

The Use of the California
Rapid Assessment Method
(CRAM)
In Riparian Assessments
and SWAMP

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CA Resources Agency, Coastal Commission,
Southern California Coastal Water Research
Project

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3 Regional Teams

What is CRAM?

Part of a 3-Level Framework for
Comprehensive Wetlands Assessment

Level 1: Habitat Inventories and
Landscape Profiles

Level 2: Rapid Assessment of
Habitat Condition (CRAM)

Level 3: Intensive Quantitative
Assessment

3-Level Approach

Level 1: Inventory

Where *are* the wetlands & riparian habitats?

- New NWI plus project maps as sample frame for ambient assessment.
- Web-based tools for tracking projects as habitat. www.wetlandtracker.org

Level 1 Inventory: Wetland Tracker

Wetlands Projects - Microsoft Internet Explorer

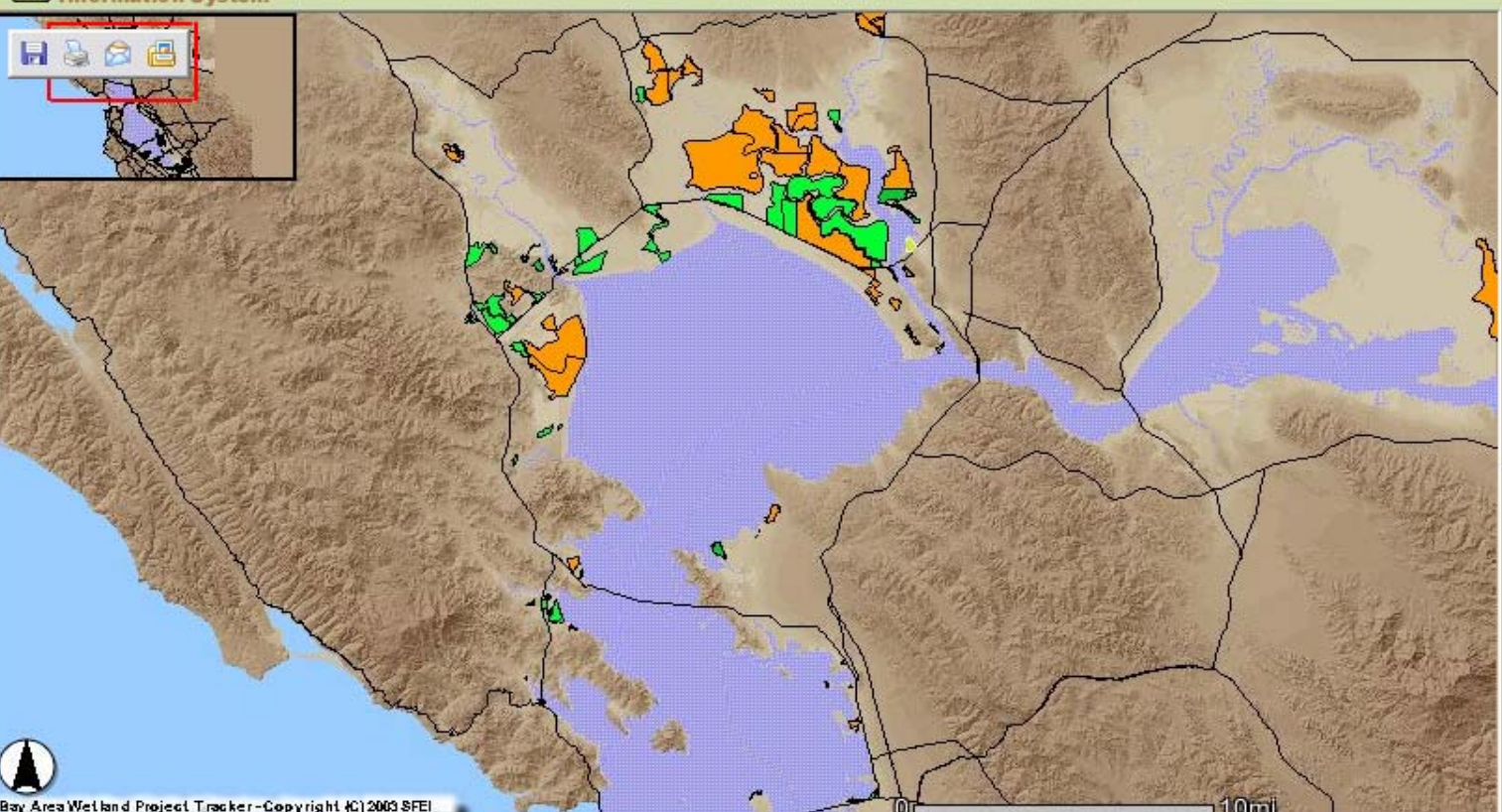
File Edit View Favorites Tools Help

Address <http://shark.sfei.org/arcims/wprojects/viewer.htm> Go Links

EcoAtlas
Information System

Bay Area Wetland Project Tracker

[Introduction](#) [List all projects](#) [Feedback](#)



Legend

- Selected Features
- Modern roads
- Wetlands projects
 - Completed
 - Naturally Restored
 - Planned
 - Unknown
- The ocean
- High tide
- Color shaded relief

Action

- Zoom In
- Zoom Out
- Pan
- Identify Project

Reset View

Base Map

- None
- Modern Habitats
- Historical Habitats
- Show Topo

Project	Counties	Total area
White Slough	Solano	94.1 acres

* includes files or web links

Map: 558016.9 , 4216699.14 -- Image: 439 , 165 -- ScaleFactor: 108.53346238938141

Internet

3-Level Approach

Level 3: Intensive Monitoring and Special Studies

- Develop predictive models of relations among states, functions, and stressors.
- Calibrate and validate Level 1 & 2 tools.
- Develop standard protocols for intensive monitoring.

3-Level Approach

Focus on Level 2:

California Rapid Assessment Method

CRAM

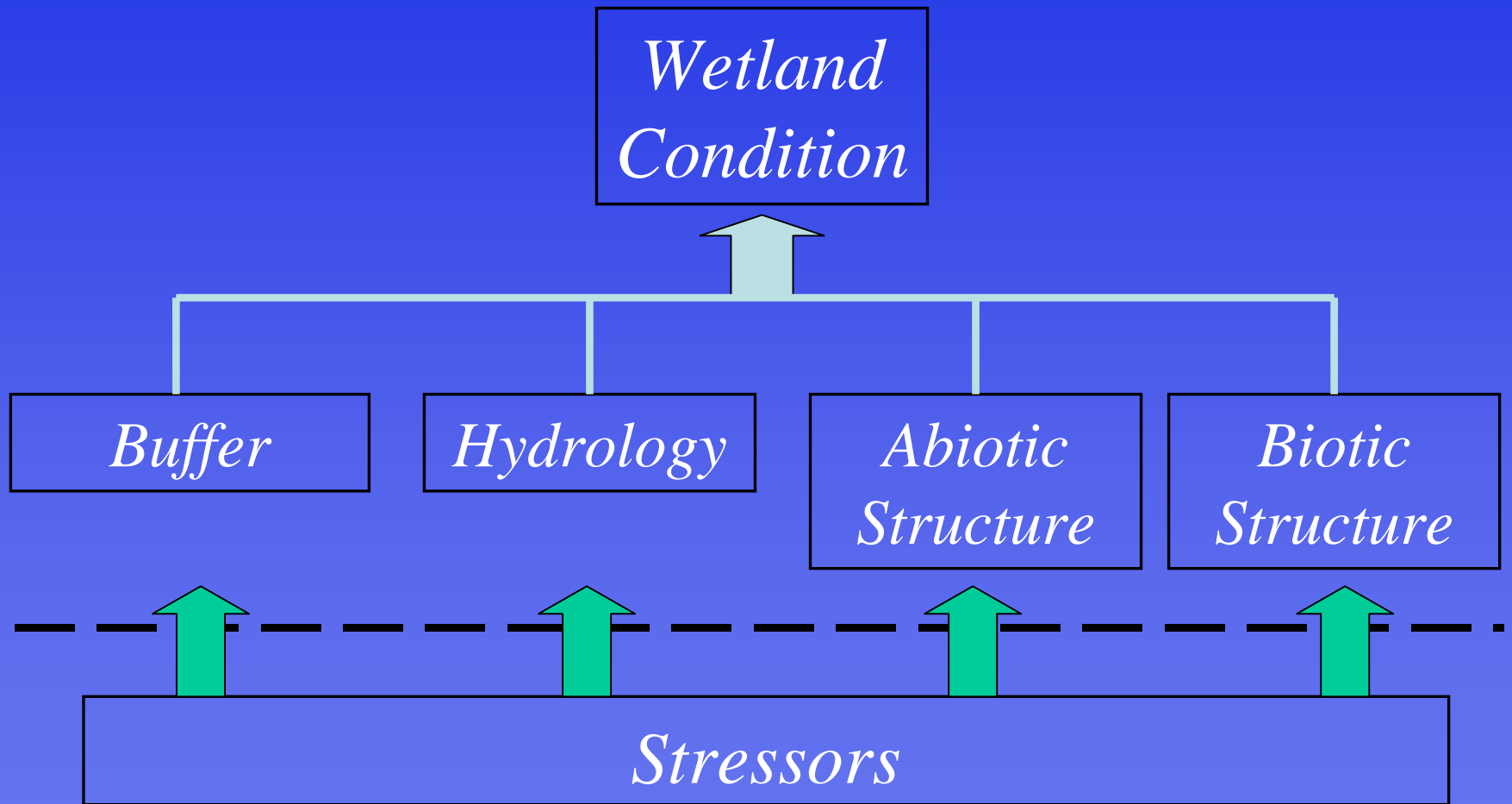
What is CRAM?

- Expert “walk and talk” diagnostic tool
- A set of questions with mutually exclusive multiple choice answers
- Less than 2 hours of field time per assessment for 2-3 person team
- Required expertise comparable to jurisdictional delineation
- Applies to all wetlands (riverine-riparian, depressionnal, slope, lacustrine, estuarine, marine, vernal pool, playa)

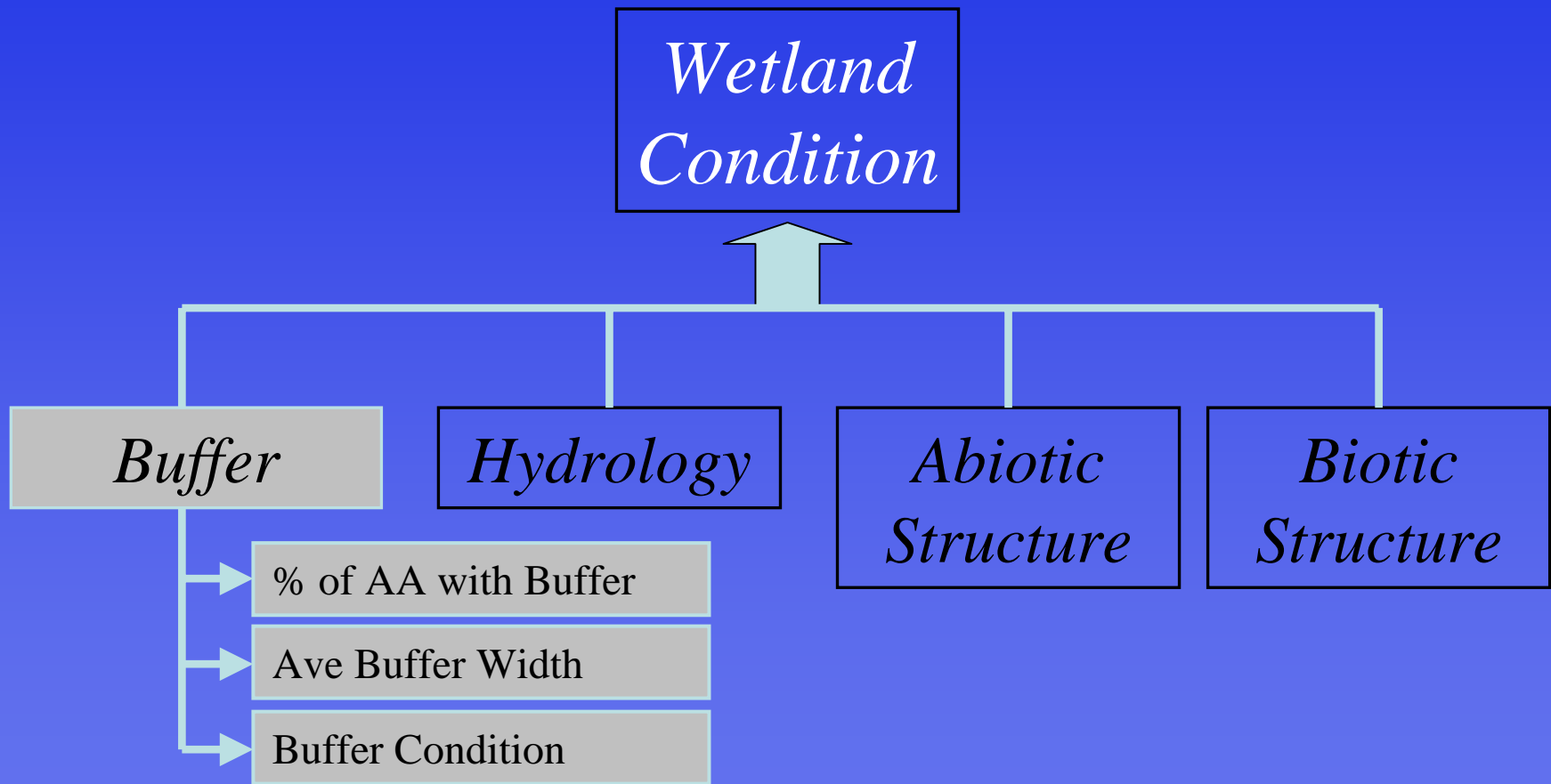
Basic CRAM Assumptions

- Basic wetland condition can be assessed based on field indicators of form and structure.
- Anthropogenic stressors contribute to wetland condition.
- Stressors can be managed to achieve conservation goals.

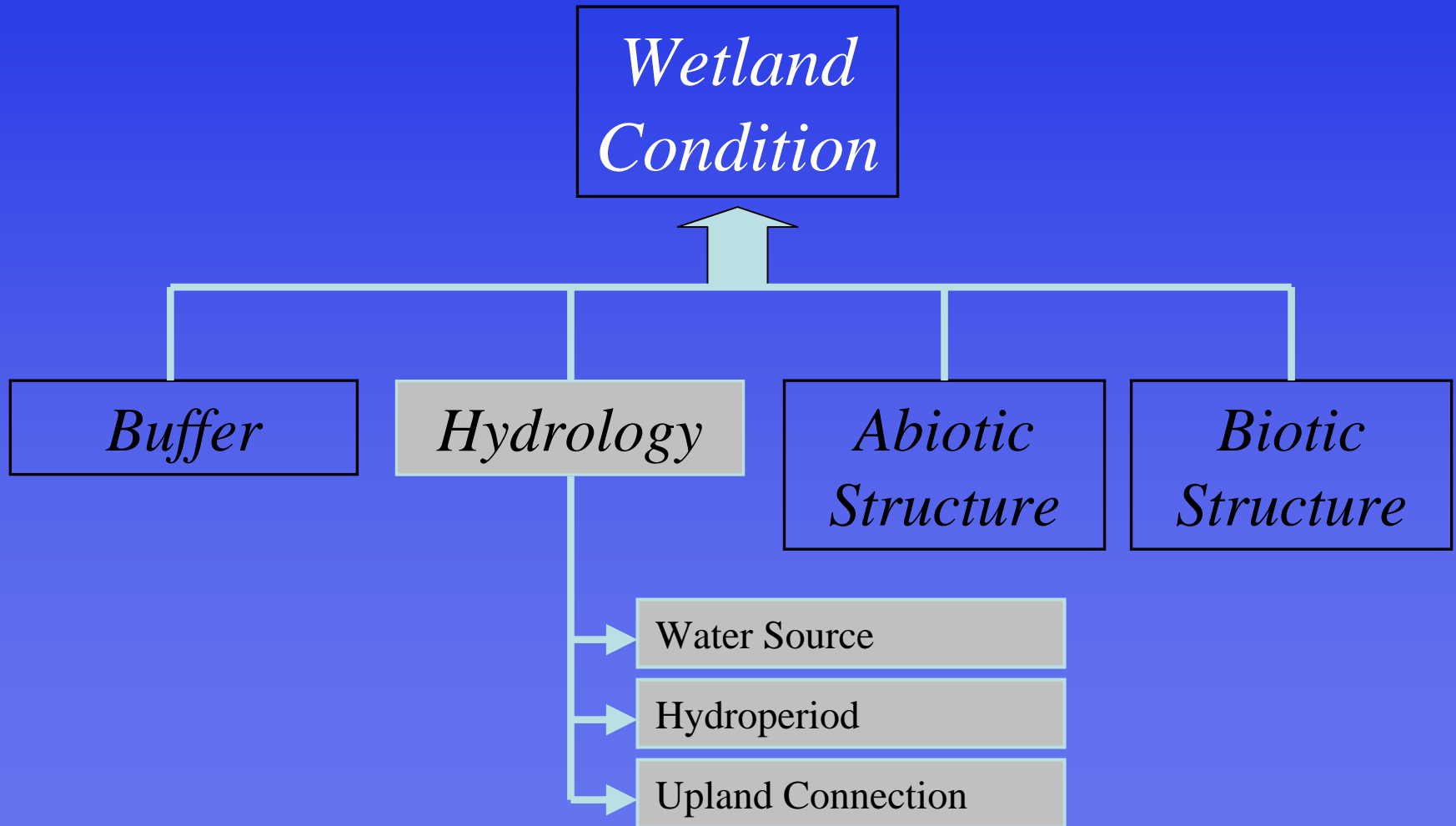
CRAM Conceptual Framework: Condition and Stressors



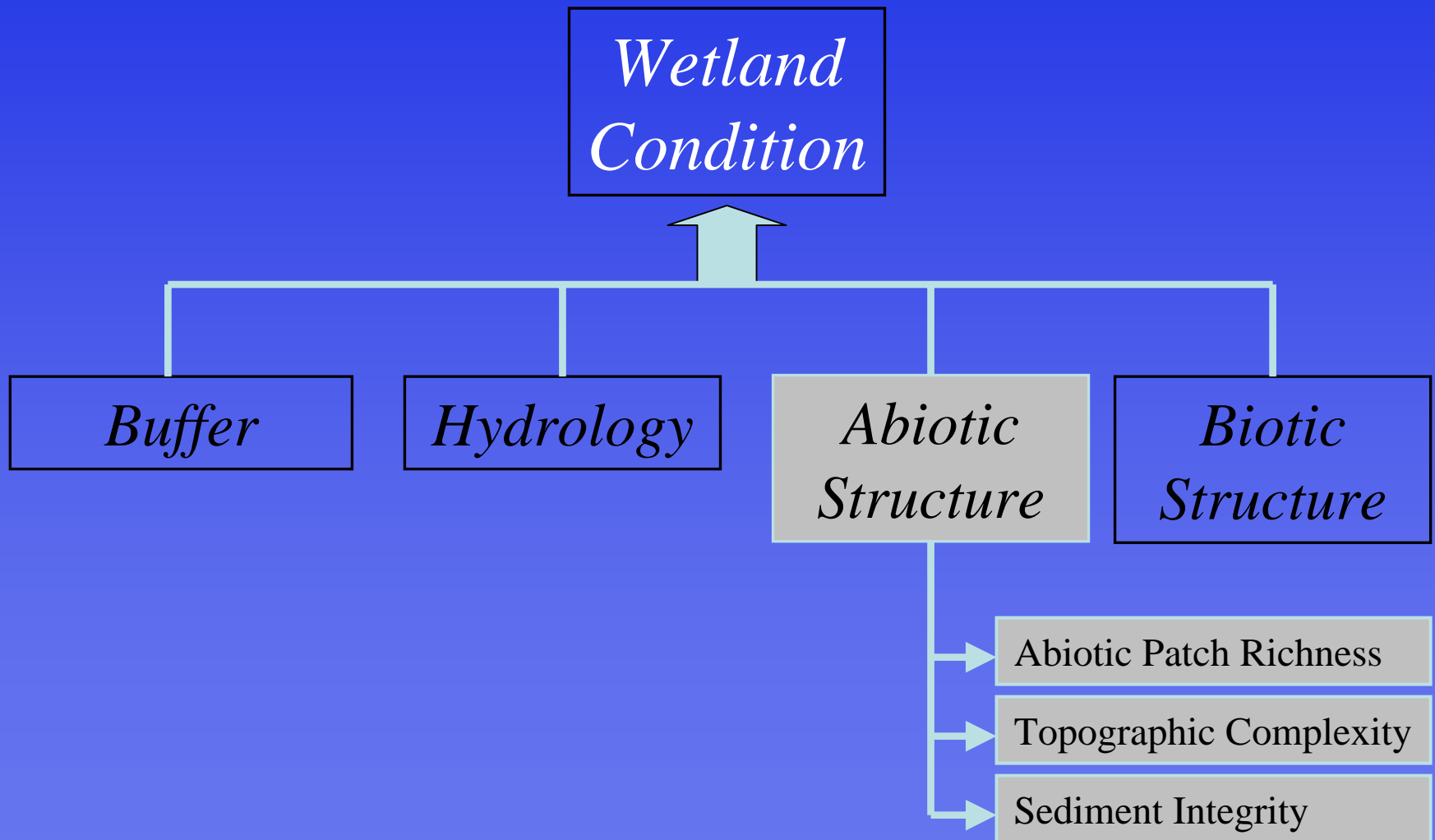
CRAM Conceptual Framework: Condition Attributes and Metrics



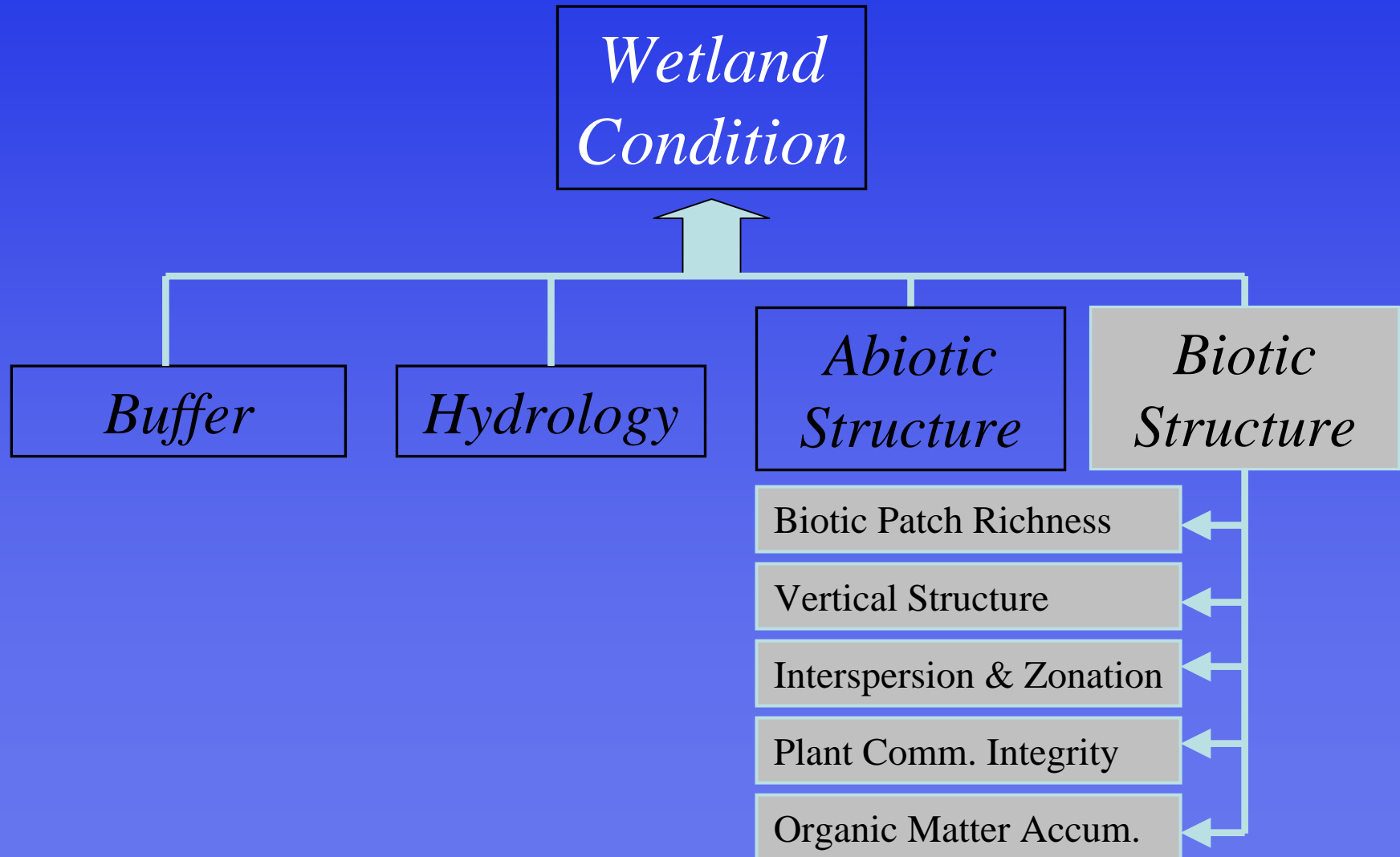
CRAM Conceptual Framework: Condition Attributes and Metrics



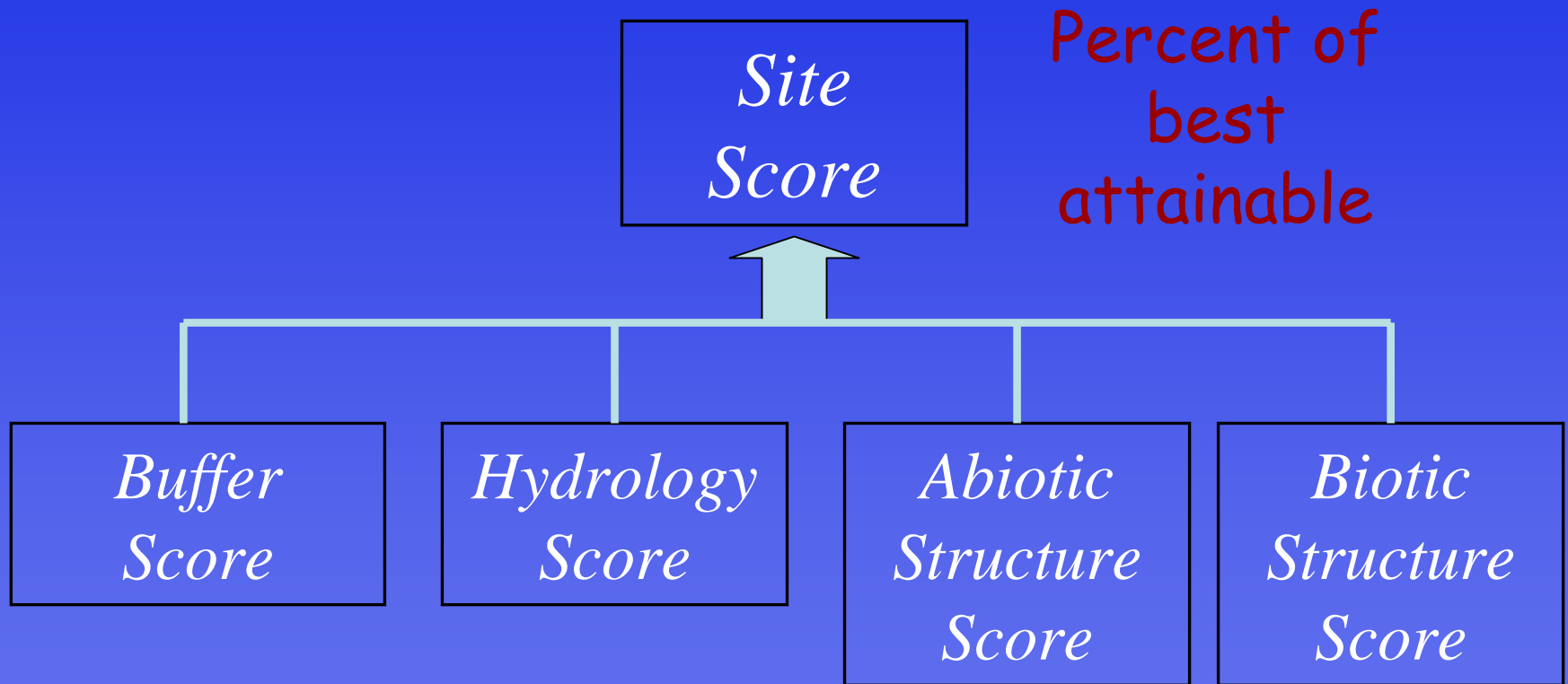
CRAM Conceptual Framework: Condition Attributes and Metrics



CRAM Conceptual Framework: Condition Attributes and Metrics



CRAM Results: Attribute & Site Scores



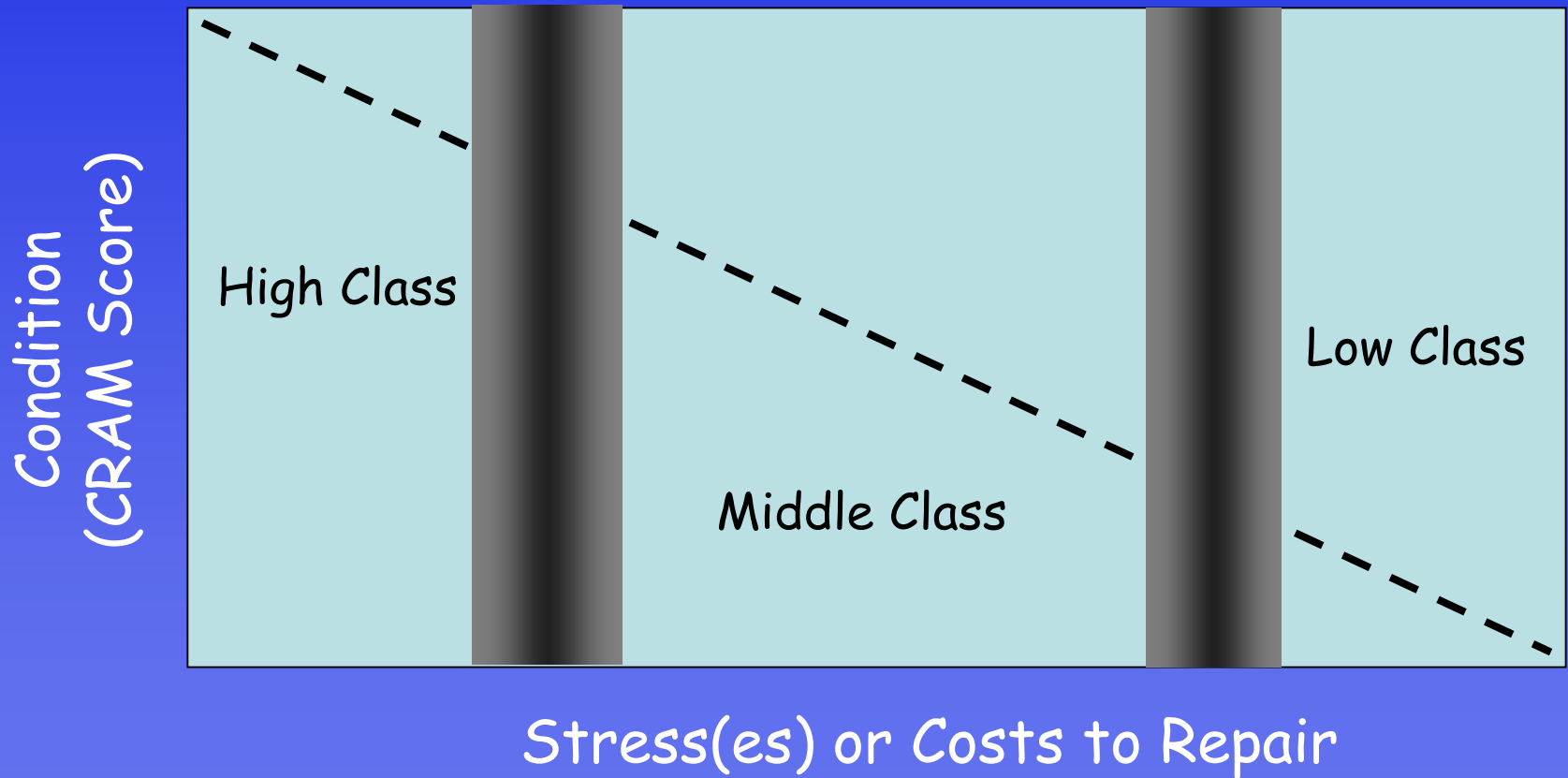
Stressor Checklist

- Matched to CRAM attributes.
- Suggests what might be managed to improve condition on case-by-case basis.
- Very sensitive to site-specific knowledge.
- Can be over-used (should yield hypotheses and not conclusions).

CRAM Beta Test Partners

- Ambient monitoring
(USNPS Point Reyes)
- Compliance monitoring
(State Board)
- Restoration performance assessment
(SCWRP)
- Cumulative impact & stressor analysis
(SF Bay Area IRWMP)

TALU, BMP Effectiveness, Triage



CRAM Status

- Calibrated statewide for Estuarine and Riverine-Riparian Wetlands in 05.
 - Monitoring Avian Productivity and Survivorship (MAPS data)
 - California Stream Bioassessment Procedure (CMAP Benthos data)
 - WEMAP estuarine vegetation data
- Part of SWAMP draft strategy to address USEPA "wetlands elements letter."

CRAM Status

- Coast-wide estuarine survey in 07.
- Watershed-Level ambient pilots for riverine-riparian habitats in 06.
 - Moro Bay Watershed
 - Humboldt Bay Watershed
 - Napa Watershed
 - San Gabriel Watershed
 - Linked to CMAP in 06?

The Riverine-Riparian Wetland Class

The "CRAM riparian zone" has a direct, measurable effect on the quality and/or quantity of surface flow.

Measured in the field from the upland edge of the active floodplain to the lateral extent of likely sources of allochthonous carbon inputs - could the tree fall into the stream?

The Riverine-Riparian Wetland Class

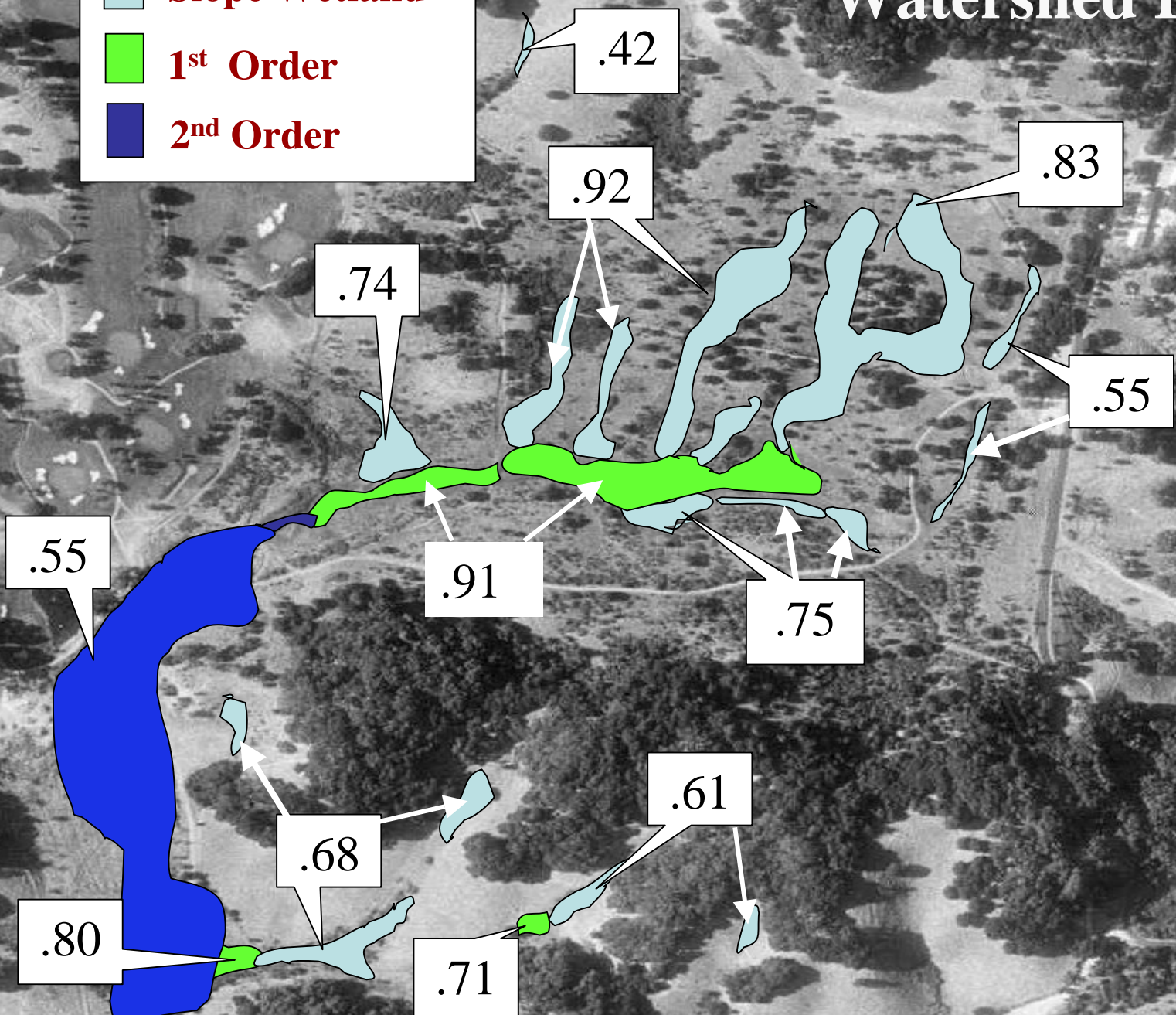
Includes the channel beds of ephemeral streams during times of no significant flow (the riverine part of the wetland class); the floodplain is considered part of the channel.

Might be restricted to wadable streams.

Further classification is being considered, based on stream slope, channel order, reach type (source, transport, storage, Rosgen classification, etc).

Watershed Profiles

-  Slope Wetland
-  1st Order
-  2nd Order





Thank You