National Biological Assessment and Criteria Workshop

Advancing State and Tribal Programs

Coeur d'Alene, Idaho
31 March – 4 April, 2003

TALU 202

USING BIOLOGICAL ASSESSMENTS TO REFINE DESIGNATED AQUATIC LIFE USES: PROGRAM IMPLEMENTATION

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TALU 202

Using Biological Assessments to Refine Designated Aquatic Life Uses: Introduction

Presented by

Susan Jackson, USEPA

TALU 202 Objective:

Explain current thinking on application of the proposed conceptual model in State and Tribal water quality programs .

Solicit feedback from session participants.

Topic Coverage

PLENARY: ***Overview***

TALU 101: ***The Biological Condition Gradient***

TALU 201: ***The Human Disturbance Gradient***

TALU 202: ***Application***

TALU 202 Outline:

1) Introduction and implementation recommendations from recent TALU workgroup meeting

2) State Applications:

- ***Assessments (Idaho, Wisconsin)***
- ***WQS (Vermont, Ohio)***

TALU 202 Take Home Message:

1) *US EPA firmly committed to move forward on TALU approach*

2) *Options to mull over at "home" and discuss across programs (monitoring, assessment, WQS, TMDL ….)*

3) *Work in Progress – Your feedback is requested. And, will make a difference!*

Workgroup Recommendations Going Forward to EPA This Spring:

1. **Draft Conceptual Model (BCG and HDG)**

2. **Implementation Options**

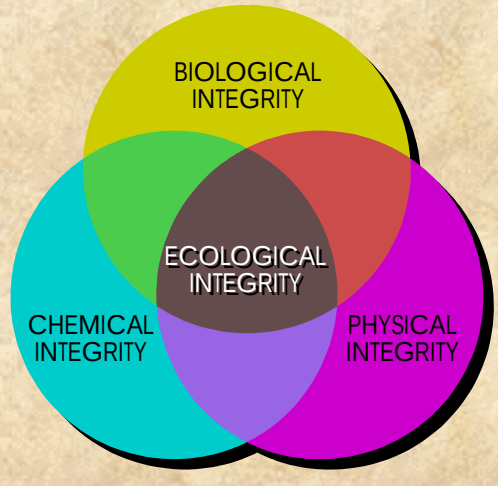
3. **Technical Underpinnings:**
   - **relationship between BCG and WQC**
   - **critical elements of a biological assessment program**
   - **strengths of current model and areas of uncertainty**

4. **Case Examples: Different Places and Types of Waterbodies (streams, working on: rivers, wetlands, estuaries)**

Clean Water Act

- **Objective: "restore and maintain the chemical, physical and biological integrity of the Nation's waters"**

- **Interim goal: "water quality which provides for the protection and propagation of fish, shellfish and wildlife … wherever attainable.**



Using Biological Assessments to Refine Designated Aquatic Life Uses

Long Term EPA Goal:

All States & Tribes have refined aquatic life uses and biological criteria in their water quality standards

Program Priority:

Guidance on Use of Biological Assessments and Criteria to Refine Aquatic Life Uses in WQ Standards

Using Biological Assessments to Refine Designated Aquatic Life Uses

Why?

Direct and More Accurate Description of CWA Goal for Aquatic Life

- **determine appropriate protection level**
- **prioritize actions**
- **target resources**
- **communicate to public**

How?

Build on what works and does not work in existing State and Tribal programs

Draft EPA WQ Strategy

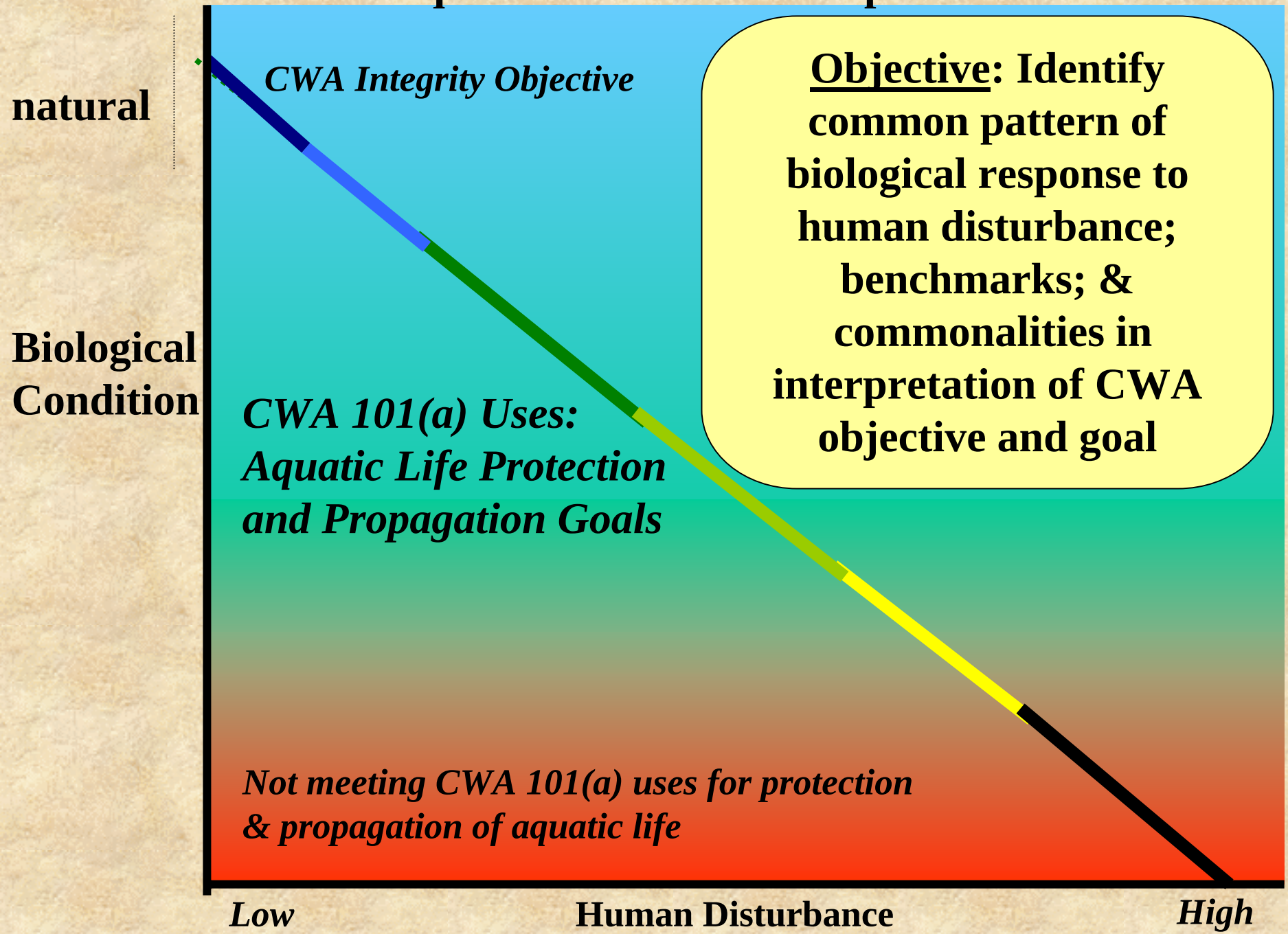
"All waters of the U.S. will have water quality standards that include the highest attainable uses, combined with water quality criteria that reflect the current and evolving body of scientific information to protect those uses. Further, standards will have well defined means for implementation through CWA programs."

EPA/State Workgroup: Objectives

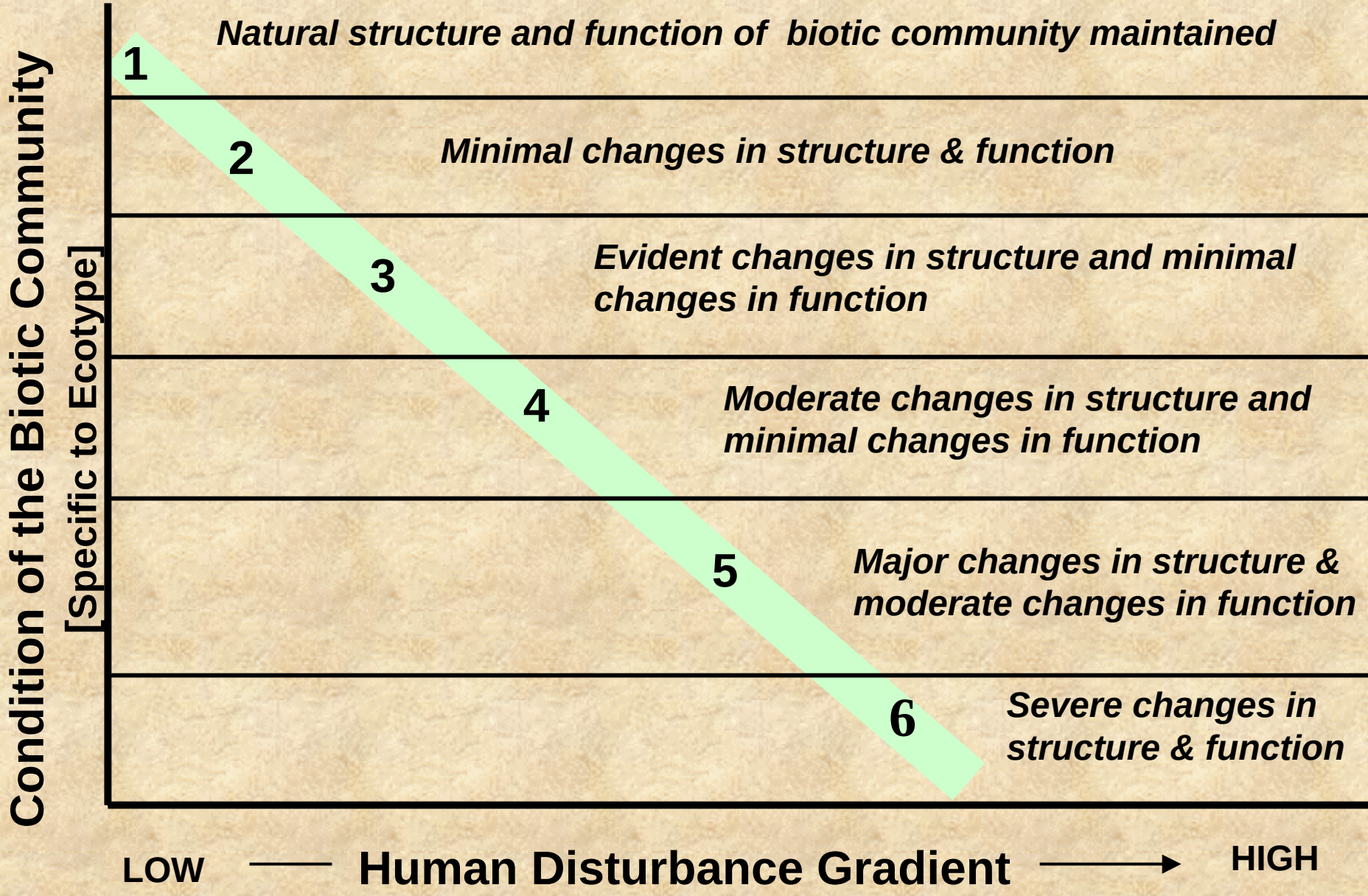
Work To Date (TALU 101 and 201):

- **Develop conceptual, scientific framework for use of biological assessments and criteria to refine designated aquatic life uses (level of condition)**
- **Propose how to apply to existing State & Tribal WQS programs;**
- **Identify pitfalls and barriers to implementation;**
- **Problem solve and propose solutions.**

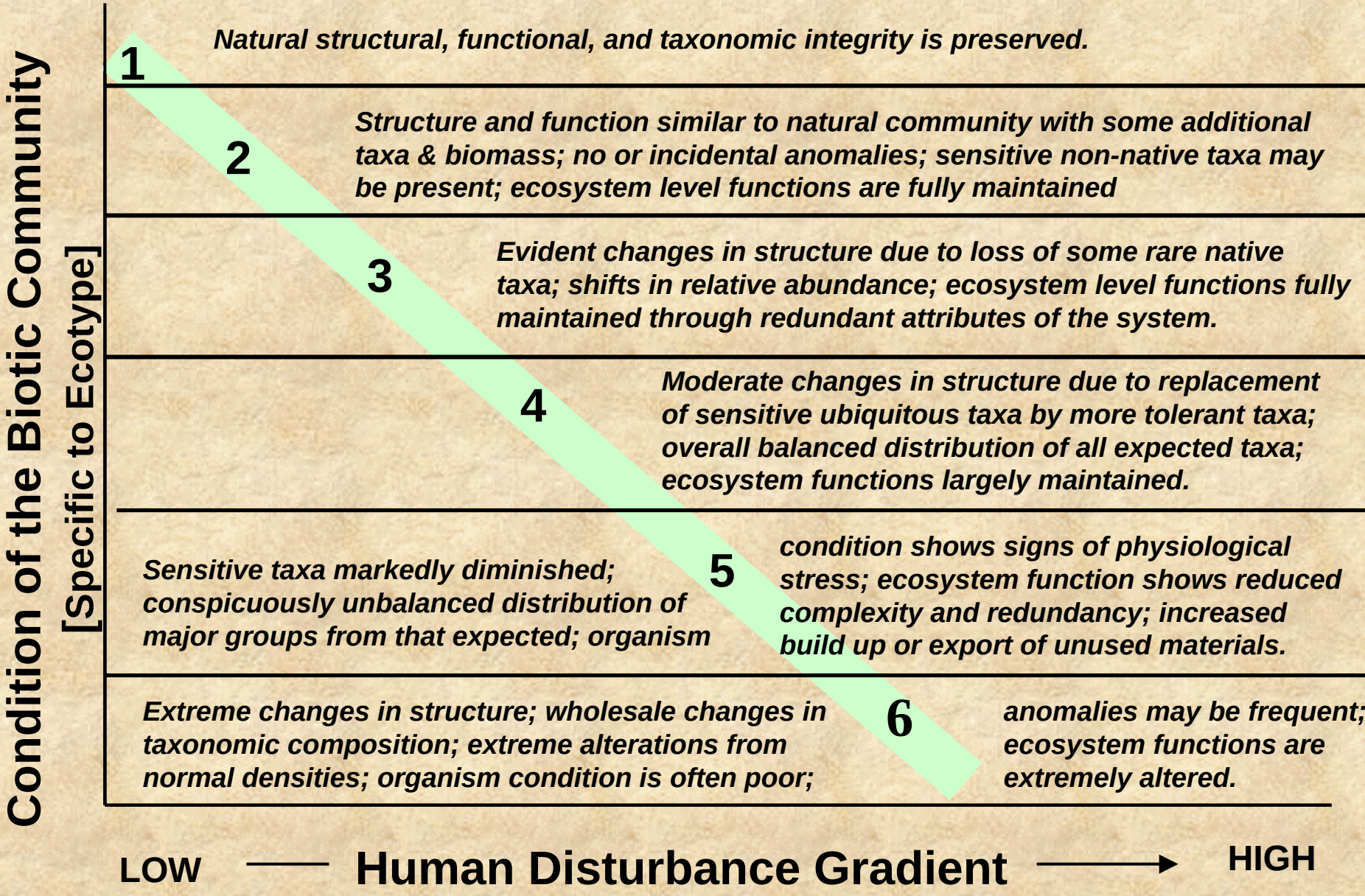
Tiered Aquatic Life Uses: Conceptual Framework



Tiered Aquatic Life Use Conceptual Model: Draft Biological Tiers



Tiered Aquatic Life Use Conceptual Model: Draft Biological Tiers -2



Purpose of Tiered Aquatic Life Use Framework

Nationally consistent approach for:

- **scientifically defensible benchmarks**
- **common framework for communication & evaluation - public, stakeholders, across political boundaries**
- **protection for excellent quality waters**
- **achievable goals for incremental restoration**

EPA/State Workgroup: Objectives

- Develop conceptual, scientific framework for use of biological assessments and criteria to refine designated aquatic life uses (level of condition);

Current Effort::

- **Propose how to apply to existing State & Tribal WQS programs (including id added benefits);**
- **Identify pitfalls and barriers to implementation;**
- **Problem solve and propose solutions.**

Key Points To Illustrate In Case Examples:

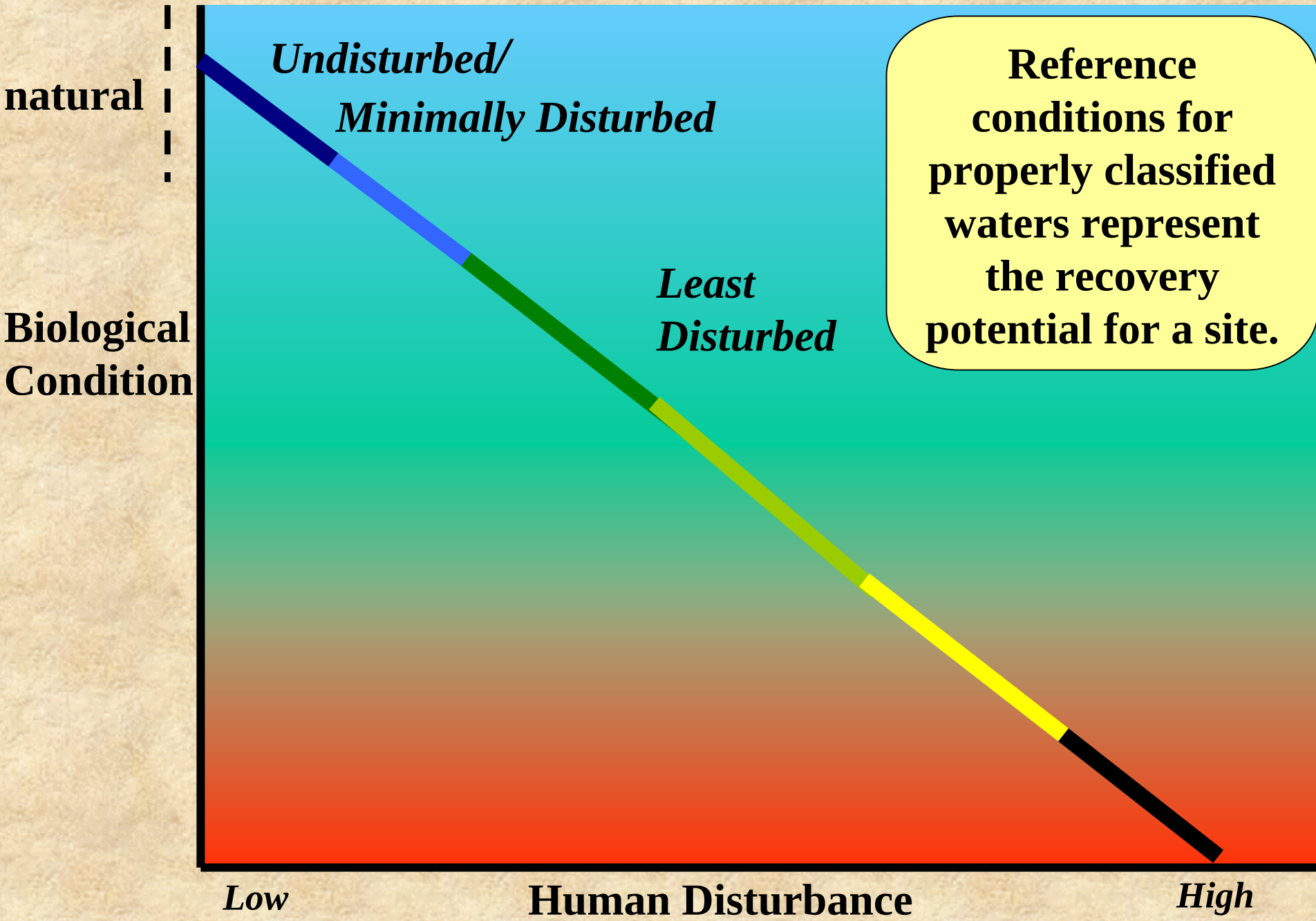
#1: The framework is conceptual

#2: Number of tiers to be determined by State or Tribe

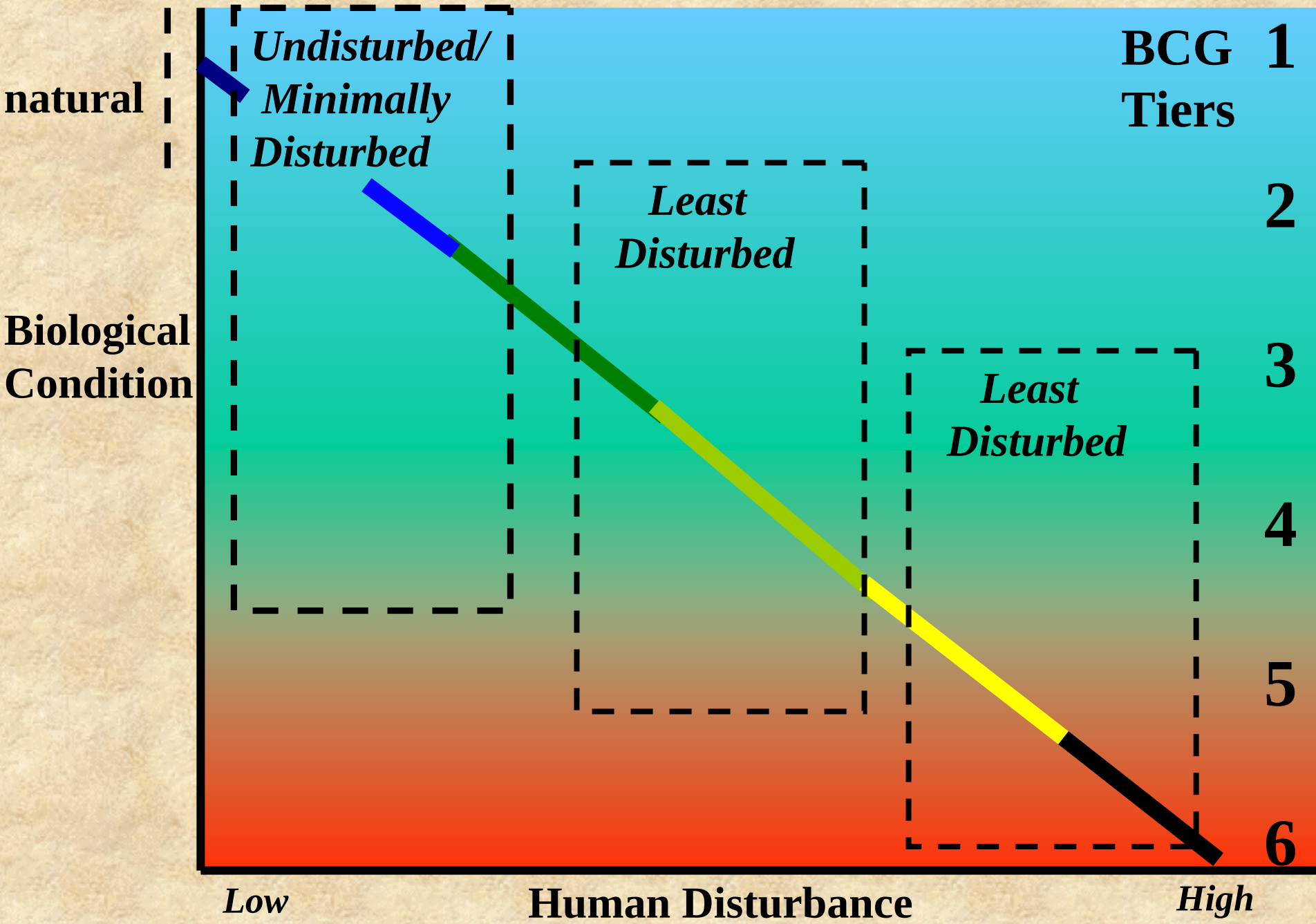
#3: A "Best Fit" approach recommended

#4: The framework may be quantitatively defined by many possible methods

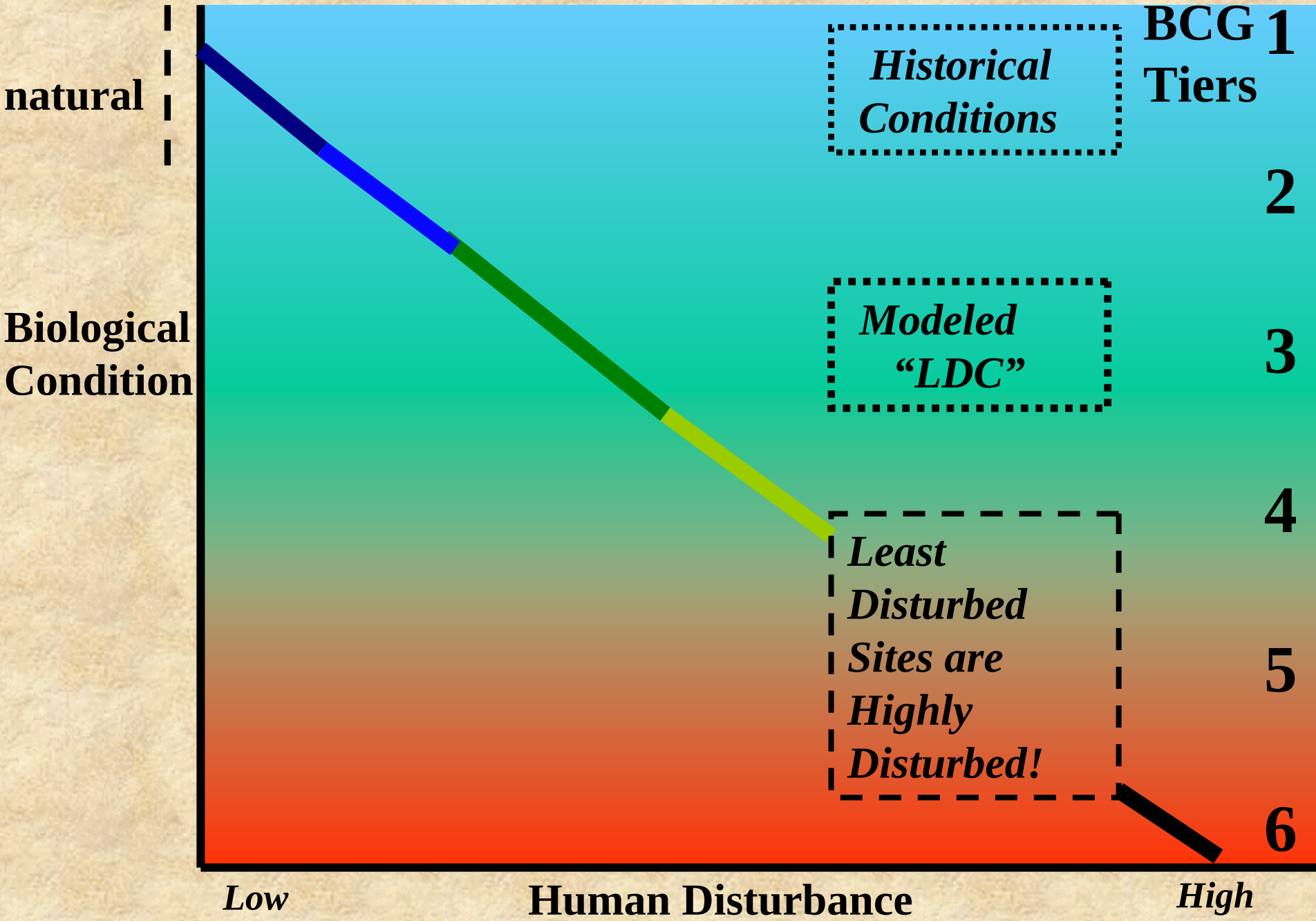
Establishing Reference Conditions



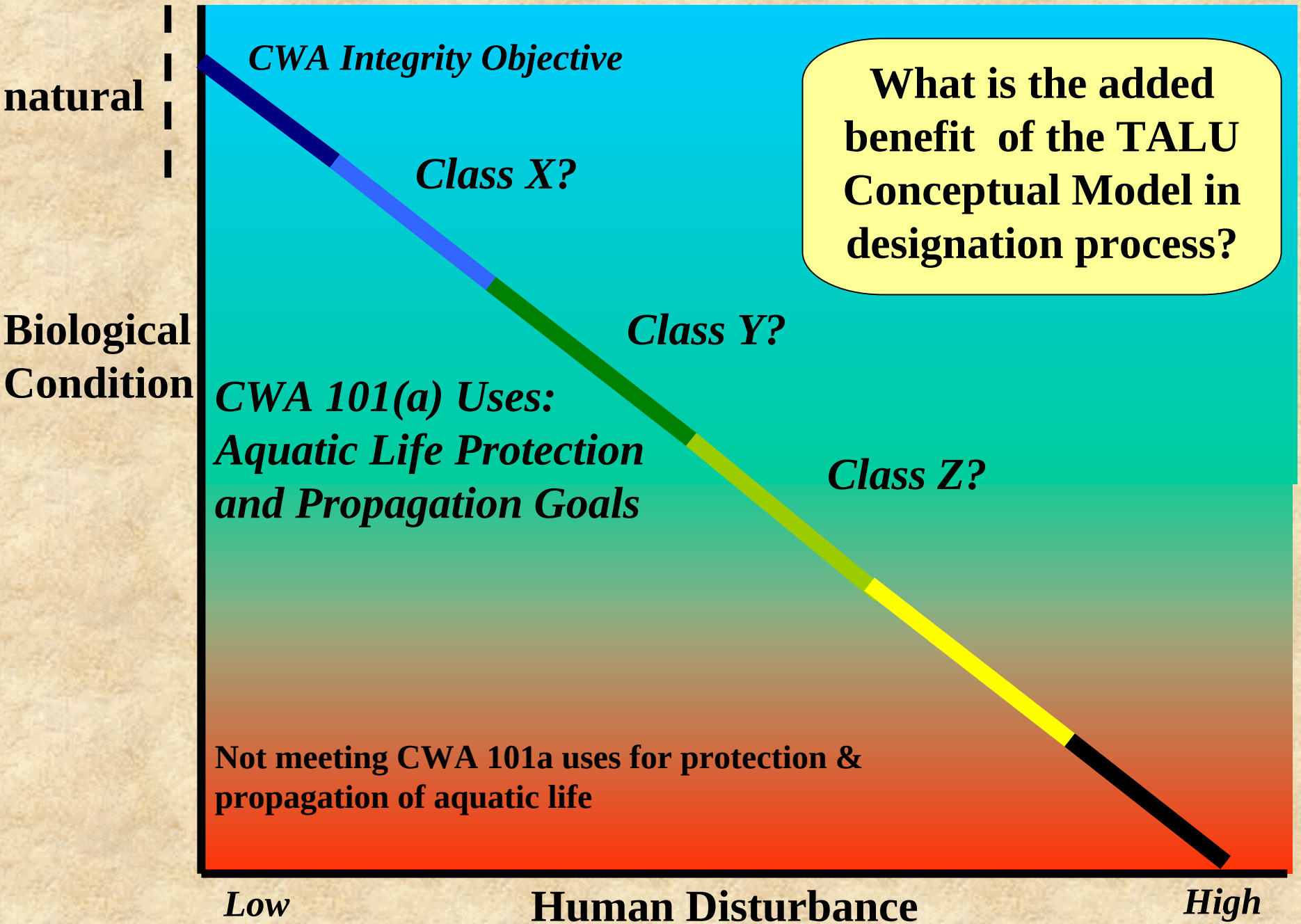
Establishing Reference Conditions – *Reference Sites*



Establishing Reference Conditions – *Modeled "LDC"*



Refinement of Designated Aquatic Life Uses



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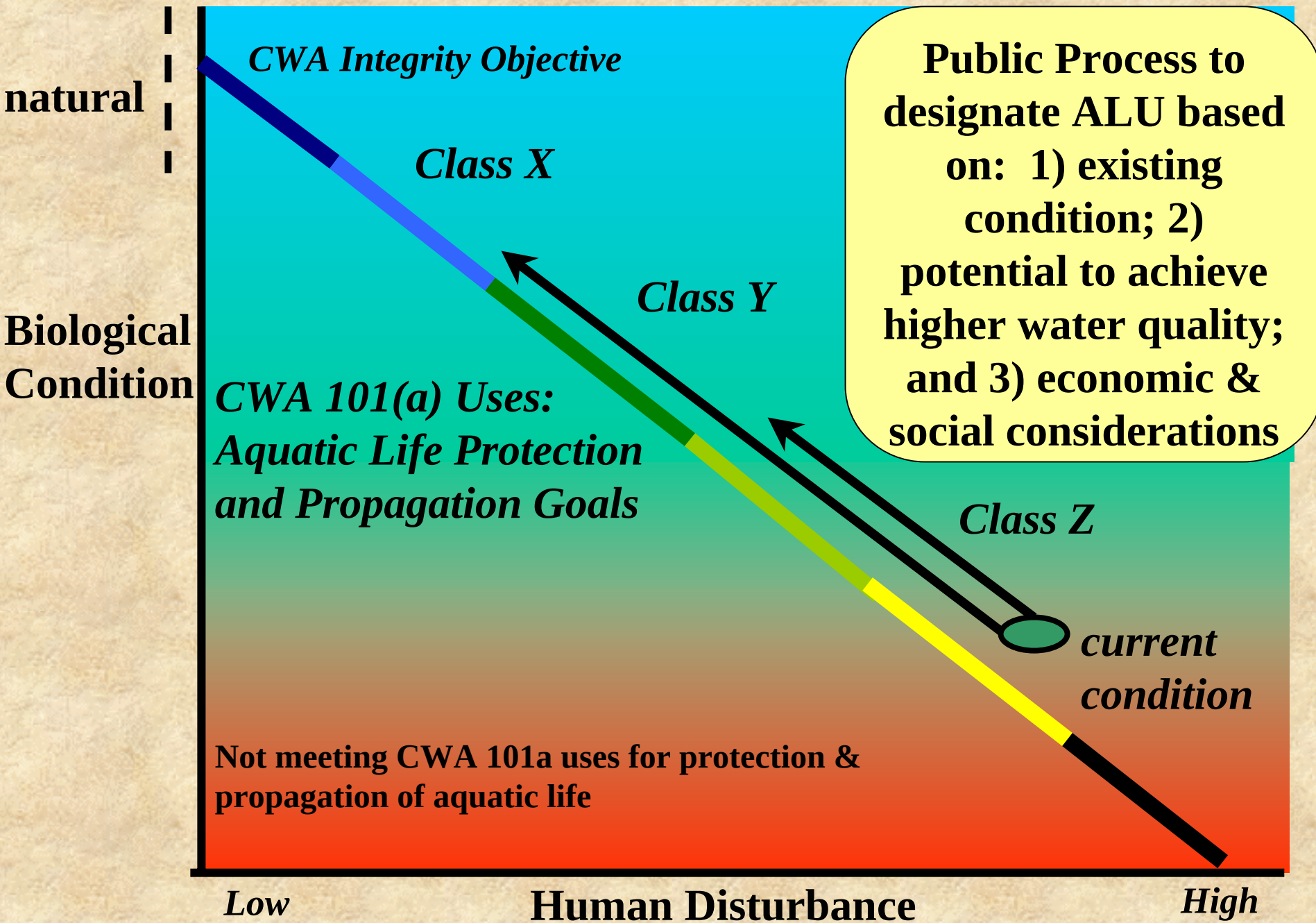

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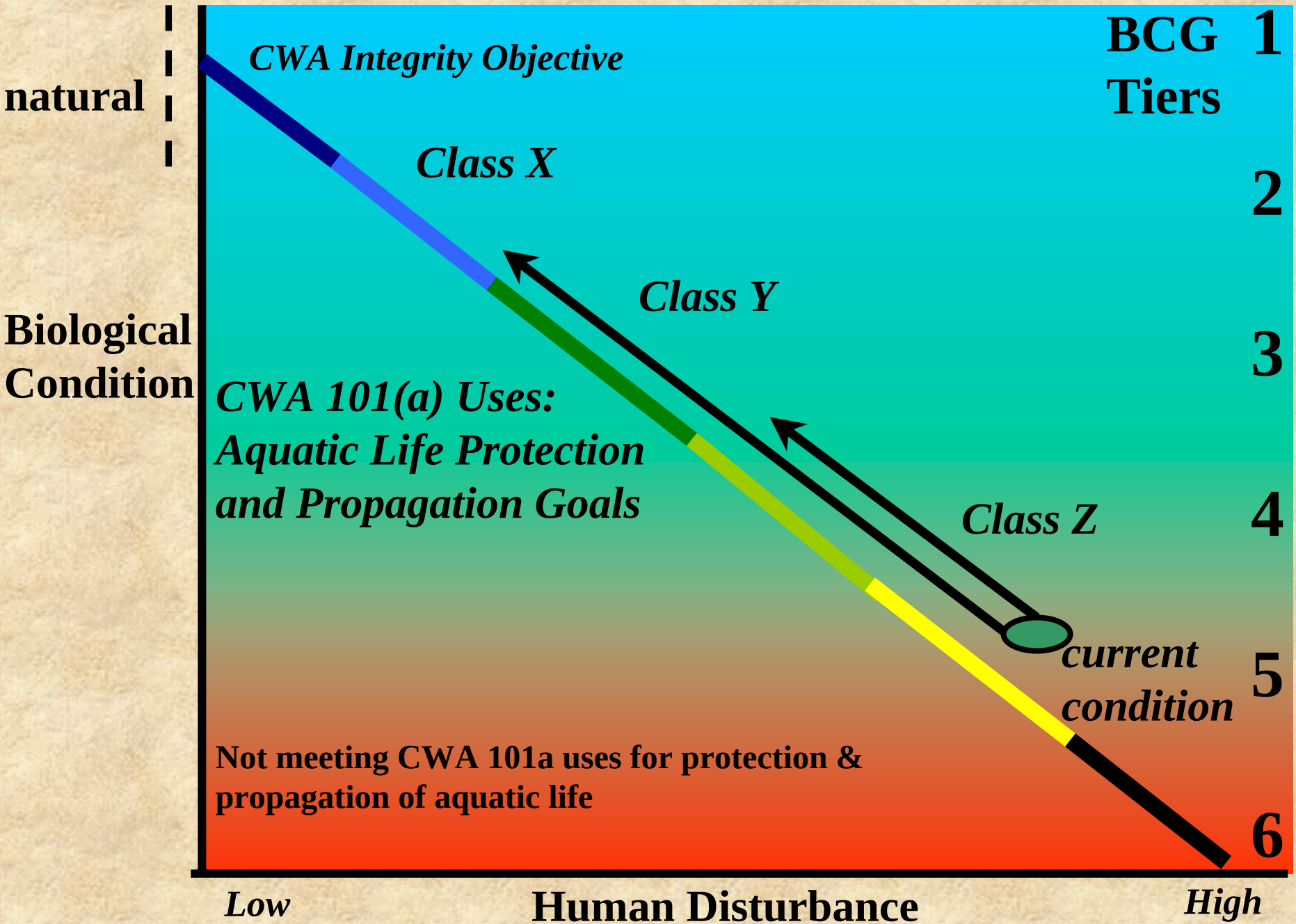
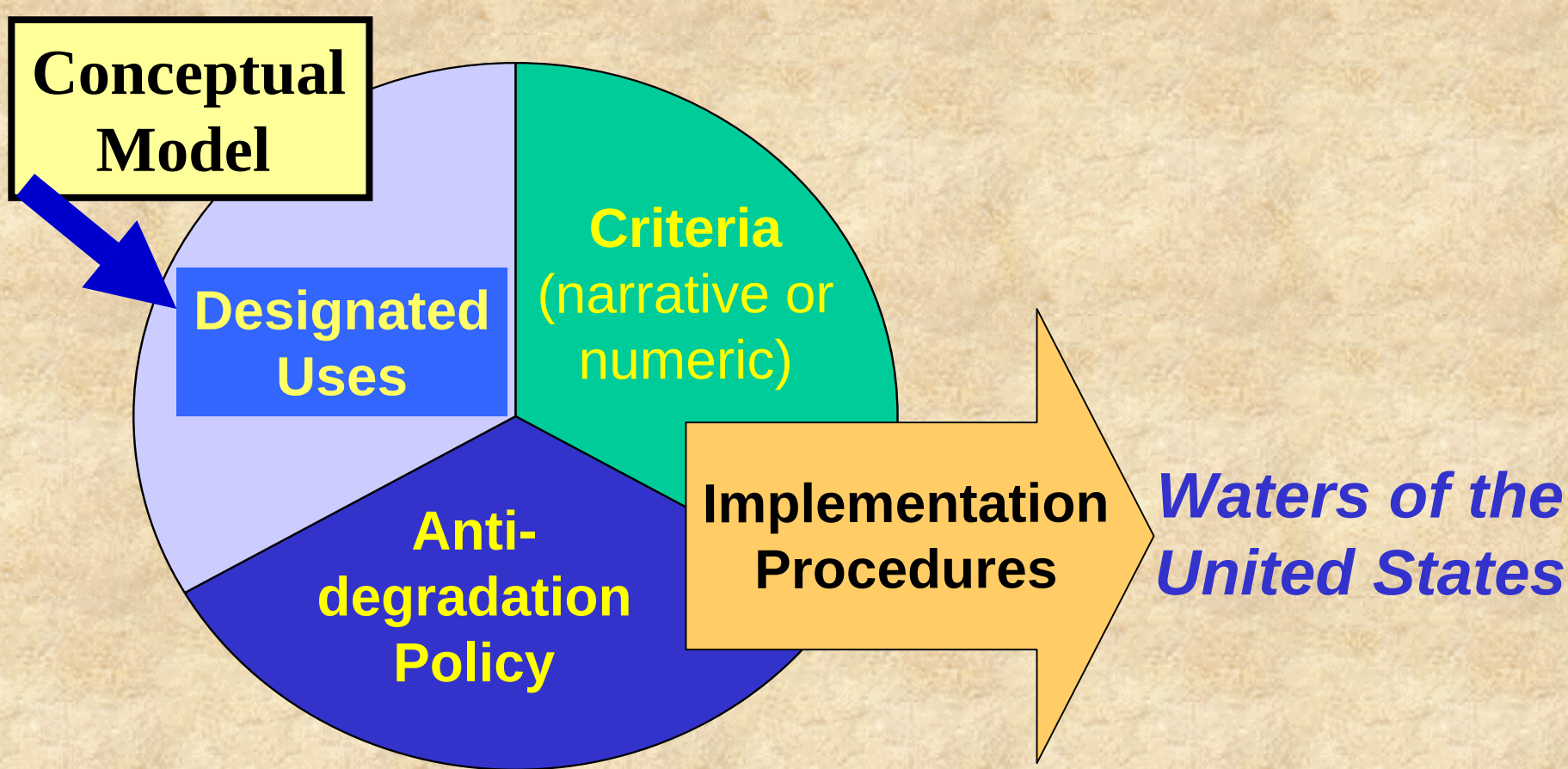


Water Quality Standards



Biological Information Can Be Used in Water Quality Standards to:

- **Describe existing uses (131.3(e))**
- **Assign appropriate designated uses (131.10)**
- **Refine and subcategorize designated uses (131.10(c))**
- **Develop biological criteria to protect uses (131.11)**
- **Help make attainment decisions (130.23)**

Take Home Message from WQS 101:

Application into Water Quality Standards

Where can States/Tribes start?

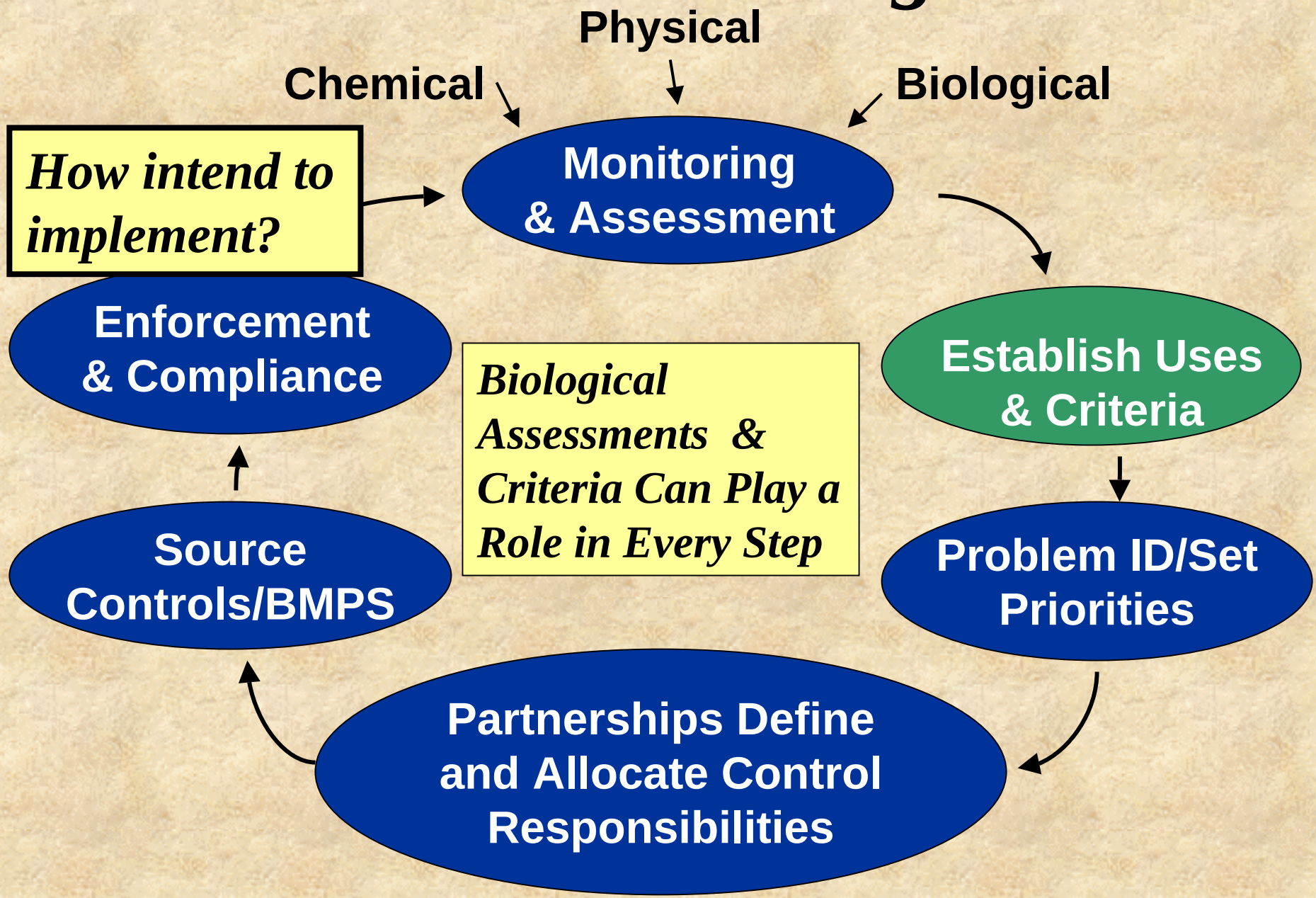
Depends on where a State/Tribe currently stands, what their current standards are like and how much change can be made!

Application into Water Quality Standards

Key Questions:

1. How developed is the bioassessment program?
2. Do current designated aquatic life uses reflect/protect existing ecological resources and biological integrity?
3. Is there a general aquatic life narrative standard that needs to be interpreted?
4. Is there a narrative biocriterion that needs translation?
5. Is there only one overarching aquatic life use?
6. Do existing aquatic life uses need better interpretation?
7. Are current aquatic life uses bioassessment-based?
8. Do you want to revise existing standards or leave standards as they are?
9. How much effort can be afforded?
10. Is there institutional support?

EPA's Water Program



Application into Water Quality Standards

- **Ways States and Tribes have been using biological assessments and criteria in standards:**
  1. **Interpret or translate narrative standards or criteria.**
  2. **Interpret attainment of one or all designated aquatic life uses.**
  3. **Revise one or all designated aquatic life uses to be bioassessment-based.**
  4. **Sub-categorize one or all aquatic life uses to be bioassessment-based.**
  5. **Adopt numeric biocriteria that define the biological condition for each designated aquatic life use.**
  6. **Completely revise designated aquatic life uses and criteria using bioassessments and biocriteria.**
  7. **Combinations of the above, sequences of the above.**

Recent Workgroup Meeting: Objectives

(1) propose implementation options and explain "added-value" for WQS and assessment programs

(2) identify pitfalls and barriers, propose solutions

(3) identify technical gaps and prioritize research options to address those gaps

Workgroup Recommendations:

Options for Implementation

1. Framework for State program monitoring, assessment and listing guidance.

2. Translating mechanism from narrative description of uses to assessment of use.

3. Interpret numeric biological criteria in WQS to define full, partial and non support.

Workgroup Recommendations:

Options for Implementation (continued)

4. Framework for refining designated aquatic life uses - including formal adoption into WQS.

Footnote - gradual development, need testing and experience, education of managers, public and stakeholders.

Added-Value

- **Helps to set appropriate goals for waterbodies (e.g. designated AL uses &/or subcategories, interpretation of assessments to support attainment decisions).**

- **Ramifications: more defensible listing decisions, id waters for restoration that had been "written off", id high quality waters.**

Added-Value

- **Consistent approach for setting incremental restoration goals for degraded waters.**

  Ramifications: in some states, will help transition from practice of relying on current conditions to assess and/or set uses without considering potential for improvement.

Added-Value (continued)

- **Provides framework to tie other water quality criteria to biological criteria in context of ALU support decisions.**

Ramifications: will foster an integrated assessment and standards program

Added-Value (continued)

- **Provides framework for linking entire technical program to assessment decisions and management goals.**

- **Ramifications – reduce challenges to program e.g 303d listing and delisting decisions, help garner support for upgrades, resources and budget.**

Added-Value (continued)

- **Planning tool – for prioritizing where need to act depending on State/Tribal management goals.**

- **Communication – legislature (Report Card); public and managers; across political boundaries.**

Barriers

1. **If seen as one more layer of reporting or regulatory requirements e.g. hoops to jump through - NO GO!**

2. **Perceptions: undermining protection (environmental groups); more work and toss the old and start from scratch (managers); more work and high cost (political, stakeholders).**

Strategies and Solutions

1. **Communication**

Effective translation of approach a and how can support existing programs.

Target different audiences.

Strategies and Solutions

2. Time

Allow for building program; public and stakeholder acclimation and education; implement gradually through assessments - for example: test through listing guidance and educate through triennual review process.

Strategies and Solutions

3. Flexibility

Allow States & Tribes to apply through assessment and/or WQS.

Strategies and Solutions

4. Case Examples

Examples of implementation options, what gain, and how address barriers.

TALU 202: Implementation Options

1. **Preliminary thinking on implementation – in assessment programs (*Idaho, Wisconsin*)**

2. **Existing Programs – formal adoption in WQS (*Vermont, Ohio*)**

3. **Discussion/Feedback – *(ALL!)***