

Evaluation and Recommendations

NPDES Permitting Program Review

September 2016

Prepared for

Oregon Department
of Environment Quality

Prepared by

MWH Americas [now a part of Stantec]

in collaboration with

Larry Walker Associates



I. Table of Contents

1.	Purpose.....	1
2.	Background.....	1
3.	NPDES Basics	2
4.	Approach.....	6
5.	Success Criteria.....	6
6.	Limitations	8
7.	Key Findings.....	9
8.	Findings and Recommendations	10
	Finding.1. Inadequate resources are devoted to wastewater NPDES permit renewals.....	10
	Finding.2. The Process for Wastewater NPDES Permit Renewal is Inefficient.....	13
	Finding.3. DEQ Lacks Full Commitment to Timely Renewal of Wastewater NPDES Permits	17
	Finding.4. Permit Guidance and Development is Not Consistently Aligned with Clean Water Act and DEQ Legal Requirements	20
	Finding.5. Systemic Issues Outside of DEQ Control Contribute to the NPDES Backlog	24
	Finding.6. A History of Failed Change Efforts Creates Increased Risks for Future Efforts.	28
9.	Consequences of No Action.....	29
10.	Next Steps	30
	Appendix A. Partial List of Reports, Investigations, and Other Relevant Documents Considered by Consultant Team.....	31
	Appendix B. Internal and External Stakeholders and Points of Contact	33

II. List of Acronyms and Terms

ACRONYM	TERM
BRC	Blue Ribbon Committee
Consultant	MWH (<i>now a part of Stantec</i>) and Sub consultant Larry Walker Associates
CWA	United States Clean Water Act
DEQ	Oregon Department of Environmental Quality
DMR	Discharge Monitoring Report
EDMS	Electronic Data Management System
EPA	United States Environmental Protection Agency
FTEs	Full time equivalent employees
KPM	Key Performance Measure
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OAWU	Oregon Association of Water Utilities
RACI Chart	Responsible, Accountable, Consulted, Informed Chart
RPA	Reasonable Potential Analysis
SRF	State Revolving Fund
TMDL	Total Maximum Daily Load
TBEL(s)	Technology-Based Effluent Limits
WQS	Water Quality Standard
WQBEL(s)	Water Quality Based Effluent Limits
MOA	Memorandum of Agreement
PWM	Permit Writers' Manual

III. List of Figures and Tables

Figure 1. The NPDES program is one part of an integrated process that includes Water Quality Standards and TMDLs.....	3
Figure 2. EPA Outline of the Water Quality System.....	7
Table 1. Significant Water Quality Program Events	21

IV. Summary List of Findings and Recommendations

Multiple, interconnected problem areas drive the individual wastewater NPDES permitting backlog. While some short term efforts may lead to more immediate improvements, systemic change will be required to achieve sustainable, long-term backlog reduction goals. The following findings and recommendations focus on the key issue areas contributing to the NPDES permit backlog:

Finding.1. Inadequate resources are devoted to wastewater NPDES permit renewals

Bifurcated Duties - By design, NPDES permit writers at DEQ perform a wide range of duties in addition to those specifically required for preparation of NPDES permit renewals. Less than 6 full time equivalents (FTEs) are devoted specifically to wastewater NPDES permit renewals.

Understaffed for Predicted Workload - On average, 72 NPDES permits must be renewed every year to avoid accumulation in backlog. A January 2016 Survey of State NPDES Programs¹ shows that this level of resource commitment would either not be adequate (California, Colorado, Virginia) and would barely be adequate in several other states (Washington, Missouri). Thus with barely adequate or inadequate resources to management current year workload, addressing backlog without additional resources is highly problematic.

Availability of Expertise - A variety of factors contribute to uneven skills although a lack of training, experience, consistent supervision and guidance and the lack of more senior mentors were all mentioned. The absence of a chain of command knowledgeable about NPDES requirements also results in a lack of accountability when goals are not met.

Recommendations for Finding 1.

- R1.1.** Reduce tasks assigned to NPDES permit writers to essential functions to permit issuance and permit process related improvements.
- R1.2.** Determine the number of NPDES FTEs needed to eliminate the NPDES permit backlog in Oregon over a 5-year time horizon.
- R1.3.** Assign staff with strong permit writing experience and skills to an NPDES permit writers group.
- R1.4.** Hire/train additional permit writers in accordance with FTE requirements.
- R1.5.** Retain additional expertise work to with the DEQ NPDES permit writers group.
- R1.6.** Provide sufficient training and guidance to ensure proficiency and skills building.
- R1.7.** Provide technical assistance communities, on a needs basis, with external resources.

¹ 2016 Survey of State NPDES Programs, DEQ, Page 12, Figure 8

Finding.2. The Process for Wastewater NPDES Permit Renewal is Inefficient

Data Inadequacy - The preparation of NPDES permit renewals in a timely matter is entirely dependent on the availability of the right data to the permit writer. In order to prepare a renewed NPDES permit on the EPA mandated five-year cycle, essential data are required. These data needs are, in large part, predictable. Interviews with NPDES permitting staff indicate that timely access to the above essential data is a significant problem that hampers the preparation of NPDES permits.

Outdated Data Delivery Systems - DEQ's current delivery systems are outdated. Information from different systems, which should be integrated, is not. Permit writers do not have access to critical parts of the systems and must query organizational entities outside of their chain of command to gather the essential permit information described above.

implemented similar water quality related EDMS efforts which have DEQ staff have reviewed.

NPDES Permitting - A series of problems associated with NPDES permitting tools were identified. There is widespread acknowledgement of NPDES permitting process efficiency problems.

Recommendations for Finding 2.

Despite the other major problems that hamper DEQ's ability to renew NPDES's on time, process inefficiencies must also be remedied. Process improvement steps must address serious problems regarding:

- Delivery of essential data to NPDES permit writers
- The need for updated NPDES permitting training tools and guidance manuals
- The process to ensure consistent use, updated, user-friendly training materials and improvements to the permitting process itself

R2.1. Take steps to ensure that essential data is available to NPDES permit writers at the appropriate time.

R2.2. Ensure that data is available for the purposes of transparency and to track outcomes that can be translated into documents used to create public accountability.

R2.3. Improve permit template, permit evaluation report guidance, permit writers guidance documents, permit tools, IMDs.

R2.4. Charge an Expert NPDES Group with improving/optimizing the NPDES permitting process – include updated process maps in Permit Writers guidance compendium.

R2.5. Update the current permit issuance planning process to achieve backlog reduction with interim goals that approach a 10 percent backlog over a 5-year time horizon.

R2.6. Centralize authority for NPDES permit adoption

Finding.3. DEQ Lacks Full Commitment to Timely Renewal of Wastewater NPDES Permits

The DEQ personnel all demonstrate a sincere desire to see the NPDES Permit backlog problem resolved. However, the continuation of the permit backlog over the past 15 to 20 years and the multiple efforts commissioned to address the issue suggests a lack of total commitment by the DEQ and stakeholders to work together to resolve the problem.

While concerned, DEQ Leadership Has Not Given the NPDES Permit Backlog Problem Sufficient Priority to Resolve It - Competing priorities, complex policy and legal issues, resource limitations, and DEQ's culture contribute to the lack of resolution of the backlog problem. Contributing factors included a lack of clear ownership and accountability for improvements.

The Blue Ribbon Committee Requires Reassessment - A Blue Ribbon Committee (BRC) on Wastewater Permitting was convened in December 2002. Given the need for perhaps more than one stakeholder workgroup and the longevity of the Committee, a re-assessment and re-chartering with an updated focus, identified specific tasks, and a process for refreshing its mission and membership is indicated.

Recommendations for Finding 3.

The DEQ water quality program faces many challenges and competing priorities, not the least of which are resource and funding limitations.

- R3.1.** To demonstrate commitment, DEQ must elevate NPDES permit renewal to be a top priority of its Water Quality Program.
- R3.2.** DEQ must establish the leadership structure and management measures to implement the plan.
- R3.3.** DEQ must engage EPA, the regulated community and other knowledgeable stakeholders to implement improvements.
- R3.4.** DEQ should assist in re-chartering one or more BRC (and/or additional stakeholder bodies) with a revitalized purpose that creates a champion for implementation of recommended improvements and ensures transparency and public accountability for changes.

Finding.4. Permit Guidance and Development is Not Consistently Aligned with Clean Water Act and DEQ Legal Requirements

Failure to address such deficiencies affects the NPDES permit renewal backlog, as rework is required to meet legal requirements while an NPDES permit remains incomplete.

No Overarching Strategy or Process Exists to Address Implementation of Existing and Anticipated Future Water Quality Standards and TMDLs in NPDES permits -

A number of the stakeholders interviewed for the Situation Assessment indicated that the adoption of new water quality standards or changes to existing standards as a result of either

litigation or EPA disapprovals has had an ongoing disruptive effect on the renewal of wastewater NPDES permits. This was attributed as an issue in even the earliest BRC reviews.

Recommendations for Finding 4.

Unresolved policy problems related to water quality standards and/or TMDLs have had a significant impact on the NPDES permitting process. Issues related to standards must be resolved to allow NPDES permits to be properly renewed.

- R4.1.** Address the major Oregon Water Quality Standards adopted or modified over the past fifteen years.
- R4.2.** Initiate a coordinated effort with DEQ, EPA and all stakeholders to identify NPDES permitting solutions for problems associated with implementation of existing water quality standards that affect the NPDES permit renewal process.
- R4.3.** Review DEQ's water quality standards development process to identify whether prescribed implementation measures would result in the attainment of proposed standards.
- R4.4.** Utilize a newly chartered BRC or similar stakeholder group to identify anticipated future water quality standards to be adopted in the next 10 years. This group should evaluate compliance issues that may result from projected future water quality standards.

Finding.5. Systemic Issues Outside of DEQ Control Contribute to the NPDES Backlog

DEQ operates as part of a dynamic system of governance that seeks to provide public health and safety, environmental stewardship, economic viability, and enriching experiences (recreation, education, etc.). As such, its roles, responsibilities and contributions are continually balanced with other societal goals and requirements.

F5.1. Uneven Funding Streams for Permit Functions Creates Difficulties in Permit Planning and Results in Increased Future Year Costs and Permit Backlog

Given that NPDES permit renewal workload is fully predictable, (each permitted facility will have a renewal in 5 years) failure to adequately resource it one year will add costs to future years that will exceed the cost and time of completing the renewal in the scheduled year.

F5.2. Anticipated NPDES Permit Requirements Cannot Immediately Be Achieved by Many Members of the Regulated Community

The inability of some permittees to meet anticipated new limitations in NPDES permits as widespread and a future impediment to the renewal of NPDES permits. Numerous respondents reported that DEQ's NPDES permitting staff is reluctant to write permits that will drive major expenditures.

F5.3. Issues Outside of DEQ Control Affect the Ability of DEQ to Fully Manage Water Quality Through the Just the NPDES Process

DEQ's authority and the State of Oregon's effectiveness in controlling all the major activities that impact ambient water quality in Oregon (e.g. agriculture, silviculture) must be recognized and addressed.

Recommendations for Finding 5.

Because these recommendations will require additional resourcing, it is anticipated that a portion of the resources for these efforts will come from the regulated community as it is in their long term interest to develop this information

- R5.1.** Evaluate and make recommendations to the Executive branch and Legislature regarding mechanisms to stabilize and adequately fund the NPDES Permitting Function in recognition of fluctuating access to general funds.
- R5.2.** Develop a statewide inventory of the existing treatment facilities subject to the 360 NPDES permits. In addition to location, the inventory should categorize treatment capabilities and capacity relative to community population.
- R5.3.** Develop a strategic approach and action plan for moving forward with NPDES permitting and addressing anticipated compliance issues.
- R5.4.** Partner with regulated community and other stakeholders to formulate a matrix/data base describing key information pertaining to individual wastewater NPDES-permitted facilities in Oregon
- R5.5.** Partner with regulated community and other stakeholders to evaluate the ability to comply with (a) existing NPDES permit effluent limitations and (b) projected NPDES permit requirements in renewed permits
- R5.6.** Estimate additional resources at local, state or federal level needed to build facilities to achieve compliance with NPDES permit requirements.
- R5.7.** DEQ, the State Legislature and stakeholders should identify and work together to provide the resources needed to fund major capital expenditures to assist the regulated community in achieving CWA requirements
- R5.8.** Utilize available EPA regulatory tools in individual permits or across a class of permittees to provide time for compliance actions (treatment upgrades, site specific standards, use attainability analyses, etc.) to occur.

Finding.6. A History of Failed Change Efforts Creates Increased Risks for Future Efforts.

The frequency and continuous lackluster implementation of DEQ change efforts along with associated disappointing results have created organizational fatigue. This has also inoculated the staff members to resist change.

Recommendations for Finding 6.

R 6.1. Include specific change management techniques in the project implementation report.

1. Purpose

This National Pollutant Discharge Elimination System (NPDES) Permitting Program Review, Evaluation Report (Report) is prepared in fulfillment of Contract DASPS 1589-16, Oregon Department of Environmental Quality (DEQ), Task 3. The purpose of this task is to evaluate and utilize research and stakeholder feedback initiated during Task 1 and continued in Task 3, to review the program and develop improvements specific to 360 individual municipal and industrial NPDES wastewater permits. This includes identifying factors that contribute to:

- o Bottlenecks and roadblocks
- o Permit compliance
- o Permit issuance planning
- o Permit quality assurance
- o Resource and workload allocation
- o Staff skills and training
- o Achievement of metrics and goals for the program

2. Background

DEQ and the Oregon Legislature (Legislature) seek to maintain the chemical, physical, and biological integrity of the State's waters by prohibiting the discharge of any pollutant to its waters except in compliance with the Clean Water Act² (CWA), including section 402 which establishes the NPDES permit program.

In 2015, the Oregon Legislature, concerned about a prolonged backlog in renewing NPDES permits, authorized DEQ to hire an outside, third party to evaluate the Water Quality NPDES permitting program focused on 360 individual municipal and industrial NPDES wastewater permits. DEQ has continuously, for over 15 years, pursued improvements to its NPDES permitting program, from formulating a Blue Ribbon Committee, to internal work teams, to an independent audit and numerous quality improvement efforts. Even with this significant effort, and resulting detailed recommendations, important permitting goals still elude the department.

MWH Americas (now a part of Stantec) and subcontractor Larry Walker Associates (consultants) were retained to conduct this third party program review. In particular, the consultants are focusing on strategies for successful issuance and renewal of the 360 NPDES permits to meet state water quality standards (WQS), achieving reissuance of permits before the existing permits expire, and to reduce the number of administratively extended permits to less than 10 percent. Under the CWA, NPDES permits must be renewed every five years.

The project is divided into 4 tasks. This report, prepared under Task 3, is focused on findings and recommendations for improvement. The final consultant deliverable, Task 4, is a detailed implementation plan that encompasses both short and long-term strategies to support timely and

² The Federal Water Pollution Control Act, amendments of 1972

high quality permit issuance. Started in Spring 2016, the project is slated for completion in late Fall 2016.

3. NPDES Basics

In order to address the permit backlog, it is important to understand the basics of the NPDES program. Issuance of permits is one part of an overall program to achieve Oregon's water quality goals.

As noted earlier, the NPDES program operates under the framework of the CWA which also establishes the basis for WQS (or standards) regulation. The United States Environmental Protection Agency (EPA) is responsible for oversight and enforcement of the CWA and its provisions. It may also delegate some of its responsibilities to the states.

As described in the Federal Register, Vol. 80, No. 162, Friday, August 21, 2015, Water Quality Standards Regulatory Revisions and extensively repeated or paraphrased in part, below, the core components of WQS are designated uses, water quality criteria that support the uses, and antidegradation requirements.

Designated uses establish the environmental objectives for a water body and water quality criteria define the minimum conditions necessary to achieve those environmental objectives. The anti-degradation requirements provide a framework for maintaining and protecting water quality that has already been achieved.

The CWA includes pollutant discharge restrictions for point sources (implemented under NPDES permits) and provides for more stringent requirements as necessary to meet water quality standards, technology-based treatment standards, or schedules of compliance. The CWA also gives states discretion on how to control pollution from nonpoint sources.³ Although the

³ EPA defines the term "nonpoint source" as any source of water pollution that does not meet the legal definition of "point source" in section 502(14) of the Clean Water Act. That definition states: "The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture."

EPA explains, "Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters."

According to EPA, "Nonpoint source pollution can include:

- Excess fertilizers, herbicides and insecticides from agricultural lands and residential areas
- Oil, grease and toxic chemicals from urban runoff and energy production
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks
- Salt from irrigation practices and acid drainage from abandoned mines
- Bacteria and nutrients from livestock, pet wastes and faulty septic systems
- Atmospheric deposition and hydromodification"

CWA includes specific requirements for the control of pollution from certain discharges, WQS apply to the water bodies themselves, regardless of the source(s) of pollution/pollutants.

This is particularly relevant in Oregon, and to this review of the 360 individual municipal and industrial wastewater NPDES permits, as the WQS express the desired condition and level of protection for designated uses in a water body, regardless of whether and how a state chooses to place controls on upstream or downstream nonpoint source activities, in addition to point source activities.⁴

Section 303(d) of the Clean Water Act requires states to identify impaired waters where current pollution control technologies alone cannot meet the water quality standards that are set for that waterbody. States must establish TMDLs to address those pollutants causing the impairment. Impaired waters are prioritized based on the severity of pollution and the designated uses that are impacted.

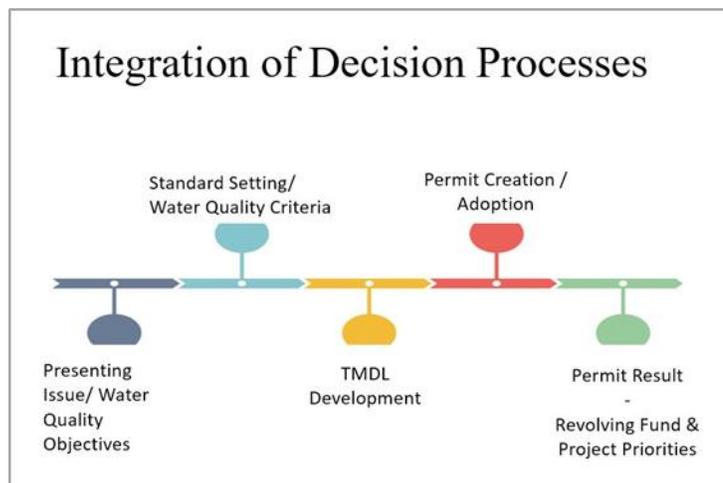


Figure 1. The NPDES program is one part of an integrated process that includes Water Quality Standards and TMDLs.

Regulations governing impaired waters and TMDLs are contained in 40 CFR Part 130.7. These regulations were issued in 1992 and stipulate that states must identify waters that require TMDLs in a 303(d) list produced every two years. The 303(d) list is to include the data and information used and the rationale for the listing decision. TMDLs establish a maximum load to a given waterbody of a given pollutant that results in attainment of either numeric or narrative water quality standards. TMDLs divide the total allowable load into allocations to point sources (wasteload allocations), non-point sources (load allocations), and an allowance for a margin of safety, with consideration for seasonal variations and critical conditions for stream flow, loadings and water quality parameters. TMDLs must be established for all pollutants preventing (or expected to prevent) attainment of water quality standards.

Point source wasteload allocations established in TMDLs are implemented through NPDES permits. Water quality-based effluent limitations contained in NPDES permits must be “consistent with the assumptions and requirements” of wasteload allocations in EPA-approved TMDLs.

⁴ EPA indicates that, “States report that nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed. However, we know that these pollutants have harmful effects on drinking water supplies, recreation, fisheries and wildlife.” [EPA: <https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/what-nonpoint-source>, accessed 9.05.16]

States are not explicitly required to develop TMDL implementation plans under Section 303(d) of the CWA. However, states may include an implementation plan as part of a TMDL which provides more information regarding the contributions from various sources and how loadings from those sources should be controlled. CWA section 301 prohibits the discharge of any pollutant to waters of the United States except in compliance with certain sections of the Act, including CWA section 402, which established the NPDES permit program. The NPDES program is administered by EPA or authorized states, territories or eligible tribes. Thus the NPDES program, as described in the Federal Register / Vol. 81, No. 96 / Wednesday, May 18, 2016 and repeated extensively in part below, is one part of an integrated process that includes WQS and TMDLs. designed to achieve CWA and Oregon's goals.

While this document discusses potential improvements specific to DEQ's administration of 360 individual NPDES municipal and industrial wastewater permits, the NPDES permit program itself provides for two types of permits, individual and general, that may be used to authorize point source discharges of pollutants to surface waters of the United States. Individual permits are issued to a single facility and require submission of a permit application. General permits are developed to cover classes or categories of dischargers under a single permit and require submittal of a Notice of Intent to seek coverage under the permit. Both types of permits are issued for a fixed period of time not to exceed five years.

Under the NPDES regulations, EPA has developed permit application forms for applicants seeking coverage under individual permits. Each individual permit application form corresponds to a different category of dischargers subject to permitting. After receiving an application for an individual permit, the permit writer reviews the application for completeness and accuracy. Once the permit writer determines the application is complete, the permit writer uses the data submitted with the application to develop the draft permit and either a fact sheet or statement of basis that explains the rationale behind the draft permit provisions.

The first major step in the permit development process is deriving technology-based effluent limits (TBELs). The permit writer then determines whether, after application of the TBELs, the discharge will cause, have the reasonable potential to cause, or contribute to an excursion above a narrative or numeric WQS. If the permit writer determines that discharge "will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard," the permit writer derives effluent limitations necessary to meet state WQS (*i.e.*, water quality based effluent limits (WQBELs) for that constituent). The permit writer then includes final effluent limitations (TBELs and WQBELs) that implement all applicable technology and water quality standards in the permit. After developing the effluent limits, the permit writer develops and includes appropriate requirements for monitoring, reporting, and facility-specific special conditions.

The permit writer also includes standard conditions that are required for all NPDES permits. The permit's fact sheet⁵ documents the decision-making process for deriving the permit limits and establishing permit conditions.

In Oregon, after the draft permit is complete, OAR 340-045-0035(5) provides an applicant a 14-day review period prior to public notice/comment. Applicants may request an extension. A public notice then announces the availability of the draft permit and administrative record and gives interested parties an opportunity to submit comments and request a public hearing. After taking into account all significant comments raised during the comment period, the permitting authority develops the final permit with careful attention to documenting the process and decisions for the administrative record. The permitting authority then issues the final permit to the facility.

Under CWA section 402(b), a state may obtain authorization to administer the NPDES permit program. In order to obtain authorization, the state must demonstrate to EPA that it has the authorities and resources necessary to implement the program as outlined in CWA section 402(b) and as specified in an EPA/state memorandum of agreement (MOA). When EPA revises the NPDES regulations, authorized states may need to amend their own regulations and legal authorities to ensure their programs continue to be as stringent as the federal program. To date, 46 states and territories, including Oregon, have obtained authorization to administer the NPDES permit program. If a state or tribe does not have an approved NPDES program, EPA administers the NPDES program.

In general, once a state is authorized to administer the program, EPA no longer conducts these activities. However, the state must provide EPA with an opportunity to review NPDES permits, and EPA may object based on specified criteria. If an agency does not satisfactorily address the points of objection within the applicable timeframe, exclusive authority to issue the permit passes to EPA.

EPA regulations establish permit application requirements and corresponding forms for use by all applicants for EPA-issued permits. Where a state chooses not to use the EPA forms, the state is responsible for developing and using its own forms; however, the state forms must collect all of the data that the EPA regulations require.

EPA has developed several guidance documents to help permitting authorities manage the quality and consistency of NPDES permits. The NPDES Permit Writers' Manual (PWM) provides a comprehensive overview of the framework of the NPDES program and provides basic training on the requirements for the development and issuance of a viable NPDES permit. The NPDES PWM is also a resource for other stakeholders interested in the NPDES permitting process.

For the remainder of this document, the term *NPDES permits* will only refer to the 360 individual municipal and industrial wastewater permits being reviewed.

⁵ Sometimes called a *statement of basis* or a *permit evaluation report*, per OAR 340-045.

4. Approach

Program Review findings and recommendations were developed using information, research and stakeholder feedback obtained during the Task 1 Situation Assessment and supplemental research and investigations conducted by the consultants to identify needed improvements and potential options for improvements. Appendix A lists the primary areas of investigation and Appendix B lists the internal and external points of contacted during the study period.

In preparing the recommendations, the consultants sought to refine the vision for program success, identify options for improvements, make findings and recommendations, and to evaluate the benefits and disadvantages of implementing the recommendations (as compared to no action).

During the Situation Assessment, the consultants confirmed that multiple investigators have, over more than a decade of reviews, offered a plethora of well-considered recommendations. Many of the recommendations appear to have not been implemented and, for those that were, the underlying causes driving backlog remained. Thus, with one exception, improvements only drove marginal results.

The most successful previous effort appeared to involve reassignment of staff to focus on backlog reduction with significant gains made in 2003-2004. While this worked for a time, additional difficulties related to EPA requirements and litigation stalled progress and the focused effort was ultimately not sustainable as competing demands required attention.

For that reason, the recommendations in this report focus on:

- Short term activities to achieve more immediate improvements
- Systemic, priority activities necessary to significantly reduce the number of administratively extended NPDES wastewater permits over the long term

5. Success Criteria

Based on the project charge provided by the State of Oregon, stakeholder interviews, the Situation Assessment results and previous experience with NPDES permitting programs under the Clean Water Act, the consultants sought to construct recommendations that would:

- Ensure individual wastewater permit renewals occur on time
- Aim towards an NPDES permit backlog reduction that results in less than 10 percent of individual wastewater NPDES permits in the State being in backlog in any year.

Permit Quality

Consistent issuance of on time, quality NPDES permits requires a DEQ water quality regulatory program that effectively integrates water quality standards, TMDLs, and NPDES permits. This overall program should help deliver long-term environmental results that are consistent with the goals of the Clean Water Act and help attain Oregon DEQ's Water Quality 2035 Vision and Strategy.

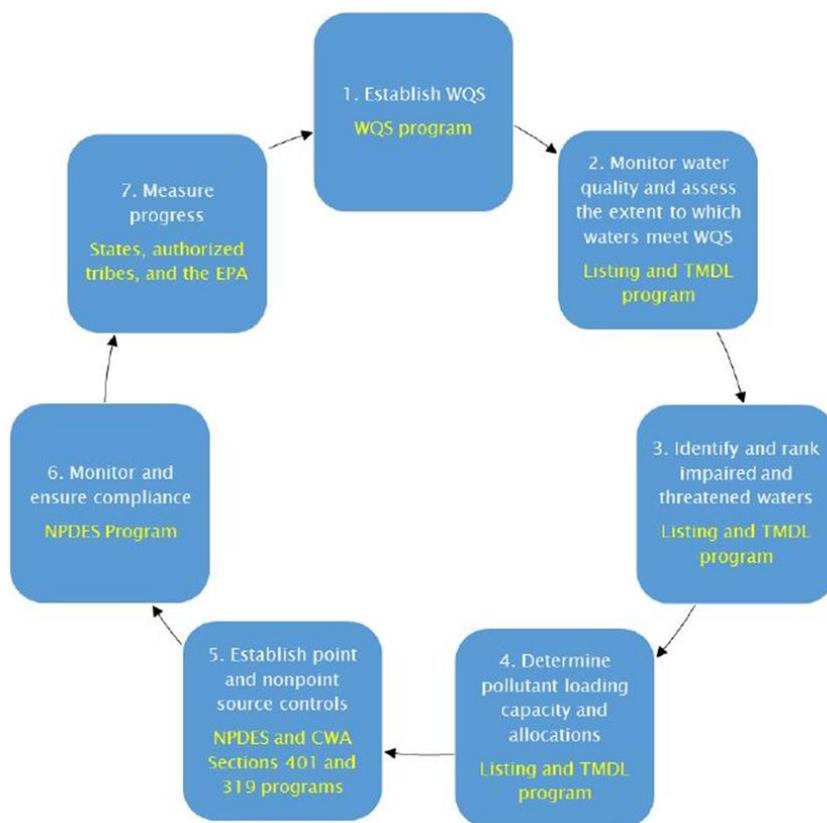
As noted above, and as is illustrated in the idealized situation in Figure 2, under the CWA, an NPDES permit must contain requirements that contribute to the attainment of water quality standards and protect designated beneficial uses. In fulfilling its obligations under its delegation agreement with EPA, DEQ must develop and adopt NPDES permits that meet all applicable federal and State requirements, are timely and technically accurate, clearly written and supported by an adequate administrative record. Permits must also be written to include effluent limitations for those pollutants in the discharge that are deemed to cause or contribute to the violation of WQS. Disapproval of Oregon WQS and TMDLs has, in the past, led to disruption of the State’s NPDES program.

As part of this review it was determined that a subset of the permitting backlog, may be due to a real and perceived inability of permittees to meet water quality-based permits requirements in a practicable way. For the purposes of this requirement, EPA defines “practicable” to mean “technologically possible, able to be put into practice, and economically viable.” The definition embodies a common sense notion of practicability—i.e., an alternative that can actually be implemented under the circumstances. Under the federal antidegradation requirements, before allowing a lowering of water quality that meets or exceeds WQS, states must find, after an analysis of alternatives, that such a

lowering is necessary to accommodate important economic or social development in the area in which the waters are located. That analysis must evaluate a range of non-degrading and less degrading practicable alternatives. When an analysis identifies one or more such practicable alternatives, states may only allow a lowering of water quality consistent with implementation of a practicable alternative. The goal is for states to make informed and reasoned decisions, assuring that degradation only occurs where truly necessary.

EPA also recommends that, when considering alternatives, states also consider cross-media impacts and, where possible, seek alternatives that minimize degradation of water quality and also minimize other environmental impacts.

Figure 2. EPA Outline of the Water Quality System



In 2015 EPA provided updates to the WQS requirements to provide clearer expectations for when an analysis of attainability of designated uses is or is not required to meet the purposes of the CWA. This rule emphasized the concept of maintaining conditions of “highest attainable use” (HAU) while recognizing that some designated uses may not be attainable. The rule discusses utilization of Use Attainability Analysis and “limited” beneficial use designations as a means to address the attainability of uses and associated standards. The rule also addresses WQS variances and permit compliance schedules, which are two CWA tools which can be used where WQS are not being immediately attained. These two tools help states focus on making incremental progress in improving water quality, rather than pursuing a downgrade of the underlying water quality goals through a designated use change, when the current designated use is difficult to attain.

EPA has issued a number of guidance documents that provide guidance on the interpretation and implementation of the WQS regulations and on scientific and technical analyses that are used in making decisions that would impact beneficial use designations and implementation of WQS through TMDLs and NPDES permits.

States are required to review their standards at least once every three years (i.e., triennial review), and EPA may approve or disapprove any new or revised state standards. Furthermore, if EPA disapproves a WQS or makes a determination that a new or revised WQS is necessary, states are given an opportunity to adopt WQS to address the deficiencies. If a state does not do so in a timely manner, EPA must propose and promulgate federal standards.

Adaptive Management

Adaptive management must be an important part of a quality NPDES program. This includes ensuring an up-to-date understanding of receiving water conditions, discharge conditions, maintaining an awareness of best available technology, and a commitment to continuously improving outcomes for the environment and permittees based on evaluation and adjustments to the NPDES permit system and implementation of practicable alternatives.

6. Limitations

Typical program review limitations revolve around three factors: 1) Time, 2) Resources and 3) Scope. The limitations of this program review mirror these same factors.

Time: The program review was timed to coincide with other external events, and most particularly the Legislative Calendar. This restricted the ability of the consultants to easily access some staff and information due to vacation schedules. For example, it was difficult to schedule meetings with the Senior Permit writers group and some information related to information systems was being developed concurrent with this process. As a result, some information was developed later in the review process and merits additional review during implementation planning. This may result in some modifications to recommendations and implementation plans.

Resources: In conducting the study, the consultants reviewed an extensive number of documents and other studies and interviewed approximately 50 knowledgeable, internal and external stakeholders. These interviews yielded consistent and valuable, if anecdotal, information. In some cases, no additional data was available to validate the interview findings. This does not diminish the anecdotal reports; however, additional study may be indicated and findings may be modified if new data does not confirm the anecdotal reports.

The quality or quantity of environmental and effluent data or the method by which the data is stored and reported by DEQ precluded a detailed level of analysis of some factors. In many cases relevant information was available; however, due to its format, it was difficult to easily extract some critical information. For example, in some cases the raw data was available in spreadsheet format; however, it was organized by the fields that were not readily sortable by the topics of interest and the volume of information precluded a manual search.

In other cases, information related to the specific area of interest was not available or captured at sufficient detail for analysis. For example, information regarding the existing treatment facilities for the individual municipal and industrial NPDES permitted entities in Oregon was requested as part of this evaluation. DEQ does not maintain a database of information that would allow a detailed assessment of projected future NPDES permit compliance problems in the State of Oregon. Without such information, it is not possible to fully understand the aggregate impact of NPDES permit requirements on the regulated community or to develop regulatory or funding strategies to address the issue.

In some cases, the data provided didn't entirely address the questions the consultants may have posed. These data limitations will need to be addressed in implementation planning.

Scope: This program review was specifically limited to reduction of backlog related to 360 municipal and industrial NPDES wastewater permits. Significant contributing factors were analyzed to focus on the extent to which those factors directly affected the NPDES permit backlog. Many recommendations address systemic concerns; however, additional analysis may be required to address issues outside of the project scope.

As an example, the current distributed, regional leadership structure was identified as a contributing factor to the backlog and recommendations regarding this are tendered. Multiple, triangulated, anecdotal reports indicated that the structure as currently implemented reduced accountability for the backlog and made decision making on problematic permit issues difficult. Therefore, the findings and recommendations are offered and appropriate even though a detailed analysis of the benefits of centralized versus decentralized leadership models was not performed. Such an analysis may be beneficial to refine implementation actions suggested in this effort.

7. Key Findings

Multiple, interconnected problem areas drive the individual wastewater NPDES permitting backlog. While some short term efforts may lead to more immediate improvements, systemic change will be required to achieve sustainable, long-term backlog reduction goals.

The marginal gains or outright failure of the multiple previous investigations and improvement efforts is particularly instructive. In most cases, these efforts utilized best practices and would be predicted to be effective, yet they withered.

The systemic nature of the problems can be derived from the array of definitions for success offered by stakeholders during the situation assessment. When asked to define a successful backlog reduction program or just define success for the program review process (conducted by the consultants and the subject of this Draft Evaluation report), 39 people offered 31 different definitions. Stunningly, very few of those definitions actually included mention of reducing the backlog.

When asked to suggest the likelihood of success for the current review process, answers ranged from 0-80% chance of success, with the average response being less than 50%. Most of the respondents kindly indicated that their responses had nothing to do with the skill of the consultants; instead, it was difficult to imagine anything working in what they viewed as a dysfunctional system.

Thus, and as noted in Section 4. Approach, the recommendations in this report focus on:

- Short term activities designed to achieve more immediate improvements
- Systemic, high priority actions necessary to significantly reduce the number of administratively extended NPDES wastewater permits over the long term

The following findings focus on the key systemic issue areas contributing to the NPDES permit backlog:

- Inadequate Resources Are Devoted to Wastewater NPDES Permit Renewals
- The Process for Wastewater NPDES Permit Renewal is Inefficient
- Full DEQ Commitment to On Time Renewal of Wastewater NPDES Permits is Lacking
- Permit Guidance and Development is Not Consistently Aligned with Clean Water Act and DEQ Legal Requirements
- Anticipated NPDES Permit Requirements Cannot Immediately Be Achieved by Many Members of the Regulated Community
- Issues Outside of DEQ Control Affect the Ability of DEQ to Successfully Issue Quality NPDES Permits
- Poorly Managed Change Efforts Create Increased Risks for Future Efforts

The follow provides information about each of these findings.

8. Findings and Recommendations

Finding.1. Inadequate resources are devoted to wastewater NPDES permit renewals

Bifurcated Duties

By design, NPDES permit writers at DEQ perform a wide range of duties in addition to those specifically required for preparation of NPDES permit renewals. These additional duties include preparation of NPDES permits for new discharges, preparation of state permits for land discharges, performance of inspections, preparation of inspection reports, technical assistance to permittees, plan review, complaint response, enforcement actions and review of monthly Discharge Monitoring Reports (DMRs), and support to other DEQ staff in the development of policies, water quality standards, and TMDLs. DEQ and EPA have estimated that for the current list of 22 NPDES permit writers at DEQ, less than 6 full time equivalents (FTEs) are devoted specifically to wastewater NPDES permit renewals. In other words, available permit staff collectively spend less than 30 percent of their time writing individual wastewater NPDES permits. (EPA, Final Permit Quality Review for Oregon, March 2016).

A related issue is the ability of some applicants to complete the permit application process. DEQ has attempted to provide technical assistance to these communities with varying success. The diversion from other permit writing duties to provide technical assistance also contributes to the NPDES permit backlog.

Predicted Workload

There are 360 major and minor municipal and industrial wastewater NPDES permits in Oregon. NPDES permits must be renewed every five years in accordance with EPA regulations. Therefore, *on average*, 72 NPDES permits must be renewed every year to avoid accumulation in backlog. Actual numbers that need to be renewed in a given year will vary depending on the year that existing NPDES permits were adopted. With the current resources of approximately 6 FTEs for NPDES permit renewals, this would require 12 renewals per year per FTE. A January 2016 Survey of State NPDES Programs⁶ shows that this level of resource commitment would either not be adequate (California, Colorado, Virginia) and would barely be adequate in several other states (Washington, Missouri).

In addition to predicted annual workload and the extreme permit backlog will need to be reduced. Backlogged permit renewals are expected to be more time consuming and complex.⁷ Thus with barely adequate or inadequate resources to management current year workload, addressing backlog without additional resources is highly problematic.

To properly assign resources to the NPDES permit renewal effort, it is clear from our program review that DEQ needs to better quantify the amount of staff time that needs to be devoted solely to NPDES permit renewals. During this review, requests for better-defined information focused on staff tasks and workload could not be fulfilled because existing DEQ systems and data do not provide the necessary information, although efforts are underway, through workload audits and process mapping, to better quantify this. Recent changes to create a focused permit writing

⁶ 2016 Survey of State NPDES Programs, DEQ, Page 12, Figure 8

⁷ Backlogged permit renewals are expected to be more time consuming because of aging or incomplete information, and/or the original issue that caused the permit to become backlogged.

function at DEQ headquarters may allow for a better assessment of the time needed to produce permits. This information will be essential to more accurate and appropriate allocation of resources and management of the NPDES program.

Availability of Expertise

Preparation of NPDES permits also requires training and skills. Permit writers and stakeholders have identified a wide variation in the skill sets of permit writers and the lack of accompanying timeliness and quality of permits associated with fewer skills.

A variety of factors contribute to uneven skills although a lack of training, experience, consistent supervision and guidance and the lack of more senior mentors were all mentioned. This problem was compounded by the decentralized structure of DEQ and the distribution of water quality personal across several organizational entities. The absence of a chain of command knowledgeable about NPDES requirements also results in a lack of accountability when goals are not met.

Recommendations for Finding 1.

These recommendations are intended to better utilize available internal permit writing resources and to provide a short-term “surge” strategy to provide the necessary influx of resources and talent to deal with the immediate backlog problem and set the stage for a program that is sustainable in the long term.

R1.1. Reduce tasks assigned to NPDES permit writers to essential functions to permit issuance and permit process related improvements.

NPDES permit writers should focus on permit renewals and those actions that directly support that function. Duties essential to preparation of quality NPDES permits that should be performed by NPDES permit writers include individual permit writing; targeted input on rules, regulations and policies impacting the NPDES program; facility inspections necessary to the permit writing function and NPDES public process functions associated with permit review and adoption (hearings, response to comments, meetings with permittees and stakeholders). Some of the other functions now assigned to NPDES permit writers should be re-assigned to other staff, including compliance functions (e.g. preparation of inspection reports, enforcement proceedings), complaint response, writing non-NPDES permits, plan review and discharge monitoring report (DMR) review. The task of providing technical assistance to permittees should be handled in a different manner (see Recommendation R.1.7).

R1.2. Determine the number of NPDES FTEs needed to eliminate the NPDES permit backlog in Oregon over a 5-year time horizon.

Based on the re-vamped job description for permit writers as described above, determine the number of NPDES FTEs needed to eliminate the NPDES permit backlog in Oregon over a 5-year time horizon. This should be achieved through use of workload assessments and the EPA workload model, combined with assumptions and estimates regarding the number of permits to be renewed per permit writer per year.

R1.3. Assign staff with strong permit writing experience and skills to an NPDES permit writers group.

Based on these initial FTE estimates, assign staff with strong permit writing experience and skills to an NPDES permit writers group, which will have staff in each region and in headquarters.

R1.4. Hire/train additional permit writers in accordance with FTE requirements.

Additional limited-term resources will be essential to address Oregon's backlog problem. Options include internal reassignment of personnel, contract services, Intergovernmental Personnel Act (IPA) assignments in coordination with USEPA, or a combination of the above.

Begin process of hiring/training new permit writers in accordance with FTE requirements necessary to maintain a sustainable NPDES permit program that issues permits on schedule to meet the 10 percent backlog goal.

R1.5. Retain additional expertise work to with the DEQ NPDES permit writers group.

In the short term, institute a surge strategy that includes contracting with external resources to work with the DEQ NPDES permit writers group to reduce the immediate NPDES permit backlog. Consideration should be given to (1) the use of Intergovernmental Personnel Act (IPA) assignments to add experienced USEPA personnel to support the near term effort and (2) the use of expert outside contractors skilled in NPDES permit preparation and program development. Some supplemental support may be provided via realignment of existing DEQ resources; however, given the need for additional expertise in preparing NPDES permits, it should not be relied upon to provide the needed immediate relief.

R1.6. Provide sufficient training and guidance to ensure proficiency and skills building.

Use the external experts retained for the surge strategy to work with DEQ staff in development/refinement of permitting guidance and tools, training program, process improvements, and refinement of FTE estimates.

R1.7. Provide technical assistance to communities, on a needs basis, with external resources.

Remove the "technical assistance to permittees" function from the DEQ permit writers. Provide funding/support to private firms, professional associations or other organizations to provide needs based technical assistance for those communities (typically small or medium sized, and/or disadvantaged communities) to facilitate facilities planning, NPDES permitting (e.g, applications, compliance assessments, data collection), and treatment plant operational issues.

Finding.2. The Process for Wastewater NPDES Permit Renewal is Inefficient

DEQ has expended significant effort over the past 15 years to understand and improve its NPDES permit renewal process in an attempt to address the permit backlog problem. In 2000, the Wastewater Permitting Improvement Team (WPIT) was formed to address the NPDES permit backlog issue and other permitting problems. The WPIT issued a final report in June

2001. The WPIT prepared process maps of the NPDES permit development and adoption process and identified problems and necessary process improvements. Unfortunately, a number of the process problem areas identified in the WPIT report remain as issues today, based on the information collected for the Situation Assessment. Review of other process improvement attempts by DEQ over the past 15 years corroborates this finding. Following are some significant contributors to inefficiencies.

Data Inadequacy

The preparation of NPDES permit renewals in a timely matter is entirely dependent on the availability of the right data to the permit writer. In order to prepare a renewed NPDES permit on the EPA mandated five-year cycle, essential data are required. These data needs are, in large part, predictable.

For example, essential data needs for a typical NPDES permit renewal include:

- Effluent – data representative of the current effluent collected over the last 3 to 4 years. The data includes effluent flows and water quality data for conventional constituents, toxics, hardness, pH, nutrients and other constituents covered by water quality standards and or 303(d) lists applicable to the receiving water for the discharge
- Ambient receiving water – data representative of the receiving water upstream of the discharge point collected over a period of years. Data includes streamflow and water quality data of relevance to the NPDES permitting process, including temperature, hardness, pH, and all constituents of concern as established by the previous NPDES permit, water quality standards, TMDL wasteload allocations (WLAs), or the 303(d) list for the water in question.

Interviews with NPDES permitting staff indicate that timely access to the above essential data is a significant problem that hampers the preparation of NPDES permits. Problems include:

- Inadequate or aging data provided in permit applications
- Delays in permitting (which cause data originally submitted with applications to become outdated)
- Problems in having necessary ambient data at essential locations and problems in accessing ambient data from DEQ data bases which are currently bifurcated.

Outdated Data Delivery Systems

DEQ's current delivery systems are outdated. Information from different systems, which should be integrated, is not. Permit writers do not have access to critical parts of the systems and must query organizational entities outside of their chain of command to gather the essential permit information described above.

DEQ recognizes this issue and is in the process of developing new data systems. The completion of these efforts, the long term DEQ-wide Electronic Data Management System (EDMS) and

short term bridging efforts, will likely have a direct impact on DEQ's ability to more efficiently resolve the NPDES permit backlog.

A critical issue is when the planned long term EDMS project will be able to address needs essential to permit issuance. While a system with extended functionality (one that includes the ability to complete multiple tasks) such as the one DEQ proposes is desirable and rational, increased complexity increases development time and project risk factors. Given the current status and schedule for long term efforts to develop new data systems (i.e. 5 to 10 years to full implementation), specific funding and effort must also be directed to concurrent short-term bridging improvements that will meet critical NPDES permit renewal needs, as described above.

Development of this type of EDMS system requires proper resources, priority and executive sponsorship. Projects of this type always include significant project management risk factors that must be carefully managed and mitigated. Issues related to creation of information systems of this type are outside the scope of this report; however, Oregon has created large scale electronic data management systems for other significant program areas, and other states have implemented similar water quality related EDMS efforts which have DEQ staff have reviewed.

NPDES Permitting

A series of problems associated with NPDES permitting tools were identified, including the following:

- The DEQ program struggles to keep templates and tools up to date in the face of changing standards, policies, court decisions, and EPA policy determinations. These problems include a lack of a strategic approach to deal with current and future issues affecting the NPDES permitting process and the lack of resources and unified approach to perform necessary updates to permitting tools.
- There is inconsistent use of the tools and guidance from region to region.
- Some tools and guidance are not user friendly for permit writers, i.e. instructions are not clear and concise.
- Tools and documents are maintained separately. Consolidation of guidance into a single permit writers' guidance document (or suite of documents) would simplify communications and training in the use of these tools.

Interviews with a broad range of DEQ staff working in different divisions and regions have indicated widespread acknowledgement of these NPDES permitting process efficiency problems.

Recommendations for Finding 2.

Despite the other major problems that hamper DEQ's ability to renew NPDES's on time, process inefficiencies must also be remedied. Process improvement steps must address serious problems regarding:

- Delivery of essential data to NPDES permit writers
- The need for updated NPDES permitting training tools and guidance manuals

- The process to ensure consistent use, updated, user-friendly training materials and improvements to the permitting process itself

R2.1. Take steps to ensure that essential data is available to NPDES permit writers at the appropriate time.

Identify/confirm essential data needs – Establish monitoring locations, data quality requirements, detection limits, other standards to ensure delivery of high quality data. Work with the regulated community to establish processes to provide essential effluent and receiving water data with permit renewal applications. Work within DEQ to provide essential effluent and receiving water data to permit writers in the short term and long term.

There are currently significant ongoing long term efforts by DEQ to develop new databases and data delivery systems to serve a variety of functions. NPDES permit data needs must be identified through the involvement of the Senior Permit Writers Group (or other suitable group of NPDES permit experts) to ensure that essential NPDES data is delivered on time under these new systems. Short term measures must be developed to address data needs during the period prior to completion of the upgrades, which is anticipated to range from 5 to 10 years.

R2.2. Ensure that data is available for the purposes of transparency and to track outcomes that can be translated into documents used to create public accountability.

Data acquisition and sharing should ultimately focus on establishing transparent records and create a mechanism for public accountability on progress toward achieving desired water quality improvement goals.

R2.3. Improve permit template, permit evaluation report guidance, permit writers guidance documents, permit tools, IMDs.

Consolidate guidance into a single simplified compendium of information suitable for use as a training manual. Establish process and devote resources to create updates to guidance documents and tools. Tools to be considered include translators and water effect ratios (to deal with current or anticipated future compliance issues regarding trace metals such as copper, cadmium, etc), and dynamic modeling (in lieu of steady-state modeling to establish effluent limitations). New or refined guidance for the application of site specific criteria, use attainability analyses, compliance schedules, variances and integrated planning should be developed. In general, guidance regarding available tools as specified in the EPA Permit Writers Guide, Technical Support Document (TSD) for Water Quality-based Toxics Control, Water Quality Standards Handbook, recent EPA Water Quality Standards regulations and other USEPA documents should be considered.

R2.4. Charge an Expert NPDES Group with improving/optimizing the NPDES permitting process – include updated process maps in Permit Writers guidance compendium.

Utilize the Senior Permit Writers group (or other suitable group of NPDES permit experts) to collaborate with the external contractors retained for the surge strategy to continue to explore the opportunity for process improvements and efficiencies.

R2.5. Update the current permit issuance planning process to achieve backlog reduction with interim goals that approach a 10 percent backlog over a 5-year time horizon.

Using the information developed under Recommendation 1, establish an annual schedule for the next five years for NPDES permit adoption. Using the 5-year permit issuance plan, develop attainable long term and interim metrics for annual and 5-year time horizons.

Devote resources as required to manage and execute the plan. This will require integration with the surge strategy, recruitment and training program.

R2.6. Centralize authority for NPDES permit adoption.

Establish a single NPDES permit executive at headquarters with direct access to the DEQ Director. Grant authority and responsibility for leadership, management, tracking and reporting on attainment of NPDES permit renewal goals and achievement of metrics.

Finding.3. DEQ Lacks Full Commitment to Timely Renewal of Wastewater NPDES Permits

The DEQ personnel interviewed for the Situation Assessment and involved in the coordination of this wastewater NPDES permit program review all demonstrate a sincere desire to see the NPDES Permit backlog problem resolved. However, the continuation of the permit backlog over the past 15 to 20 years and the multiple efforts commissioned to address the issue suggests a lack of total commitment by the DEQ and stakeholders to work together to resolve the problem.

F3.1. While concerned, DEQ Leadership Has Not Given the NPDES Permit Backlog Problem Sufficient Priority to Resolve It

Competing priorities, complex policy and legal issues, resource limitations, and DEQ's culture contribute to the lack of resolution of the backlog problem. The consultant team reviewed the past NPDES program improvement efforts and resulting recommendations that have occurred within the DEQ program. In these efforts, a long list of reasonable approaches to assist in the reduction of the backlog problem were identified. In many cases, these recommendations were never fully implemented, were the subject of false starts, or were started and discontinued. Contributing factors included a lack of clear ownership and accountability for improvements, a lack of prioritization of an overwhelming number of recommendations, failure to address organizational resistance to changes, and failure to recognize and address larger external issues impacting the overall success of the NPDES permit renewal effort. A significant number of stakeholders indicated it was difficult to ascertain who in the leadership structure was the final decision authority to resolve for various permit related issues.

An additional problem that touches on DEQ's culture is an identity conflict. The conflict is between being a technical advisor and being the lead regulator under the CWA. Based on

feedback from a number of respondents during the assessment, this presents real problems to permit writers who try to wear these two hats and is suggested as a contributor to the NPDES permit backlog.

A resolute change in the long-term commitment of DEQ leadership, stakeholders and the Legislature will be necessary to address the backlog problem.

The Blue Ribbon Committee Requires Reassessment

A Blue Ribbon Committee (BRC) on Wastewater Permitting was convened in December 2002,⁸ to help the agency improve Oregon's wastewater permit program. In 2001, Oregon had one of the highest backlog rates in the nation for processing/renewing major NPDES individual permits, a status which Oregon has retained.

At that time, the NPDES permit backlog was attributed in large part to increasingly complex permit requirements, more stringent water quality standards, the need to implement Total Maximum Daily Loads and assign more complex waste-load allocations, and a dramatic increase in the number of sources needing permits.

The committee completed recommendations for improving the permitting program in 2004 and issued a report, *Blue Ribbon Committee Report on Key Enhancements to the Oregon Wastewater Permitting Program*.

The *Wastewater Permitting Program Improvements and Measures Report*,⁹ submitted a little over six years later on January 2011 to Governor Kitzhaber, the Oregon Legislative Assembly, and the Environmental Quality Commission, recapped progress on the recommendations proposed in 2004. Those changes were to accomplish the following:

- Create a watershed-based permitting cycle to improve permit planning, accountability and follow-up, as well as integration with other water quality programs
- Provide for up-to-date, consistent wastewater permitting to improve the timeliness and quality of DEQ-issued permits
- Develop a strong, effective and appropriate compliance and enforcement program
- Report annually on progress made to the Oregon Environmental Quality Commission and Legislature.

This report indicates some progress towards watershed based management goals but ultimately reduction of the NPDES backlog was not achieved. Identified obstacles included litigation on the Willamette Basin TMDL and use of compliance schedules in permits, as well as an EPA objection regarding the permitting of sanitary sewer overflows that prevented permit issuance. At

⁸ This document section is directly quoted or paraphrased from <http://www.deq.state.or.us/WQ/wqpermit/brcreports.htm> (accessed 09.05.16)

⁹This document is quoted or paraphrased directly from: <http://www.deq.state.or.us/WQ/pubs/reports/2011WastewaterLegReport.pdf> (accessed 09.05.16)

the same time, in anticipation of general fund reductions during the 2009-2011 biennium, DEQ chose not to refill certain positions in order to manage the budget.

Even with legal issues resolved in late 2009 and 2010 but operating at less than full staff, DEQ still managed to make some progress toward meeting the Committee's recommendations but ultimately continued to fall short and continues to do so today.

Although asked during the Situation Assessment, none of the Committee members were able to directly articulate its mission and many reported extreme frustrations with the lack of progress in reducing the backlog. Some even questioned if the right stakeholders were participating.

Given the need for perhaps more than one stakeholder workgroup and the longevity of the Committee, a re-assessment and re-chartering, with an updated focus, identified specific tasks, and a process for refreshing its mission and membership is indicated. This in turn can drive membership composition and create clarity about meeting topics, expected deliverables, and the committee's role.

Recommendations for Finding 3.

The DEQ water quality program faces many challenges and competing priorities, not the least of which are resource and funding limitations. As described above, these challenges and problems affect DEQ's ability to renew NPDES permits within the stipulated five-year period. This has created a situation where DEQ leadership and staff are overwhelmed by the effort needed to get the NPDES permit program on track.

If the recommended future efforts offered in this Recommendations Report are to be successful, it will take a serious commitment, by the Legislature, DEQ, EPA, the regulated community, and all stakeholders, to make it happen. For its part, DEQ must establish clear goals, actions and priorities to lead this effort.

R3.1. To demonstrate commitment, DEQ must elevate NPDES permit renewal to be a top priority of its Water Quality Program.

As part of this, DEQ personnel must align with the typical roles of a regulatory agency. This not in conflict with effective collaboration with stakeholders to accomplish goals or demonstrating a cooperative spirit. However, to address backlog, DEQ may need to make difficult decisions to fulfill its role in achieving the requirements of the CWA.

R3.2. DEQ must establish the leadership structure and management measures to implement the plan.

As described in Recommendation 2, DEQ should establish an accountable, singular chain of command for NPDES permitting, empowered with navigating a decentralized organizational structure.

R3.3. DEQ must engage EPA, the regulated community and other knowledgeable stakeholders to implement improvements.

A backlog reduction plan will be described in this project's Phase 4 Implementation Report. DEQ will require support from the full CWA stakeholder community, including EPA, the regulated community and other knowledgeable stakeholders to implement needed changes.

R3.4. DEQ should assist in re-chartering one or more BRC (and/or additional stakeholder bodies) with a revitalized purpose that creates a champion for implementation of recommended improvements and ensures transparency and public accountability for changes.

A revitalized, BRC or similar stakeholder body must be organized. This body should include sub-committees, working groups or other structures. The group should have a clear re-vamped vision and purpose and be representative of the full stakeholder community and be assigned bounded and time certain tasks. Meeting methods should be utilized to ensure productive sessions that encourage participation of all group members.

Finding.4. Permit Guidance and Development is Not Consistently Aligned with Clean Water Act and DEQ Legal Requirements

Indications that the NPDES permitting process is not consistently aligned with EPA and DEQ legal requirements are illustrated in a recent document and in feedback received from various stakeholders. A January 2016 EPA letter on the draft Clean Water Services permit identified numerous areas of inconsistency with EPA regulations, adopted standards, and adopted TMDLs. This document highlights specific problems that may exist in other NPDES permits in Oregon regarding compliance with Clean Water Act requirements, DEQ requirements and EPA permitting regulations. Failure to address such deficiencies affects the NPDES permit renewal backlog, as rework is required to meet legal requirements while an NPDES permit remains incomplete.

F4.1. No Overarching Strategy or Process Exists to Address Implementation of Existing and Anticipated Future Water Quality Standards and TMDLs in NPDES permits.

A number of the stakeholders interviewed for the Situation Assessment indicated that the adoption of new water quality standards or changes to existing standards as a result of either litigation or EPA disapprovals has had an ongoing disruptive effect on the renewal of wastewater NPDES permits. This was attributed as an issue in even the earliest BRC reviews.

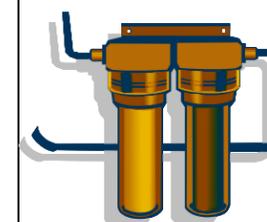
The timeline shown in Table 1 on the next page, provides evidence of the history of water quality standards and program changes over the past two decades. These events, and, in some cases, the absence of an effective response to these events in terms of direction to the NPDES permit writers, has contributed to significant delays in NPDES permitting, and increased backlog.

In the course of performing the Situation Assessment, it became clear that, despite the recognition of this problem, effective strategies or processes are not in place to deal with the long term effect of current and future water quality standards, 303-d listings and resulting TMDL wasteload allocations on the NPDES permitting program.

Overall DEQ Timeline showing Important Issues Impacting Water Quality Program

Table 1. Significant Water Quality Program Events

1960 – 1990	1991 – 2000	2001 – 2005	2006 – 2010	2011 – 2013	2014-2015	2016 -
<p>1969- OREGON DEQ FORMED</p> <p>1972- FEDERAL CLEAN WATER ACT ADOPTED (PUBLIC LAW 92-500)</p> <p>1987- OREGON CLEAN WATER STATE REVOLVING FUND LOAN PROGRAM ESTABLISHED</p> <p>1987-1989- TMDL DEVELOPMENT BEGAN</p> <p>1989- OREGON EQC ADOPTED ENFORCEMENT STANDARDS</p> <p>1990- CONSENT DECREE</p>	<p>1992- MUNICIPAL APPEALS OF NPDES PERMITS (ALBANY, OTHERS)</p> <p>1992- MSH PERMITS</p> <p>1995 - TEMPERATURE STANDARDS, TRIENNIAL REVIEW</p> <p>1996- FEDERAL COURT RULING ON TEMPERATURE STANDARDS</p> <p>2000- WASTEWATER PERMITTING</p> <p>IMPROVEMENT TEAM (WPIT) WAS FORMED</p> <p>*NEED DATE*- FEDERAL COURT STRIKES ALTERNATE MIXING ZONE</p>	<p>2003- BLUE RIBBON COMMITTEE FORMATION</p> <p>2003- WQS FOR TEMPERATURE ADAPTED BY OREGON EQC</p> <p>2004- EPA PARTIAL APPROVAL OF TEMPERATURE STANDARDS</p> <p>2004- OREGON EQC ADOPTS EPA RECOMMENDED HUMAN HEALTH CRITERIA</p> <p>2004- OREGON SUBMITS AQUATIC LIFE STANDARDS FOR TOXIC POLLUTANTS TO EPA FOR APPROVAL</p> <p>2005- SENATE BILL 45: WATER QUALITY PERMIT PROGRAM IMPROVEMENTS</p> <p>2005- EPA PERFORMED PROGRAM REVIEW</p> <p>*NEED DATE*- FEDERAL REQUIREMENT TO ISSUE NPDES PERMITS FOR PESTICIDES</p>	<p>2007-DEQ REVISED TEMPERATURE STANDARDS IN RESPONSE TO EPA PARTIAL APPROVAL</p> <p>2007- COMPLIANCE SCHEDULE SETTLEMENT AGREEMENT BETWEEN PLAINTIFFS AND OREGON DEQ</p> <p>2007- OREGON AMENDS AQUATIC LIFE STANDARDS FOR TOXIC POLLUTANTS</p> <p>2008- WILLAMETTE TMDL CHALLENGE</p> <p>2007-9- SANITARY SEWER OVERFLOW ISSUE RESOLVED</p> <p>2010- NPDES MOA BETWEEN EPA REGION X AND STATE OF OREGON</p> <p>2010- EPA PARTIAL APPROVAL OF TEMPERATURE STANDARDS</p> <p>2010- EPA DISAPPROVED OREGON HUMAN HEALTH CRITERIA</p> <p>2010- COMPLETE TMDL CONSENT DECREE</p>	<p>2011- OREGON SECRETARY OF STATE AUDIT OF NPDES PERMITTING PROGRAM AND DEQ LABORATORY</p> <p>2011- OREGON DEQ ADOPTED REVISED HUMAN HEALTH CRITERIA</p> <p>2011- EPA APPROVED REVISED HUMAN HEALTH CRITERIA FOR OREGON</p> <p>2011- EPA APPROVED REVISED NARRATIVE TEMPERATURE STANDARDS</p> <p>2011- OREGON AMENDED AQUATIC LIFE STANDARDS FOR TOXIC POLLUTANTS</p> <p>2012- PERMIT BREAKTHROUGH TEAM EVALUATED PROGRAMS AND PREPARED RECOMMENDATIONS</p> <p>2012- FEDERAL COURT VACATED NATURAL CONDITIONS (PRIOR TO EPA DISAPPROVAL)</p> <p>2013- EPA DISAPPROVED NATURAL CONDITION CRITERION IN OREGON'S WQS FOR TEMPERATURE</p> <p>2013- EPA PARTIALLY DISAPPROVES OREGON AQUATIC LIFE STANDARDS FOR TOXICS</p> <p>2013-THRU 2015- WATER QUALITY TRADING RULES DEVELOPED</p>	<p>2014- INTERNAL REVIEW OF WATER QUALITY</p> <p>NPDES/WPCF PERMITTING</p> <p>2014- EPA CRITICAL RENEW OF DEQ ANTI-DEGRADATION POLICY & IMPLEMENTATION METHODS</p> <p>2015- DEQ REORGANIZATION</p> <p>2015- ACTIONS RESULTING FROM INTERNAL PROGRAM REVIEW OF WATER QUALITY NPDES/WPCF PERMITTING PROGRAM</p> <p>2015- CHARTER FOR WASTEWATER PERMIT MANAGERS TEAM</p> <p>2015- CHARTER FOR SENIOR PERMIT GROUP</p> <p>2015- ANTI-BACKSLIDING AND WATER QUALITY PERMITS GUIDANCE</p> <p>2015- STATEWIDE PERMIT ISSUANCE PLAN FOR FEDERAL FISCAL YEAR 2016</p> <p>2015- DEQ OUTCOME-BASED MANAGEMENT AND STRATEGIC GOALS</p>	<p>2016- SURVEY OF STATE NPDES PROGRAMS</p> <p>2016- EPA FINAL PERMIT QUALITY REVIEW FOR OREGON</p> <p>2016- PENDING NWEA CHALLENGES TO TMDLS (TEMP & WILLAMETTE HG)</p>



In November 2015, DEQ published its Water Quality 2035 Vision and Strategy. This document describes the program vision and strategic priorities over the next 20 years. The overarching 2035 vision for the water quality program follows:

Our programs produce effective, practical actions that protect and restore water quality for all who benefit from Oregon's waters

The 2035 Vision document acknowledges that water quality standards development in Oregon depends on sound water quality data to evaluate new and modified standards, should incorporate feedback from the NPDES program, and should support compliance approaches for temperature and other constituents. The document recognizes the need to develop a long-term plan to address process improvements and necessary standards revisions and the need to develop standards that reflect the water quality values of Oregonians.

Despite the excellent thought behind the 2035 Vision and Strategy, it does not directly address the issue of integrating water quality standards, TMDLs and NPDES permits program and in anticipating challenges to NPDES permittees associated with water quality standards. It does provide the platform and opportunity to make necessary program enhancements to address these needs, which will provide long term benefits to the water quality program and NPDES permitting function.

Recommendations for Finding 4.

As previously identified, unresolved policy problems related to water quality standards and/or TMDLs have had a significant impact on the NPDES permitting process. Issues related to standards must be resolved to allow NPDES permits to be properly renewed. A long-term strategy and programmatic changes will be required to effectively deal with this issue.

R4.1. Address the major Oregon Water Quality Standards adopted or modified over the past fifteen years

Specifically address the major Oregon Water Quality Standards adopted or modified over the past fifteen years including:

- Temperature [2003, 2007, 2012]
- Human Health standards [2004, 2011]
- Aquatic Life Standards [4, 2011, 2013]
- Ammonia Standards [2015]

According to anecdotal reports given during the Situation Assessment, the incorporation and implementation of some of these standards into NPDES permits has been limited due to the anticipated significant ramifications to permittees. In the Situation Assessment and during the May 2016 workshop, various stakeholders questioned the ultimate attainability of some of these existing water quality standards and the benefits to the environment of compelling strict compliance with associated NPDES permit requirements.

Fundamental information is needed to address this problem going forward. This information includes an evaluation of practicable actions that should be taken by the regulated community to meet NPDES requirements driven by these standards. In cases where NPDES permit water quality-based effluent limitations would require actions that are not practicable or effective, a strategy is needed to resolve these problems. This will be a complicated legal, technical and public relations effort involving DEQ, EPA, and all involved stakeholders.

Looking forward to the development and adoption of new water quality standards, the opportunity exists to incorporate attainability information into the use designation and WQS process. This could provide greater flexibility in addressing the issues of attainability and NPDES permit requirements in a proactive way.

R4.2. Initiate a coordinated effort with DEQ, EPA and all stakeholders to identify NPDES permitting solutions for problems associated with implementation of existing water quality standards that affect the NPDES permit renewal process.

Initiate a coordinated effort with DEQ, EPA and all stakeholders, within the existing legal boundaries and flexibilities as established under the Clean Water Act, EPA regulations and DEQ regulations, to identify, prioritize and coordinate NPDES permitting solutions to problems associated with implementation of existing water quality standards affecting the NPDES permit renewal process.

Specific plans should be developed for NPDES permitting each of the following standards:

- Temperature standards
- Human health standards
- Aquatic life standards
- Ammonia standard (based on 2013 EPA ammonia criteria)

R4.3. Review DEQ's water quality standards development process to identify whether prescribed implementation measures would result in the attainment of proposed standards.

DEQ has attempted to address the issue of standards attainability and NPDES permit ramifications in its recent standards development processes for human health criteria and copper. These processes should be reviewed to determine the effectiveness of these actions. As appropriate, develop modified strategies and methodologies to address standards attainability and associated NPDES permit issues. Modified approaches should utilize appropriate EPA protocols and methodologies, including site specific criteria, use attainability analyses, and subcategories of beneficial uses.

R4.4. Utilize a newly chartered BRC or similar stakeholder group to identify anticipated future water quality standards to be adopted in the next 10 years. This group should evaluate compliance issues that may result from projected future water quality standards.

The purpose of this effort should be to assess future impacts and develop proactive strategies and mechanisms available under EPA regulations and policies to address anticipated future NPDES compliance issues which will allow NPDES permit renewals to be completed on time.

Finding.5. Systemic Issues Outside of DEQ Control Contribute to the NPDES Backlog

DEQ operates as part of a dynamic system of governance that seeks to provide public health and safety, environmental stewardship, economic viability, and enriching experiences (recreation, education, etc.). As such, its roles, responsibilities and contributions are continually balanced with other societal goals and requirements. This results in circumstances outside of DEQ control driving budgetary processes, infrastructure investment, and regulatory considerations of other agencies and sectors. Further, State budget decisions are influenced by national policy (such as the Affordable Care Act or energy and environmental regulations) and local issues (such as crime and the quality of education).

F5.1. Uneven Funding Streams for Permit Functions Creates Difficulties in Permit Planning, Results in Increased Future Year Costs, and Drives Backlog

Given that NPDES permit renewal workload is fully predictable, (each permitted facility will have a renewal in 5 years) failure to adequately resource it one year will add costs to future years that will exceed the cost and time of completing the renewal in the scheduled year. (As noted previously, delayed permit renewals are more time consuming to complete and costlier to the permittee, DEQ and ultimately the environment.)

The current NPDES permit funding approach relies on a specified proportion of the State General Fund to provide the agency budget. This creates a cap on the budget regardless of other fund sources. While the balancing of general public good to permittee cost is a reasonable public policy approach, it creates greater uncertainty in planning future work. The availability of General Fund for the NPDES permitting is subject to significant fluctuation as it depends on anticipated revenues and planned and unplanned expenditures, which may change over the course of a fiscal year.

F5.2. Anticipated NPDES Permit Requirements Cannot Immediately Be Achieved by Many Members of the Regulated Community

Based on interviews conducted for the Situation Assessment, DEQ staff, EPA staff, NGO representatives and the regulated community all described the inability of some permittees to meet anticipated new limitations in NPDES permits as widespread and a future impediment to the renewal of NPDES permits.

Numerous respondents reported that DEQ's NPDES permitting staff is reluctant to write permits that will drive major expenditures.

One specific example of the anticipated compliance problems facing the regulated community is small municipalities with existing secondary treatment or lagoon/pond treatment systems

discharging treated effluent to surface waters that do not currently convert ammonia to nitrates. The new ammonia standard adopted by DEQ in 2015 to protect the aquatic life beneficial use is anticipated to require low concentrations of ammonia in effluent for many treated wastewater discharges. Based on stakeholder input received during the interview process, a number of small communities anticipate they will have difficulty meeting such effluent limitations. This anticipated compliance problem will likely drive the need for new nitrification treatment facilities for current secondary dischargers with limited dilution in their receiving waters.

A second example where the ability to comply with new NPDES permit requirements is problematic is with regard to the existing temperature standards, which have been modified by court orders to remove the natural condition exclusion. As stated in a December 2015 Oregon Association of Clean Water Agencies report titled *Compliance Options for Oregon Wastewater Treatment Plants* roughly half of Oregon's 50 major municipal treatment systems cannot meet the existing temperature standards with existing treatment facilities.

The setting of new effluent limits for current or new permits, can result in permit issuance delays as DEQ and the permittee work out a compliance schedule or it could lead to applying for variances if there are no "reasonable" treatment options. In addition to temperature, other expected issues include but are not limited to:

- The lack of data regarding ambient conditions when new contaminants are identified.
- The number of other adopted water quality standards (e.g. human health standards) that have not yet been fully implemented in NPDES permits that may set new effluent limitations difficult for permittees to comply with.
- New water quality standards are under development or are anticipated (e.g. copper, nutrients) which will likely create additional NPDES effluent limitation compliance problems and drive the need for new or upgraded treatment facilities.
- The lack of "reasonable" treatment alternatives.

Information regarding the existing treatment facilities for the individual municipal and industrial NPDES permitted entities in Oregon was requested as part of this evaluation. DEQ does not maintain a database of information that would allow a detailed assessment of projected future NPDES permit compliance problems in the State of Oregon. Without such information, it is not possible to fully understand the aggregate impact of NPDES permit requirements on the regulated community or to develop regulatory or funding strategies to address the issue. Information that does exist regarding compliance problems associated with new permit requirements mainly resides at the permit writer or regional level, based on information received from individual permittees on a permit-specific basis. This information is conveyed to the permit writers but is not well documented or summarized at a statewide level. Therefore, DEQ does not have the information to properly assess or develop solutions for this problem area.

In the short term, anticipated NPDES permit compliance problems point to the need for utilization of tools provided by USEPA (compliance schedules, variances, integrated planning) as a means to develop approvable permits. DEQ has not effectively used these tools in its NPDES program to date.

F5.3. Issues Outside of DEQ Control Affect the Ability of DEQ to Fully Manage Water Quality Through the Just the NPDES Process

DEQ's authority and the State of Oregon's effectiveness in controlling all the major activities that impact ambient water quality in Oregon (e.g. agriculture, silviculture) must be recognized and addressed. In cases where such factors are important in terms of loadings to impaired water bodies, it was suggested by multiple stakeholders that attainment of water quality standards will not be possible through the management of municipal and industrial wastewater sources regulated under the NPDES program alone. In those cases, TMDL wasteload allocations and NPDES permit effluent limitations must be carefully developed to avoid unwarranted compliance problems for municipalities and industries. The use of available tools and flexibilities afforded under the Clean Water Act in the NPDES permitting program will likely be necessary in such cases.

Another indirect factor is the projected inability for some municipalities and industries to meet NPDES effluent limitations, e.g. temperature limitations, ammonia limitations, for example.

To ultimately resolve the NPDES permit renewal conundrum, stakeholders must confront the status of its current wastewater treatment infrastructure, and ongoing funding limitations, especially related to funding for required capital improvements and subsequent operational expenses. Various funding sources for upgrading treatment facility upgrades exist, including but not limited to:

- Bonds
- State Revolving Fund
- Grants
- Tax credits
- Time Limited Surcharges

A jurisdiction's inability to meet NPDES standards because of funding is not DEQ's direct responsibility. However, it is in DEQ's interest to address this issue. Supporting efforts to anticipate and properly resource needed infrastructure creates good will and will ultimately reduce backlog by facilitating issuance of permits that do not require variances or compliance schedules.

Recommendations for Finding 5.

It should be noted that the following recommendations are part of a group of parallel activities that will proceed with the involvement of DEQ and the reinvigorated BRC of similar body of stakeholders. There are no direct dependencies between these recommendations and the recommendations related to Findings No. 1-4. Additionally, because these recommendations will require additional resourcing, it is anticipated that a portion of the resources for these efforts will come from the regulated community since it is in their long term interest to develop this information with DEQ and other stakeholders as a joint fact-finding effort.

R5.1. Evaluate and make recommendations to the Executive branch and Legislature regarding mechanisms to stabilize and adequately fund the NPDES Permitting Function in recognition of fluctuating access to general funds.

DEQ should work with the reinvigorated BRC or similar body to develop options for improving funding stable, adequate funding.

R5.2. Develop a statewide inventory of the existing treatment facilities subject to the 360 NPDES permits. In addition to location, the inventory should categorize treatment capabilities and capacity relative to community population.

DEQ should work with the reinvigorated BRC or similar body to develop information regarding the existing treatment facilities in Oregon for the permittees covered by the 360 individual wastewater NPDES permits. This effort is needed to bring focus to the issue of achieving NPDES permit limitations needed to fulfill CWA requirements. Information developed should highlight the compliance problems that are anticipated to result from the next round of NPDES permit renewals as well as anticipating future capacity requirements. This information is important as a point of common knowledge and understanding for DEQ and stakeholders to enable an assessment of current, anticipated and future compliance and infrastructure problems faced by NPDES permittees, particularly as current and future standards are implemented.

R5.3. Develop a strategic approach and action plan for moving forward with NPDES permitting and addressing anticipated compliance issues.

It is anticipated that the next round of NPDES permit renewals will lead to effluent limitations which compel the construction and operation of new treatment facilities or implementation of alternative solutions by a number of municipalities and industries. The strategic approach must address the need for time to either (a) plan, design and construct facilities or (b) to allow for a re-examination of the beneficial uses and associated standards which drive those effluent limitations. USEPA tools are available which should be used to implement this approach. The strategic approach should include partnering with the regulated community to develop information regarding the funding requirements for new or upgraded wastewater treatment facilities needed to meet NPDES permit requirements. The approach should also draw on DEQ expertise with the State Revolving Fund (SRF) and other financing to develop a suite of options for funding support for treatment facility capital and operating costs.

R5.4. Partner with regulated community and other stakeholders to formulate a matrix/data base describing key information pertaining to individual wastewater NPDES-permitted facilities in Oregon

Information should include design capacity, current flows, seasonal discharge, adoption date of last permit, receiving water flow characteristics, availability of dilution or mixing zone. This information should be sortable by:

- a. Major and minor dischargers
- b. Region
- c. Discharge description – seasonal, effluent dominated, with dilution
- d. Existing treatment technology

R5.5. Partner with regulated community and other stakeholders to evaluate the ability to comply with (a) existing NPDES permit effluent limitations and (b) projected NPDES permit requirements in renewed permits

- Assemble representative effluent data by treatment category
- Define representative effluent limitations by discharge category based on existing NPDES permit requirements
- Define representative effluent limitations by discharge category based on anticipated NPDES permit requirements
- Evaluate compliance for different sectors of the regulated community based on the above information

R5.6. Estimate additional resources at local, state or federal level needed to build facilities to achieve compliance with NPDES permit requirements.

This would be a revision to existing information developed for the Clean Water Needs Survey under the SRF program.

R5.7. DEQ, the State Legislature and stakeholders should identify and work together to provide the resources needed to fund major capital expenditures to assist the regulated community in achieving CWA requirements

Investments in infrastructure will be necessary for the long term sustainability of the NPDES program in meeting CWA requirements. A plan to support funding for necessary municipal and industrial wastewater treatment capital improvements at a statewide level is needed.

Given the probable magnitude of costs and the number of communities that may be involved, this will involve coordination with the Legislature. Funding sources to be explored include Federal and philanthropic grants, State Revolving Fund loans, other local funding sources and State bonds.

R5.8. Utilize available EPA regulatory tools in individual permits or across a class of permittees to provide time for compliance actions (treatment upgrades, site specific standards, use attainability analyses, etc.) to occur.

Available tools include permit conditions, compliance schedules, variances, integrated plans, and others. This will be a significant effort requiring close coordination between DEQ, EPA, the regulated community and other stakeholders.

Finding.6. A History of Failed Change Efforts Creates Increased Risks for Future Efforts.

The frequency and continuous lackluster implementation of DEQ change efforts along with associated disappointing results have created organizational fatigue. This has also inoculated the staff members to resist change. Special attention will be required in building an implementation approach that addresses this issue.

Recommendations for Finding 6. History of Failed Change Efforts

R 6.1. Include specific change management techniques in the project implementation report.

Recognize the timeframes and resources available to achieve results.

9. Consequences of No Action

As affirmed by statute and regulation,¹⁰ “Maintaining high water quality is critical to supporting economic and community growth and sustainability. Protecting high water quality also provides a margin of safety that will afford the water body increased resilience to potential future stressors, including climate change. Degradation of water quality can result in increased public health risks, higher treatment costs that must be borne by ratepayers and local governments, and diminished aquatic communities, ecological diversity, and ecosystem services.

Conversely, maintaining high water quality can lower drinking water costs, provide revenue for tourism and recreation, support commercial and recreational fisheries, increase property values, create jobs and sustain local communities. While preventing degradation and maintaining a reliable source of clean water involves costs, it can be more effective and efficient than investing in long-term restoration efforts or remedial actions.”

In constructing the Work Plan for this Program Review, it was anticipated that some recommendations could potentially be mutually exclusive or that more than one approach could be pursued. To accommodate this potential, the Work Plan prescribed inclusion of a review of alternatives as part of the Recommendations Report.

Instead, the offered recommendations emerged as a suite of actions that, in total, offer the best option for systemic improvement. Each recommendation also individually leads to incremental improvement in some aspect of the permitting process. In this format, the most realistic alternative to the proposed package of recommendations is No Action. The following are projections of probable future consequences under a No Action condition.

- The failure to renew NPDES permits on time continues to create negative perceptions of DEQ and a breakdown in trust, within the department, with the public, with EPA, with the regulated community and with the NGO community. Although this is not an immediate concern, should problems accelerate, and/or a court or legislative body requires, EPA ultimately has the authority to remove Oregon’s delegation to take back NPDES permitting authority over some or all NPDES permits in the State.
- New EPA permitting regulations are anticipated to place more pressure on the State than has been previously experienced. The preponderance of administratively extended NPDES permits in Oregon and other states are likely to trigger more stringent oversight

¹⁰ Federal Register / Vol. 80 , No. 162 / Friday, August 21, 2015 / Rules and Regulations, [Page 51020], ENVIRONMENTAL PROTECTION AGENCY, 40 CFR Part 131, [EPA-HQ-OW-2010-0606; FRL-9921-21-OW], RIN 2040-AF16, Water Quality Standards Regulatory Revisions

by EPA. Given the previous pace of these changes have already created permit issuance delays, it can be expected the backlog situation would only grow worse.

- The perpetuation of the NPDES permit backlog will make the permitting problem even more difficult to solve over time. Additional costs will be incurred by the regulated community to re-produce current data sets necessary for the permit renewal process. The delay in implementing standards and TMDL requirements will create legal and public perception problems and may magnify the eventual cumulative step increase in capital costs needed for treatment facilities or other measures to meet permit requirements.
- The response to a failure to issue “quality permits” will differ depending on the content of those permits. If the permits fail to fulfill all Clean Water Act and DEQ requirements, the likely response will be more letters from EPA requesting permit modifications, potential reversal of NPDES delegation authority, and more administrative and legal challenges from the NGO community. Such challenges will divert resources and further complicate the current backlog situation. If the permits result in an immediate major increase in compliance problems and treatment requirements, the response will likely be administrative appeals and legal action from the regulated community and a breakdown in collaboration between DEQ and the regulated community. During the period of administrative and legal conflict, implementation of practical and effective treatment facility improvements and/or alternative compliance projects will likely be delayed. Fines for enforcement due to noncompliance will increase.
- The failure to properly address training and documentation needs, and manage recruitment issues, will continue to erode the ranks of qualified NPDES permitting staff.
- Failure to implement large scale programmatic changes regarding integrating the standards and TMDL requirements that impact the NPDES permitting effort will cause the backlog to return.

10. Next Steps

A Stakeholder workshop will be conducted on September 19, 2016 to present findings and recommendations. Utilizing stakeholder input an Implementation Plan will be developed with an additional stakeholder workshop on October 28, 2016 to receive additional suggestions. A Final Evaluation and Implementation Plan will be submitted to DEQ on November 16, 2016.



Appendix A. Partial List of Reports, Investigations, and Other Relevant Documents Considered by Consultant Team

Partial List of Reports, Investigations, and Other Relevant Documents Considered
1. Agency Management Policy Option Package 161 Narrative (17-19), 2017-19 Agency Request Budget (2016)
2. Anti-Backsliding and Water Quality Permits (Mar 2015)
3. Blue Ribbon Committee (BRC) initial report (2004)
4. BRC meeting minutes (multiple years and meetings)
5. Business Case for DEQ Environmental Data Management System (EDMS), Version 1, (June 7, 2016)
6. Charter for Senior Permit Group (Jan 2015)
7. Charter for Wastewater Permit Managers Team (Nov 2014)
8. Compliance Options for Oregon Wastewater Treatment Plants (Association of Clean Water Agencies - Dec 2015)
9. Compliance Schedule Settlement Agreement between Plaintiffs and Oregon DEQ (2007)
10. DEQ Application Checklists – Individual NPDES Domestic and Industrial Permits (2015)
11. DEQ Audits (multiple)
12. DEQ Issue Paper: Implementing Water Quality Standards for Toxic Pollutants in NPDES Permits (May, 2011)
13. DEQ memo to Blue Ribbon Committee, FFY 2016 Permit Issuance Plan – Q3 Update (June 30, 2016)
14. DEQ Memorandum, Revised Water Quality Standards for human health and revised water quality standards implementation policies, (June, 2011)
15. DEQ Permit Templates for NPDES Majors and Minors (2015)
16. DEQ RPA Calculation Workbook, Ammonia 2013
17. DEQ TMDL Implementation Plan Guidance (May 2007)
18. DEQ Use Attainability Analyses and Site Specific Criteria (2007)
19. DEQ Wastewater Permitting Improvement Team, Final Report, (June 2001)
20. DEQ Willamette Basin, Rivers and Streams Assessment, (June 2009)
21. EPA Final Permit Quality Review for Oregon (Mar 2016)

Partial List of Reports, Investigations, and Other Relevant Documents Considered
22. Internal Management Directives (IMDs)/ (multiple) <ul style="list-style-type: none"> a. Antidegradation (2001) b. Variance (2012) c. Compliance Schedule (2010) d. Methymercury (2013) e. Reasonable Potential Analysis (2012) f. Mixing Zones (2013)
23. Internal Review of Water Quality NPDES/WPCF Permitting (Dec 2014)
24. Key Performance Measure (KPM) Reports (multiple)
25. Letter on the draft Clean Water Services permit (EPA 2016)
26. NPDES MOA between State of Oregon and EPA (Apr 2010)
27. Oregon Administrative Rules
28. Oregon Water Quality Standards documents (multiple)
29. Organizational Charts
30. Outcome-based Management and Strategic Goals (Nov 2015)
31. Petition for Reconsideration of the Adopted Clean Water Services Permit (EPA June 2016)
32. Senate Bill 45: Water Quality Permit Program Improvements – Fact Sheet (Feb 2010)
33. Service Quality Pledge to Oregon Wastewater Permit Holders
34. Statewide Permit Issuance Plan for Federal Fiscal Year 2016 (Oct 2015)
35. Stipulated Order on Narrative Water Quality Criteria and Antidegradation Internal Management Directive, US District Court, Case No: 3-05-cv-1876-AC, (April, 2013)
36. Summary of Active and Backlogged Individual Permits (Jan 2016)
37. Summary of Internal Program Review of Water Quality NPDES/WPCF Permitting Program (Jan 2015)
38. Survey of State NPDES Programs (Jan 2016)
39. TMDL documents (multiple)
40. USEPA, NPDES Applications and Program Updates, Proposed Rule, 40 CFR Parts 122, 123, 124, et. al., (May 18, 2016)
41. USEPA, Water Quality Standards Regulatory Revisions, Final Rule, 40 CFR Part 131 (August 21, 2015)
42. Wastewater Permitting Program – Improvements and Measures (Jan 2011)
43. Water Quality 2035 Vision and Strategy (Nov. 2015)

Appendix B. Internal and External Stakeholders and Points of Contact

1. Abby Boudouris
2. Anita Yap
3. Bob Baumgartner
4. Bob Diska
5. Brett Converse
6. Carrie Everett
7. Christine Svetkovich
8. Clint Bollinger
9. Dale Feik
10. Dan Opalski
11. Don Butcher
12. Emily Ackland
13. Eric Strecker
14. Eugene Foster
15. Fred Andes
16. Gerald (Gerry) Linder
17. Geoffrey Grubbs
18. Jackie Ray
19. Jane Hickman
20. Janet Gillaspie
21. Jason Green
22. Jeff Crowther
23. Jennifer Wigal
24. Jim Hanlon
25. John Chandler
26. John Garlitz
27. John Kessler
28. Josh Weber
29. Karen Burgess
30. Karen Tarnow
31. Kate Strohecker
32. Kathryn Van Natta
33. Keith Andersen
34. Larry Knudsen
35. Lauren Goldberg
36. Linda Hayes-Gorman
37. Mark Hynson
38. Mark Landauer
39. Mark Riskadall
40. Mark Yaager
41. Melinda Mahoney
42. Melissa B Kays
43. Michael Campbell
44. Mike Freese
45. Mike Lidgard
46. Nina Bell
47. Nina Deconcini
48. Paul Daniello
49. Peggy Lynch
50. Ranei Nomura
51. Richard Talley
52. Robyn Janssen
53. Ron Doughton
54. Ryan Shannon
55. Shae Zanto
56. Spencer Bohaboy
57. Steve Schnurbusch
58. Susan Aha
59. Susan Korn
60. Tiffany Yelton-Bram
61. Tom Roick
62. Tracy Rutten
63. Travis Williams
64. William Knight