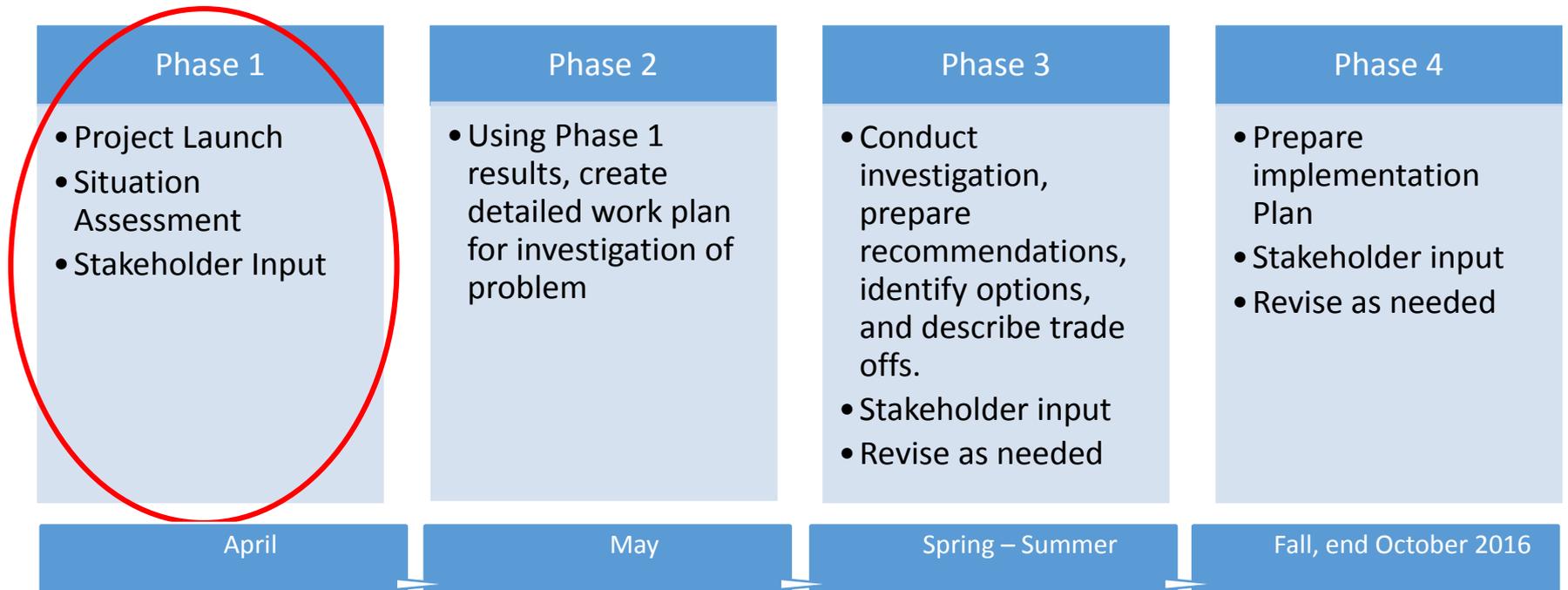


Project Overview





NPDES Permitting Program Review Situation Assessment, May 6, 2016

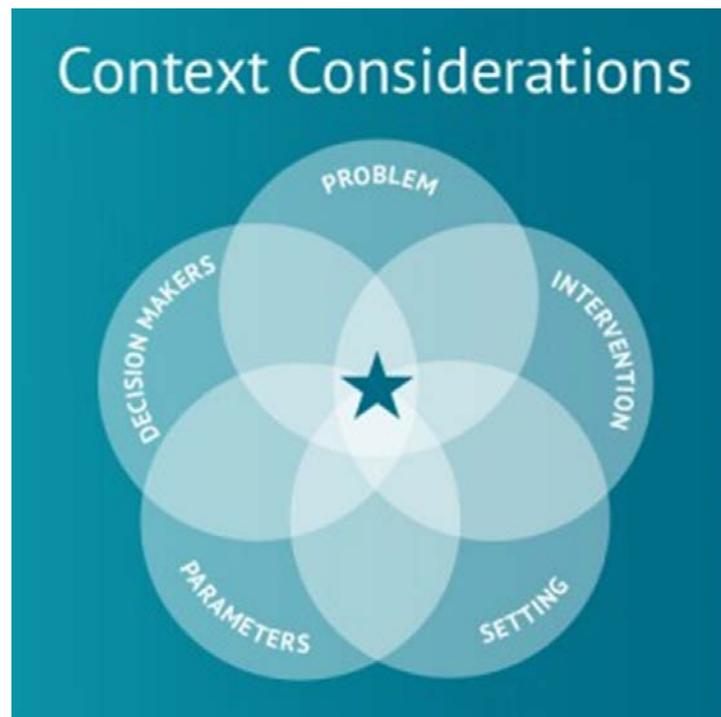
Situation Assessment Topics

The background of the slide is a photograph of an outdoor swimming pool. In the foreground, there is a concrete deck and a fountain with water spraying upwards. A chain-link fence runs along the edge of the pool. In the background, there are green trees and a blue sky with white clouds.

- Definitions
- Context
- Background Research
- Interview Process
- Demographics
- Findings
- Results & Implications

Situation Assessment

- Internal and external scan of the situation or context in which an issue is occurring



Why an Assessment?

- Engages the full system (there are many parts to the NPDES process and many situational drivers)
- Initial point of contact with the key stakeholders that will likely be needed to eventually resolve the situation
- Identifies priorities and flash points
- Results used to establish the appropriate plan of work
- Situation Assessments are an intervention

Context - Problem

- For well over a decade, the Oregon DEQ and Legislature have actively pursued improvements to its NPDES permitting program
 - *Blue Ribbon Committee*
 - *Internal work teams*
 - *Independent audit*
 - *Quality improvement efforts*
- Permitting goals still elude the department
- Oregon Legislature has authorized consulting assistance

Context – Project Goals



- 1) Issue environmentally relevant permits that regulate discharges so that Oregon's waters meet state water quality standards
- 2) Reissue permits before the existing permit expires
- 3) Reduce the number of administratively extended permits to less than 10 percent

Project Perspective

- Successful NPDES Permit Backlog Improvements require changes by all the stakeholders
- Fault finding not useful to solution creating
- Systems orientation
 - Efficiencies/ Quality Management / Tinkering
- Change management

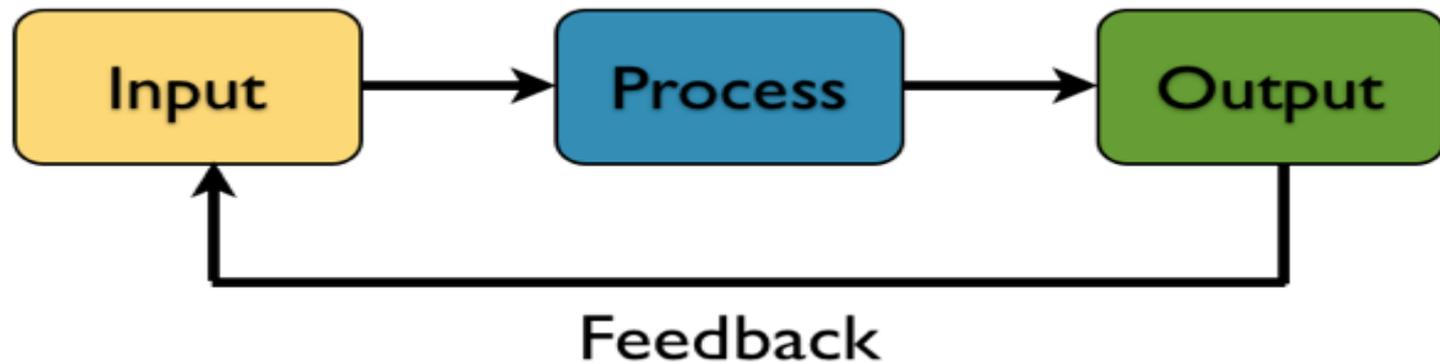


Seek Cause



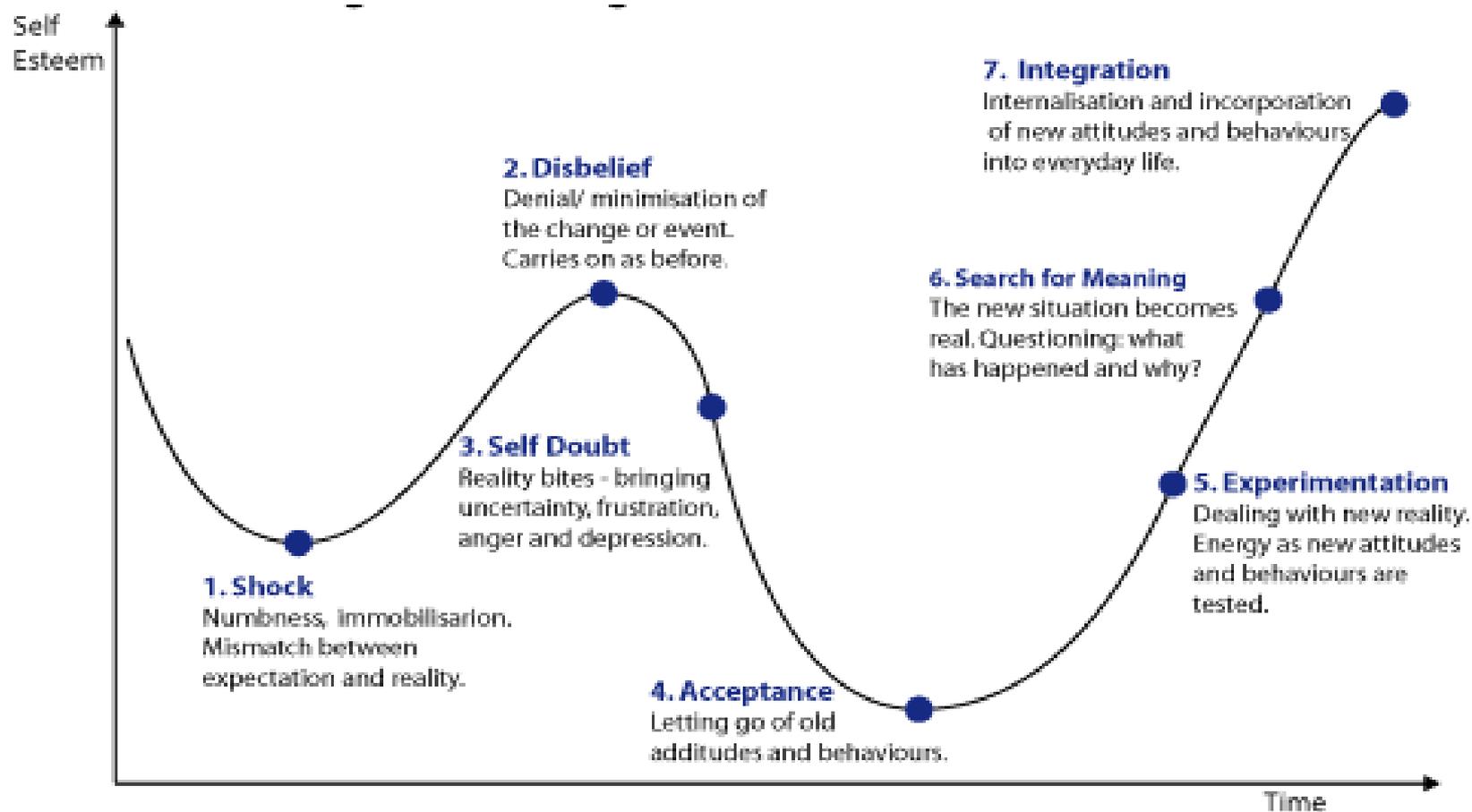
Not Blame

Systems produce what they are designed to produce.

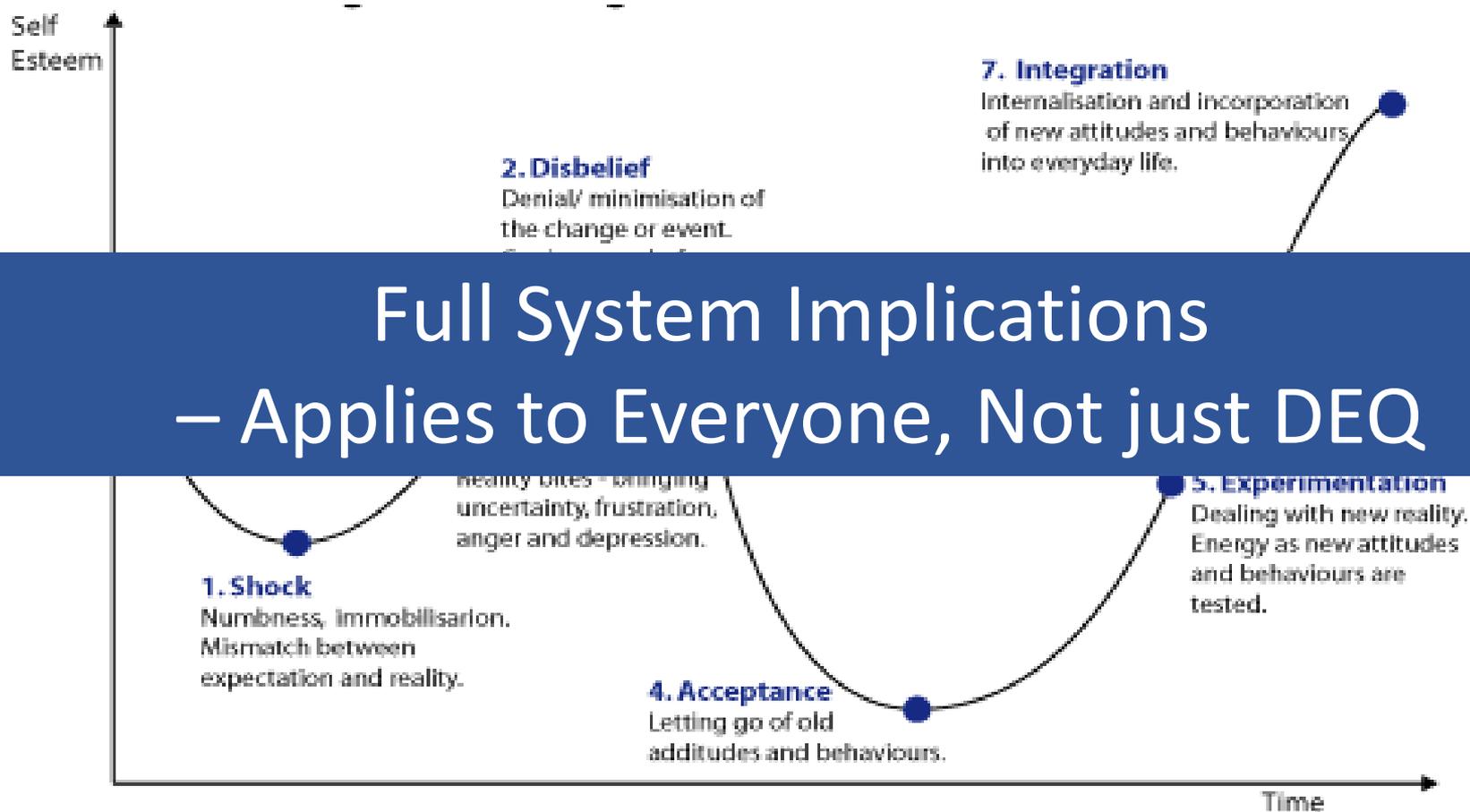


The key to improvement is understanding the system(s).

Change Management



Change Management



Full System Implications
– Applies to Everyone, Not just DEQ

Document Review



Document Review

- Blue Ribbon Committee (BRC) initial report (2004)
- Various BRC meeting minutes
- Compliance Schedule Settlement Agreement between Plaintiffs and Oregon DEQ (2007)
- Senate Bill 45: Water Quality Permit Program Improvements – Fact Sheet (Feb 2010)
- NPDES MOA between State of Oregon and USEPA (Apr 2010)

Document Review

- Summary of Internal Program Review of Water Quality NPDES/WPCF Permitting Program (Jan 2015)
- Service Quality Pledge to Oregon Wastewater Permit Holders
- Statewide Permit Issuance Plan for Federal Fiscal Year 2016 (Oct 2015)
- Outcome-based Management and Strategic Goals (Nov 2015)
- Various DEQ Audits
- Water Quality 2035 Vision and Strategy (Nov. 2015)

Document Review

- Wastewater Permitting Program – Improvements and Measures (Jan 2011)
- Internal Review of Water Quality NPDES/WPCF Permitting (Dec 2014)
- Summary of Active and Backlogged Individual Permits (Jan 2016)
- Survey of State NPDES Programs (Jan 2016)
- USEPA Final Permit Quality Review for Oregon (Mar 2016)
- Various Oregon Water Quality Standards documents
- Various TMDL documents

Document Review

- Various Internal Management Directives (IMDs)
- Charter for Wastewater Permit Managers Team (Nov 2014)
- Charter for Senior Permit Group (Jan 2015)
- Anti-Backsliding and Water Quality Permits (Mar 2015)

Interview Process



Interview Process



- MWH and DEQ worked together to identify key NPDES stakeholders
- 60-90 minute interviews, primarily in person but some via phone
- Project background and interview questions provided in advance

Interview Participants

- **16 Interviews,* 39 Participants**
- Environmental /NGO's
- Regulated Community
- EPA Region 10
- DEQ
 - Regional Managers
 - Permit Managers
 - Senior Permit Writers
 - Legal/Enforcement (including Attorney General's Office)
 - Permit Coordinators
 - Standards & Assessments

* Primarily in-person, April 2016



Interview Questions

8 Questions

- Background of Interviewees
- Problem Definition
- Assessment of Previous Efforts
- Potential Areas of Focus
- Barriers
- Definition Success
- Chances of Success
- Other

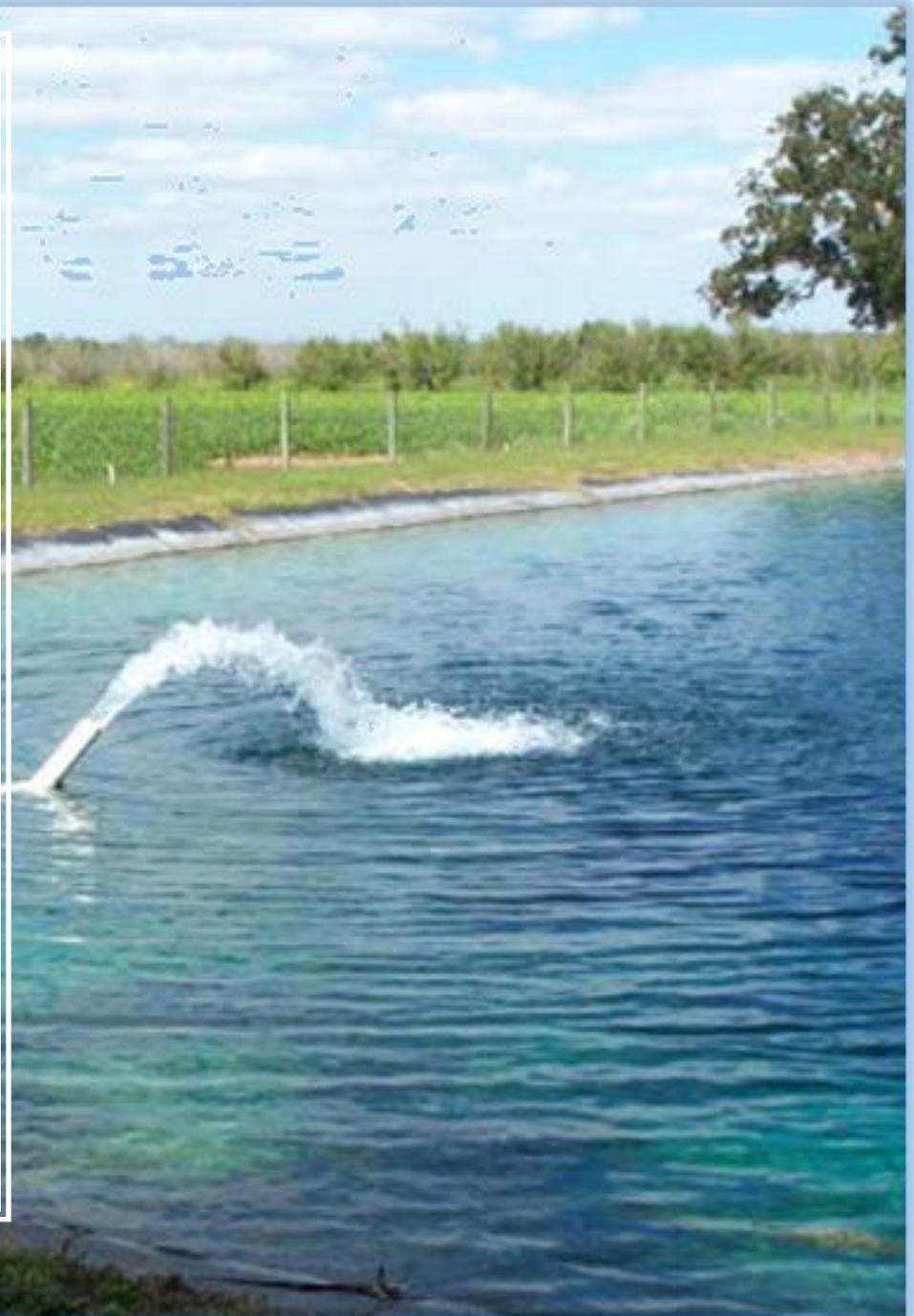




Findings

Stacked, Complex Problem

- No single problem - multi part, complex issues
- Perspective is directly linked to place in system



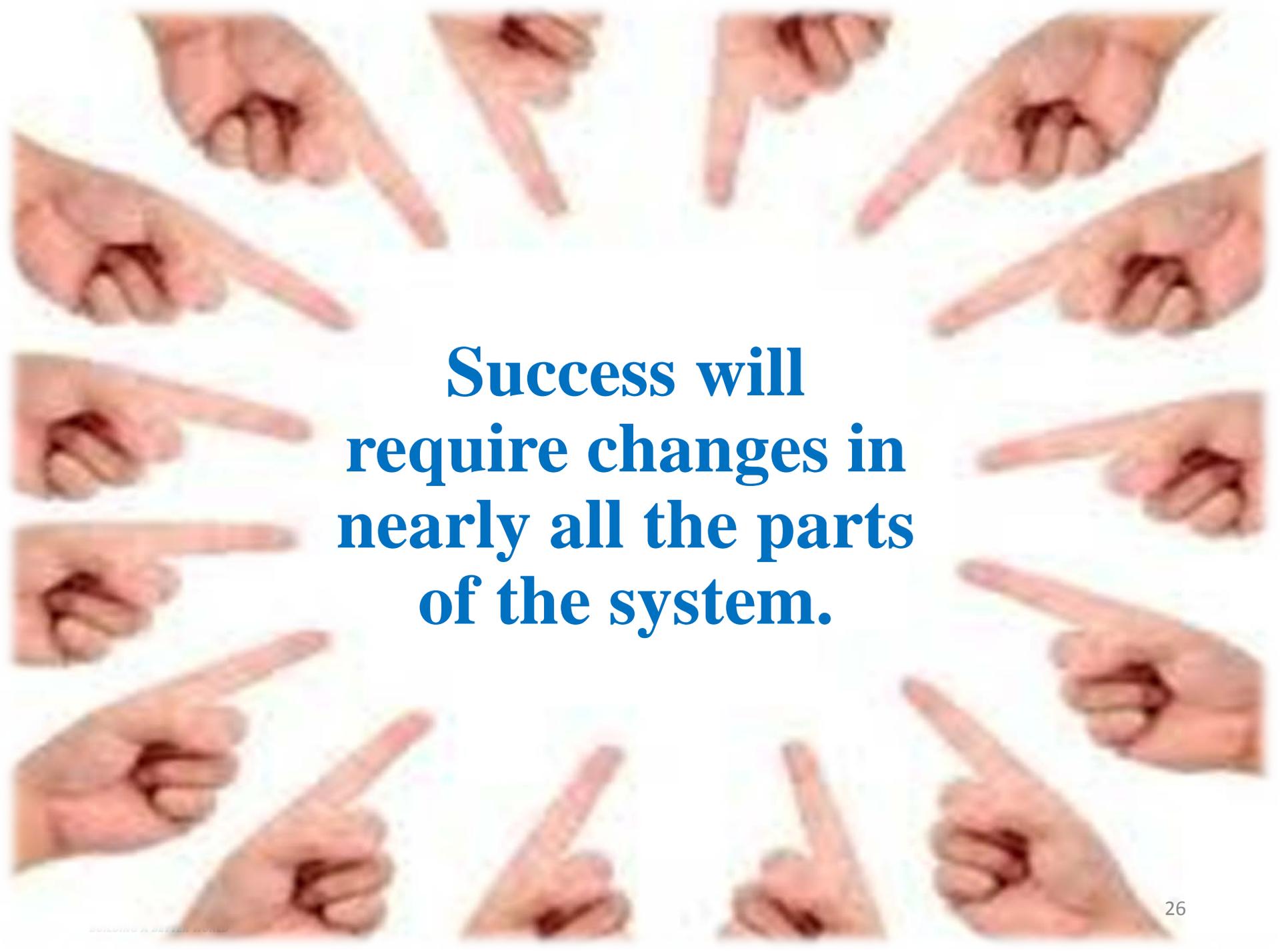
As Described by Stakeholders

- Backlog is both an issue and a symptom
- Efficiency alone will not resolve the problem
- Each Stakeholder views healthy water quality and a working NPDES process as beneficial and in the interest of the individual stakeholders.

Backlog is a Compounding Problem

- The more it grows, the worse it becomes
- Significant intervention needed to reverse the trend





**Success will
require changes in
nearly all the parts
of the system.**



Need a Strategic Approach to CWA
Implementation

Requires Forward Thinking

Results & Implications

- Structural
- Capabilities
- Resources
- Cultural
- Legal/ Policy



Structural

- Adequacy of the systems in place
 - Tools, records and tracking
 - Input process (permit and monitoring information)
 - Decision making structures/ Integration of Decision Processes
 - Standardized procedures and directives
 - Funding
 - Multi-tasking
 - Performance metrics

Tools, Records and Tracking

- Permit template
- Data from monitoring
 - Monitoring requirements
- Integration of systems
- General tracking
 - NPDES Permits (Performance)
 - Litigation/ Standards



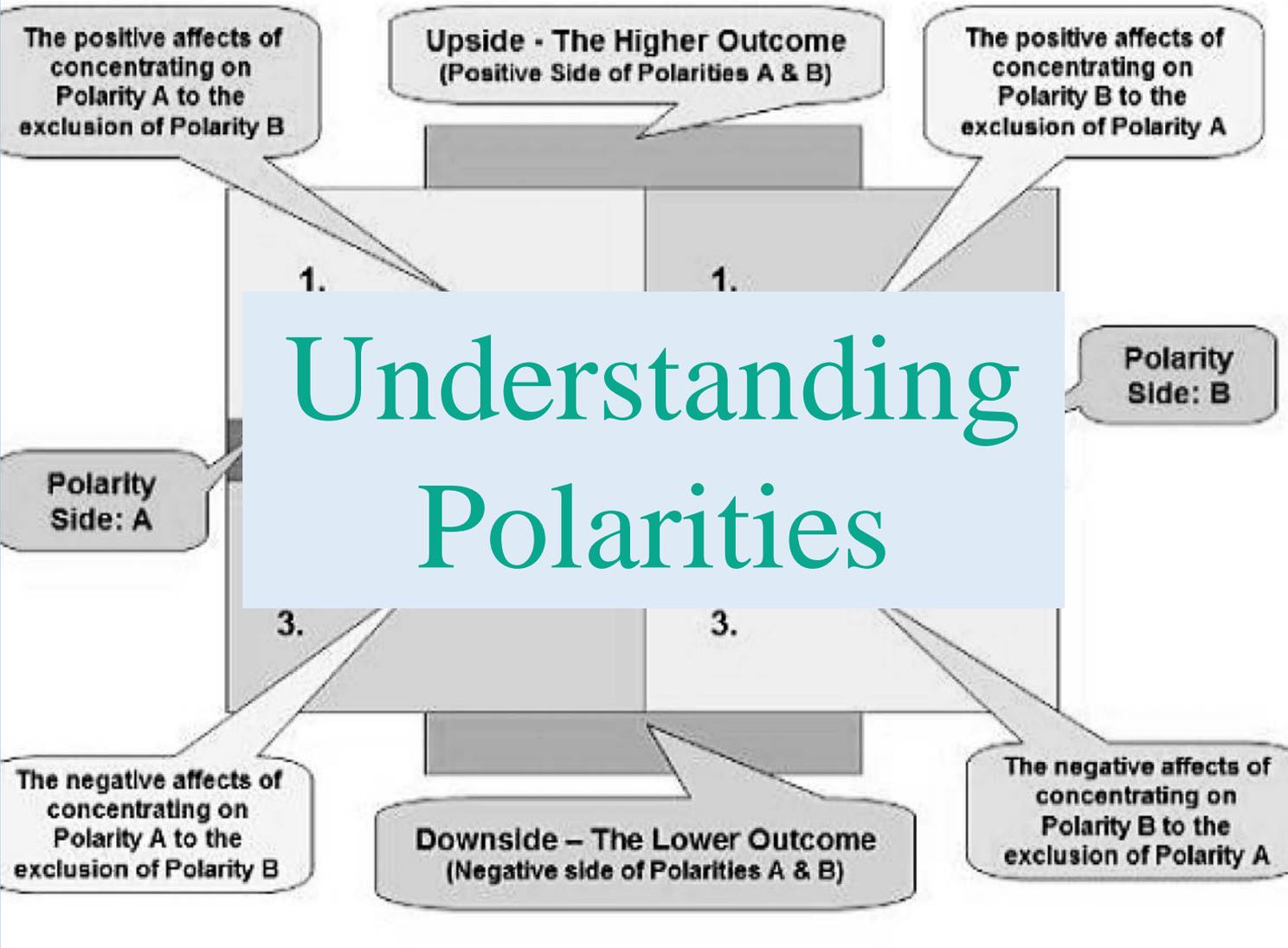
Input Process

- Applicant responsibility / DEQ responsibility
- Required information
- Timeliness

Decision Making Structures

- Decentralization
- Chains of Command
- Bifurcated Responsibilities/
Integration of Decision Processes
- External / Internal

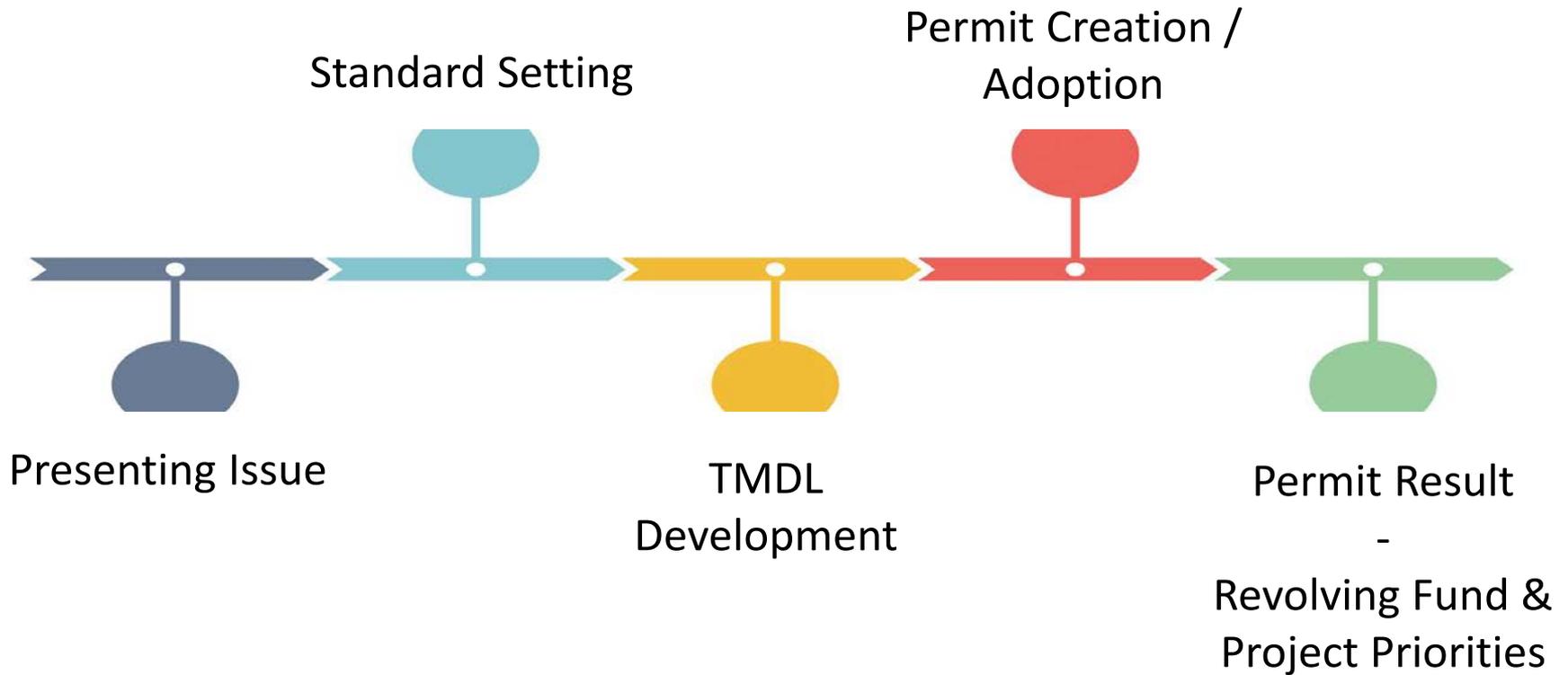
Understanding Polarities



Chain of Command & NPDES



Integration of Decision Processes



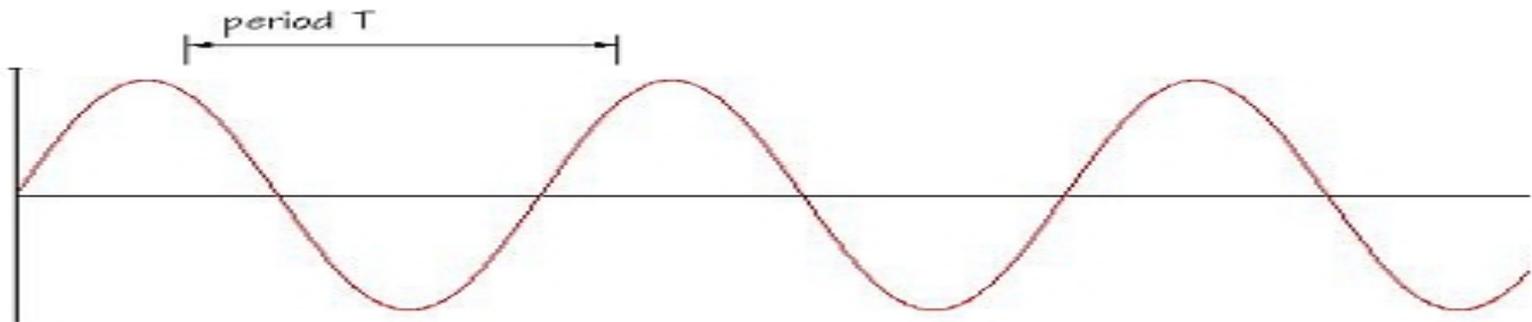


Standardized Procedures

- Consistency vs. Tailored Solutions
- Refresh / Shelf-life
- Uncertainty

Funding

- Philosophical
- Punitive
- Uncertainty
- Diminishing return



Current Job Design Requires Multitasking



Multitasking Basics

Three Types*

1. Performing two tasks simultaneously. (E.g. talking on the phone while driving or answering email during a webinar.)
2. Switching from one task to another without completing the first task.
3. Performing two or more tasks in rapid succession. (Minds need time to change gears in order to work efficiently.)

May result in up-to 40% in lost productivity

Source: American Psychological Association

Source: <https://www.wrike.com/blog/high-cost-of-multitasking-for-productivity>

Performance Metrics and Capacity

- System capacity, inputs, and potential for improvement not necessarily linked.
- Metrics may not match realistic targets.

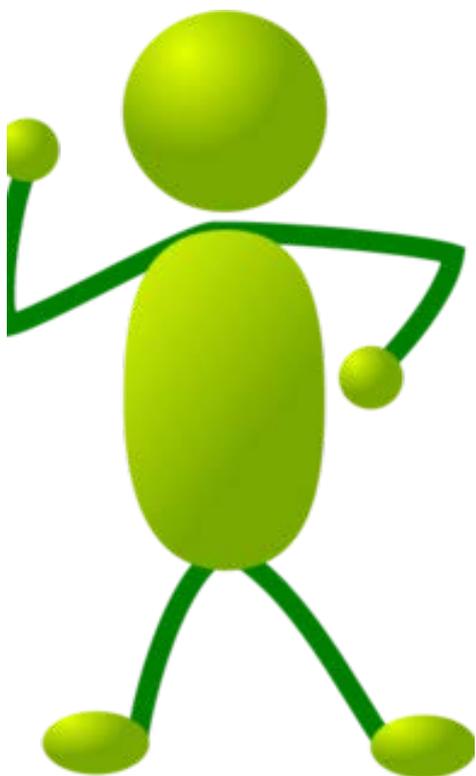
Capacity Basics

- There is no one best way to measure capacity.
- Output measures are easier to understand. With multiple products, inputs measures work better.

Business	Inputs	Outputs
Auto manufacturing	Labor hours, machine hours	Number of cars per shift
Steel mill	Furnace size	Tons of steel per day
Oil refinery	Refinery size	Gallons of fuel per day
Farming	Number of ha , number of cows	Bushels of grain per ha per year, litres of milk per day
Restaurant	Number of tables, seating capacity	Number of meals served per day
Theater	Number of seats	Number of tickets sold per performance
Retail sales	Square feet of floor space	Revenue generated per day

Goals and metrics need to be aggressive but achievable.

Capability



Expertise a critical element of successful execution

- 5 years to high competence
 - Inadequate expertise of NPDES permit writers/ Inadequate training
- Managers are managers vs. experts in in CWA policy complexities
- Utilization of tools needs assessment
- Recruitment of essential talent
- Job performance metrics

Expertise Basics



10,000 Hour Rule

- To become an expert in something requires 10,000 hours of practice
- 10,000 hours = 3 hours/day 10 years
- There are no prodigies

Source: Malcom Gladwell - Outliers

Implications of 5 Years to Competence

Recruitment & Retention, Performance (Statewide Issue)

- 2-year, 50% Retirement Window
- Labor Agreements
- Morale
- Succession Planning



Resources

- Available resources (as deployed) inadequate to resolve backlog
- Available resources not always efficiently utilized
- Uncertainties in DEQ funding , funding structure limit resources
- Blue Ribbon Committee Status

Available Resources

- Actual reduction in hours available for permit processing while workload increased in volume and complexity
- Placement of personnel without expertise may result in short-term net loss
- Multitasking precludes fully accurate measurements of productivity

Efficient Use of Existing Resources

- Inconsistent training
- Change fatigue
- Existing tools may or may not be user friendly

Blue Ribbon Committee

- Chartering Questions
- Goal and role clarity
 - Membership
 - Working structure
- Executive sponsorship
- Committee leadership
- Ground rules

Cultural

- The Oregon Way
- Customer service v Regulatory identity
- Reluctance to impose/Resistance to top down leadership
- Customization v Standardization of NPDES process



The Oregon Way

- First and best
- Pioneers
- Unique landscape and citizen needs
- Urban/ Rural demands

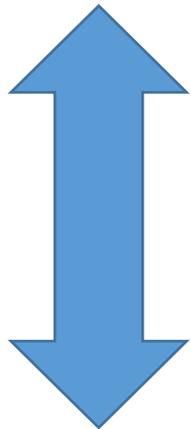
 US Highways  Interstate Highways 0 50 KM 50 Miles

© geology.com

Customer Service v. Regulator

- Legislative and Blue Ribbon Committee oversight
- Assistance to small communities
 - Staff concerns for attainability and cost of NPDES requirements
- Balancing needs

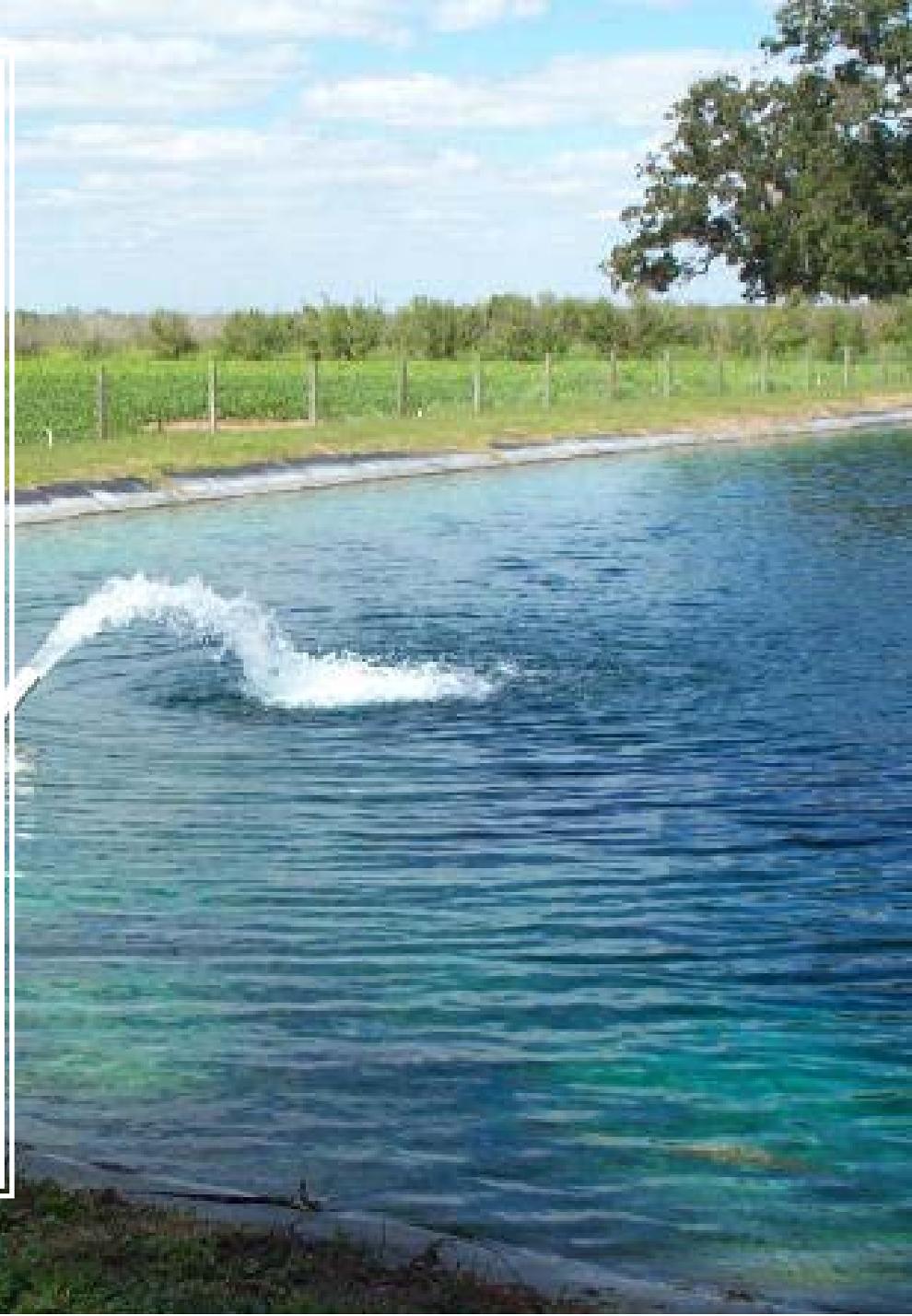
Leadership



Not Just a DEQ Issue

Customization versus Standardization

- Another polarity
- Place based drivers



Legal/ Policy

- Permits are increasing in complexity
- Procedural accuracy overarching requirement
- Need more proactive approaches to meet clean water act mandates
- Requirements may not result in desired outcomes
- Shift in EPA role and increasing oversight by EPA delays NPDES permit issuance

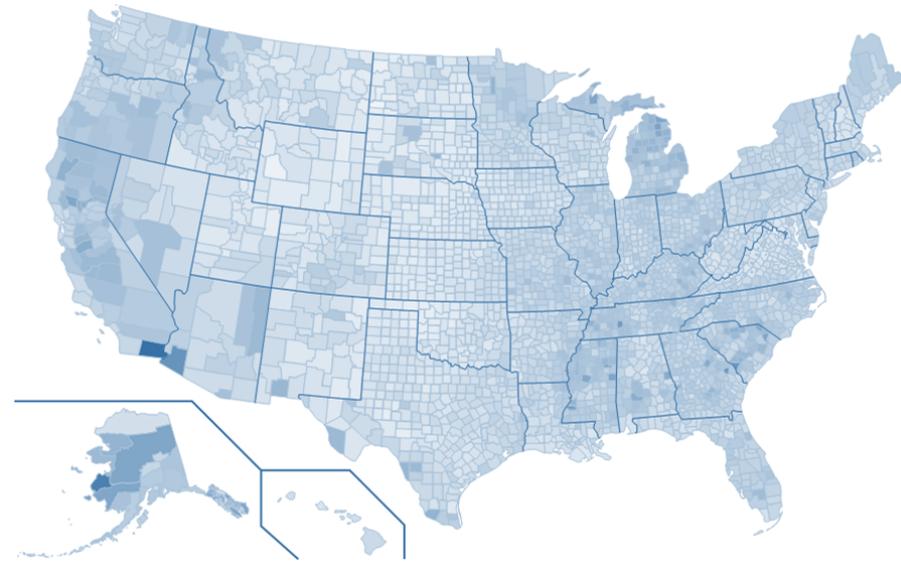
Legal / Policy

- Ramifications of WQS, TMDLs on NPDES permits delays issuance - Unattainable standards inhibit NPDES permit issuance
- Water Quality Trading Approaches
- Litigation uncertainty and existing cases restrict NPDES permit issuance / **Workload issue**
- Tracking

Legal / Policy

- Permits are increasing in complexity.
- Procedural accuracy overarching requirement.
- Requirements may not result in desired outcomes.

National Trends



Statewide Trends



Disapproval of standards by EPA creates significant disruption in the NPDES process.

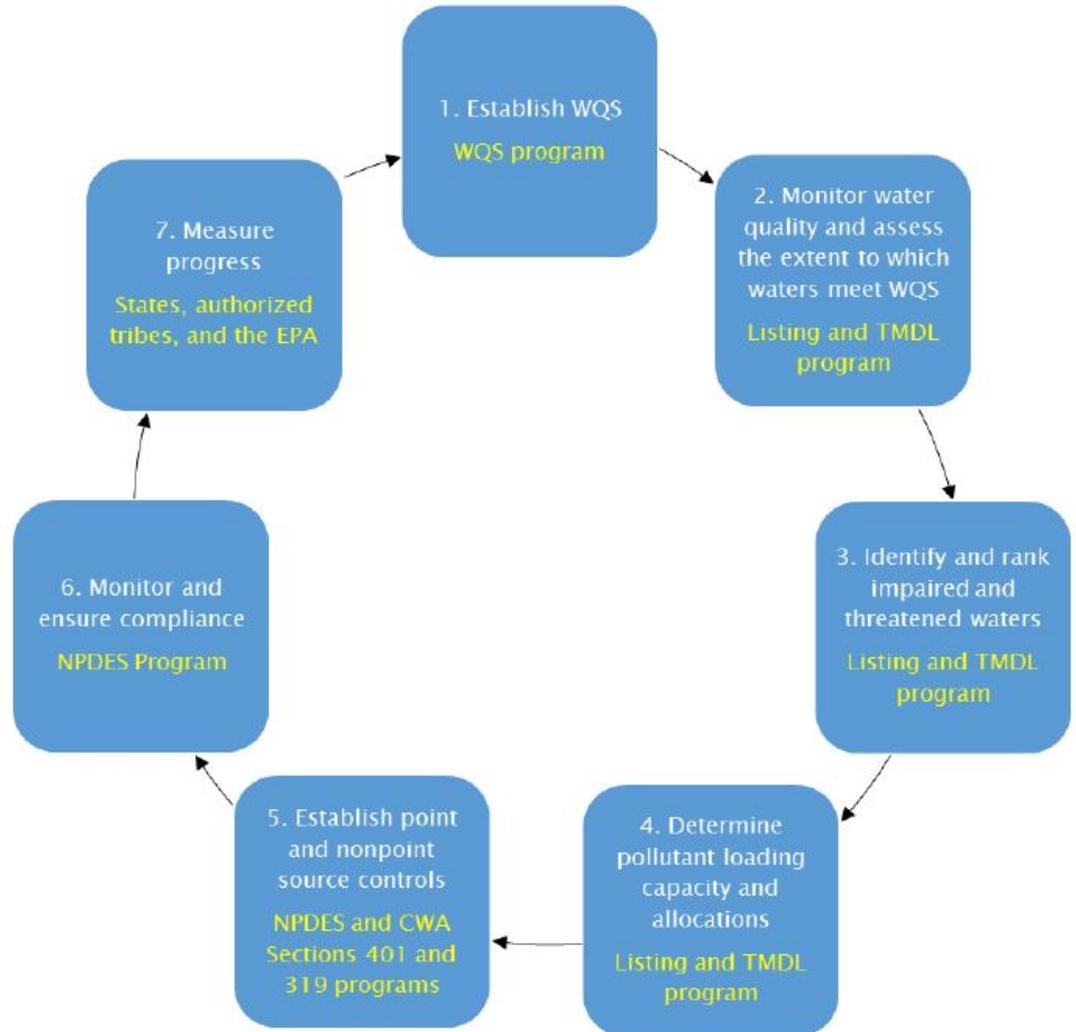


Figure 7.1: The Water Quality-based Approach to Pollution Control

Factors of Success



32 Descriptions of Success

Chances of Success

- Range 0-80%
- Mean 41%
- Median 40%
- Mode 50%

