



Compilation of Presentation Slides and Materials from All National Training Workshops on Water Quality Data, Assessment, and Plans

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CWA 303(d) Program Goals and Policy Implementation

- Overviews
 - [Introduction to the Clean Water Act Section 303\(d\) Program and Vision](#) – Traci Iott (CT) and Rosaura Conde (EPA HQ) [2025]
 - [Introduction to the Clean Water Act Section 303\(d\) Program and Vision](#) – Traci Iott (CT) and Rosaura Conde (EPA HQ) [2024]
 - [Introduction to the Clean Water Act Section 303\(d\) Program and Vision](#) – Traci Iott (CT) and Rosaura Conde (EPA HQ) [2023]
 - [CWA 303\(d\) 101](#) – Traci Iott (CT) and Rosaura Conde (EPA HQ) [2022]
 - [Freshman Orientation](#) – Eric Monschein (EPA HQ) [2019]
 - [CWA 303\(d\) Workshop: Key Takeaways](#) – Jim Havard (EPA HQ) [2018]
 - [2013 GAO Report on the TMDL Program](#)
 - [CWA Framework Diagram](#)
- Program Measures
 - [Measuring Progress](#) – Miranda Chien-Hale (EPA HQ) [2019]
 - [Oh the Awesome Work We Will Now Be Able to Show: CWA 303\(d\) Measures "WQ-27 and WQ-28"](#) – Shera Reems (EPA HQ) [2015]
 - [New CWA 303\(d\) Program Measures: Pilot Results](#) – Shera Reems (EPA HQ) [2014]
 - [Measures Sideboards](#) – Tatyana DiMascio (EPA HQ) [2013]
 - [Handout on Guiding Principles and Potential Approaches for Developing New Measure\(s\)](#) [2013]
 - [Template for Metadata Worksheet on Measures \(MN\)](#)
 - [Draft 2013 National Water Program Guidance Measure WQ 26](#)
 - [EPA Strategic Measures](#) [2012]
- CWA 303(d) Vision and Prioritization
 - [Planning and Prioritization: 2022 Vision Prioritization Frameworks](#) – Teagan Rostock (EPA HQ) [2024]
 - [Introduction to the Prioritization and Planning Session](#) – Teagan Rostock (EPA HQ) [2023]
 - [Think Statewide - Act Locally \(Implementing Michigan's Vision 1.0\)](#) – Molly Rippke (MI) [2024]
 - [Utah's Prioritization 2.0: Approach to Protection and Restoration Planning](#) – Jodi Gardberg (UT) [2024]
 - [CWA 303\(d\) Program Vision](#) – Traci Iott (CT) and Rosaura Conde (EPA HQ) [2022]
 - [The Draft CWA 303\(d\) Vision: Materials and Trainings for Implementation](#) – Richard Cochran (TN), Rosaura Conde (EPA HQ), Eric Monschein (EPA HQ), Jasper Hobbs (ACWA) [2022]
 - [The Re-Vision: Draft Recommendations for the 303\(d\) Vision Update](#) – Jeff Berckes (IA), Traci Iott (CT) [2021]
 - [Thoughtful Steps in the Path Ahead: Vision Process](#) – Rosaura Conde (EPA HQ) [2021]
 - [A Description of Louisiana's New Vision Prioritization Process](#) – Chuck Berger (LA) [2021]
 - [A Description of Louisiana's New Vision Prioritization Process](#) – Chuck Berger (LA) [2020]
 - [A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303\(d\) Program](#) [2020]

- [Wisconsin's Approach to Prioritizing Waters for Restoration Planning](#) – Ashley Beranek and Kevin Kirsch (WI) [2021]
- [The Use of SPARROW and Other Tools to Help Prioritize Wisconsin Watersheds](#) – Ashley Beranek and Kevin Kirsch (WI) [2020]
- [Report-Back and Discussion of Vision Analysis: Summary of the Vision Breakout Discussions](#) [2020]
 - [Handout: Working Draft Protection FAQs \(distributed to all states in November 2018 as part of the protection compendium questionnaire\)](#)
- [Overview of State Prioritization Frameworks](#) – Adam Schempp (ELI) [2016]
- [A Preliminary Conceptual Framework for the CWA 303\(d\) Vision's Protection Goal](#) – Doug Norton (EPA HQ) [2016]
- [Brief Review of the Integration Goal](#) – Ruth Chemerys (EPA HQ) [2015]
- [CWA 303\(d\) Program Vision Prioritization Goal](#) – Jim Havard (EPA HQ) [2015]
 - [Summary of Responses Received from ACWA CWA 303\(d\) Vision Prioritization Questionnaire](#)
 - [State Prioritization Approaches Directory](#)
 - [WATERSCAPE Factsheet](#)
 - [Recovery Potential Screening Factsheet](#)
 - [Watershed Index Online Summary](#)
 - [National Healthy Watersheds Preliminary Assessment Factsheet](#)
 - [Healthy Watersheds Consortium Grant Factsheet](#)
- [Engaging Monitoring Programs in 303\(d\) Vision Prioritization Discussions](#) – Susan Holdsworth (EPA HQ) [2014]
- [Review of Assessment Goal and Its Milestones](#) – Eric Monschein (EPA HQ) [2015]
- [The Results of the ACWA Watersheds Committee Survey on the CWA 303\(d\) Vision Assessment Goal](#) – Traci Iott (CT) [2015]
 - [Summary of Responses Received from ACWA CWA 303\(d\) Vision Assessment Questionnaire](#)
- [Alternatives under the CWA 303\(d\) Program Vision – A Few Key Reminders](#) – Menchu Martinez (EPA HQ) [2016]
- [CWA 303\(d\) Program Vision: Alternatives](#) – Menchu Martinez (EPA HQ) [2015]
 - [Summary of Responses Received from ACWA CWA 303\(d\) Vision Alternatives Questionnaire](#)
- [Summary of Responses Received from ACWA CWA 303\(d\) Vision Engagement Questionnaire](#)
- [Evolution of Clean Water Act Section 303\(d\) Listing and TMDL Program Vision](#) – Eric Monschein (EPA HQ) [2012]
- [Prioritizing Waters in Florida](#) – Julie Espy & Greg DeAngelo (FL) [2014]
- [Factors to Consider for Priority Setting](#)
- [Tools to Aid Prioritization](#)
- [Maryland Chesapeake and Coastal Bays Trust Fund: SFY12 Priority Areas \(MD\)](#)
- [Concepts in Water Quality Trend Analysis \(VA\)](#)
- [Gantt Chart on How Different Milestones for All Goals Fit Together, from 2012 to 2022](#)
- [Conceptual Approach for a State TMDL Vision Strategy \(KS\)](#)

- [Sample State Perspective Timeline of 303\(d\) Listing and TMDL Program Drivers, Activities, Strategy, and Measures \(KS\)](#)

Monitoring and Assessment

- Monitoring: General
 - [Leveraging Low-Cost Remote Environmental Monitors to Measure Stream Health in the Arid Southwest](#) – Jason Elliott (AZ) [2025]
 - [Monitoring Stream Connectivity with Trail Cameras](#) – Mary Becker (CT) [2025]
 - [Water Quality Monitoring](#) – Sarah Lehmann (EPA HQ) [2018]
 - [Elements of a State Water Monitoring and Assessment Program](#) – Susan Holdsworth (EPA HQ) [2015]
 - [Waterbody Monitoring with Machine Learning Modeling](#) – Britta Bierwagen (EPA HQ) [2024]
 - [Lessons and Approaches from Regional Monitoring Network Sites](#) – Britta Bierwagen (EPA HQ) [2024]
 - [State-Scale Probability Surveys: An Overview](#) – Garrett Stillings (EPA HQ) [2022]
 - [USEPA/OW Survey Design Tool](#)
 - [USEPA/NARS Population Estimate Shiny Tool](#)
 - [Integration of NY's Monitoring Program into NY's Vision Approach](#) – Ken Kosinski (NY) [2016]
 - [Registration Responses Regarding Monitoring](#) – Adam Schempp (ELI) [2016]
 - [Information about National Aquatic Resource Surveys and State Scale Statistical Surveys](#) [2013]
 - [Virginia's Freshwater Probabilistic Monitoring Program \(VA\)](#)
 - [Fact Sheet on CWA Section 106 Monitoring Initiative](#)
- Participatory Science
 - [Participatory Science and Managing for External Data](#) – Adam Griggs (EPA HQ) [2024]
 - [Alabama Water Watch](#) – Jennifer Haslbauer (AL) [2024]
 - [Volunteer Water Monitoring Program](#) – Waverly Reibel (MN) [2024]
 - [Volunteer Water Monitoring Program Website](#)
 - [Volunteer Water Monitoring Online Training](#)
 - [Volunteer Water Monitoring Reflections Annual Yearbook 2023](#)
 - [The Value of Citizen Volunteer Data](#) – James Beckley (VA) [2019]
 - [Colorado River Watch - Citizen Science Data Used in Decision Making](#) – Holly Brown (CO) [2019]
 - [The Water Data Collaborative: Empowering Community Water Science](#) – Adam Griggs (River Network) [2019]
 - [BloomWatch! Monitoring Cyanobacteria Blooms with a Smartphone](#) – Jasper Hobbs (NEIWPCC) [2019]
 - [How Arizona Uses External Data](#) – Jason Jones (AZ) [2022]
 - [Arizona Water Watch Volunteer Data Process](#) – Meghan Smart (AZ) [2022]
 - [Arizona Water Watch](#)
 - [Toolbox of Arizona Water Watch Survey123 Coding for All Program Apps](#)

- [Citizen Science and Technology: There's an App For That, and That...and That Too!](#) – Rik Gay (AZ) [2019]
- [Citizen Science and Technology: There's an App for That!](#) – Jade Dickens (AZ) [2018]
- [Arizona Water Watch: Citizen Science Water Quality Program](#) – Jade Dickens (AZ) [2018]
- [The Role of Citizen Science in Nutrient TMDL Development for Sanibel Slough](#) – Ansel Bubel (FL) [2018]
- [Utah Water Watch](#) – Carl Adams (UT) [2018]
- [LaRosa Partnership Program](#) – Sean Regalado (VT) [2018]
- R
 - [How Arizona Uses R to Automate Assessments and TMDLs](#) – Jason Jones, Mackenzie Moore, Matt Robinson & Zac White (AZ) [2025]
 - [R Script for Uploading NC Assessments to ATTAINS](#) – Bongghi Hong (NC) [2023]
 - [Utah DWQ's irTools R package: An Automated Approach to State-Wide Water Quality Assessment](#) [2019]
 - [Arizona's Assessment: Leveraging R for an End-to-End Solution](#) – Mackenzie Moore (AZ) [2023]
 - [Processing Benthic Macroinvertebrate Data in R](#) – Emma Jones (VA) [2019]
 - [Automated Assessment: Managing Large Data Sets with R](#) – Jack Pflaumer (NJ) [2018]
- Assessment Unit Segmentation Practices
 - [Redefining Segmentation](#) – Lesley Merrick (OR) [2021]
 - [AU Re-segmentation in Utah](#) – Elise Hinman (UT) [2021]
 - [West Virginia's Redesign of their Assessment Units](#) – Chris Daugherty (WV) [2021]
- Stressor Identification
 - [Kentucky's Casual Analysis for Assessing Waters with Narrative Criteria: A More Informed and Reproducible Approach](#) – Katie McKone and Nick Reif (KY) [2024]
 - [Maryland Biological Stressor Identification Process](#) – Becky Monahan and Bel Martinez da Matta (MD) [2024]
 - [Biological Assessment Methodology for Non-Tidal Wadeable Streams](#)
 - [Maryland Biological Stressor Identification Process \(2014\)](#)
 - [Maryland Biological Stressor Identification Process \(2009\)](#)
 - [MD's Biological Stressor Identification \(BSID\) Analysis](#) – Jeff White (MD) [2018]
 - [MDEQ Stressor Identification Program](#) [2019]
 - [Stressor Identification for Impaired Streams in Mississippi](#) [2019]
 - [Stressor ID: An Illustration](#) [2019]
 - [Rapid Causal Assessment](#) – Sue Norton (EPA HQ) [2018]
 - [Identifying Stressors to Aquatic Biota](#) – Sean Regalado (VT) [2018]
- Assessment: General
 - [Introduction to Assessment](#) – Jill Fullagar (EPA R10), Selena Medrano (EPA R6) & Emily Cira (EPA HQ) [2025]
 - [Assembling and Evaluating All Readily Available Data and Information - What's Expected](#) – Emily Cira (EPA HQ) [2025]
 - [Colorado's Data Call Website](#)
 - [Colorado's Section 303\(d\) Listing Methodology - 2026 Listing Cycle](#) (Existing and Readily Available Data Section on pages 14 and 15)
 - [Maryland's Webpage for Data Solicitation](#)

- [The Chesapeake Monitoring Cooperative's Webpage](#)
- [Maryland's Municipal Separate Storm Sewer System \(MS4\) Biological Monitoring Guidance](#)
- [New Mexico's Comprehensive Assessment and Listing Methodology \(2023\)](#) (see Appendix A for "Data Quality Levels" and a description of how the evaluations for determining data quality will be documented by the QAO in a data quality determination letter)
- [New Mexico's Data Submittal Website with Templates](#)
- [New Jersey's Water Quality Assessment Website](#) (information on specific providers of water quality monitoring results are available via the "2022 IR" link, through the "General Information" tab, and under the "Data Sources" header)
- [2016 New Jersey Integrated Water Quality Assessment Methods](#) (includes the state's description of "all existing and readily available data" for assessment use)
- [E. coli Assessment: When Streams Go Dry or Other Bad Things Happen](#) – Molly Rippke (MI) [2025]
- [Sample Comparability Following Severe Drought](#) - Mindy Neil (WV) [2025]
- [The Basics of Assessment: Considerations for Analyzing Data such as Quality Assurance, Finding Readily Available Data to Supplement Analysis, and Comparing Data against Criteria](#) – Laura Shumway (EPA HQ), Selena Medrano (EPA R6) [2022]
 - [All of the Modules and Exercises](#)
- [Data Assessment for CWA 303\(d\) Listing in South Carolina](#) – Wade Cantrell (SC) [2016]
- [Status of 2010 and 2012 Integrated Reports - Attribute Data](#)
- [Status of 2010 and 2012 Integrated Reports - GIS](#)
- Assessment Methods for Aquatic Life Use Impairment
 - [Aquatic Life Use in Ohio: Ohio's Tiered Biological Criteria](#) – Sarah Becker (OH) [2020]
 - [Handout: Ohio EPA Aquatic Life Use–Biological Criteria](#)
 - [The Biological Condition Gradient \(BCG\)](#) – Susan Jackson (EPA HQ) [2020]
 - [BCG Handout 1: Biological and Other Ecological Attributes Used to Characterize the BCG](#)
 - [BCG Handout 2: Coral Reef Benthic BCG Model–Draft](#)
 - [BCG Handout 3: What Constitutes the Final BCG Model?](#)
 - [Large River Semi-wadeable Multimetric Index \(SWMMI\)](#) – Dustin Shull (PA) [2020]
 - [Environmental DNA: Method Development and Applications in Region 3](#) – Amy Bergdale (EPA R3) [2020]
 - [Indiana's Water Quality Assessment Methodology to Determine Aquatic Life Use Support & Indiana's TMDL Program Priority Framework](#) – Marylou Renshaw (IN) [2018]

TMDL Process

- Development
 - [TMDL Academy \(Foundations Training Excerpt\): A Load Duration Curve Analysis Explanation and Exercise](#) – Selena Medrano (EPA R6), Rosaura Conde (EPA HQ), Andy Somor (Cadmus) [2025]
 - [Exercise 5.1 Instructions](#)
 - [Exercise 5.1](#)

- [TMDL Academy \(Foundations Training Excerpt\): EPA Collaboration and Public Participation in Preparing a TMDL](#) – Rebecca Veiga Nascimento, EPA R10 & Rosaura Conde, EPA HQ [2025]
- [Incorporation of Hydrologic Uncertainty and Extremes in NM TMDLs](#) – Heidi Henderson (NM) [2025]
- [Stream Suspended Sediment and Phosphorus Response to Wildfire in a Montana Watershed, and Implications for TMDL Development](#) – Michael Suplee & Troy Clift, (MT) & Greg Clark (USGS) [2025]
- [Public Engagement in TMDL Development: Watershed Advisory Groups](#) – Thea Wickersham (ID) [2025]
- [Building Capacity and Efficiency Through Shared Experience](#) – Kevin Kirsch (WI) [2025]
- [Washington State's TMDL Template](#) – Ben Rau (WA) [2024]
- [TMDL Prioritization, Public Process, and Streamlining](#) – Erin Rasnake (FL) [2017]
- [TMDL Calculators Facilitate Allocation](#) – Wade Cantrell (SC) [2017]
- [Arizona's Use of R for TMDL Automation](#) – Mikayla Baker (AZ) [2023]
- Reasonable Assurance
 - [Reasonable Assurance – Achieving Water Quality Standards through TMDLs](#) – Menchu Martinez (EPA HQ) [2011]
 - [“Reasonably Sure” that Good Things Will Happen: Ohio’s Olentangy TMDL](#) – Trinka Mount (OH) [2011]
 - [Olentangy River Watershed TMDL Report](#)
 - [Demonstrating Reasonable Assurance in Idaho TMDLs: Fact, Fiction & Warm Fuzzies](#) – Marti Bridges (ID) [2011]
 - [Relevant texts in statute, regulations, and guidance pertinent to reasonable assurance](#) [2011]
 - [Lake Champlain Phosphorus TMDL Disapproval Decision](#) [2011]
 - [Conservation Law Foundation vs. Environmental Protection Agency, Lake Champlain Complaint](#) [2008]
 - [Friends of Pinto Creek v. US EPA](#) [2007]
- [Connecticut’s Methodology for Impervious Cover TMDLs](#) – Chris Bellucci (CT) [2008]
- [West Virginia’s Watershed Approach](#) – James Summers (WV) [2008]
- [Elements of an Effective State TMDL Program: Overcoming Internal Obstacles](#) – Heidi Henderson (NM) [2008]
- [Balancing State Resources for TMDL Development: Pace, Rigor & Expectations](#) – Tom Stiles (KS) [2008]
- [Building the Capacity of State TMDL Programs on Hawaiian Time](#) – David Penn (HI) [2008]
- Implementation
 - [Montana TMDL Stream Summaries](#) – Christina Staten (MT) [2025]
 - [TMDL Engagement with Internal and External Partners](#) – Emily Ayers & Clay Mansfield (AZ) [2025]
 - [Implementation Plan Progress Reports](#) – Ashley Wendt (VA) [2025]
 - [Developing TMDLs in Ways that Lead to More Seamless Collaboration and Implementation](#) – Kevin Kirsch (WI) [2024]
 - [Finding the Path Forward to TMDL Implementation](#) – Heather Husband (ND) [2021]

- [Implementable TMDLs: An Exercise in What Makes a TMDL Useful to Its Users](#) – Dylan Laird (EPA HQ) [2020]
- [Implementable TMDLs](#) – Kristy Fortman (MT) [2020]
- [Fact Sheet: Implementing Total Maximum Daily Loads -- Understanding and Fostering Successful Results](#) [2012]
- [Fact Sheet: Analysis of TMDL Implementation Rates in EPA Region 5](#) [2012]
- [Tricks of the Trade: Processes to Ensure NPS TMDLs are Implemented Among State Programs – The Southwestern Perspective](#) – Jason Sutter (AZ) [2009]
- [Implementing Kansas NPS TMDLs: Tricks of the Trade](#) – Tom Stiles (KS) [2009]
- [Processes to Ensure NPS TMDLs are Implemented: State-Federal Relationship – Texas Perspective](#) – Aaron Wendt (TX) [2009]
- [Implementing NPS TMDLs: Iowa's New Strategy for Success](#) – Allen Bonini (IA) [2009]
- [TMDLs, Implementation, and Gatorade®: The Benefits of Knowing Your Customer](#) – Dean Maraldo (EPA R5) [2009]
- [WI's NPS Regulatory Authority & TMDLs](#) – Corinne Billings (WI) [2009]
- [It Takes More than a Good TMDL to Get to TMDL Implementation](#) – Helen Bresler (WA) [2009]
- [NPS Regulation in California: Looking for the "Third Wave"](#) – Sam Ziegler (EPA R9) [2009]
- [TMDL NPS Implementation in Maryland](#) – Jim George (MD) [2009]
- [Regulating \(or not\) NPS in North Carolina](#) – Kathy Stecker (NC) [2009]
- [TMDL Implementation in Oregon: Leveraging Resources to Meet Enforceable Requirements](#) – Michael J. Wolf (OR) [2009]
- [Evolution of Using TMDLs to Address NPS/Ag Impaired Waters in California](#) – Ken Harris (CA) [2008]
- Evaluating Effectiveness
 - [Tracking TMDL Implementation in Texas](#) – Nicole Hall (TX) [2025]
 - [Implementation Plan Progress Reports](#) – Ashley Wendt (VA) [2025]
 - [Montana's TMDL Implementation Evaluation Process](#) – Kyle Milke (MT) [2025]
 - [TMDL Tracking – Watcha Been Up to, and How's the Water?](#) – Pat Oldenburg (WI) [2025]
 - [Evaluating the Water Quality Effects of TMDL Implementation](#) – Adam Schempp (ELI) [2022]
 - [Performance Monitoring for TMDLs and Alternatives in Indiana](#) – Angie Brown (IN) [2022]
 - [Ecology's Effectiveness Monitoring Program](#) – Scott Collyard (WA), Ben Rau (WA) [2022]
 - [Nonpoint Source Monitoring Objectives and Basic Designs](#) – Cyd Curtis (EPA HQ), Paul Thomas (EPA R5) [2022]
 - [Monitoring TMDL Effectiveness](#) – Robert Voss (MS) [2023]
 - [Evaluating TMDL Effectiveness](#) – Brian Barnes (NE) [2023]
 - [Tracking Restoration Progress in Maryland](#) – Sophia Grossweiler (MA) [2023]
 - [Using Limiting Factors to Overcome the Problem of Long Time Horizons in Evaluation](#) – Jared Hardner (Hardner & Gullison Associates) [2020]
 - [Measuring Incremental Improvements in Water Quality Based on Statewide Statistical Surveys](#)
 - [Assessment Goal – Effectiveness Monitoring](#) – Rosaura Conde (EPA HQ) [2016]

- [Using Probabilistic Monitoring to Assess the Effectiveness of Stream Management Efforts](#) – Larry Willis (VA) [2016]
- [Innovations in Tracking from Region 5](#) – Jeff Risberg (MN), Dean Maraldo (EPA R5) [2008]
- [TMDL Results Analysis at EPA: Fixing the Blind Spots](#) – Doug Norton (EPA HQ) [2008]
- Amendments
 - [Advance Restoration Plans](#) – Chris Hunter (EPA HQ) [2025]
 - [Alternative Restoration Plan for Suffolk County Nitrogen Impaired Waters](#) – Michele Golden (NY) [2025]
 - [Hammer Creek ARP First Triennial Report](#) – Mike Morris (PA) [2025]
 - [Hammer Creek Headwaters Alternate Restoration Plan](#)
 - [Hammer Creek Advance Restoration Plan First Triennial Progress Report](#)
 - [Making Changes to an Approved TMDL](#) – Chris Hunter (EPA HQ) [2025]
 - [Regional Perspective](#) – Selena Medrano (EPA R6) [2025]
 - [TMDL Revisions](#) – Andrea Plevan (MN) [2025]
 - [Making Changes to an Approved TMDL](#) – Chris Hunter (EPA HQ) [2022]
 - [An Overview of TMDL Revisions](#) – Ansel Bubel (FL) [2022]
 - [Low Dissolved Oxygen TMDL Revisions](#) – Mike Kruse (MO) [2022]
 - [State of Oregon Experience](#) – James Bloom (OR) [2022]
 - [Updating TMDLs in Texas Through the WQMP Process](#) – Kerry Niemann (TX) [2021]

Advance Restoration Plans

- [Understanding the Different Types of Plans Available for the CWA 303\(d\) Program: What Are My Options?](#) – Amy Feingold (EPA R4), Chris Hunter (EPA HQ) [2021]
 - [Handout: References for Understanding the Different Types of Plans Available for the CWA 303\(d\) Program](#)
- [Alternative Restoration Plans](#) – Amy Feingold (EPA R4), Chris Hunter (EPA HQ) [2021]
- [Alternative Restoration Approaches](#) – Amy Feingold (EPA R4), Chris Hunter (EPA HQ) [2020]
- [An Update and Overview of Advance Restoration Plans \(ARPs\)](#) – Chris Hunter (EPA HQ) [2023]
- [Alternatives under the 303\(d\) Vision](#) – Chris Hunter (EPA HQ) [2018]
- [Mystic River Alternative TMDL](#) – Matthew Reardon (MA) [2023]
- [The Mystic River Watershed Alternative TMDL](#) – Patrick Herron (Mystic River Watershed Association), Ivy Mlsna (Region 1), Laura Schiffman (MA) [2021]
- [Great Pond Advance Restoration Plan \(ARP\)](#) – Tracy Krueger (ME) [2023]
- [Notes on Tennessee's 5-alt Approach](#) – David Duhl (TN) [2018]
- [Kishacoquillas Creek Alternative Restoration Plan One-Pager](#) – Scott Heidel (PA) [2018]
- [North Dakota's Alternative Plans](#) – Heather Husband (ND) [2018]
- [TMDL Alternatives](#) – Chris Loft (TX) [2018]
- [The Bad Axe Creek TMDL/WMP Hybrid](#) – Molly Rippke (MI) [2017]
- [Update: Nebraska's 5-Alt](#) – Laura Johnson (NE) [2017]
- [Prairie Dog Creek Watershed Plan to TMDL](#) – Sol Brich (WY) [2017]
- [Joint Principles of NPS and 303\(d\) Program Coordination on Watershed Based Plans as Alternatives under 303\(d\) Program](#) – Lynda Hall (EPA HQ) and Jim Havard (EPA HQ) [2016]
 - [2016 Integrated Report Memorandum](#)

- [Template for Submitting an Example for the Compendium of Water Quality Restoration Approaches](#)
- [Region 6 Coordination on Reviewing NPS-only Watershed Plans as Category 5-Alternatives](#) – Richard Wooster (EPA R6) [2016]
- [Nebraska's Approach to Alternatives](#) – Laura Johnson (NE), Tabatha Adkins (EPA R7) [2016]
- [Examples of Emerging or Potential Opportunities to Incorporate Alternatives into the CWA 303\(d\) Program](#)
- [Minnesota Agricultural Water Quality Certification Program \(MN\)](#)
- [Agriculture Water Quality Certification Program Frequently Asked Questions \(MN\)](#)
- [Colorado Measurable Results Program \(CO\)](#)
- [To 4B or Not to 4B: The Florida Experience](#) – Eric Livingston (FL) [2008]
- [Environmental Accountability Projects: Alternatives to Address Impaired Waters in Wisconsin and Other Region 5 States](#) – Nicole Richmond (WI) [2008]
- [Nonpoint Source-Only TMDLs: Using the Right Tool to Get to Clean Water](#) – Helen Bresler (WA) [2008]
- ["Straight to Implementation" – A TMDL Alternative](#) – Helen Bresler (WA) [2008]

Protection

- [Protection 101: Advancing Watershed Protection in the CWA 303\(d\) & 319 Programs](#) – Miranda Chien-Hale & Steve Epting (EPA HQ), Justin Wiese (EPA R8) [2025]
- [California: Healthy Watersheds + High Quality Waters Project](#) – Ali Dunn (CA) [2025]
- [Wonderful Waters of Wisconsin: Healthy Watersheds, High-Quality Waters](#) – Lauren Haydon & Pamela Toshner (WI) [2025]
 - [Wisconsin's Healthy Watersheds, High-Quality Waters Webpage](#)
 - [Wisconsin's Watershed Restoration and Protection Viewer](#)
 - [The Wonderful Waters of Wisconsin: An Action Plan to Protect Wisconsin's Healthy Watersheds & High-Quality Waters](#)
- ["An Ounce of Protection is Worth a Pound of Cure": Advancing Watershed Protection in the CWA 303\(d\) and 319 Programs](#) – Miranda Chien-Hale and Elise Turrietta (EPA HQ), Kati Carberry (EPA R10) [2024]
- [A Dollar? Acre? Pound? of Protection a Day, Keeps the 303\(d\) List Away: Evaluating Progress Towards Protecting Waters](#) – Steve Epting (EPA HQ) [2020]
- [Protection Planning in 303\(d\) Program: Examples from Connecticut](#) – Traci Iott (CT) [2024]
- [Protection Plans in Texas](#) – Nicole Hall (TX) [2024]
- [Protection TMDLs in Kansas](#) – Dane Boring (KS) [2023]
- [Integrated Protection Within Watershed-Based Planning](#) – Steve Epting (EPA HQ) [2023]
- [Advancing Water Quality Through Land Protection: Lessons from the Delaware River Watershed Initiative](#) – Abigail Weinberg (Open Space Institute) [2023]
 - [Delaware Initiative Website](#)
 - [Summary on OSI watershed protection programs and forest cover thresholds for clean water](#)
 - [OSI's approach to selecting watersheds for protection](#)
- [Protection of Downstream Water Quality Standards in Washington](#) – Jeremy Reiman (WA) [2023]
- [Lake Talquin TMDL: Protecting Downstream Designated Uses](#) – Elizabeth A. Booth (GA) [2023]

- [Protection of Downstream Water Quality Standards Through TMDLs: Wisconsin River TMDL Example](#) – Kevin Kirsch (WI) [2023]
- [New York's TMDL Strategies to Protect Downstream Waters](#) – Andrea Conine and Cassandra Davis (NY) [2023]
- [Protection Updates](#) – Miranda Chien-Hale (EPA HQ), Steve Epting (EPA HQ), Sequoya Bua-lam (ORISE Fellow at EPA HQ), Ashley Beranek (WI) [2021]
- [Kansas Protection TMDLs](#) – Tom Stiles and Trevor Flynn (KS) [2018]
- [Lake Protection and Prioritization](#) – Scott MacLean (MN) [2018]
- [Working Draft of Protection FAQs](#) [2018]
- [The Compendium of State Approaches to Protection](#)
- [Examples of New and/or Emerging Opportunities to Incorporate Protection into the CWA Section 303\(d\) Program](#) [2013]
- [Draft Downstream Considerations for TMDLs & Cross-Program Principles](#) [2012]
- [Downstream Water Quality Protection: Draft Principles – Overview](#) [2011]
- [Addressing Antidegradation in the CWA 303\(d\) Listing Context](#) – Rosaura Vega and John Goodin (EPA HQ) [2011]
 - [Antidegradation Basics for TMDL Coordinators' Meeting](#)
 - [Using Tier I Antidegradation Policy Requirements to Address Gaps in Water Quality Protection for Oregon's Waters](#)

Collaboration and Integration

- Across Multiple Programs/Agencies
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