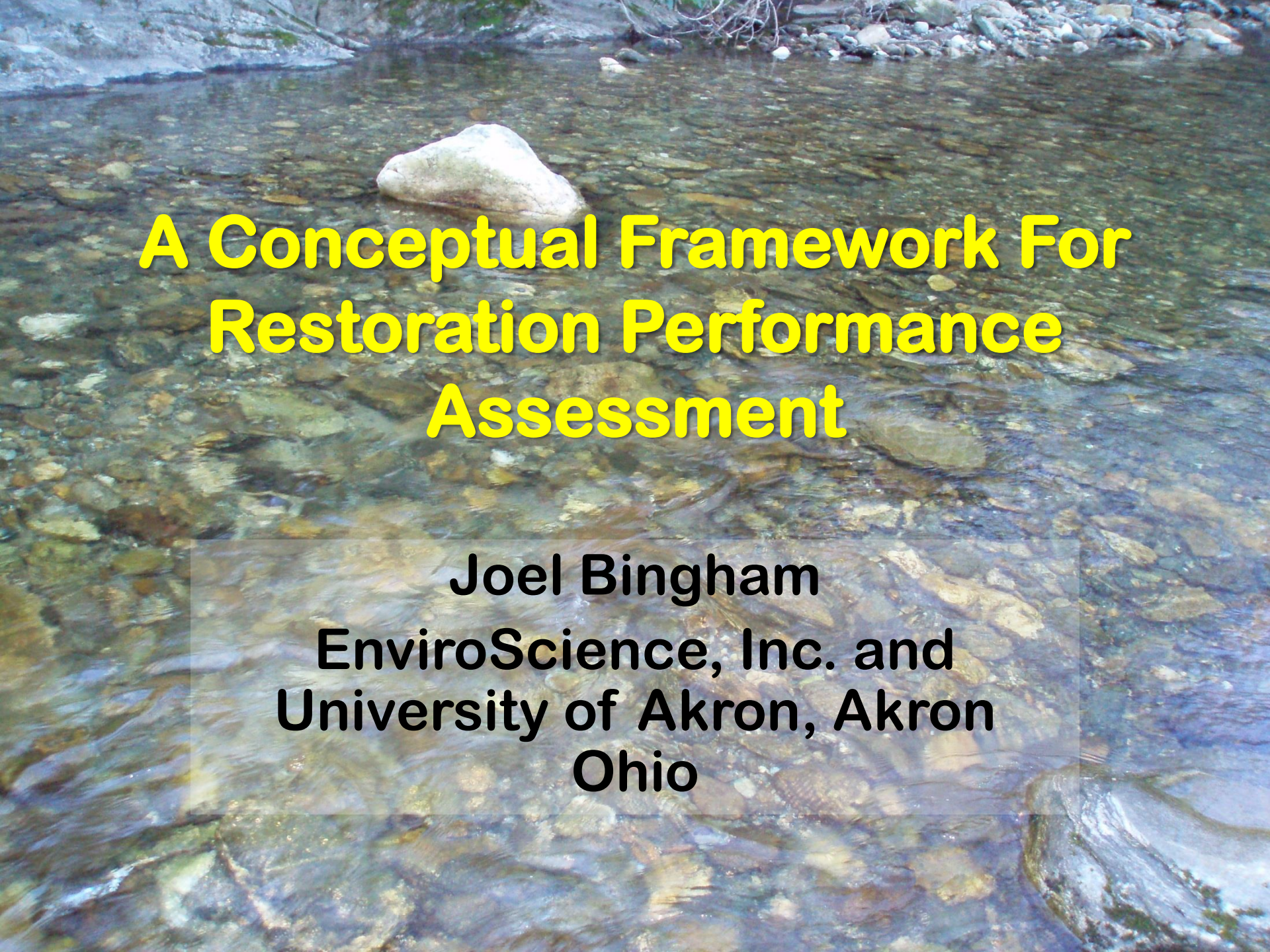

A Conceptual Framework For Restoration Performance Assessment

Joel Bingham

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Stream Restoration is a billion dollar industry

Measuring Performance and Successful Outcomes?

Nationwide- Current monitoring and assessment lacks standardization and meaningful analysis

C- Target

B-Intermediate

A- Initial

lution

Change- Active / Passive


1. Assessment

2. Design

3. Construction

4. Post-Construction Monitoring

Restoration Performance Monitoring Today

- Misapplication / overreaching of existing metrics and tools for restoration monitoring

- Accounting without meaningful analysis

- Communication breakdown

Photo by Weedactivist.com

Photo by Forbes.com

Photo by the strategyguyssite com

Advancing the Science

1. Stream restoration needs standards

2. Standards should be based on a conditional framework

3. Implementing standards will require regionally-appropriate performance metrics.

    a) Finding a common “thread” or universally applicable characteristics

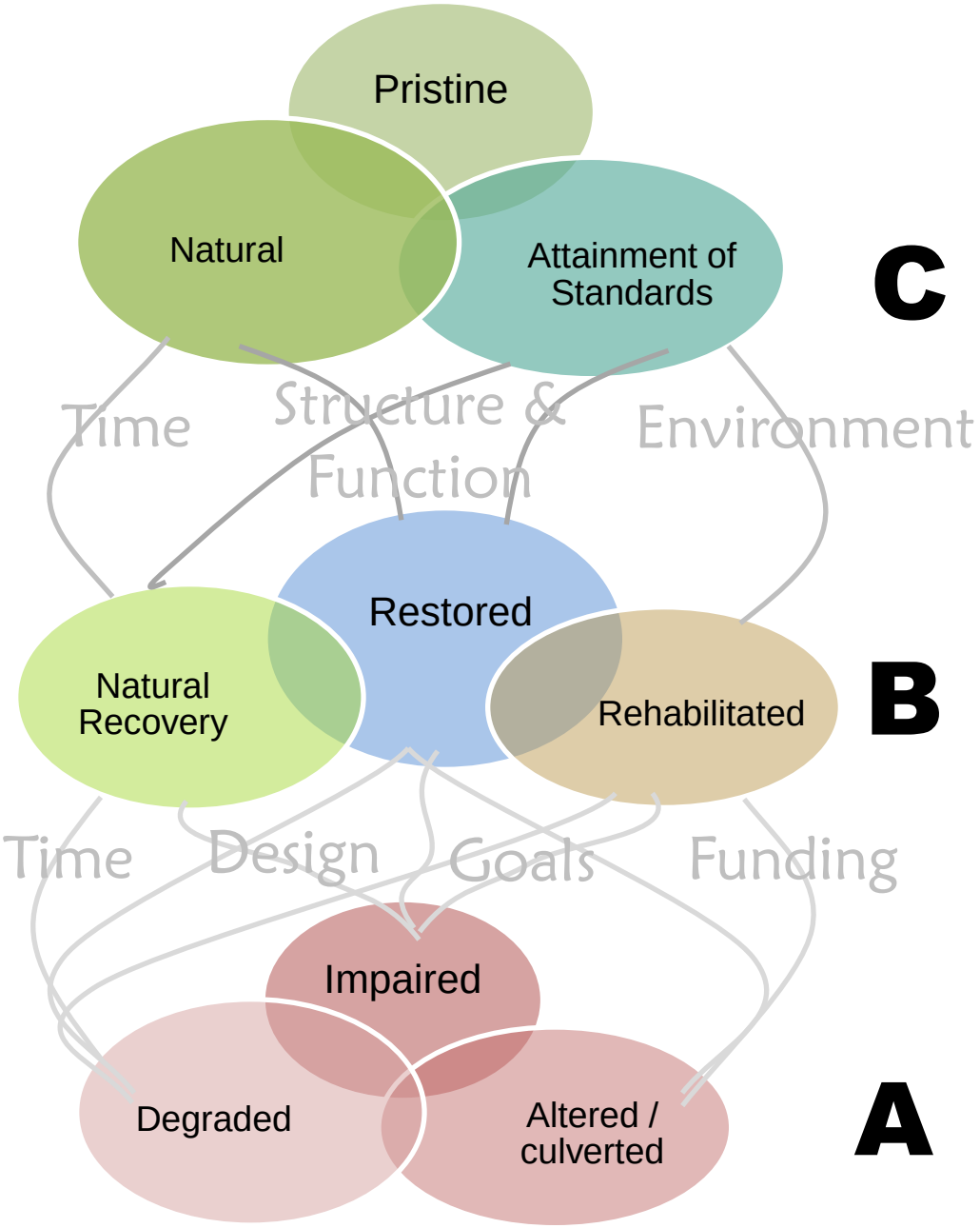
Conceptual Framework

Target Condition

Intermediate Condition

Factors that influence the change from each condition

Initial Condition



C- Target
74

B-Intermediate
56

A- Initial
43

lution

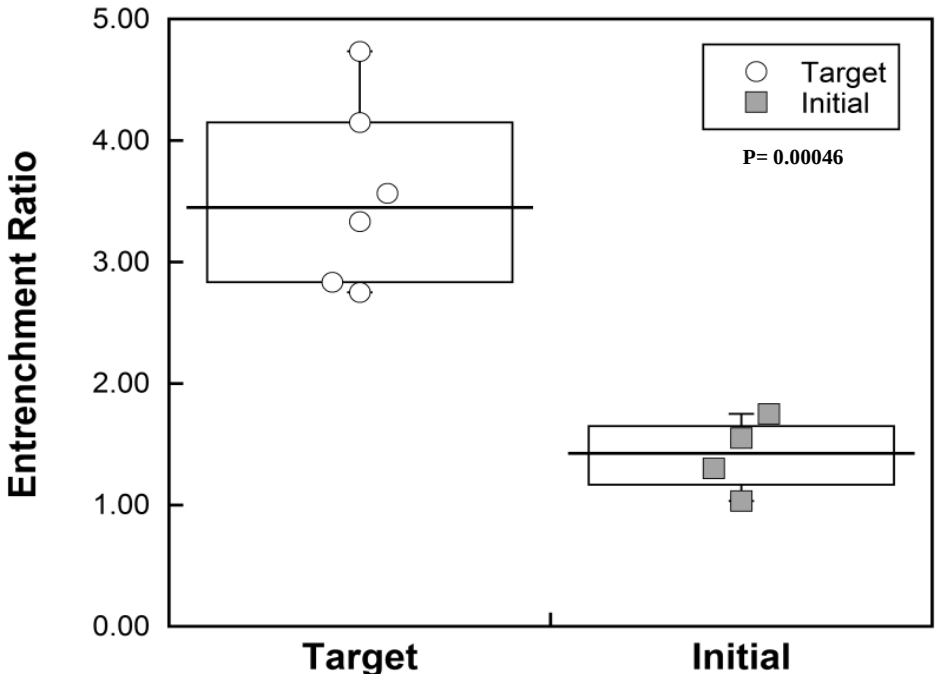
Construction

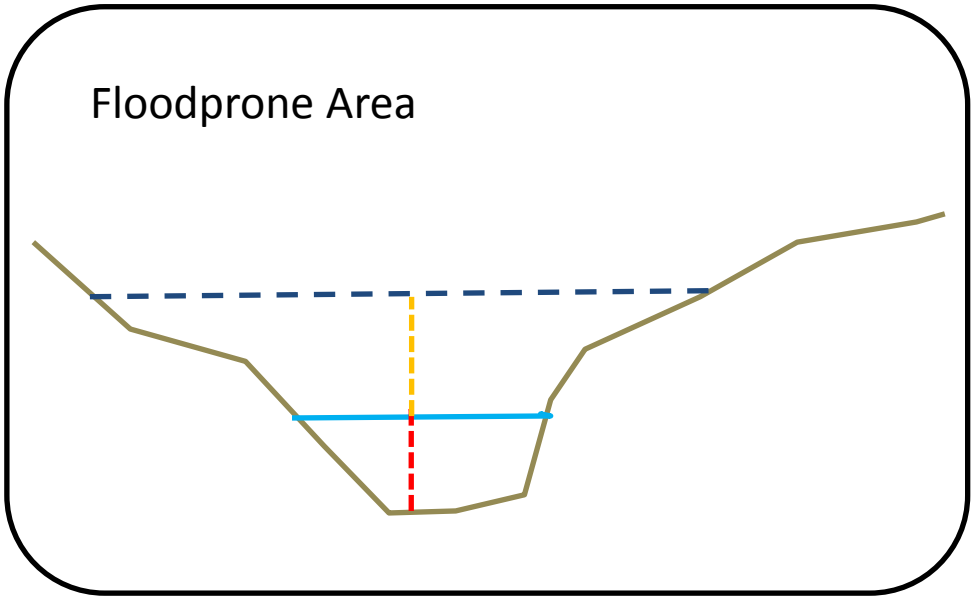
Metric Development

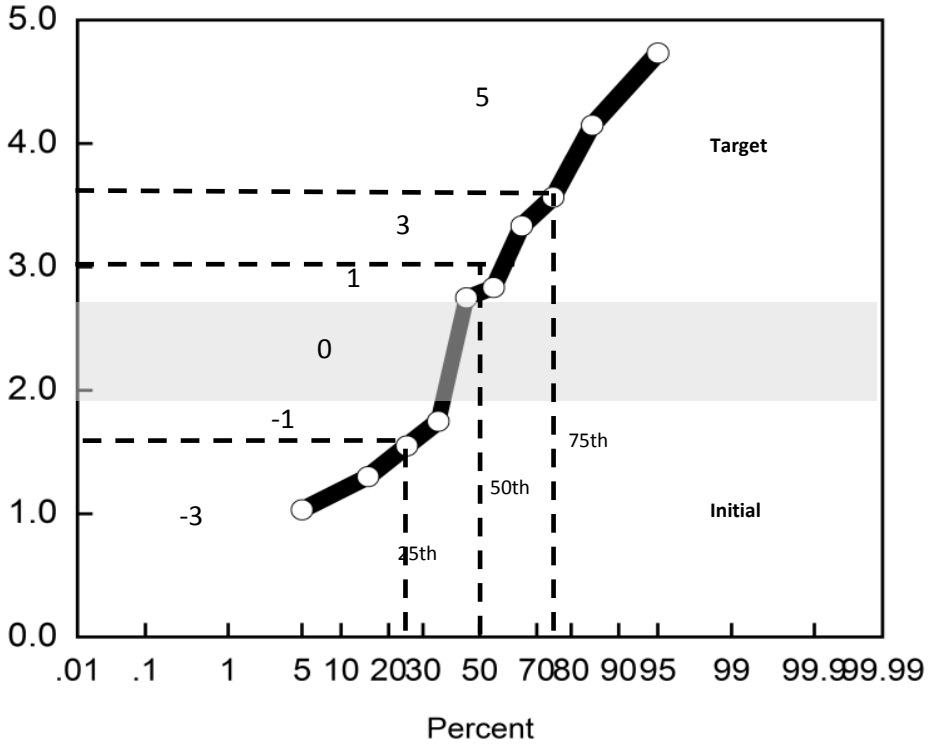
- Metrics are needed to apply the framework
- To develop a regional scale
- Creation of new metrics or re-organization of existing metrics
- Goals and Motivations for influence the metrics
  - Diverse possibilities
  - Dynamic endpoint
  - Cultural / Societal / Aesthetic
- Different Project Types would require different metrics (i.e. bank stabilization vs. stream realignment)

Metric Development

- Keys for development
- Universal Characteristics of

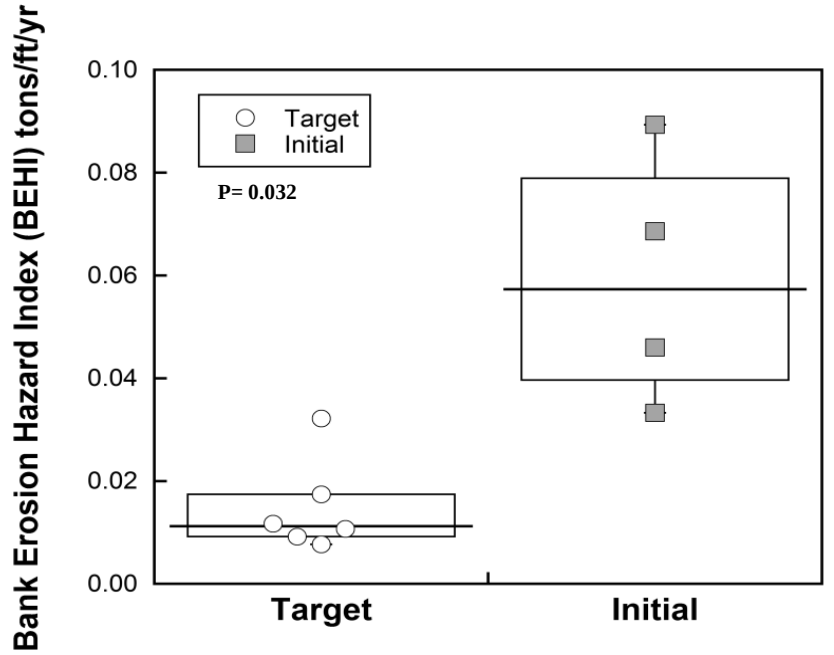


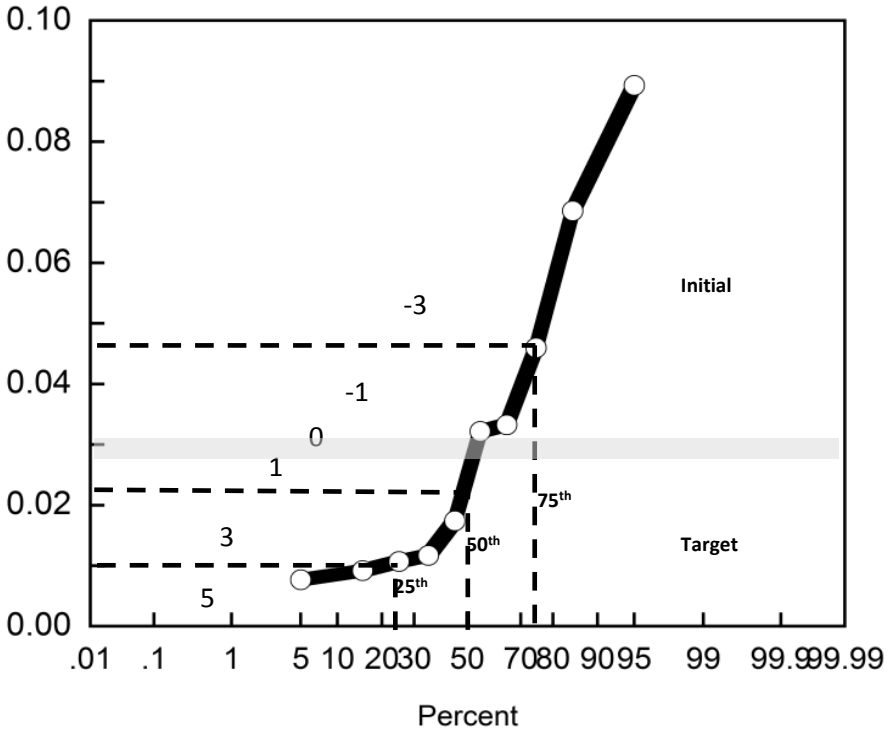




Streambank Erosion Rate

- BEHI / NBS
- Estimate Rate (tons/ft/year)



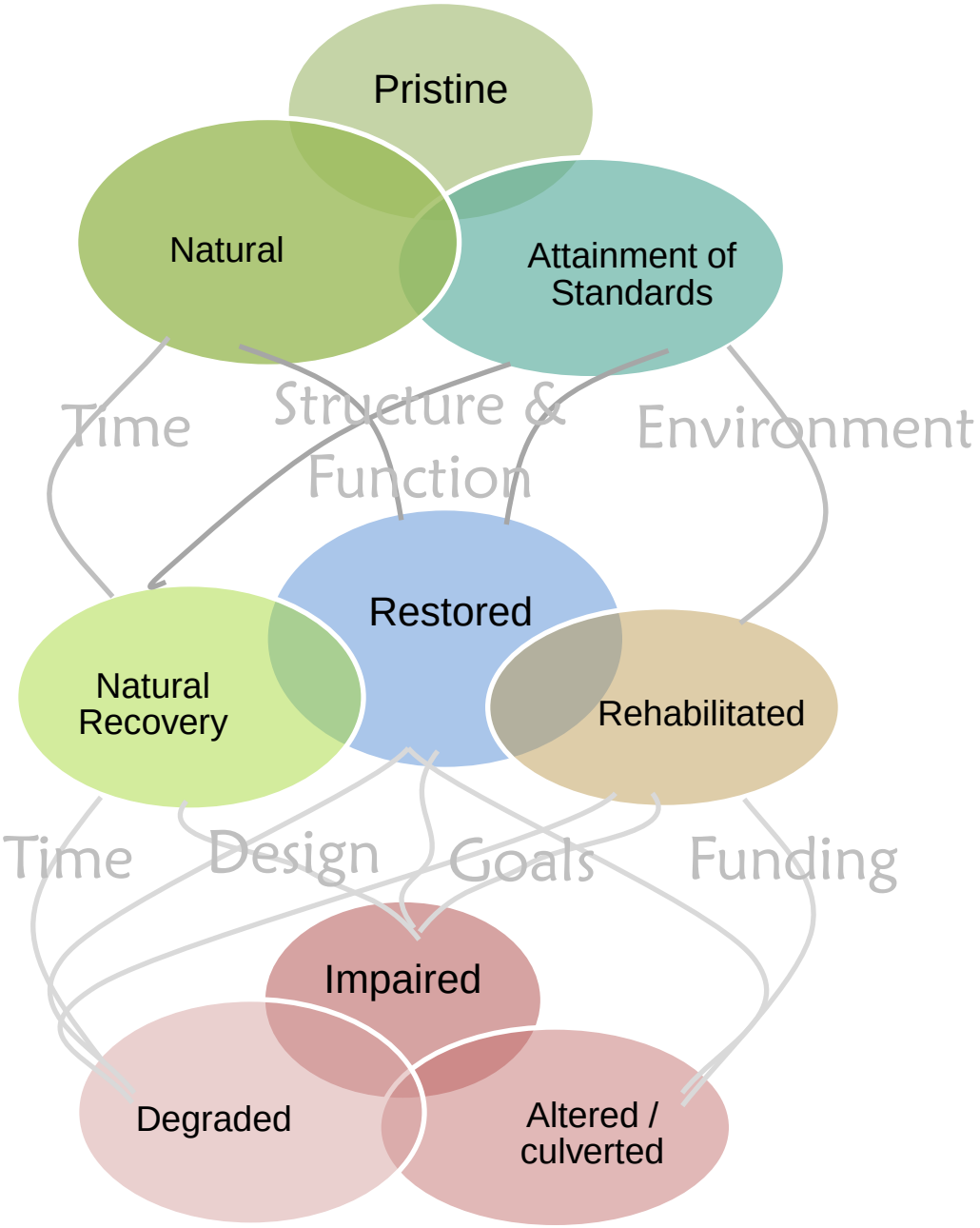


Potential Application

Target Condition
75-100

Intermediate Condition
45-70

Initial Condition
0-40



Summary

- Standards need to be developed but to achieve that goal we need to speak a common language.
- Conditional Framework representing conditional "change" that occurs with restoration
- 1. Human Intervention
- 2. Natural Evolution
- Metrics developed or re-calibrated to the conditional scale can be used to plot the trajectory of a project.
- Standardized Framework improves communication and data analysis potential
- Next Steps:
  - Develop and Test Metrics for various project types
  - Calibrate scale to the conditional framework

Questions

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