

# Biodiversity Scorecard



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Funded by: Cooperative Forestry  
Research Unit, University of Maine

# Biodiversity Scorecard

- **Created for forest managers and landowners**
- **Objectives:**
  - **Cheaply and easily quantify indicators of biodiversity**
  - **Document indicators for certification programs**
  - **Compare management units**
  - **Track changes over time**

# Goals

- Easy and affordable
  - Utilize existing information
  - Prioritize and limit research questions
- Scientifically rigorous
  - Use existing research to identify threats, indicators, and thresholds

# Step 1: Identify Values

- **Water Quality**
- **Water Temperature**
- **Hydrology/stream flow patterns**

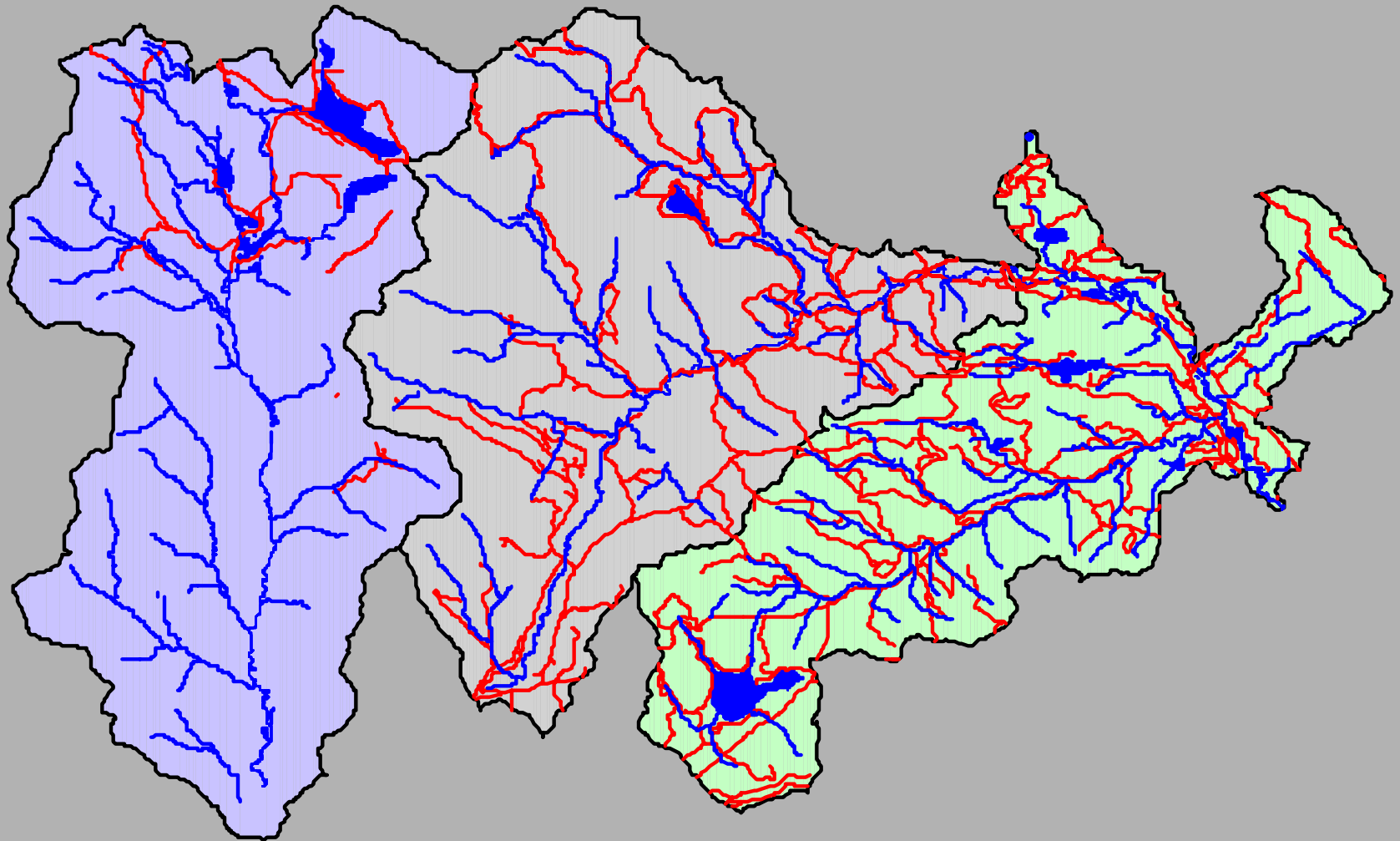
# Step 2: Research Previous Studies

- **Water Quality**
  - Logging roads are a major sediment source to streams
- **Water Temperature**
  - Riparian buffers shade streams and maintains water temperature
- **Hydrology/stream flow patterns**
  - >66% harvested results in altered hydrology

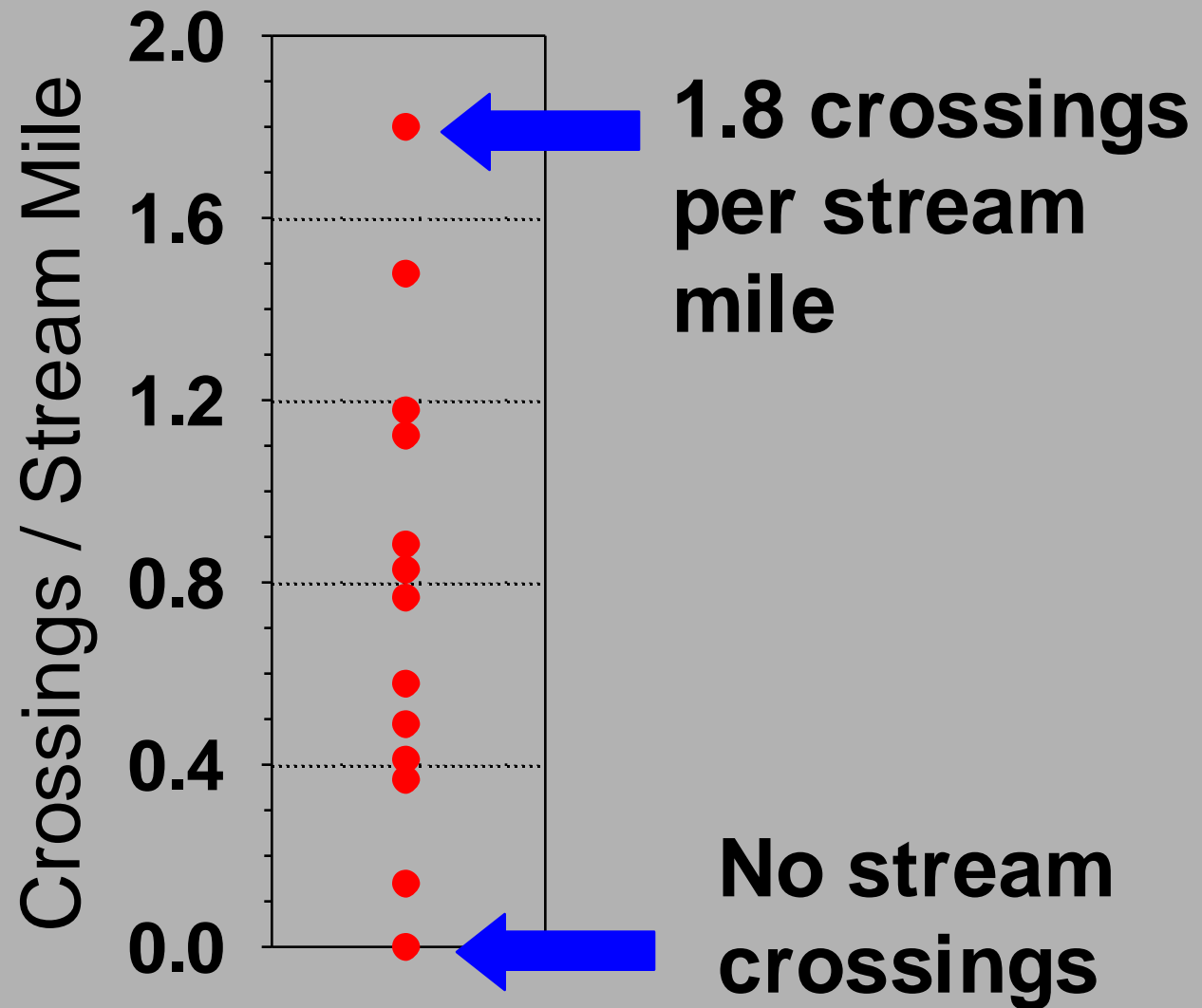
# Step 3: Select Indicators

- **Water Quality**
  - Logging roads are a major sediment source to streams
    - Road/Stream Crossing Density
- **Water Temperature**
  - Riparian buffers shade streams and maintains water temperature
    - % of stream miles buffered
- **Hydrology/stream flow patterns**
  - >66% harvested results in altered hydrology
    - % of watershed harvested within 10 years

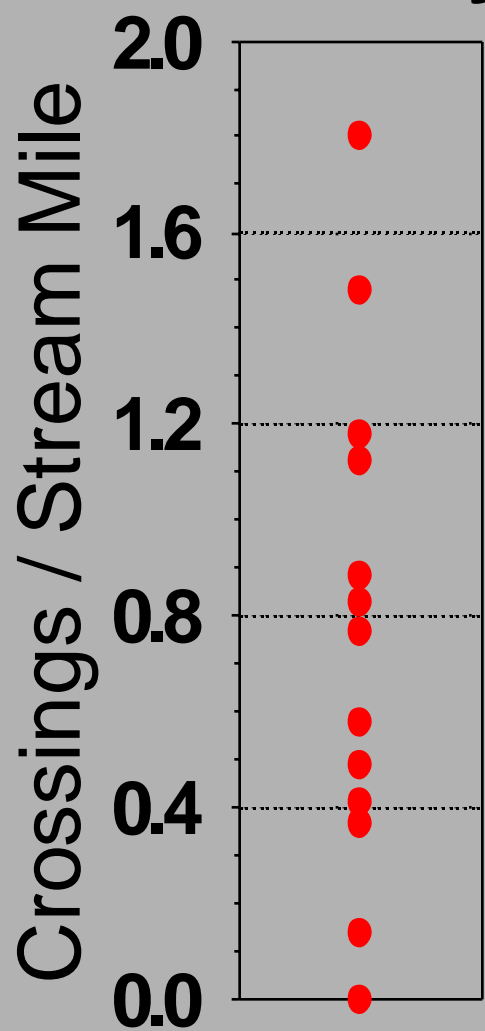
# Roads and Streams



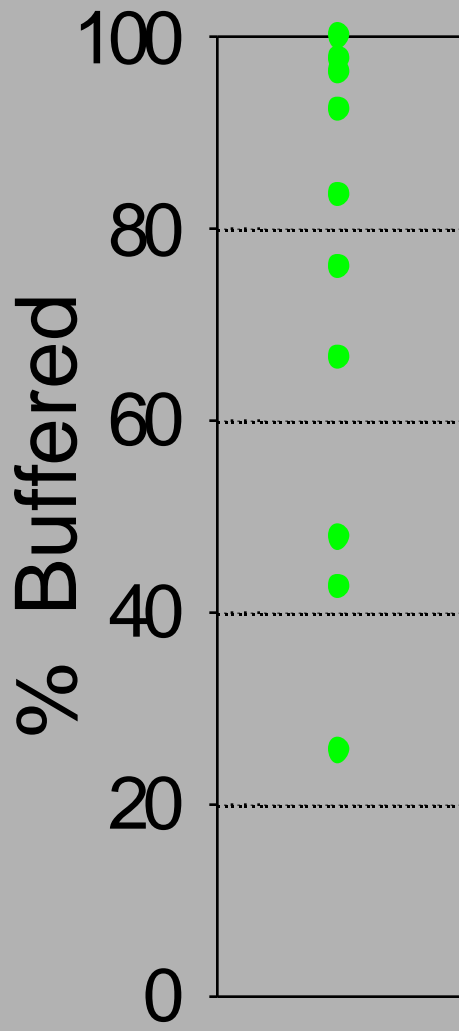
# Road/Stream Crossings



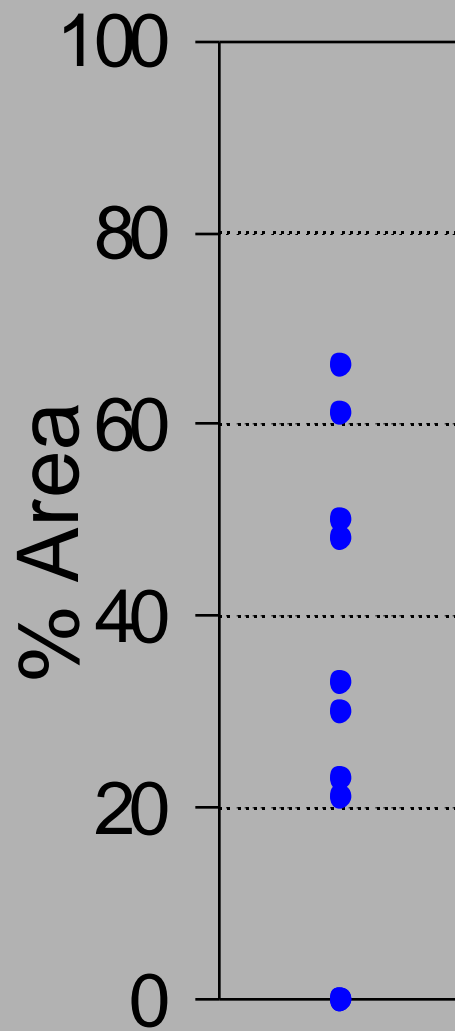
# Crossing Density



# % Buffered



# % Harvested



# Municipal Example

Step 1: Identify Value

Maintain Stream Flow Patterns

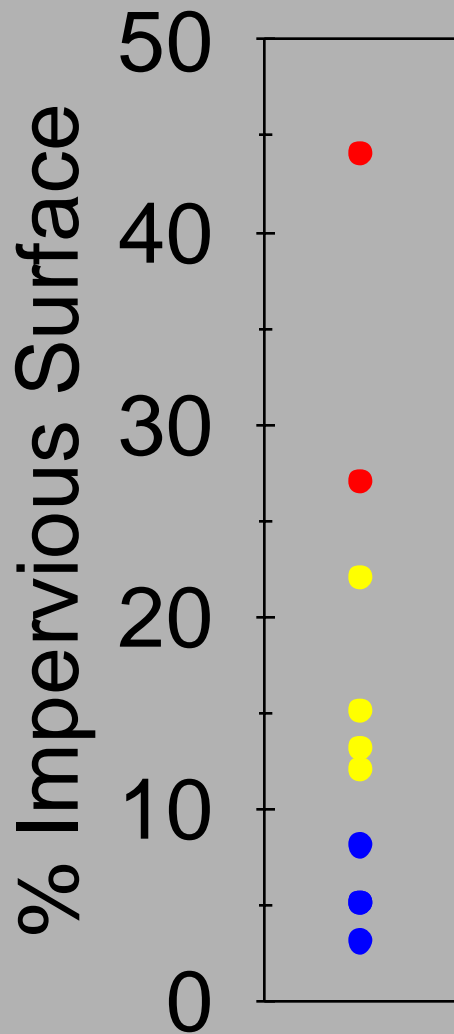
Step 2: Research previous studies

Impervious surface (e.g. roads & parking lots) changes the rate of rainfall delivery to stream channels

Step 3: Select Indicator

% impervious surface in a watershed

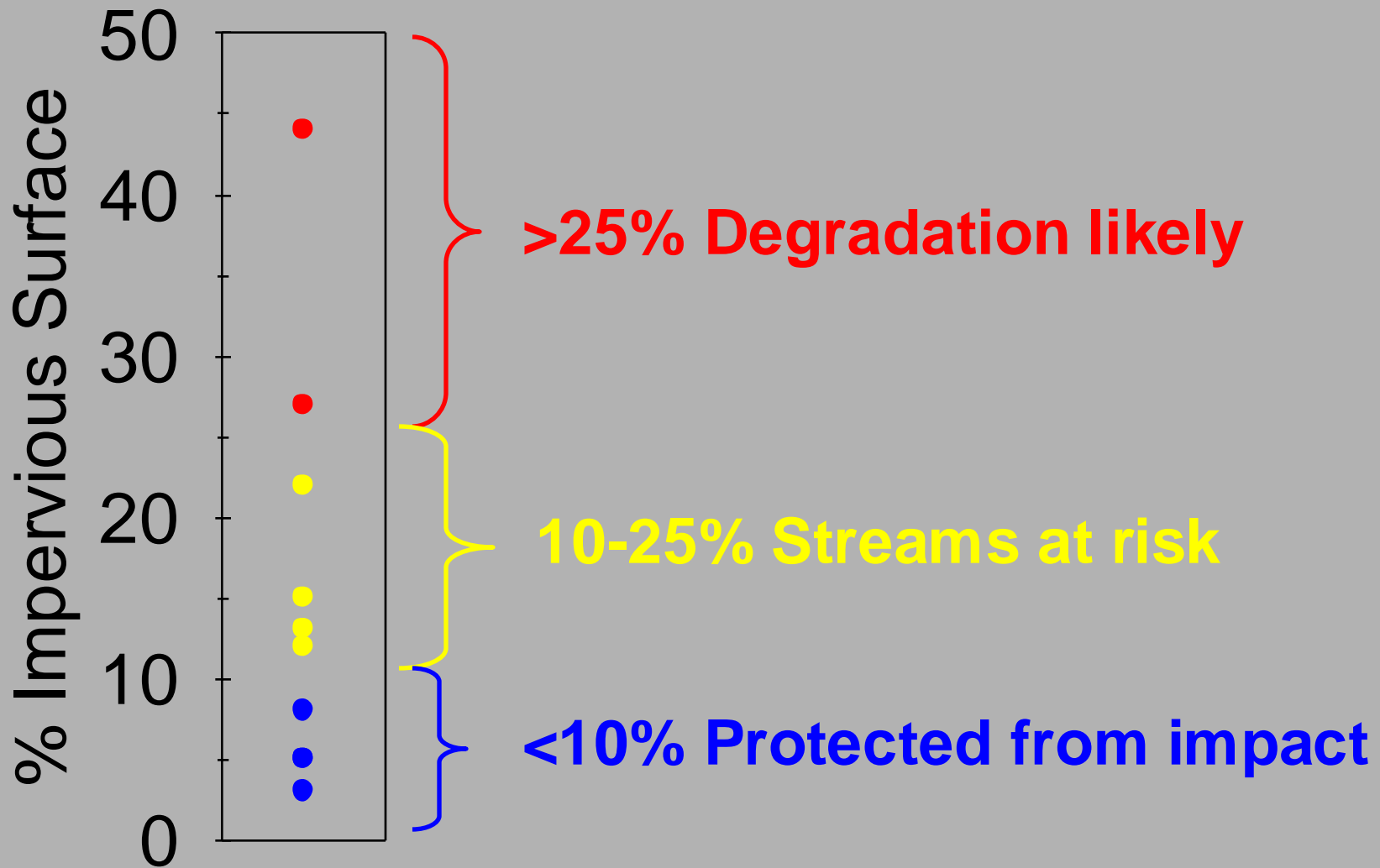
# Example: Impervious Surface



Data are fictitious

Thresholds from "Nonpoint Education for Municipal Officials Technical Paper #4"

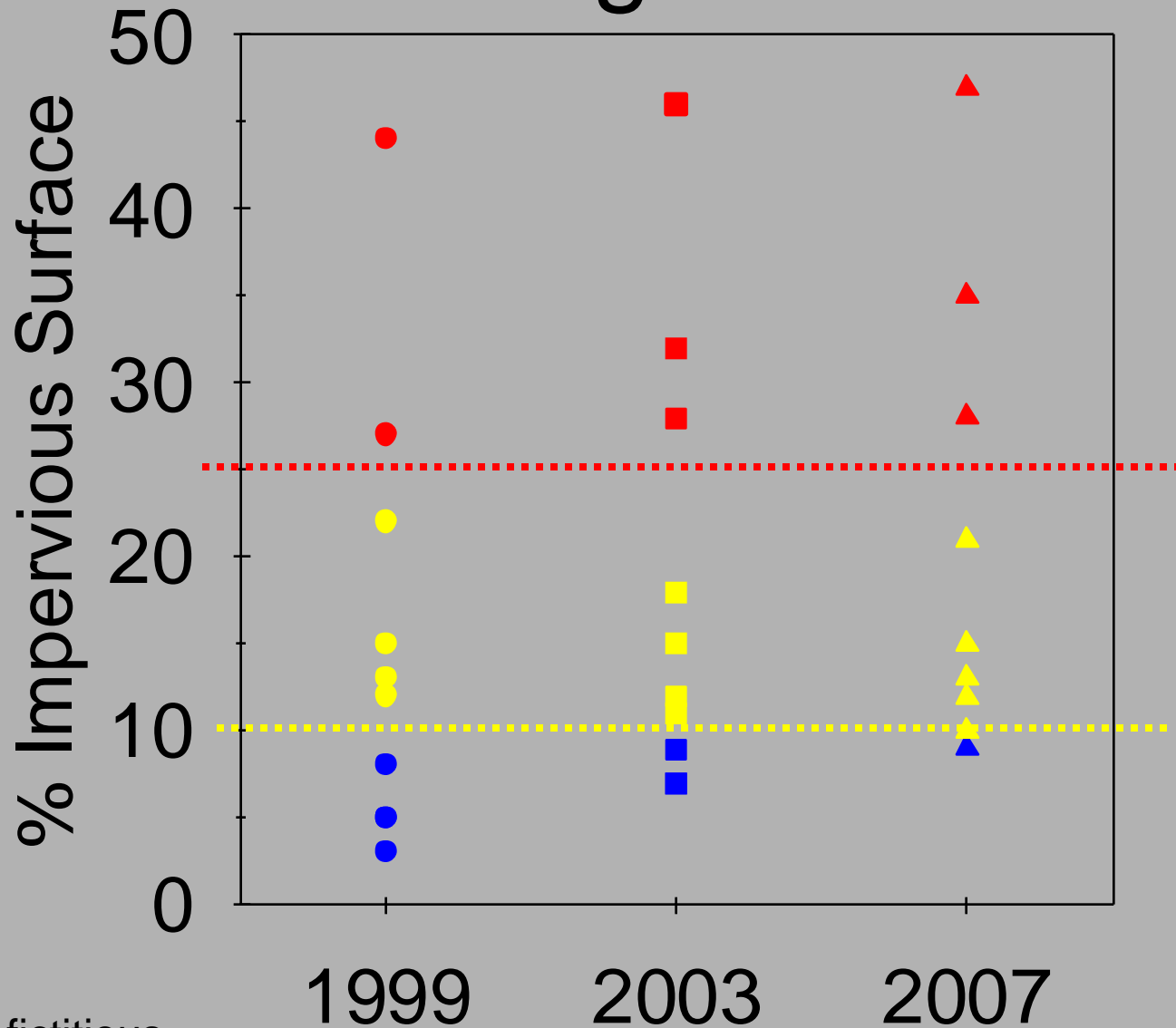
# Example: Impervious Surface



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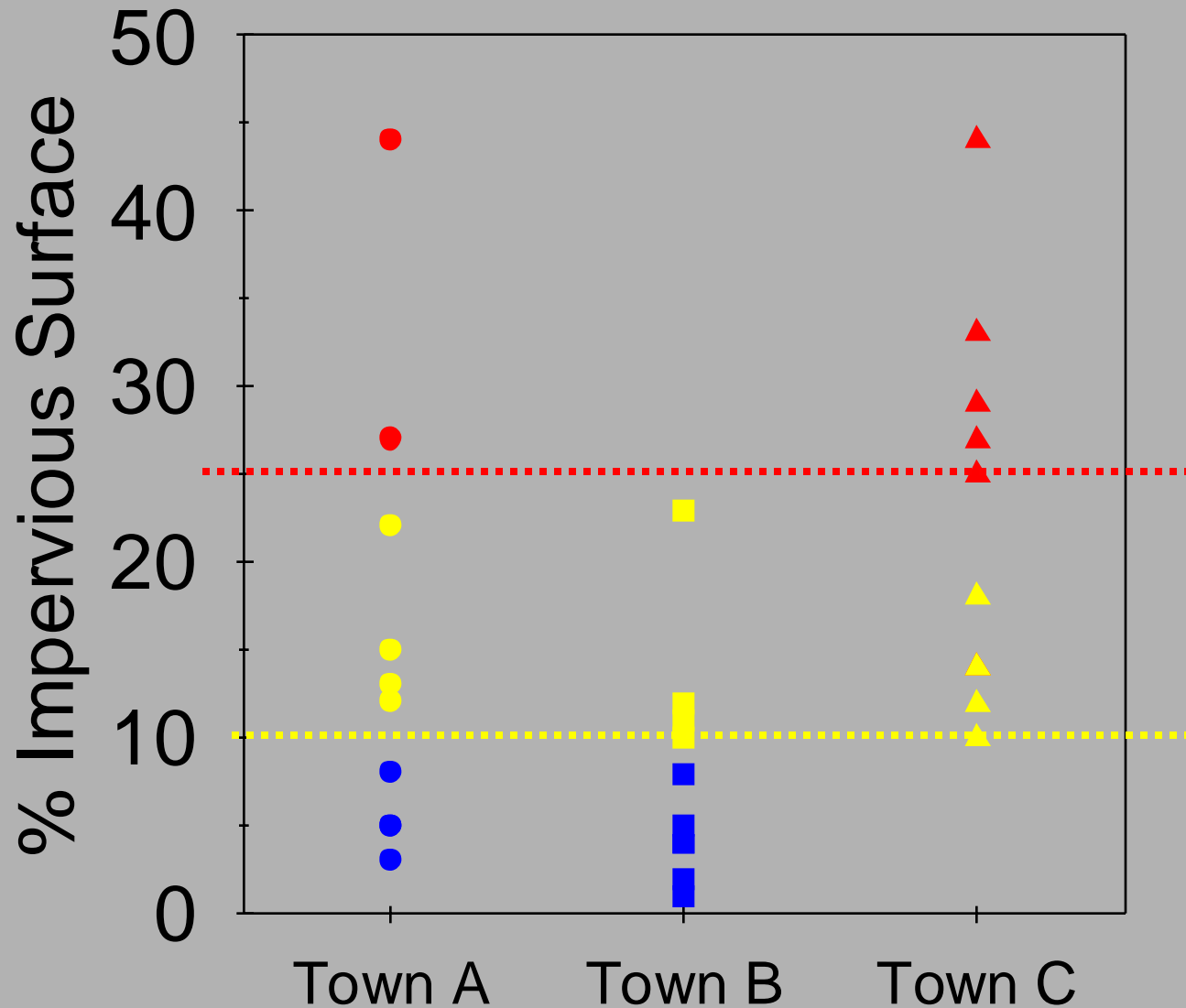
# Track Changes Over Time



Data are fictitious

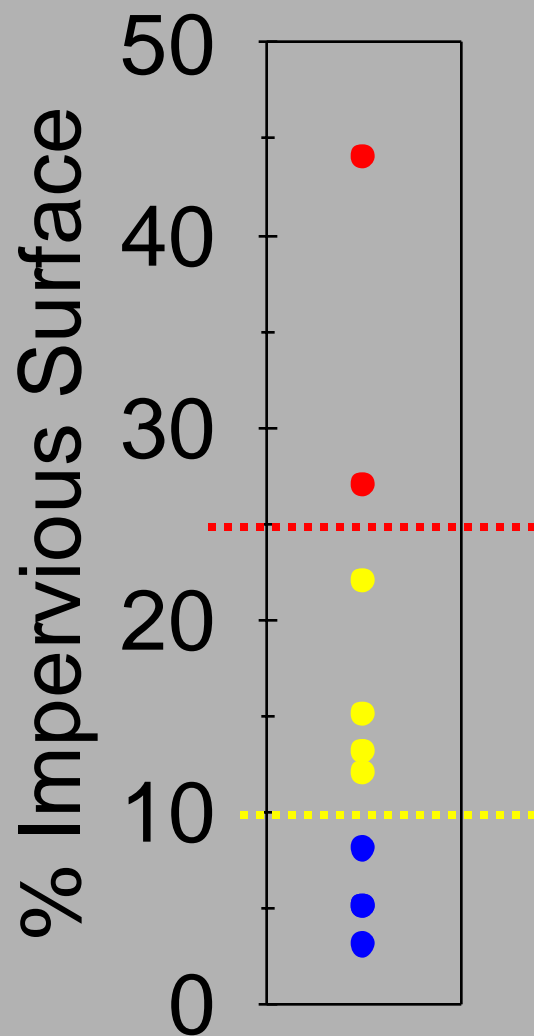
Thresholds from "Nonpoint Education for Municipal Officials Technical Paper #4"

# Compare to Other Municipalities



Data are fictitious

Thresholds from "Nonpoint Education for Municipal Officials Technical Paper #4"



- Centralize future development in impacted watersheds
- Prioritize conservation purchases
- Demonstrate need for stormwater BMPs or stream restoration projects

Data are fictitious

Thresholds from "Nonpoint Education for Municipal Officials Technical Paper #4"

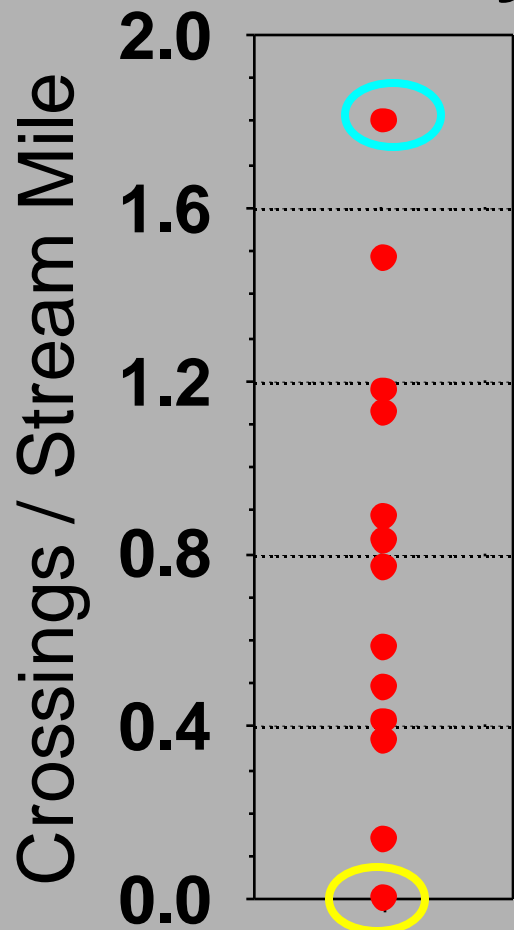


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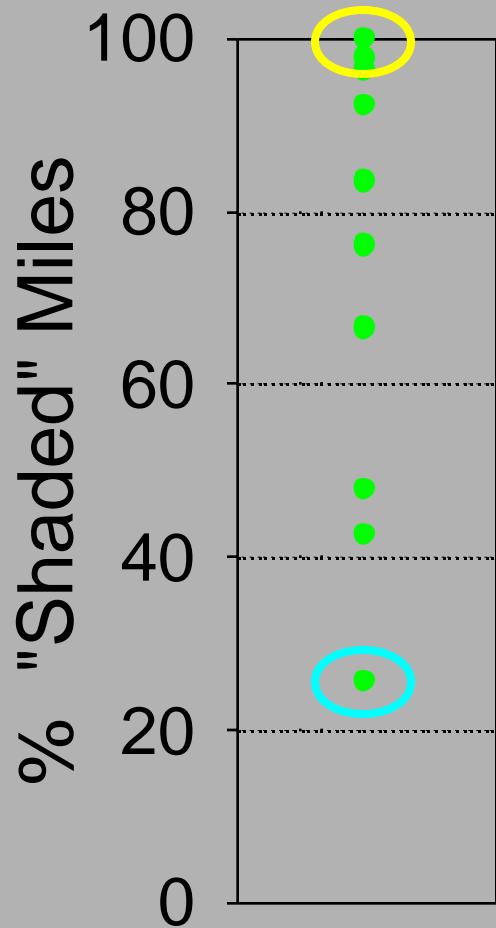
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The Biodiversity Scorecard was funded by The  
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# Crossing Density



# % Shaded



# % Harvested

