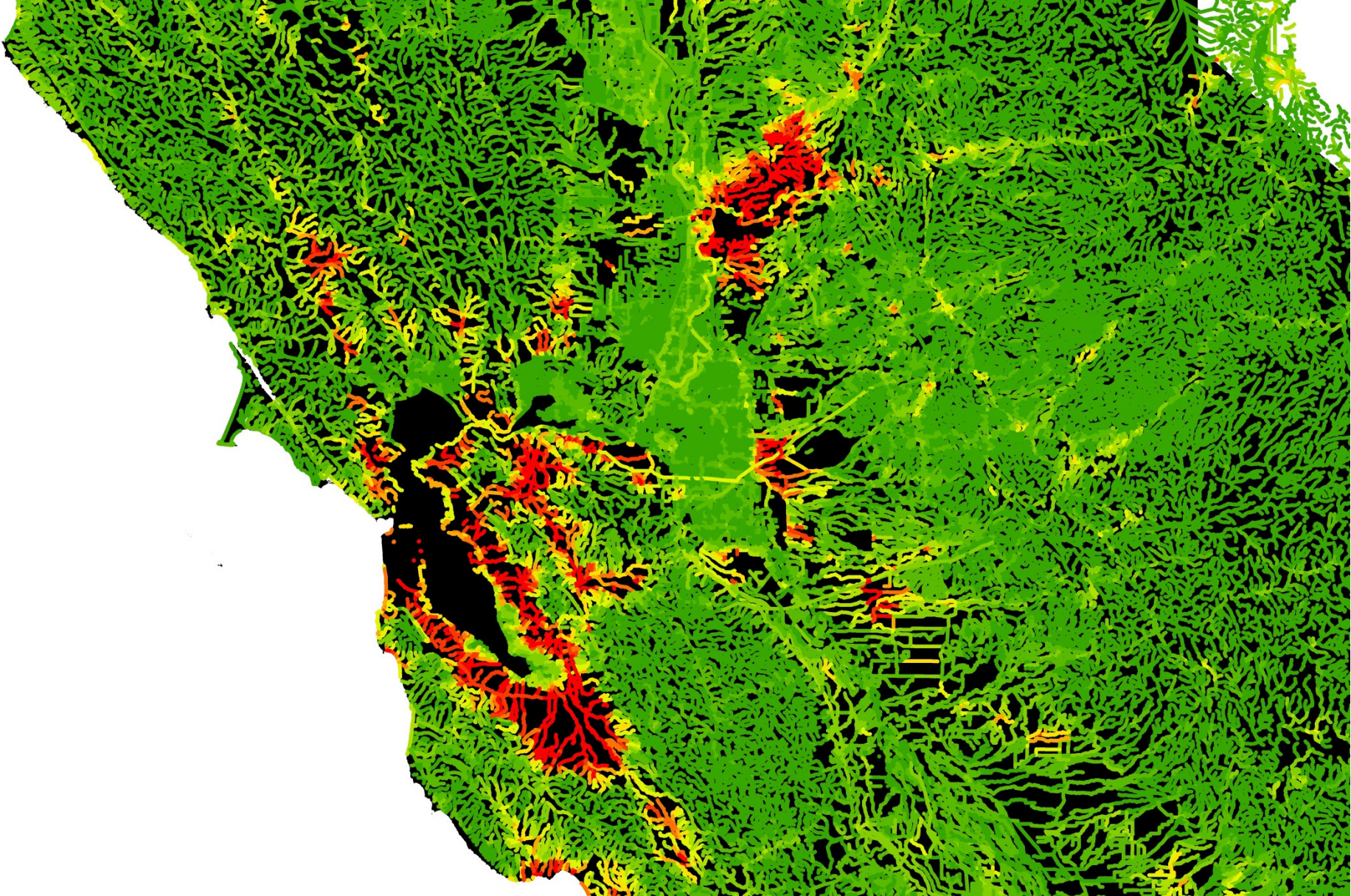


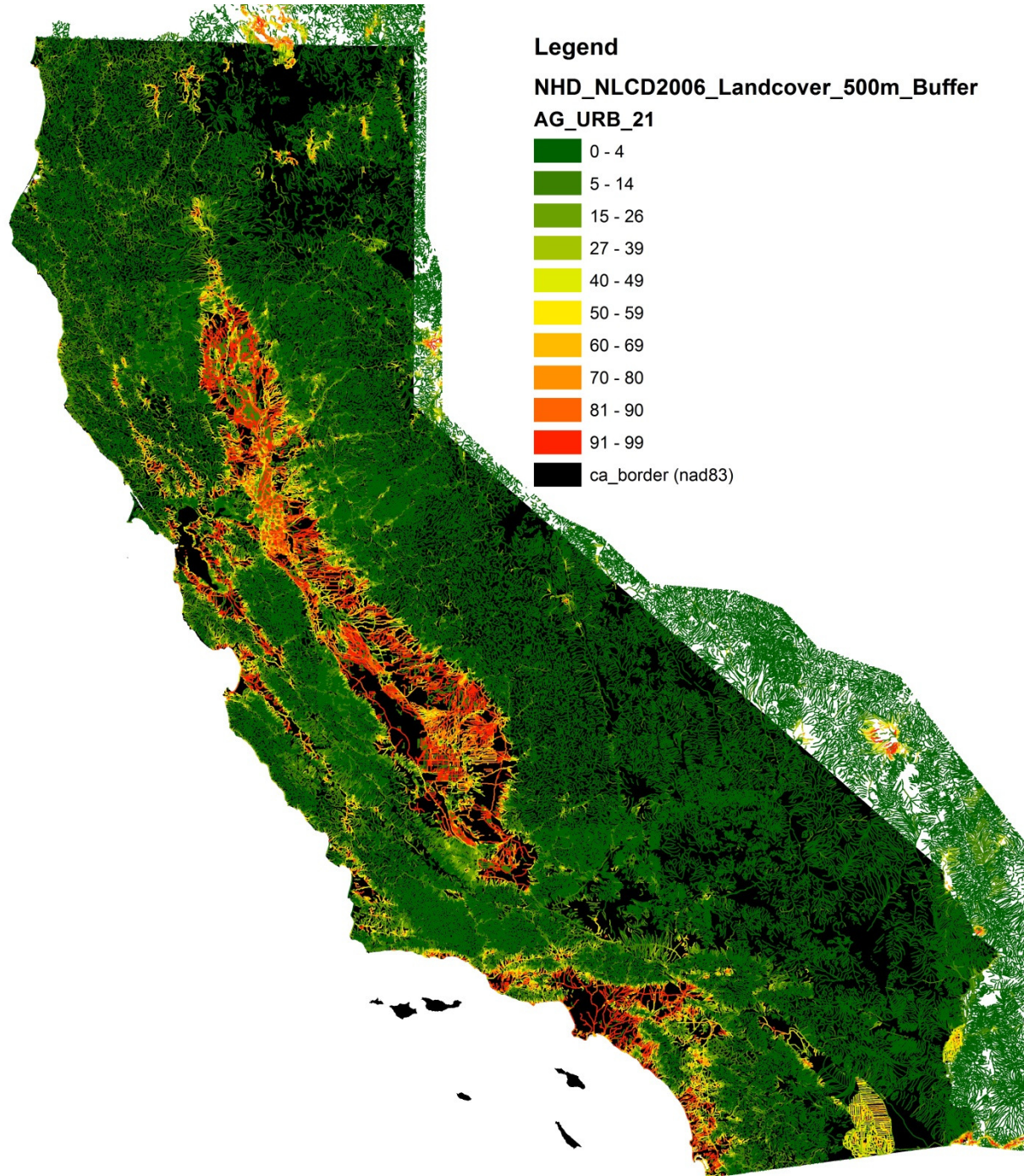
**Legend**

**NHD\_NLCD2006\_Landcover\_500m\_Buffer**

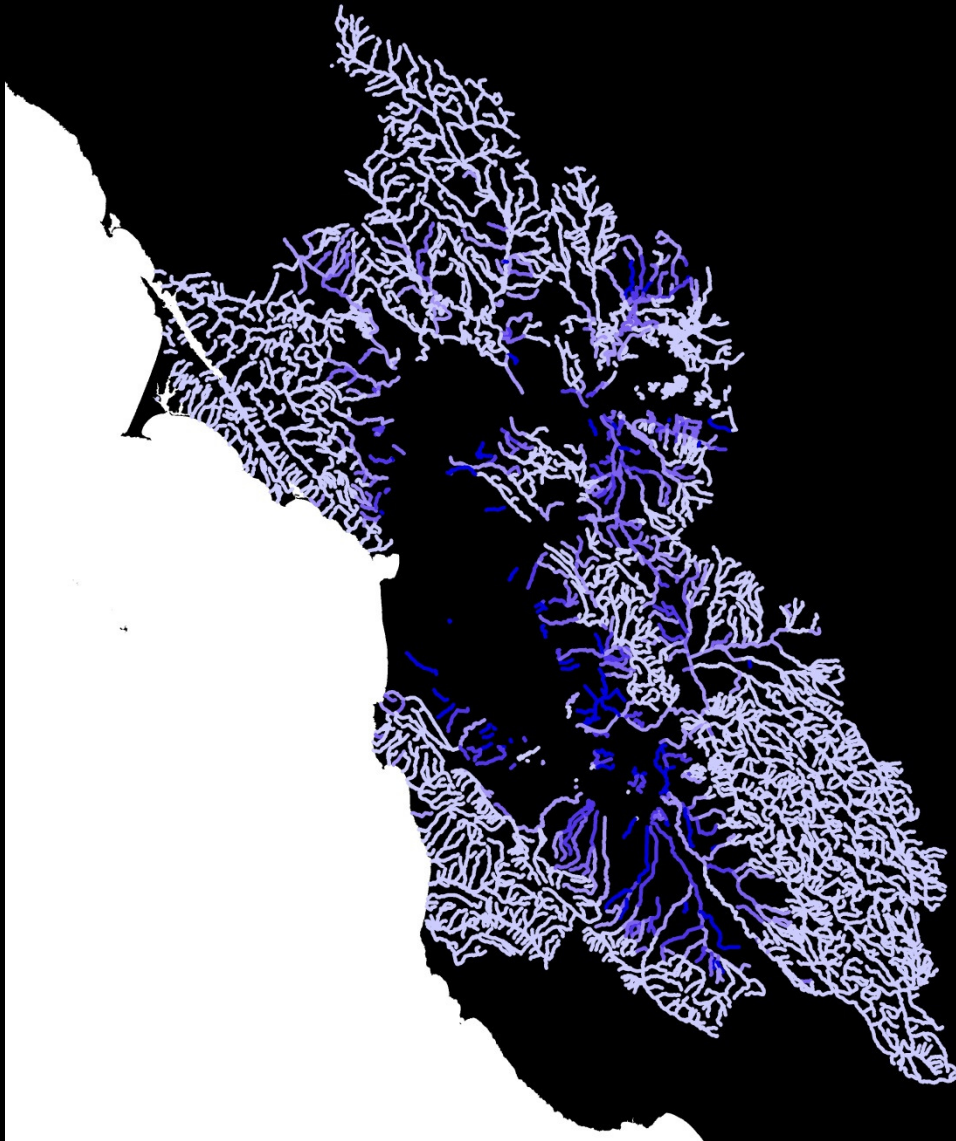
**URB\_21**





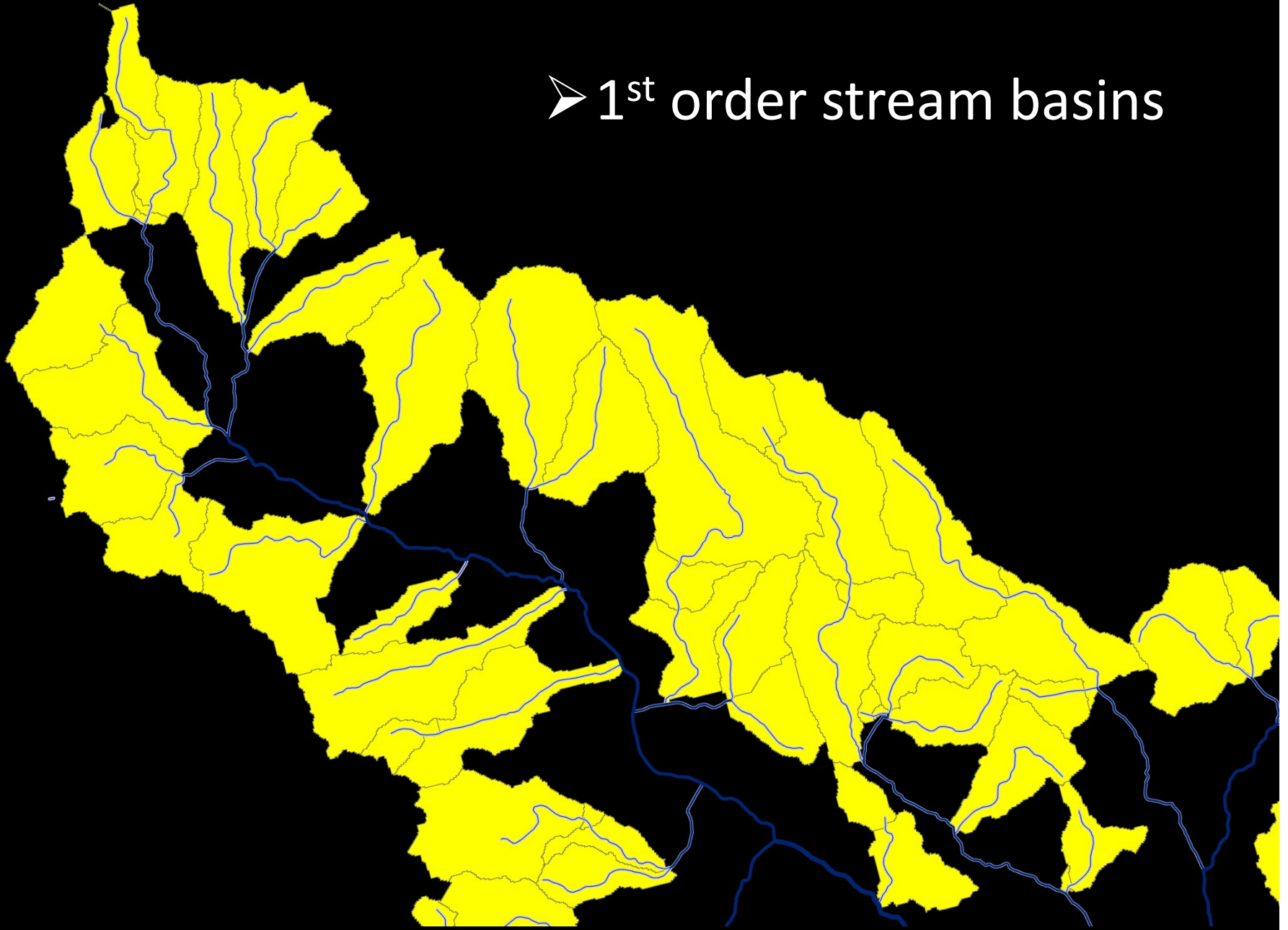


# Option 2: Watershed Landuse



- Example: Average % impervious (or other) in upstream basin for each stream segment
- Nested catchments are aggregated so that higher order watersheds contain all lower order sheds
- Upstream landuse summed for each segment

➤ 1<sup>st</sup> order stream basins

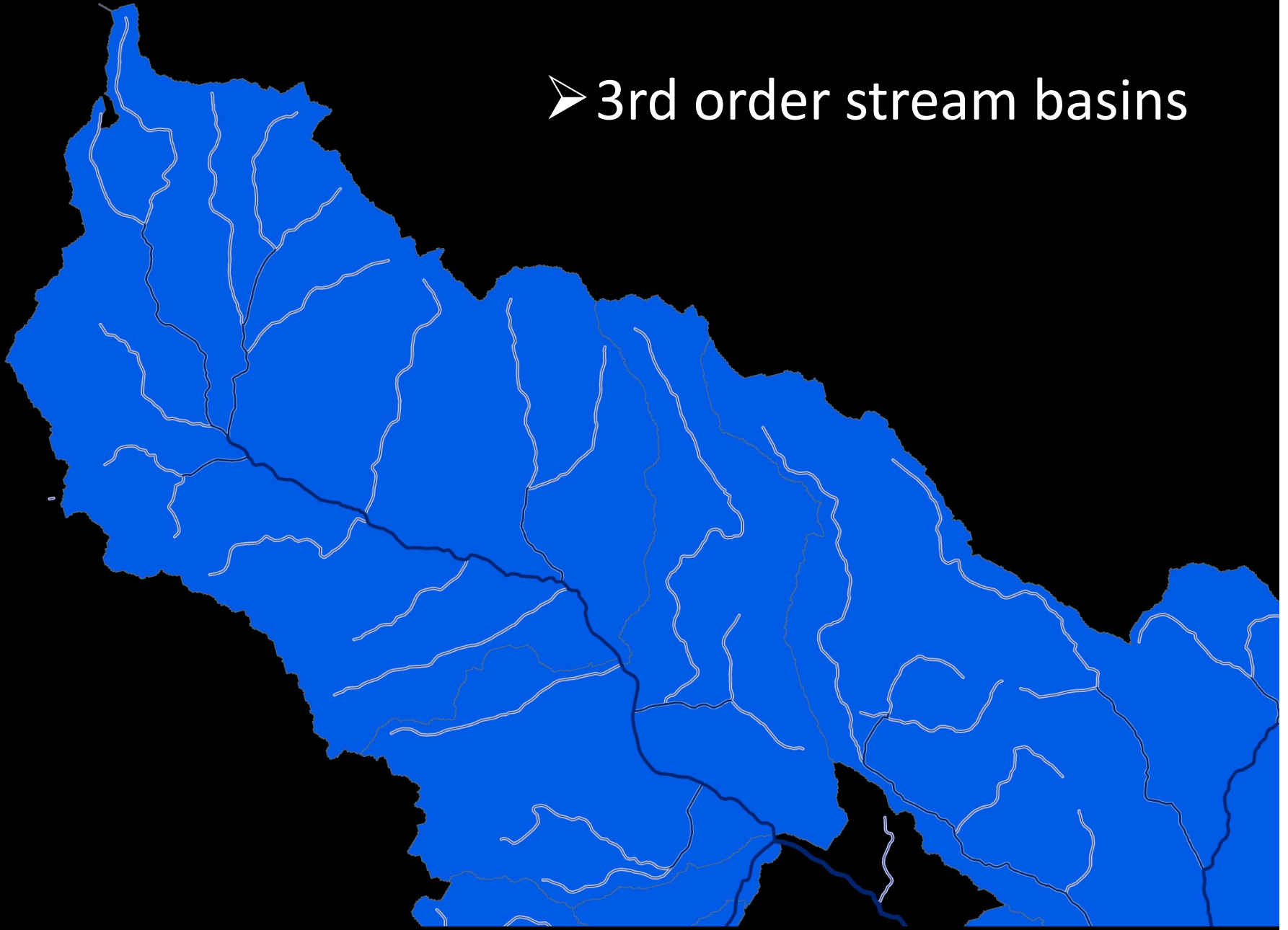




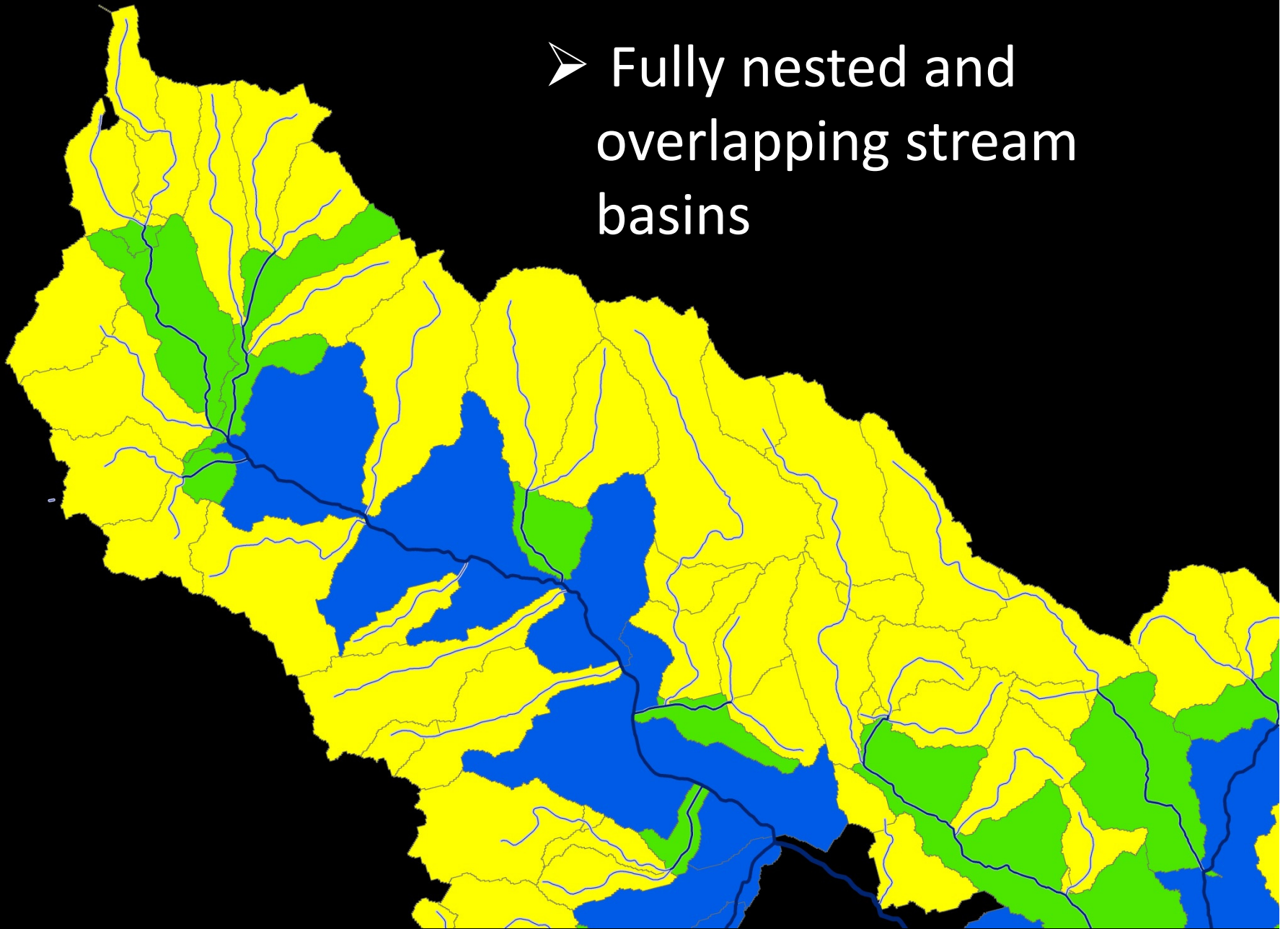
➤ 2nd order stream basins

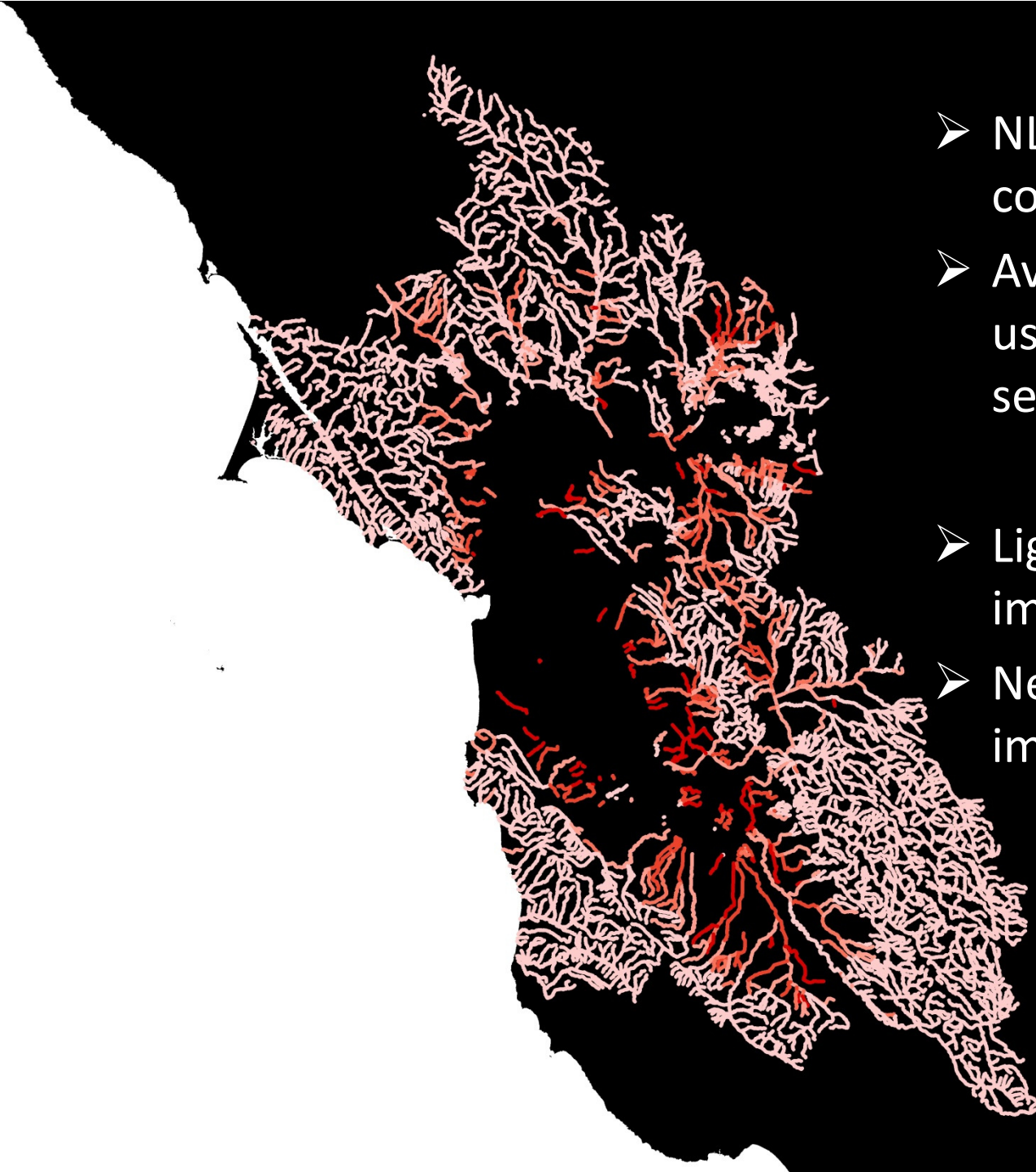


➤ 3rd order stream basins



➤ Fully nested and overlapping stream basins



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- NLCD 2006 impervious cover clipped to basins
  - Average % impervious used to color stream segments in each basin
  - Lightest color < 4% impervious,
  - Next lightest < 10% impervious