Oregon DEQ Water Quality Permitting for Individual NPDES Permits

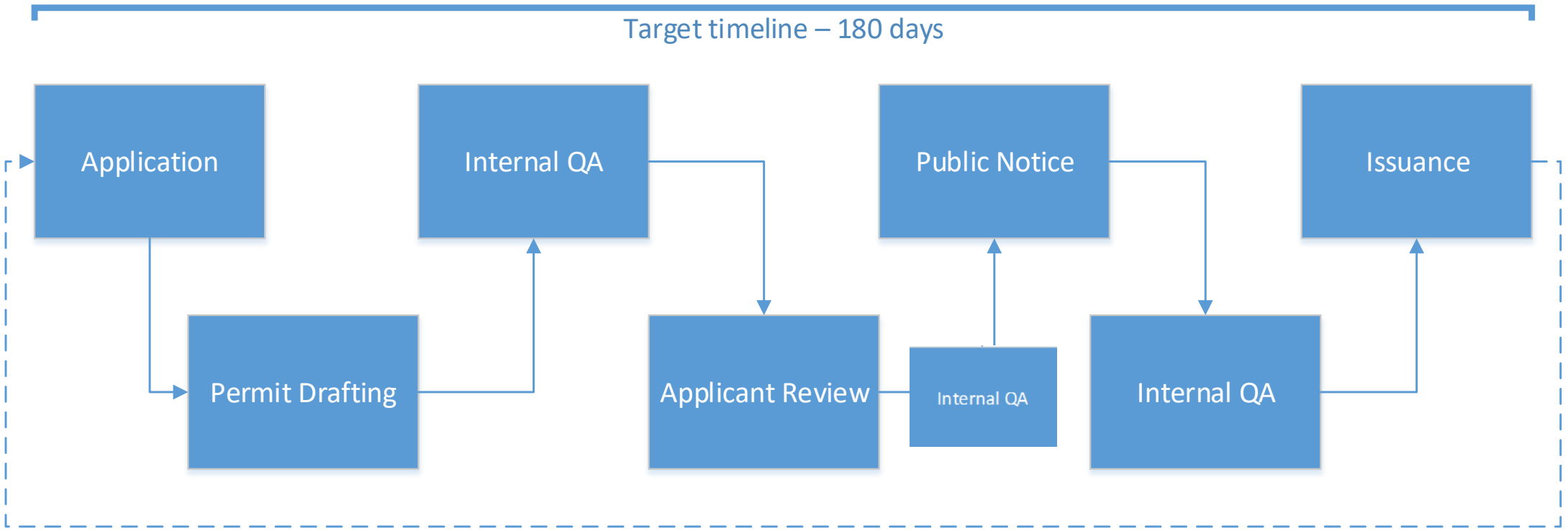
Water Quality Permitting and Program Development

September 26, 2023
OELA – Environmental Laboratory Conference

Topics for Discussion

- Permitting process overview
- Methods and implementation
- Importance of current permits
- Status updates
- Permit Development
  - Pollutants of Concern
  - Quality and Data
- Coming up

Permit Issuance



Permit issued for 5 years

Application for renewal submitted 180 days prior to expiration date

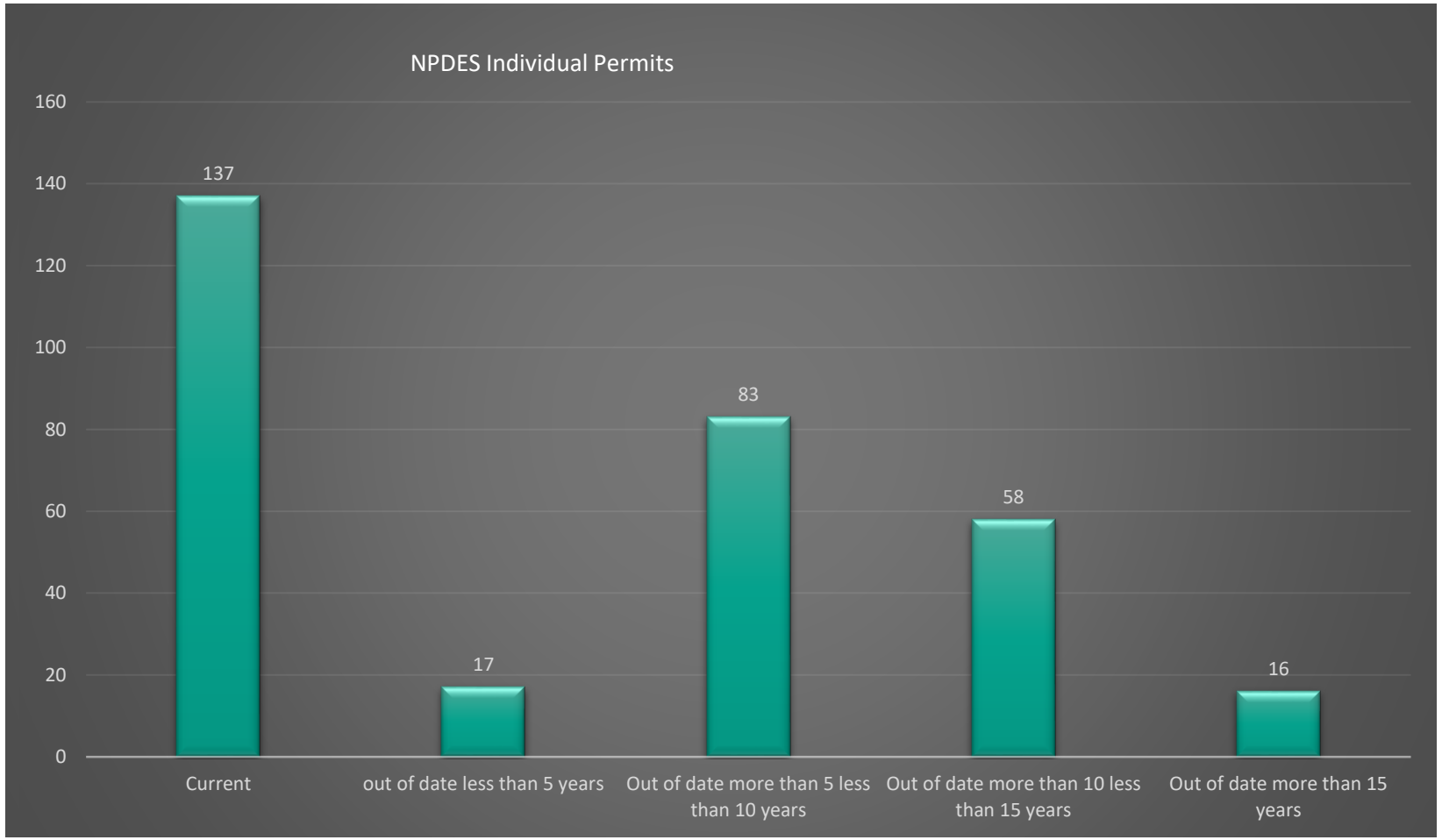
Methods and implementation

- The Team of 10 continues (previously 8) – Multiple vacant positions in west, and NW Oregon offices
- DEQ continues to use a statewide, centralized approach for permit writing. Standardization!
  - Permit writing team continues to focus on permit writing
    - Compliance, enforcement, and engineering is handled by local offices and local personnel
  - Stakeholder engagement continues to be a focus for permit development
    - Primarily during permit development. Expect communication during AR and PN, as well as gap analysis
- Implementation of front-loaded subject matter expert (SME) process
  - Permit writers are required to review complex topics with SME's
  - SME reviews are approved prior to QA and back-end processes (QA, AR, PN)
- Streamlined QA process for permits after development
- Permit issuance is a priority for the agency → "Issue Permits" Top-down communication
  - Your DEQ Online is a competing priority while the program works on testing

Importance of Current Permits

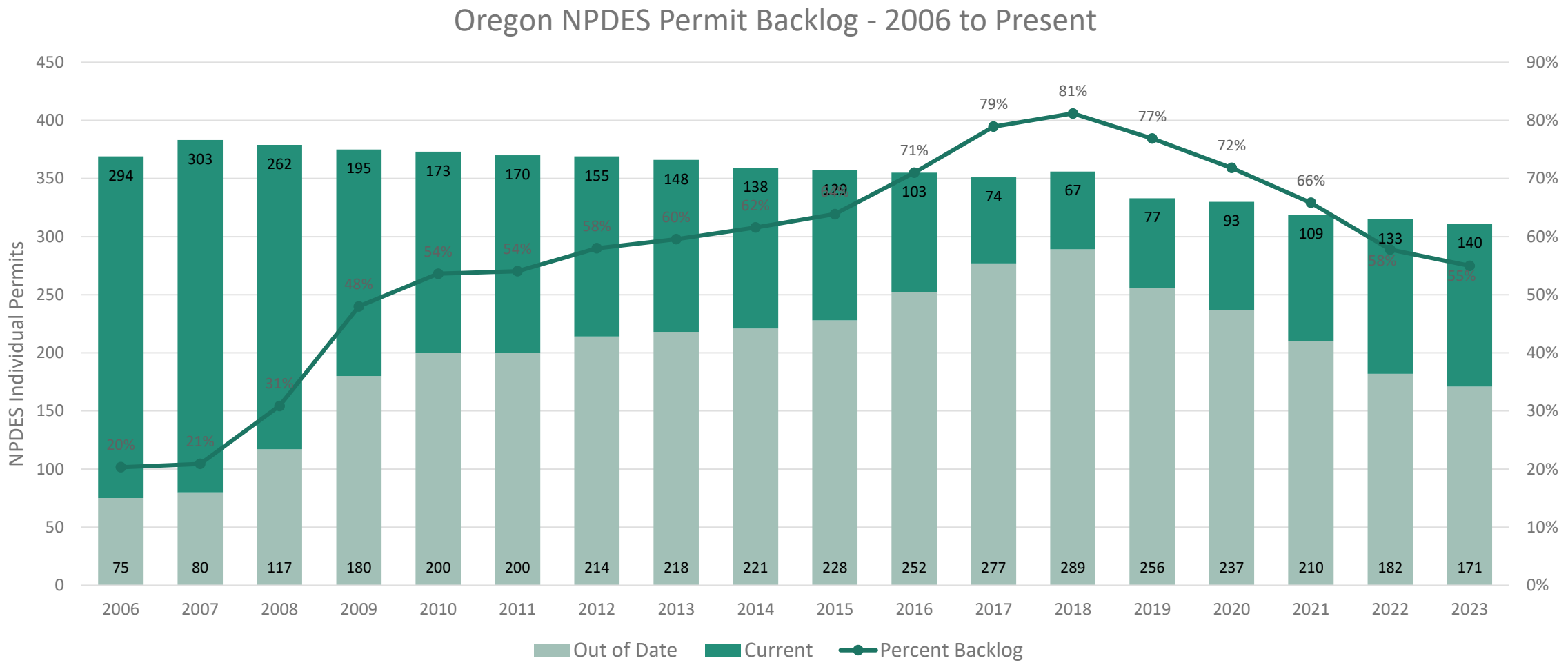
- Monitoring requirements and limits reflect current standards and guidelines
- Changes in effluent limits are incremental
- Prepare for complex compliance issues
- Recent data represents current performance
- Permit reflects current operations
- Permits can be updated to support facility planning and upgrades
- 10-year targets for NPDES Individual permits – By 2027
  - Out of date permits total less than 10% - current is 56%
  - Continue to publish annual and five-year plans – Individual and General
  - Update permit template twice per year if necessary – new fact sheet template updated continuously (published annually)
  - Permits, data, and supporting documents are available electronically - YDO
  - Permits are issued within 180 days of application submission – growing target for program
  - Continuous improvement – planning, metrics, and reporting
  - Complete data gap analysis prior to permit development – target two years prior

Overall Status of DEQ's NPDES Individual Permit Program



- 174 (56 percent) administratively continued.
- 17 (5 percent) are administratively continued for less than five years.
- 83 (27 percent) are administratively continued five years or more and less than 10 years.
- 58 (19 percent) are administratively continued 10 years or more and less than 15.
- 16 (5 percent) are administratively continued for 15 years or more.

Backlog Reduction



NPDES Individual Permit Issuance Plans

- On October 1 of each year, DEQ publishes a permit issuance plan that identifies the permits targeted for development during the next year and for the next 5 years

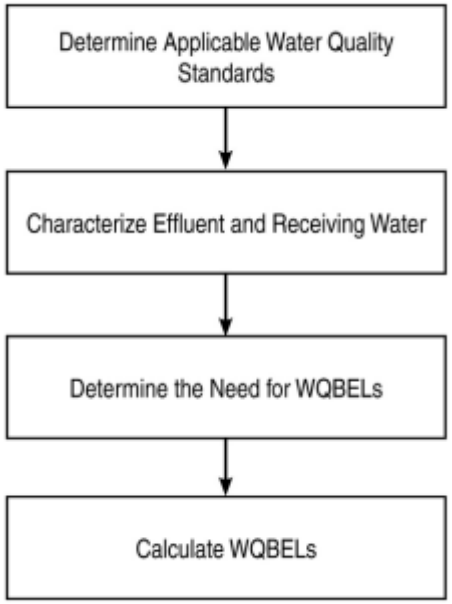
- Work plan developed internally
  - Rollover permits
  - Permits soon to expire
  - Regionally priorities
  - Geography
  - Resource availability
  - Readiness reviews

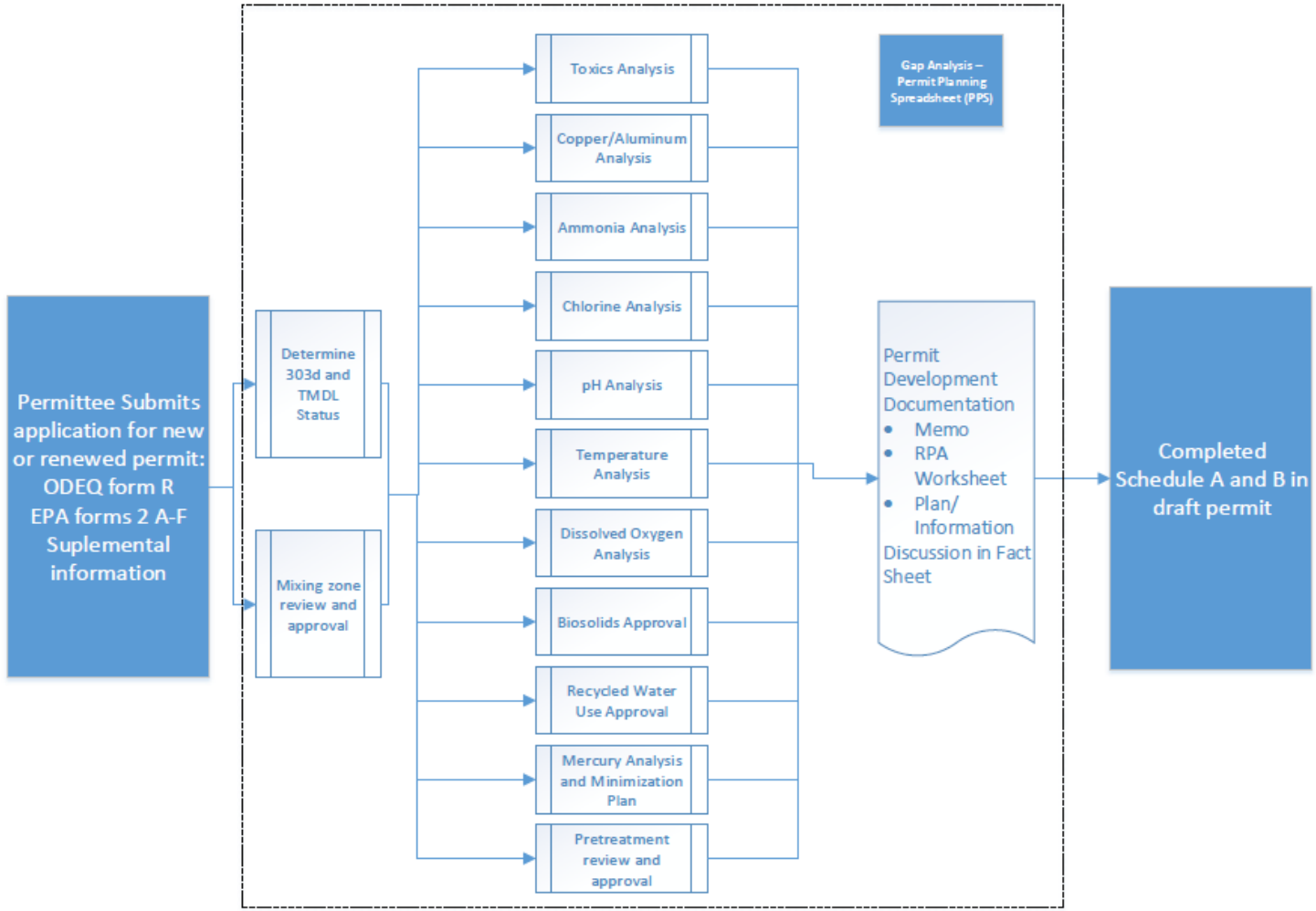
- Final Plans posted on October https://www.oregon.gov/deq/wq/Documents/wqpPIP2023.pdf (Water Quality Permits)

- General permits - https://www.oregon.gov/deq/FilterDocs/wqpNPDESpip2020.pdf

Permit Development

Exhibit 6-2 Standards-to-permits process





Pollutants of Concern (POC)

- POC – pollutant present in effluent that may impact water quality
- Example of tool for identifying industrial POC's
- WQ standards
  - Beneficial uses
  - WQ criteria
  - Human health criteria
- Stream impairments
- TMDL WLA's
- Pretreatment industrial users
- Technology Based Effluent Limits (TBEL's)

Gap Analysis Industrial Permittee POC Documentation Sheet

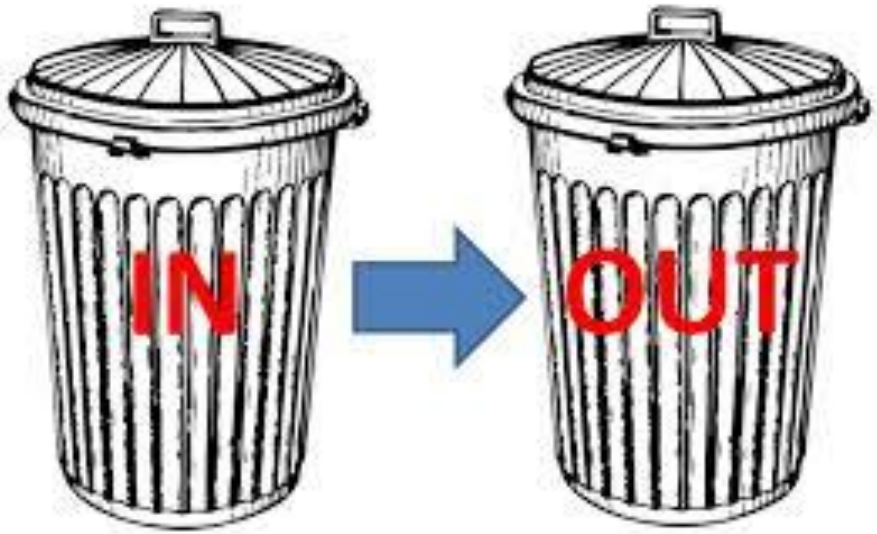
Prepared By:

Preparation Date:

Permittee:					
Permit #/EPA #:					
SIC codes:					
Industrial Category:					
Toxics Needed Based on Industrial Category (check applicable boxes)	Metals	Volatiles	Acid Extractable	Base/Neutral	Pesticide
Other POCs identified from application:					
Other POCs identified from monitoring submitted by permittee (may or may not be part of application):					
303d list parameters (may or may not be included in final permit depending on whether they are expected in effluent – PW discretion):					

Quality Matters

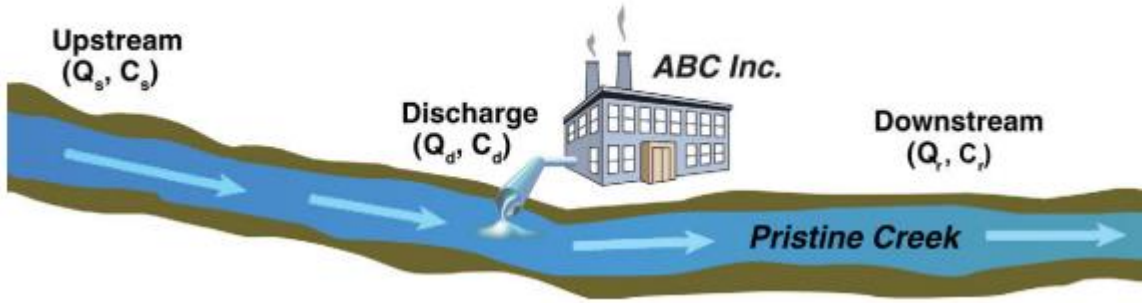
- High quality data is very important
- Samples can be contaminated resulting in elevated concentrations that don't reflect the quality of the effluent
- If samples don't meet QA/QC, they can't be used, resulting in less data for the analysis – and what does this lead to? (Yes, more conservative analyses)



Data Evaluation

- Reasonable potential analysis
  - Does the effluent have the potential to exceed water quality criteria?
- Waste load allocations calculated
  - Convert or add numeric waste load allocations from TMDL
- Mixing zone allowance?
- Run models
  - End of pipe
  - WQ model: Steady state with critical conditions (effluent + stream)
  - Importance of the CV on critical effluent projection

Exhibit 6-11 Simple mass-balance equation



Mass = **Flow** (Q) in million gallons per day (mgd) or cubic feet per second (cfs) X **Pollutant concentration** (C) in milligrams per liter (mg/L)

$$Q_sC_s + Q_dC_d = Q_rC_r$$

where

Q_s	=	stream flow in mgd or cfs above point of discharge
C_s	=	background in-stream pollutant concentration in mg/L
Q_d	=	effluent flow in mgd or cfs
C_d	=	effluent pollutant concentration in mg/L
Q_r	=	resultant in-stream flow, after discharge in mgd or cfs
C_r	=	resultant in-stream pollutant concentration in mg/L (after complete mixing occurs)

Example

- DEQ uses effluent data to determine if there is a potential for the discharge to exceed water quality standards.
- If the discharge exceeds a water quality standard, an effluent limit is needed.
- DEQ uses an EPA statistical analysis that is more conservative with fewer data points
  - The model uses the CV and multipliers to calculate an estimated statistical maximum

	Measured	Statistical	Mixing zone	Silver
n	Maximum	Maximum	Concentration	Criterion
3	0.2	0.8	0.19	0.1
12	0.2	0.4	0.07	0.1
	All units in ug/L			

Example:

A silver data set with 3 data points and a maximum of 0.2 ug/L results in an effluent limit in the permit

A silver data set with 12 data points and the same maximum value results in no effluent limit needed.

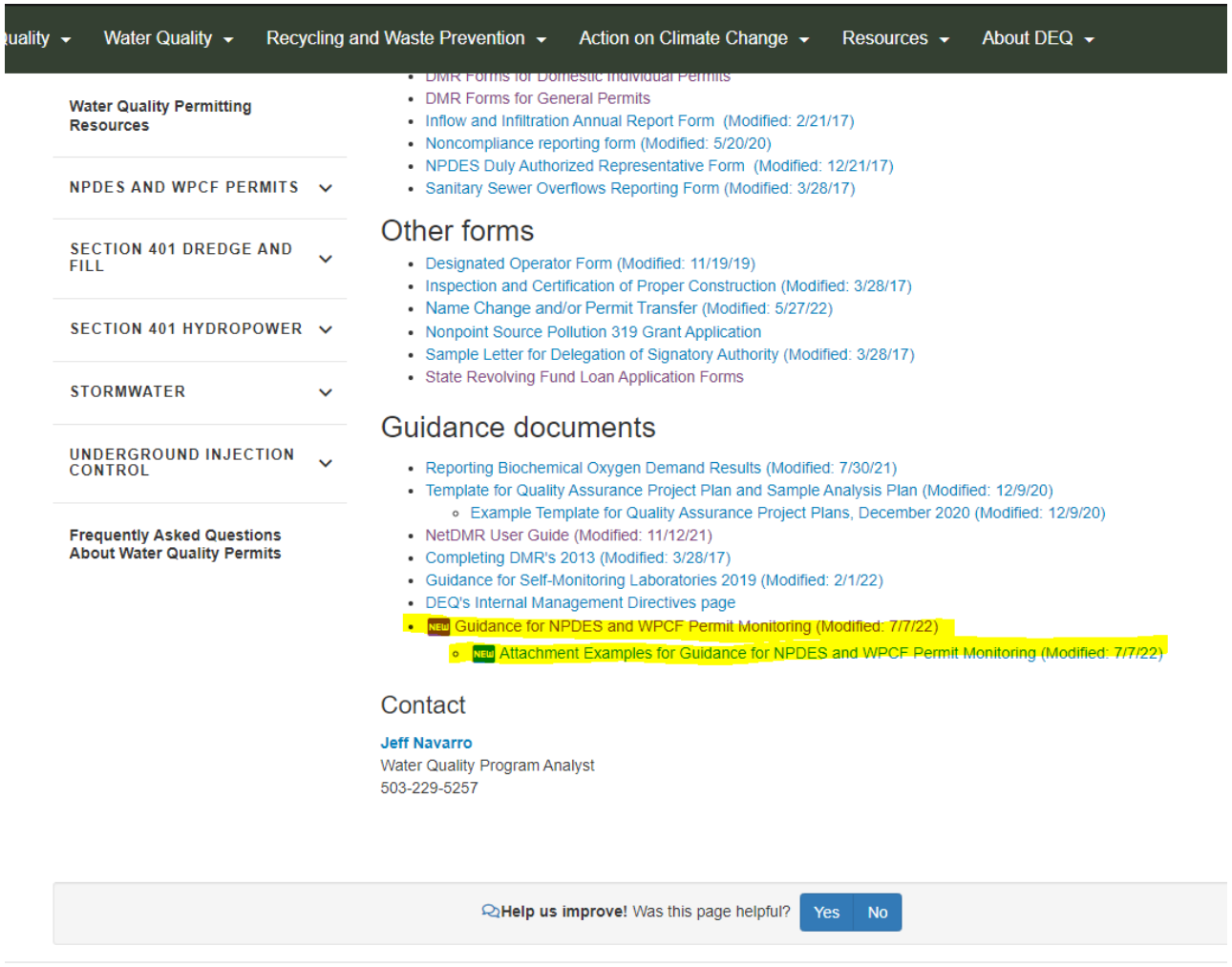
Coming up!

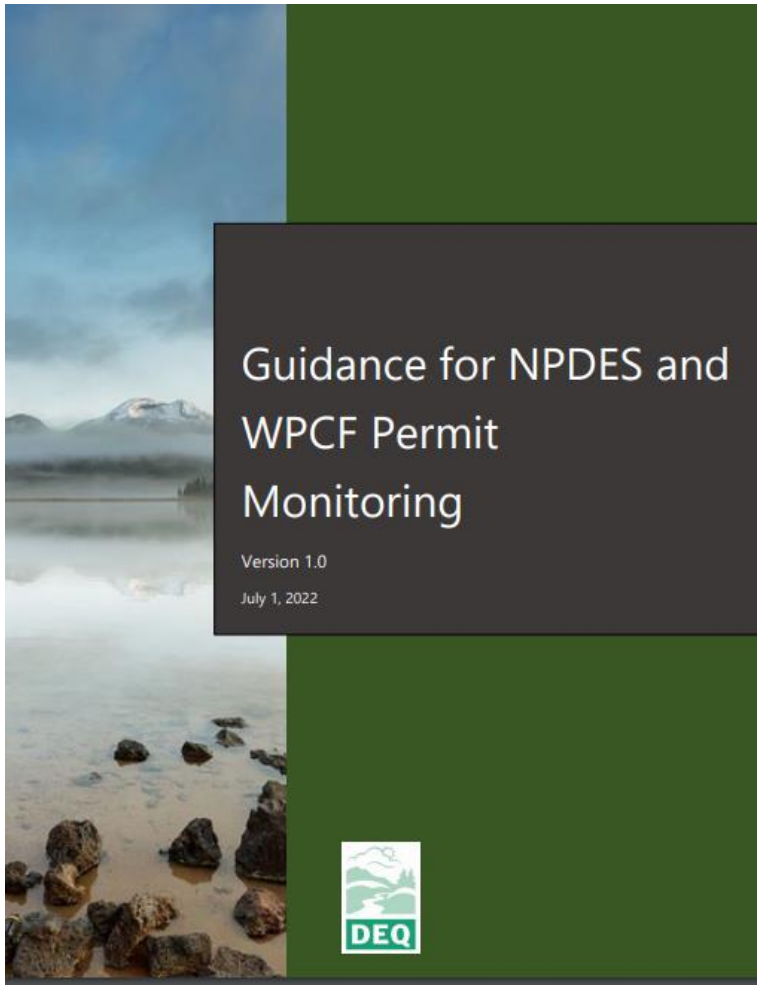
- 2024 Individual permit issuance plan – October 1
- Updated 5 – year permit issuance plan – October 1
- Check out the 2022 Annual Report on Oregon's Water Quality NPDES Permit Program
  - FFY 2022 Annual WQ Report for NPDES Individual Permits
  - 2023 annual report posted January 1, 2024
- Temperature TMDL replacement project
  - https://www.oregon.gov/deq/wq/Documents/tmdldatasolfaq.pdf

Coming up!

- Your DEQ Online – going live!
  - Stormwater is live
  - Operator certification is live
  - Complaints system – in progress
  - WPCF Onsite permits, NPDES individual and General, WPCF individual and general – in progress
  - https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online.aspx

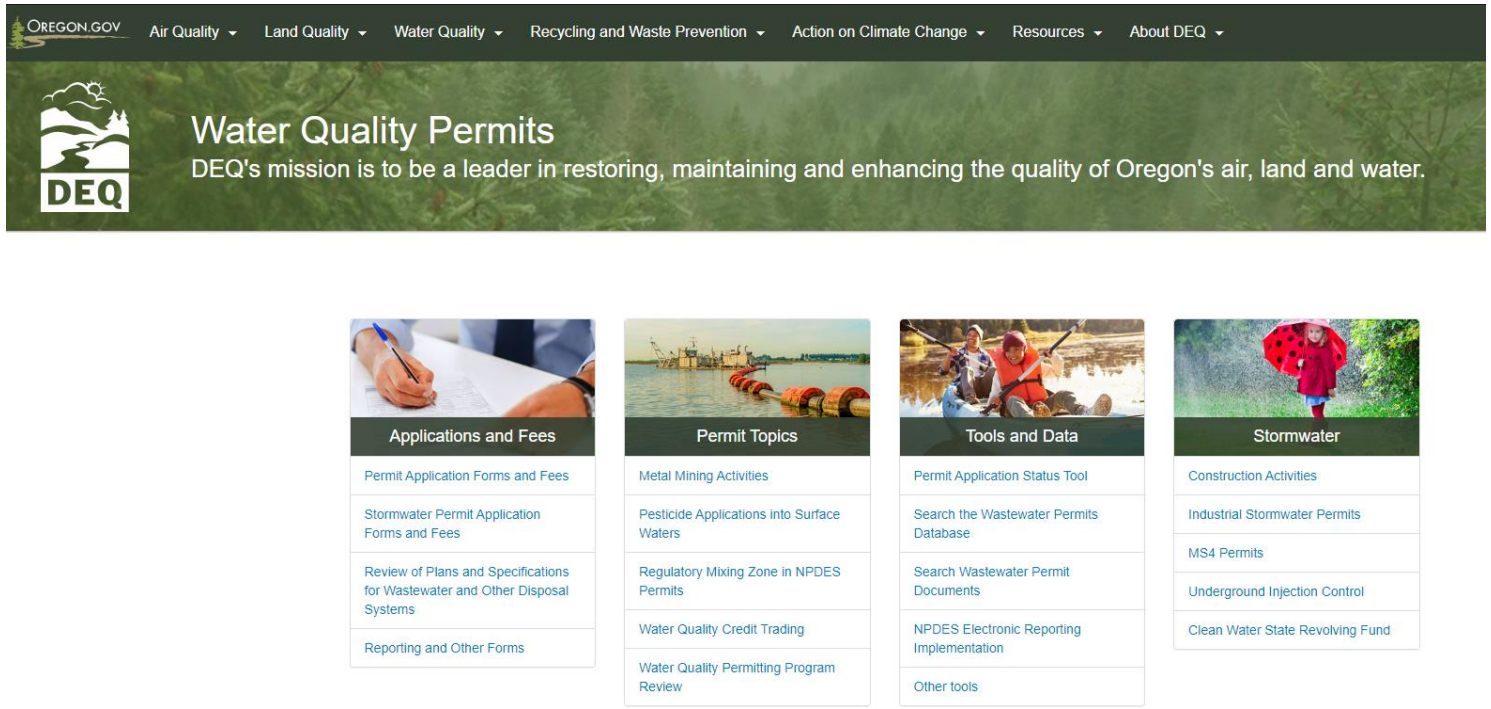
Monitoring Guidance





More Info on NPDES Permitting

https://www.oregon.gov/deq/wq/wqpermits/Pages/default.aspx



https://www.oregon.gov/deq/wq/wqpermits/Pages/Forms.aspx

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Questions?