

Tools for Achieving Water Quality Standards

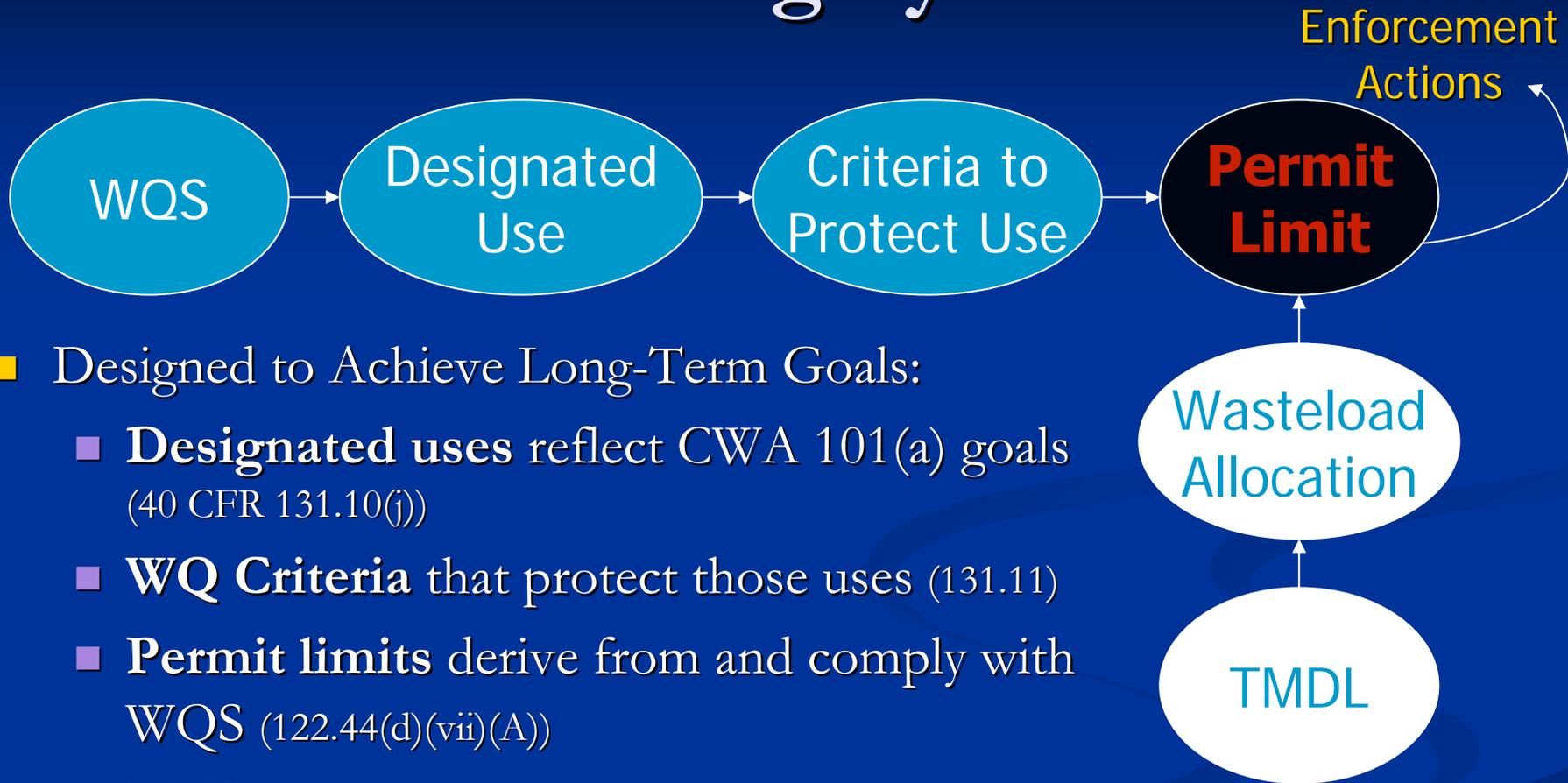
WQS Academy

May 14th, 2008

Problem Statement

- Current Standards Cannot Be Attained Within a Five Year Horizon (and often much longer)
- It May Be Unknown What Can Be Attained in a Longer Horizon
- Timeframe to Achieve a Solution Has Become a Barrier to Getting Started
- Public Wishes to Retain Long Term Goals
- TMDLs and Permits Need to Reflect What is Attainable in the Shorter Term

A Demanding System...

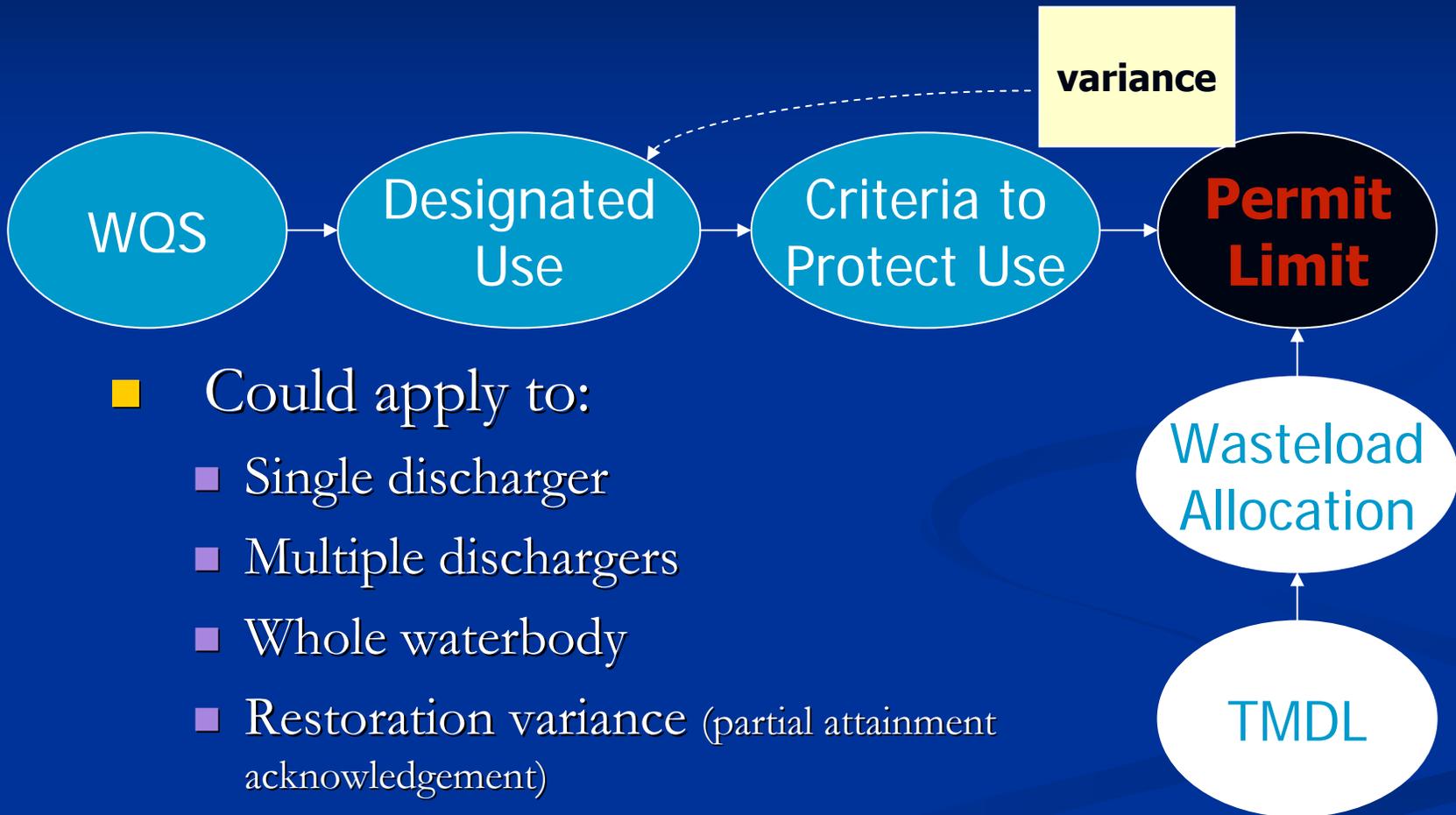


- Designed to Achieve Long-Term Goals:
 - **Designated uses** reflect CWA 101(a) goals (40 CFR 131.10(j))
 - **WQ Criteria** that protect those uses (131.11)
 - **Permit limits** derive from and comply with WQS (122.44(d)(vii)(A))
 - **TMDL** at levels to attain WQS (130.7(c)(1))

...With adjustments available...

- **Variations** at 131.10(g) – discharger and waterbody
- **Compliance Schedules** at 122.47(a)
- **Site specific criteria** at 131.11(b)
- **Waste Load Allocations** at 130.7(c)(1)
- **Use Removal** at 131.10(g)

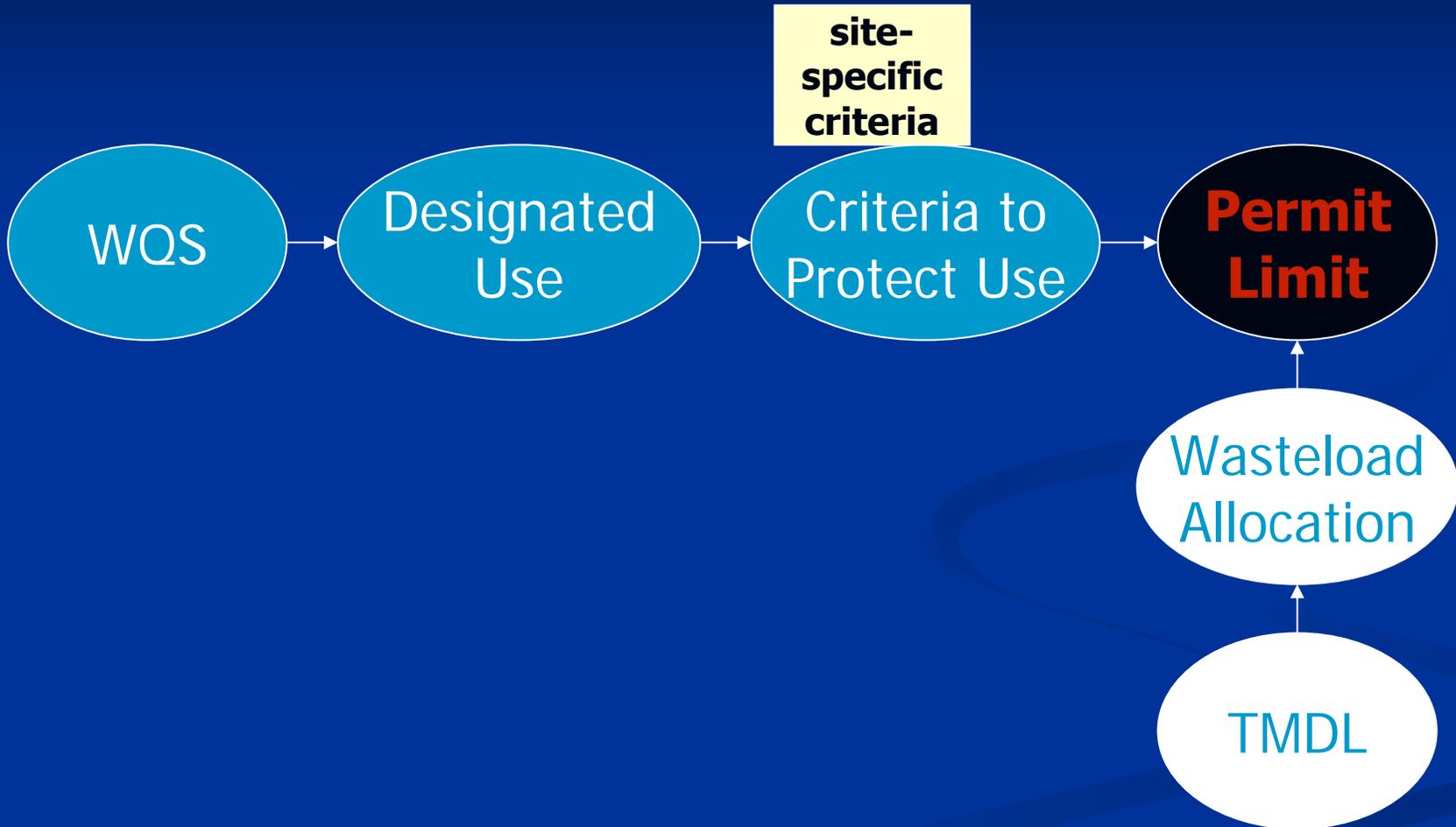
Variations



Discharger Variance Properties

- Relies on same regulatory basis as use removal (131.10(g))
- Must protect existing uses
- Does not exempt tech based requirements
- Adopted and approved as applicable WQS
- Can be limited in scope by:
 - Sources and Pollutants addressed
 - Geography (space) and Time
- May include additional provisions
 - Monitoring
 - Attainability analyses

Site Specific Criteria



Site Specific Criteria

- 40 CFR 131.11(b)(1): States and Tribes may adopt numeric criteria based on:
 - CWA Section 304(a) guidance
 - CWA Section 304(a) guidance modified to reflect site-specific objectives; or
 - Other scientifically defensible methods

Site Specific Criteria

- Alternative to a statewide water quality criterion tailored to account for site-specific conditions IF it protects the designated use.
- Does not require a UAA.
- Does need to be submitted to EPA for approval.
- Can be more or less stringent than national recommended values.

Site Specific Criteria

- The physical/chemical characteristics of the site alter the bioavailability / toxicity of the pollutant
 - E.g., where high levels of dissolved organic carbon bind metals so they no longer produce toxic effects

AND/OR

- When the sensitivities of the site species differ from those used to develop the national criteria

OR

- A state or tribe wishes to establish a criteria equal to “natural background”

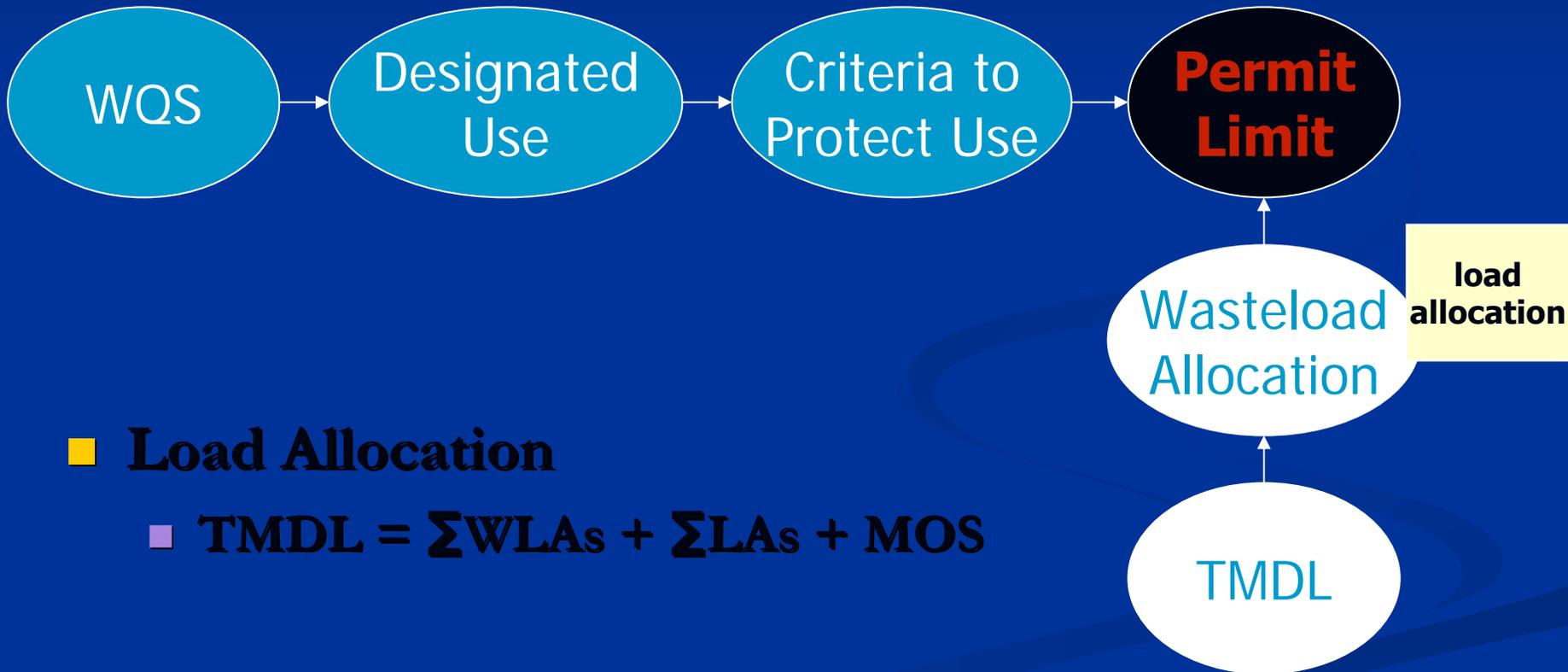
Site Specific Criteria

- Procedures:
 - Recalculation Procedure:
 - Take into account relevant differences between the **sensitivities of the aquatic organisms** in the national dataset vs. sensitivities at the site.
 - Water-Effect Ratio (WER)
 - Take into account relevant **differences between the toxicities of the chemical** in laboratory dilution water and in site water
 - Resident Species
 - Take into account **both kinds of differences simultaneously.**

Site Specific Criteria

- EPA recognizes site specific criteria could account for naturally occurring concentrations of pollutants exceeding national recommendations.
- Reference condition approach uses physical, chemical and biological information from similar types of waters that are meeting designated uses to ascertain protective water quality parameters.

Watershed Scale Solutions (such as a TMDL load allocation or offset)



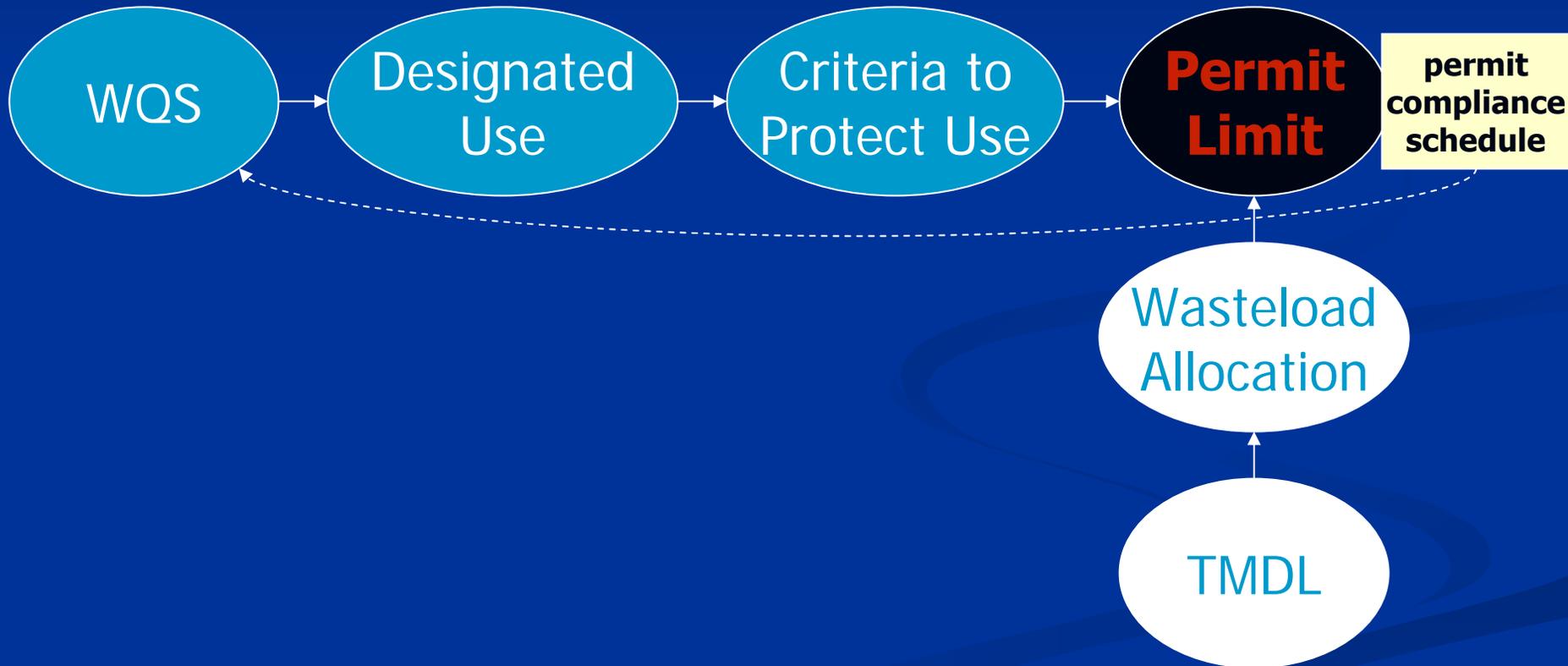
■ Load Allocation

■ $TMDL = \sum WLA_s + \sum LA_s + MOS$

Factors to Consider in Load Allocation/ Offset/Watershed Scale Solutions

- Is there an approved (or approvable) TMDL in place or is this a pre-TMDL permitting situation?
- Are there sufficient supporting technical data, scientific information, and water quality-related analyses?
- Is there sufficient basis to support any assumptions that the nonpoint source reductions will occur?
- Are future nonpoint source reductions considered achievable and will they occur within a reasonable time frame?
- Is there a specific plan for implementing nonpoint source reductions and are there reliable delivery mechanisms for implementing management measures?

Permit Compliance Schedule



Compliance Schedules

- Time granted to a permittee in an NPDES permit to meet new or revised WQS “as soon as possible”
- Must be authorized in state or tribal water quality standards or implementing regulations
- Time granted for waters to attain a new or revised criterion in WQS (e.g. Everglades Forever Act)

Conditions of Compliance

Schedules (Hanlon Memo 5/10/07)

- Compliance as soon as possible & interim requirements if longer than 1 year
- **CS must contain an enforceable final effluent limit**
- CS must contain an enforceable sequence of actions
- **All provisions of CS must be included in permit (including final effluent limit)**
- CS granted only if permitting authority determines there is a reasonable demonstration for one

Conditions of Compliance

Schedules (Hanlon Memo 5/10/07)

- Permitting authority would need to determine CS is ‘appropriate’ and compliance conducted ‘as soon as possible’
- Discharger cannot immediately comply with WQBEL upon effective date of permit
- Factors for ‘appropriate’ include:
 - how much time discharger had under prior permits
 - discharger’s good faith effort
 - need for modifications to treatment facilities or O&M
 - time needed to implement modifications
 - if same treatment needed as before to meet WQBE

Conditions of Compliance

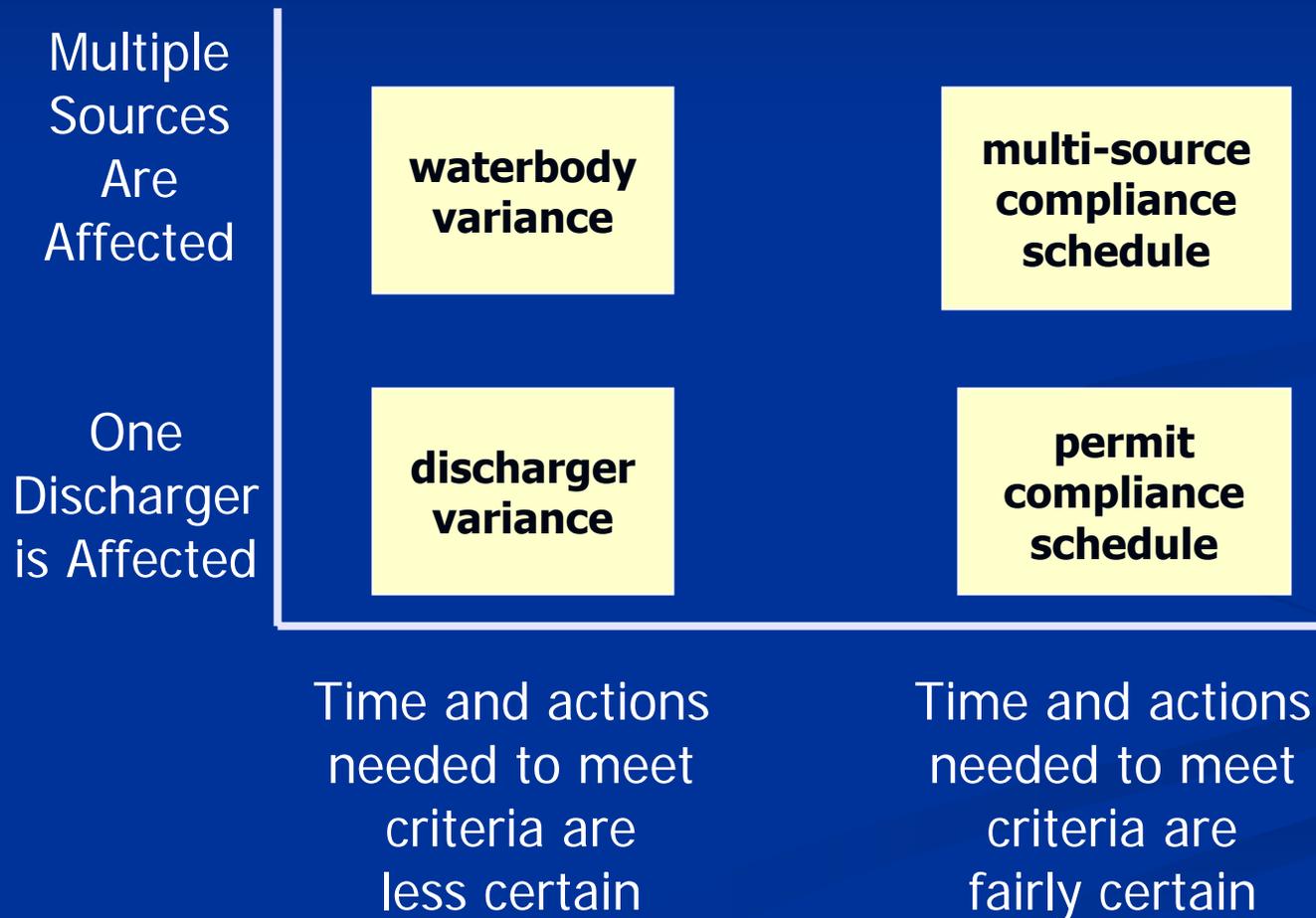
Schedules (Hanlon Memo 5/10/07)

- Factors for 'as soon as possible' include:
 - steps needed to modify treatment facilities and O&M
 - time for those steps
 - permitting authority should not presume CS be based on maximum allowable time in state's authorizing provision
- CS is not allowed solely for the development of TMDL
- CS is not allowed solely for time to develop a WQS including UAA or to develop site-specific criteria

Ways to Distinguish Tools

- Tools That Change WQS and Tools That Do Not
- Tools That Require a UAA Type of Analysis and Tools That Do Not
- Tools That Apply to a Discharger and Tools That Apply to a Waterbody
- Tools Supported By Current Practice, Guidance, or Regulation and Tools That Are Less Developed

Other Ways to Distinguish Tools...



Summary

■ Variance

- Same regulatory basis as use removal
- Can be limited by source, pollutant, space, time

■ Site Specific Criteria

- No change to designated use
- Permanent change to criteria based on natural background, biological assemblage present, or water conditions
- Must be scientifically defensible

■ Waste Load Allocation Adjustments

■ Compliance Schedules

- Must be authorized by WQS or implementing regulations
- Timetable in permit to meet standards
- Difficult for criteria adopted before 1977