



Recovery Potential Screening Tool: Introduction and Overview

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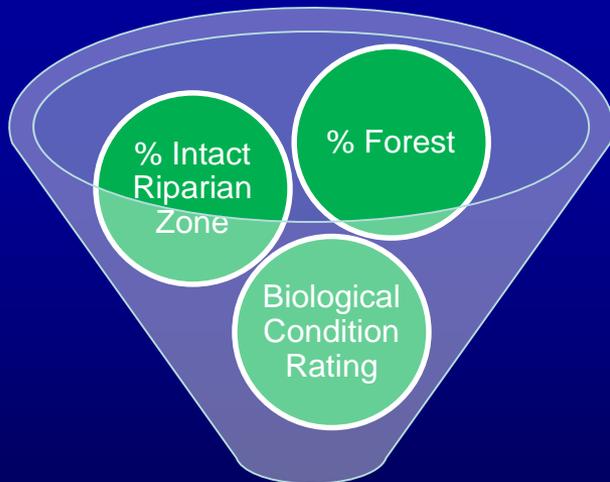
What Is Recovery Potential Screening (RPS)?

- A framework for ***comparing a group of watersheds*** based on their condition and other relevant factors for priority-setting
- Systematic but allows for ***flexibility*** in answering different management questions
- The RPS Tool is an Excel file with custom macros & menus for ***running a screening*** with pre-loaded watershed data

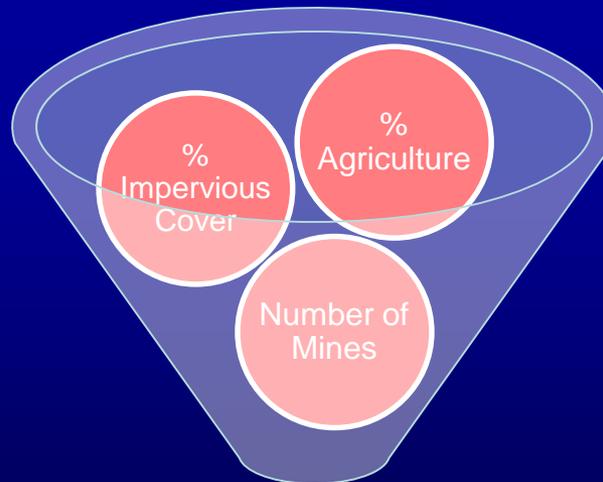
Watershed Indicators

- **Indicator-based** method for watershed comparison and priority-setting
- Indicators are measures of watershed attributes that are relevant to water quality restoration and protection

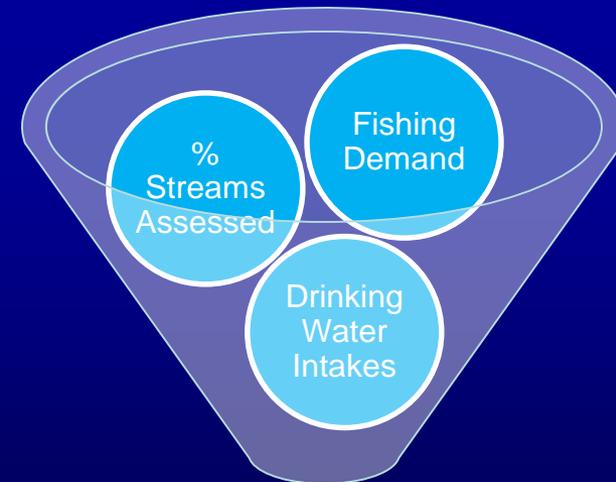
Ecological Indicators



Stressor Indicators



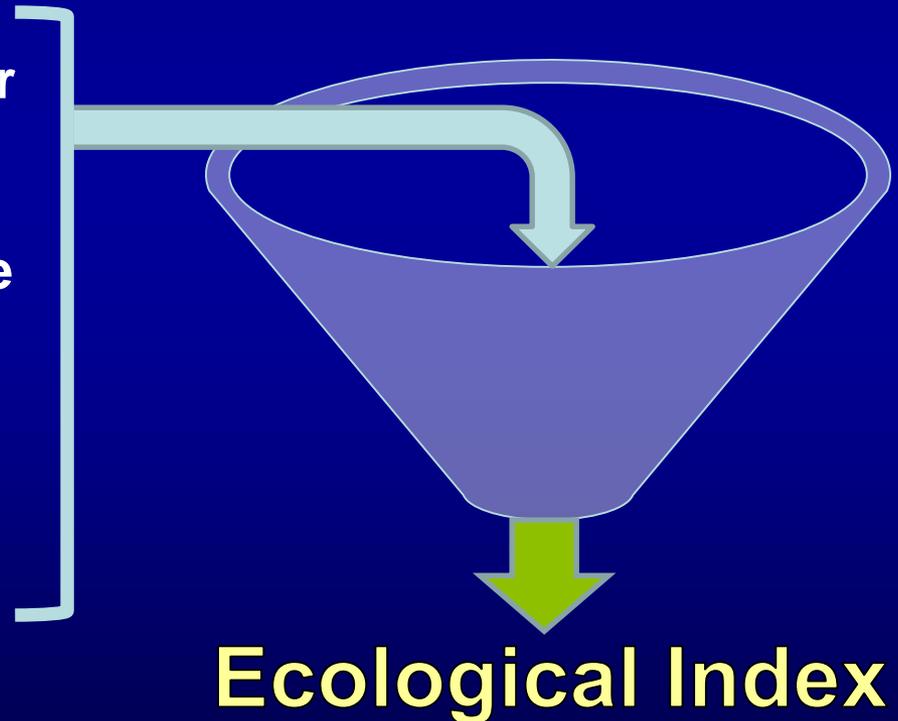
Social Indicators



Ecological Indicators

- Describe the condition of aquatic ecosystems and related watershed characteristics
- Offer insight into the capacity to maintain or regain ecological functions

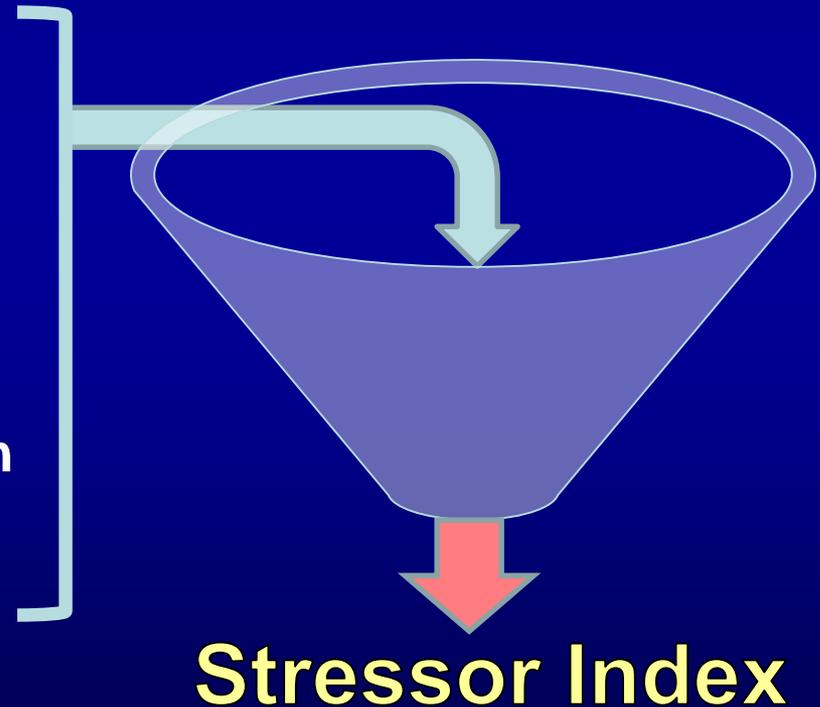
1. Watershed natural land cover
2. Riparian condition
3. Flow and geomorphic regime
4. Biotic community integrity
5. Ecological history
(species/habitat occurrence)



Stressor Indicators

- Describe anthropogenic attributes of the watershed
- Characterize risks to aquatic ecosystem health and effort required to address those risks

1. Watershed disturbance
2. Riparian disturbance
3. Flow or geomorphic alteration
4. Biological stressors
5. Severity, complexity of pollution
6. Land use change



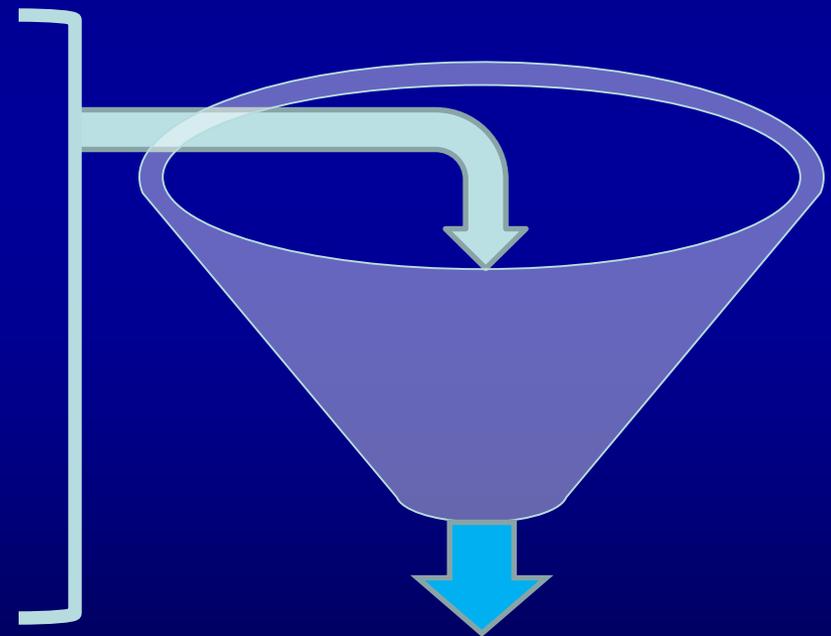
Social Indicators

- Societal or programmatic factors that support successful water quality restoration and protection

or

- Are otherwise important for priority-setting

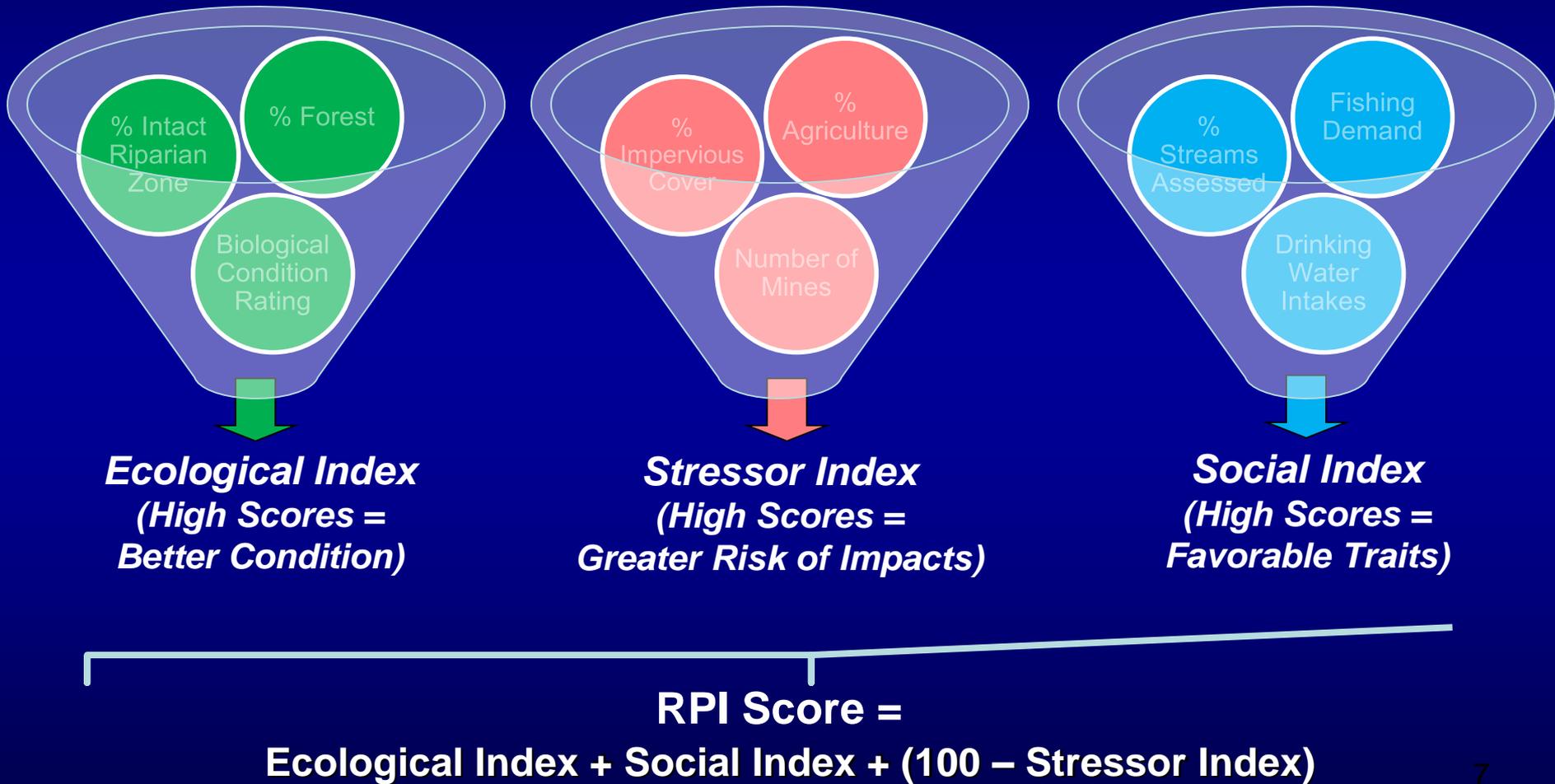
1. Leadership and engagement
2. Level of information and planning
3. Restoration cost and complexity
4. Human uses and incentives
5. Land protection or regulation
6. Socio-economic factors



Social Index

RPS Index Scores

- Indicators are combined into Index Scores – offer overall picture of ecological, stressor, and social characteristics



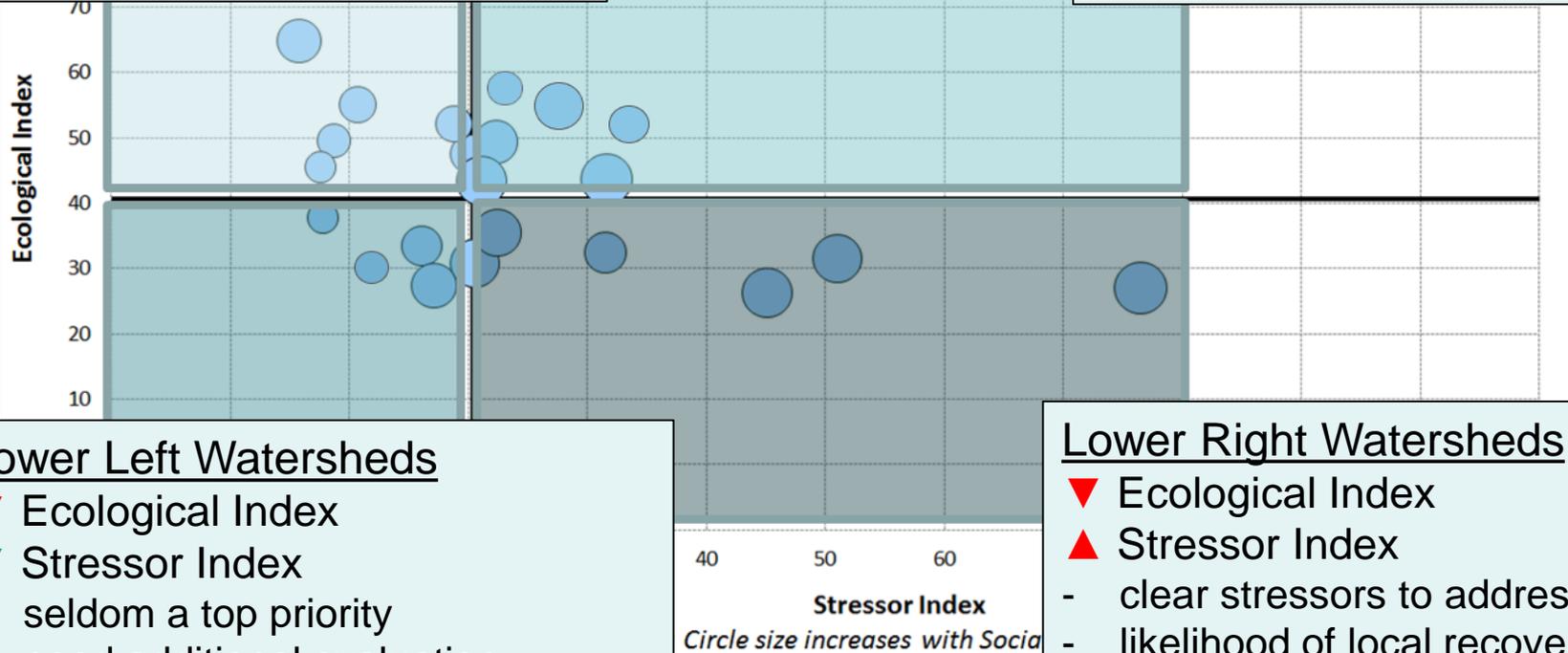
Applying RPS Results

Upper Left Watersheds

- ▲ Ecological Index
- ▼ Stressor Index
- best condition
- maybe more responsive to restoration/protection

Upper Right Watersheds

- ▲ Ecological Index
- ▲ Stressor Index
- still in good condition
- but higher stressor levels, possibly more threatened



Lower Left Watersheds

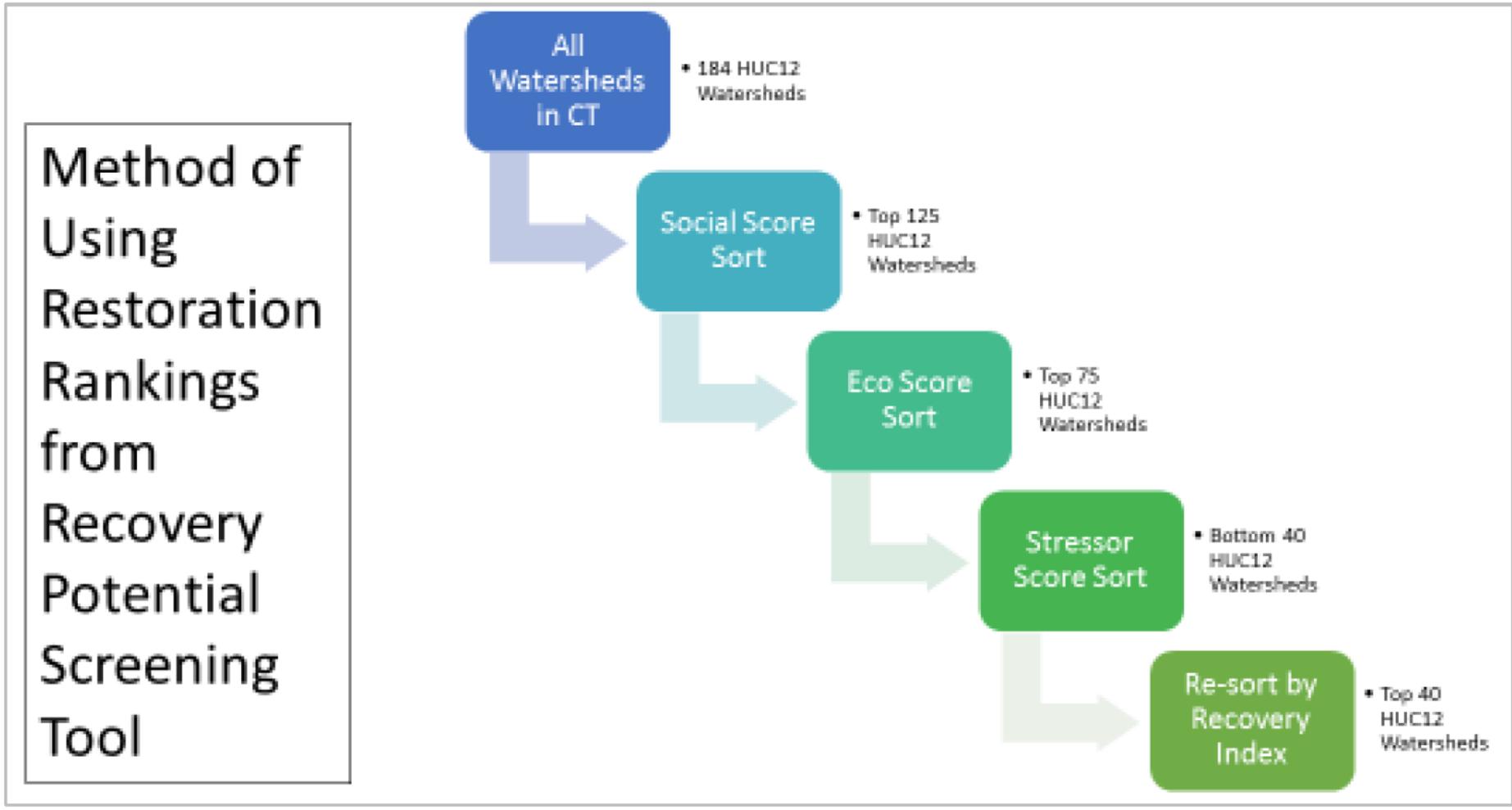
- ▼ Ecological Index
- ▼ Stressor Index
- seldom a top priority
- need additional evaluation

Lower Right Watersheds

- ▼ Ecological Index
- ▲ Stressor Index
- clear stressors to address
- likelihood of local recovery may be low

Applying RPS Results

Figure 5. Graphic flow chart of watershed sorting for restoration after RPS Tool Screening



What's in a Name?

- ❑ **Recovery** Potential Screening was originally developed to identify priority impaired waters for TMDL development and restoration
 - ❑ “Low hanging fruit” = impaired watersheds with high ecological integrity, low stressor presence
- ❑ Expanded applications beyond TMDLs, for example:
 - ❑ State nonpoint source program five-year plans & 319 grants
 - ❑ Healthy watersheds protection
 - ❑ Wetland and riparian buffer mitigation grants
 - ❑ Water quality monitoring strategies
 - ❑ Deepwater Horizon restoration funding

Why RPS?

- Advantages offered by RPS:
 - Centered on **watershed** data
 - **Flexible** – screenings can be simple or complex depending on user needs
 - **Customizable** – user-supplied indicators and/or alternative watershed scales can be added to RPS Tool;
 - Stable **support** and **update** schedule

Example RPS Uses

- Integrated Water Resource Management Initiative
Connecticut Department of Energy and Environmental Protection

Water Quality Concerns



General Watershed Health (~ALUS)

- Restoration
- Protection



Stormwater

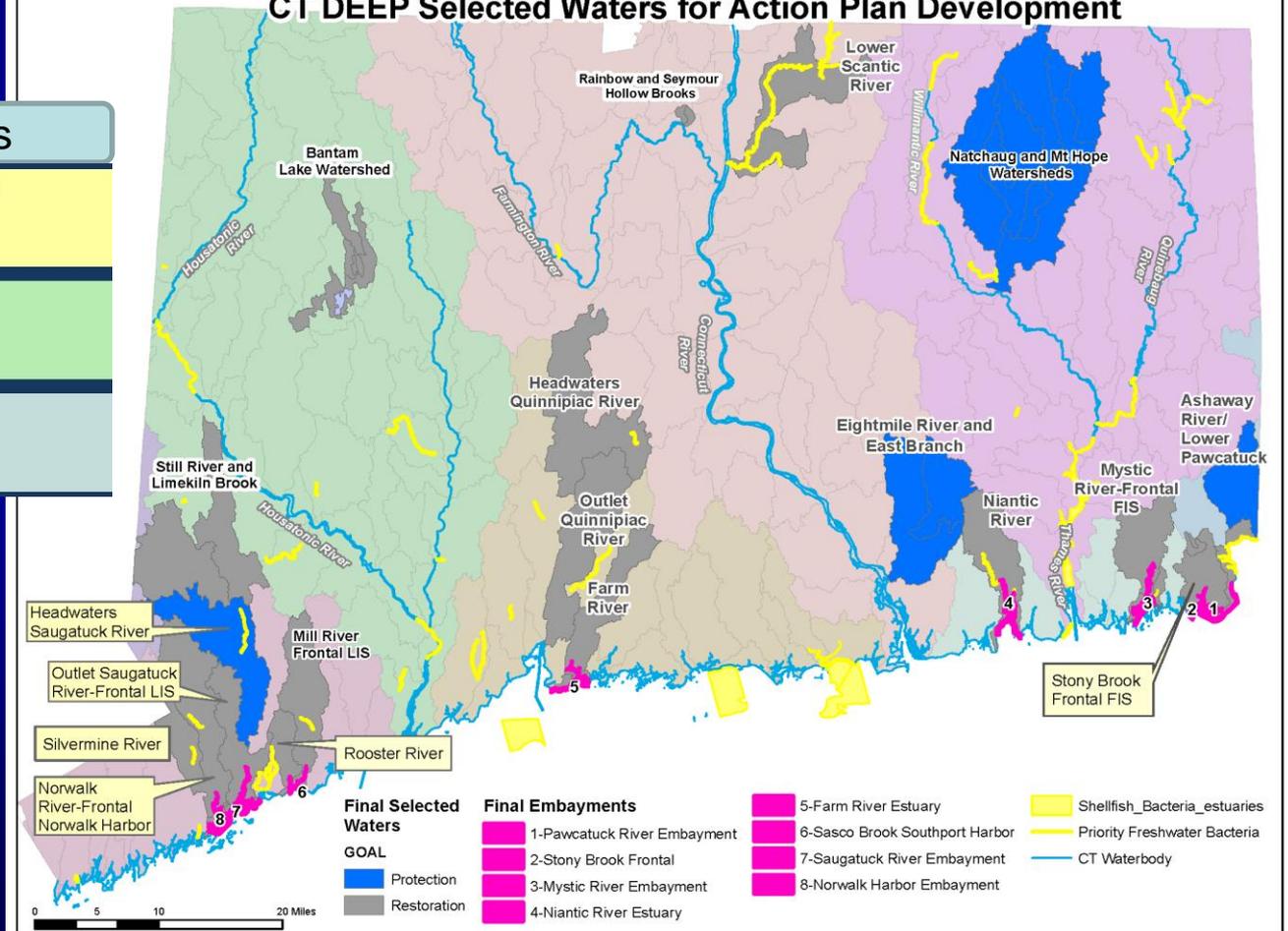
- Restoration
- Protection



Nutrients

- Restoration
- Protection

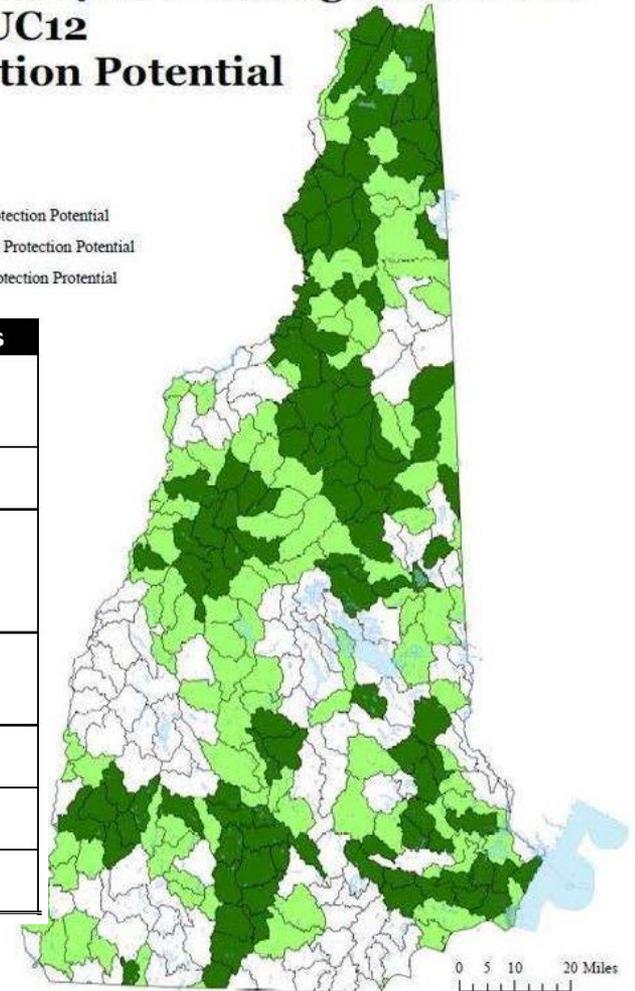
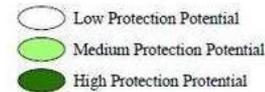
CT DEEP Selected Waters for Action Plan Development



Example RPS Uses

- State Nonpoint Source Program (Section 319) Grant Scoring
New Hampshire, New Mexico, Michigan

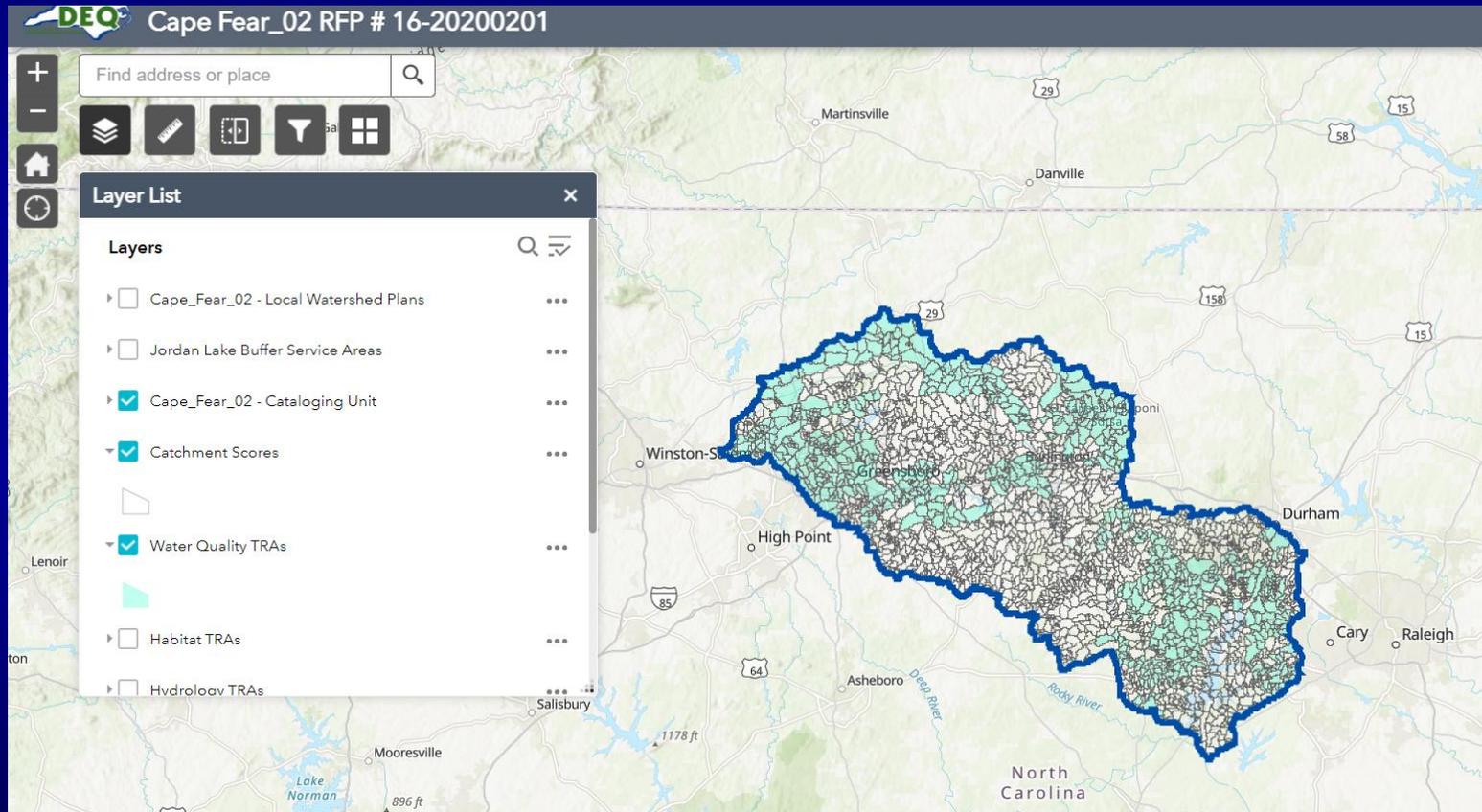
2020-2024 NPS Management Plan NH HUC12 Protection Potential



Criteria		Max Points
Water Quality Improvement (either/or)	Impaired Waters: Project will achieve or lead to removing an impairment from the 305(b) or 303(d) list, resulting in a Section 319 Success Story (see EPA's Nonpoint Source Success Stories webpage).	40*
	High Quality Waters: Project will achieve or lead to quantifiable progress toward water quality goals in a high quality watershed.	30*
Local Capacity	Commitment of the applicant's support network, and capacity to complete the proposed project. Ranking will be based upon the grantee's description and/or demonstration of their team's ability to successfully complete the proposed project.	25
Relative Value of the Waterbody	The availability (access), and extent of use of the waterbody. Uses include, but are not limited to: drinking water supply; public recreational opportunities; aquatic and terrestrial habitat benefits.	15
Priority Ranking	Project is located in high or medium priority watersheds as identified in the NHDES Nonpoint Source Management Program Plan.	10
Proposal Thoroughness	General quality and completeness of the proposal package.	10
Total possible points for Impaired Waters*		100
Total possible points for High Quality Waters*		90

Example RPS Uses

- Targeting Wetland and Riparian Buffer Mitigation – North Carolina Division of Mitigation Services



RPS Tool

Contains all state indicator data
Calculates index scores and ranks
Creates tables, maps, and plots

RUN SCREENING

RESET SCREENING

Select Watersheds

Select watersheds to include in the screening by clicking the *Select Watersheds* button below. To clear your selections, click the *Clear Watershed Selections* button.

Select Watersheds

Clear Watershed Selections

HUC12 ID
020503061304 (Fishing Creek-Muddy Creek)
020503061502 (Tweed Creek-Octoraro Creek)
020503061503 (Basin Run-Octoraro Creek)
020503061601 (Headwaters Deer Creek)
020503061602 (Upper Deer Creek)
020503061603 (Middle Deer Creek)
020503061604 (Lower Deer Creek)
020503061710 (Broad Creek)
020503061711 (Conowingo Creek)
020503061712 (Conowingo Dam-Susquehanna River)
020503061713 (Rock Run-Susquehanna River)
020600010000 (Upper Chesapeake Bay)
020600020101 (Little North East Creek)
020600020102 (North East Creek)
020600020103 (Mill Creek-Furnace Bay)
020600020104 (Hance Point Creek-North East River)
020600020105 (Elk Neck-Upper Chesapeake Bay)
020600020202 (Little Elk Creek)
020600020203 (Big Elk Creek)
020600020204 (C&D Canal West-Back Creek)

Select Ecological Indicators

Select ecological indicators to include in the screening by clicking the *Select Ecological Indicators* button below. To clear your selections, click the *Clear Ecological Indicator Selections* button.

Select Ecological Indicators

Clear Ecological Indicator Selections

Ecological Indicator	Weight
% Forest Change in HCZ (2001-11)	1
% Shrub/Scrub in RZ (2011)	1
% Woody Vegetation Change in HCZ (2001-11)	1
% Wetlands in WS (2011)	1
% Wetlands Remaining in WS	1
% N-Index1 in WS (2011)	1
Habitat Condition Index, Local Buffer WS (2015)	1

Select Stressor Indicators

Select stressor indicators to include in the screening by clicking the *Select Stressor Indicators* button below. To clear your selections, click the *Clear Stressor Indicator Selections* button.

Select Stressor Indicators

Clear Stressor Indicator Selections

Stressor Indicator	Weight
% Urban in WS (2011)	1
% Developed, High Intensity in RZ (2011)	1
% Agriculture in WS (2011)	1
% Slope of Pasture, Mean in WS (2011)	1

Select Social Indicators

Select social indicators to include in the screening by clicking the *Select Social Indicators* button below. To clear your selections, click the *Clear Social Indicator Selections* button.

Select Social Indicators

Clear Social Indicator Selections

Social Indicator	Weight
Drinking Water Source Protection Area, Cumulative	1
Drinking Groundwater Population Served	1
% Any IUCN Status	1
Nonpoint Control Projects Count	1

INSTRUCTIONS
Notes
Setup
Results
Bubble_Plot
Bubble_Plot_Options
HUC12_Map
HUC12_Data
Indicator_Info
HUC_Subsets
Add_Indicators
⊕

Requires only spreadsheet skills to run screenings and review results

RPS Tool

- ❑ RPS Tools are produced for all US states and territories
- ❑ By default, each tool is pre-loaded with HUC12 indicators calculated from national datasets
- ❑ Custom tools have additional indicators and watershed scales
- ❑ Updates released every 1-2 years with new indicator data and tool functions

Downloadable Statewide RPS Tools

You may need additional software to view some of the links on this page. See [EPA's Free Viewers and Readers page](#). The links will vary in file size.



Choose a state from the map above or the pull-down list below. Find your tool copy in your computer's downloads folder, then open it offline in Excel.

Alabama

<https://www.epa.gov/rps/downloadable-rps-tools-comparing-watersheds#Statewide>

RPS Tool Updates

- New indicators for lower 48 HUC12s are in development, anticipated release in summer 2021

ATTAINS Indicators	Stressor Indicators	Social Indicators
<ul style="list-style-type: none"> • Assessed Waters • Impaired Waters • Waters with TMDLs 	<ul style="list-style-type: none"> • Projected Precipitation Change • Projected Temperature Change • Projected Surface Runoff Change • Projected Snow Water Equivalence Change • Projected Sea Level Rise • 100-Year Flood Zone • Hurricane Storm Surge Zone • TN, TP, and Sediment Yield (SPARROW) 	<ul style="list-style-type: none"> • Low Income Population • Minority Population • Linguistically Isolated Population • Population with Less than High School Education • Population Under Age 5 or 64+ • Pollutant Exposure (Hazardous Waste Sites, NPDES Effluent Violations, Toxic Wastewater Risk, etc.)

RPS Training Resources

<https://www.epa.gov/rps/rps-training-and-user-support>

- Video Training Series - short instructional videos that each focus on critical elements of the RPS Tool
- User Guide with step-by-step instructions
- Reports from past projects

