

USEPA Healthy Watersheds Initiative – California Project

In Support of the Healthy Streams Partnership



Healthy Watersheds Initiative

💧 Purpose

- 💧 Identify healthy watersheds using an integrated systems approach
- 💧 Implement strategic programs that establish priorities for protecting healthy watersheds and restoring watersheds

HWI California Project

- Under the direction of the California Healthy Streams Partnership and working through contract task order manager, Laura Gabanaki at USEPA

Proposed CA Project

- 💧 Under direction of California Healthy Streams Partnership
- 💧 Working through contract task order manager Laura Gabanaki at USEPA
- 💧 USEPA contractor Cadmus Group

Proposed CA Project

💧 Cadmus Group Tasks

- 💧 Use existing data from various programs/sources, both measured parameters and landscape indicators
 - 💧 Landscape
 - 💧 Habitat
 - 💧 Hydrology
 - 💧 Geomorphology
 - 💧 Water quality
 - 💧 Biological condition

to identify healthy watersheds throughout California

Proposed CA Project

💧 Cadmus Group Tasks

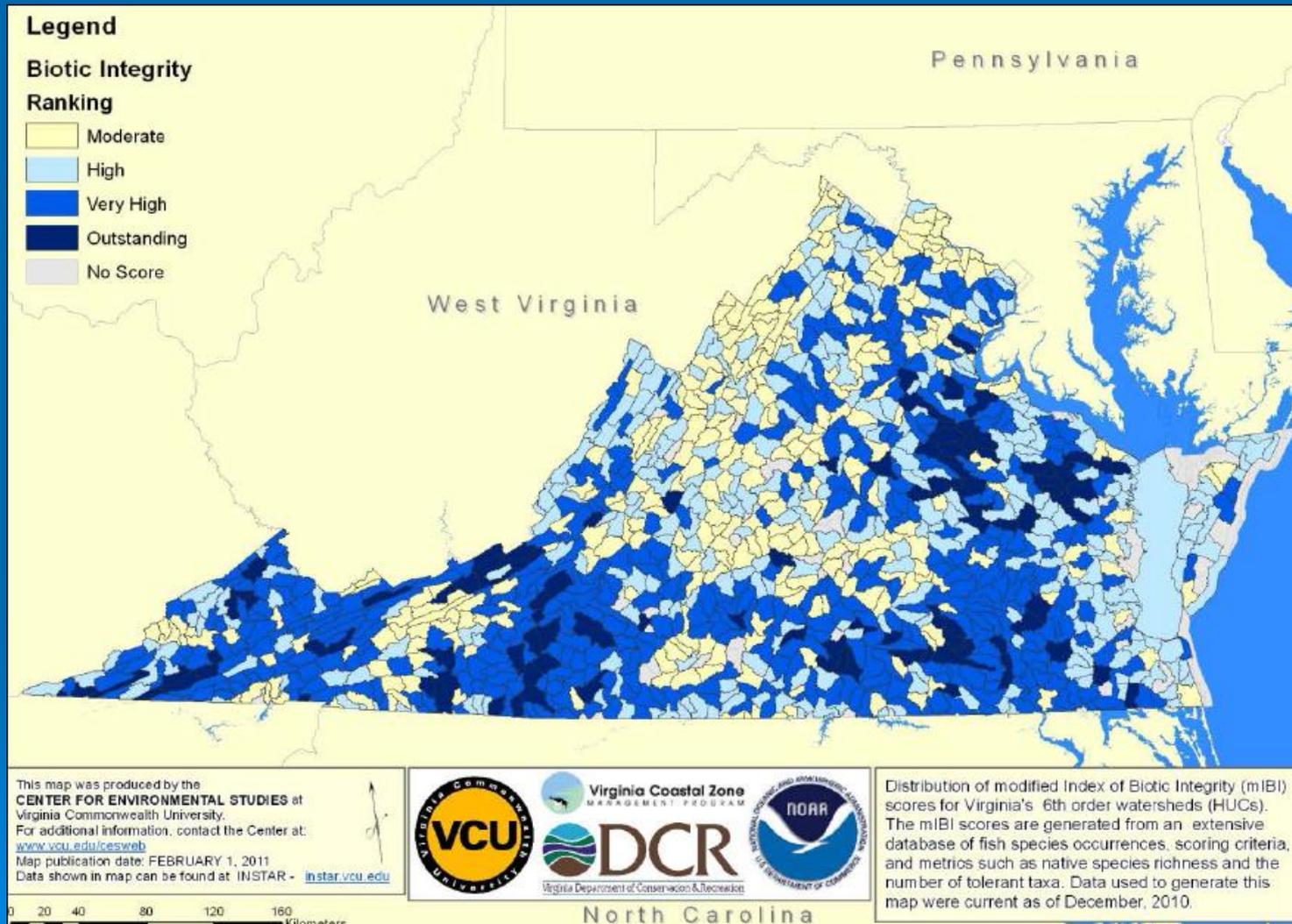
- 💧 See what integrated assessment methods other states have used and how they may be applied to California
- 💧 Identify assumptions, uncertainties, use of surrogate information, and where California lacks adequate data
- 💧 Due Date – November 12, 2012

Proposed CA Project

- 💧 Healthy Watershed Initiative Tasks
 - 💧 Supply list of potential data sources and provide access to data (done)
 - 💧 Add new workgroup members
 - 💧 No-point Source program
 - 💧 401 Water Quality Certification program
 - 💧 Tie healthy watersheds to local stewardship and education programs, via citizen monitoring groups
 - 💧 Add the above information to the Healthy Steams Portal in Phase II

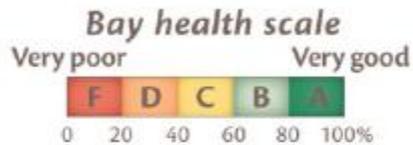
Examples from Other States

Biotic Integrity of Virginia Watersheds



Chesapeake Bay Health Report Card

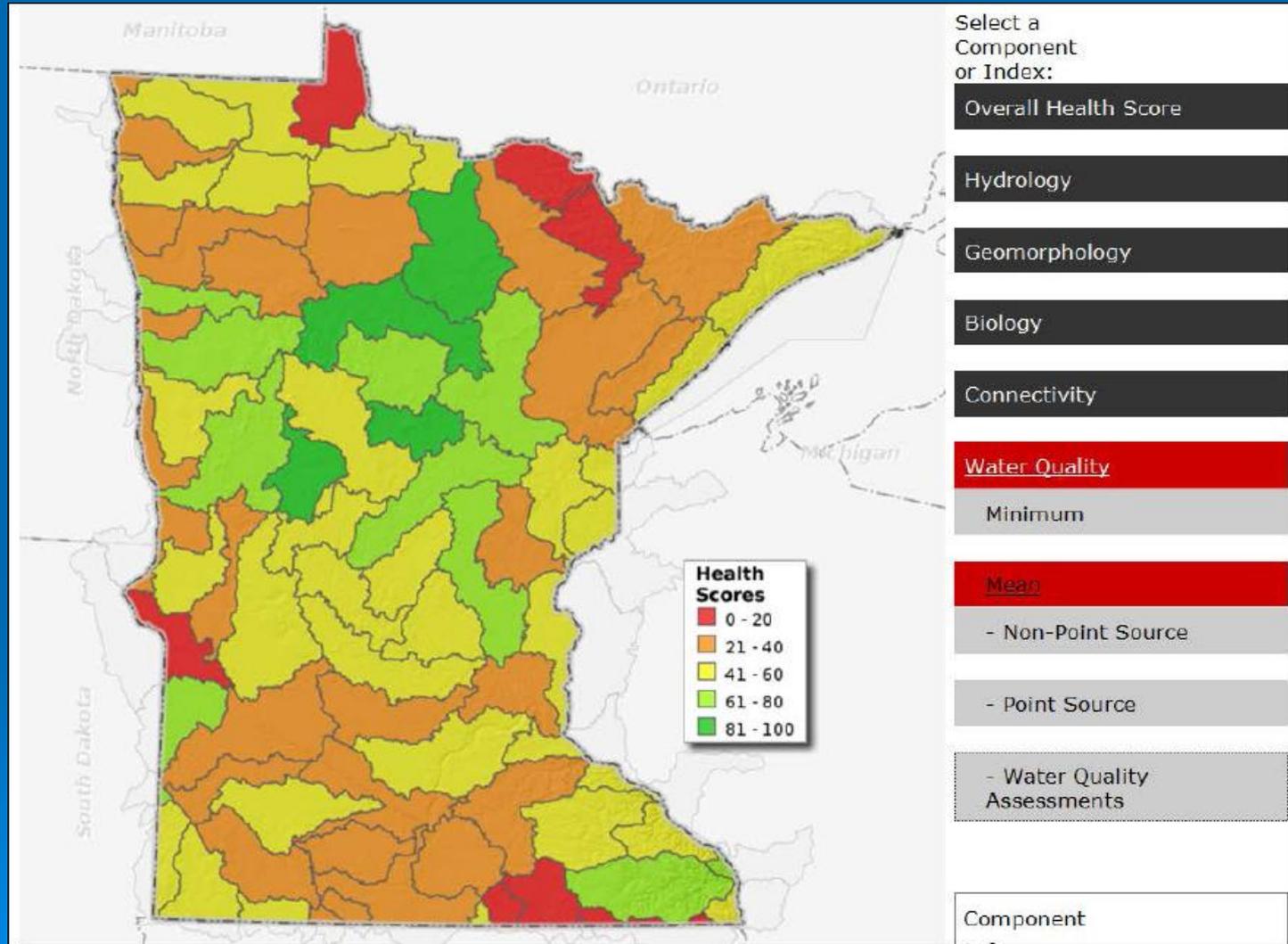
2010 Water Quality Index, Biotic Index, and Bay Health Index Scores



| | Lower Western Shore (MD) | Patuxent River | Upper Eastern Shore | York River | Choptank River | Potomac River | Lower Eastern Shore (Tangier) | Mid Bay | Overall Bay | Rappahannock River | Upper Western Shore | James River | Lower Bay | Upper Bay | Elizabeth River* | |
|----------------------------|--------------------------|----------------|---------------------|------------|----------------|---------------|-------------------------------|---------|-------------|--------------------|---------------------|-------------|-----------|-----------|------------------|-----------------------|
| Water Quality Index | 19 | 18 | 26 | 33 | 36 | 50 | 39 | 37 | 41 | 40 | 35 | 45 | 54 | 40 | 51 | 26 |
| Biotic Index | 8 | 15 | 21 | 24 | 28 | 16 | 29 | 46 | 43 | 44 | 50 | 48 | 44 | 60 | 62 | Incomplete assessment |
| Bay Health Index | 13 | 16 | 24 | 29 | 32 | 33 | 34 | 41 | 42 | 42 | 43 | 47 | 49 | 50 | 57 | 19* |

(*score based on average of 4 indicators)

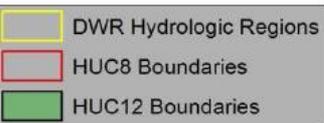
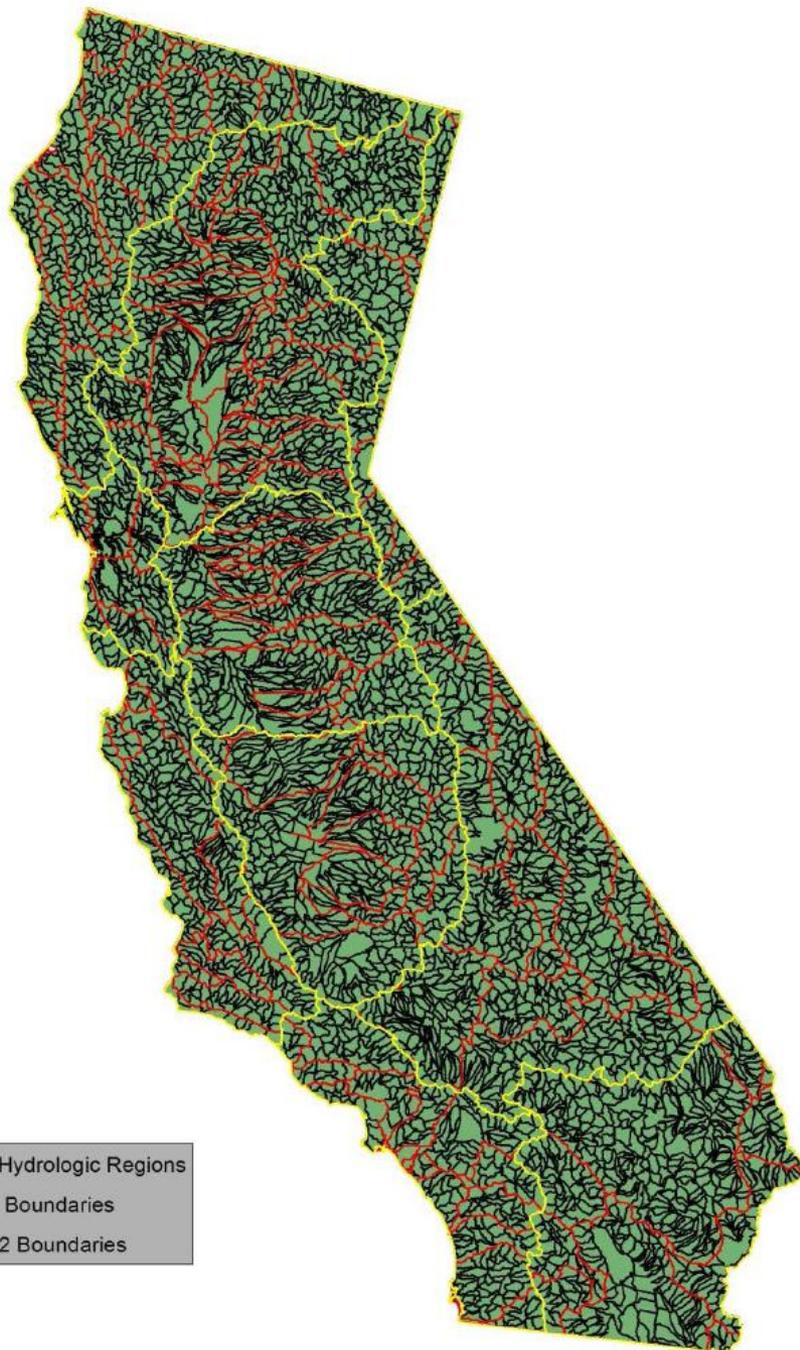
Minnesota's Watershed Assessment Tool



Assessment Reporting

Hydrologic Unit Code (HUC)

- 💧 **HUC 8**
Sub-Basins
 - 💧 Multi-metric Index
- 💧 **HUC 12**
Sub-Watersheds
 - 💧 Correlation Estimates



Major Decision Points

- Technical approach
- Selected indicators for representing each healthy watersheds element
- Selected reference values for indicator normalization
- Selection of indicator weights (if any)
- Index calculation method (e.g., simple average or “independent applicability” approach)
- HUC12 statistical models
- Selection of most appropriate approach for presenting assessment results (e.g., maps, report cards, etc.)