# Electronic Tools for Successful Permitting

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# Tools for Permit Development

### Standardizing Permits

- Permit Calc Spreadsheet
  - Continuous Discharge RPA for Marine and Fresh Waters
  - Aquatic Life and HHC

 Shells for Individual NPDES and SWDP Factsheets & Permits



### Permit Calc Inputs

#### **Dilution Factor Calculations and Receiving Water Critical Conditions**

#### Step 1: Enter Waterbody Type

Water Body Type Freshwater

Facility Name	Anytown USA WWTP
Receiving Water	Columbia River

#### Step 2: Enter Dilution Factors -OR- Calculate DFs by entering Facility/Receiving Water Flow Data

Do you want to enter dilution factors -or- flow data?

Flow Data

	Annual Average	Max Monthly Average	Daily Max
Facility Flow, MGD	25	40	60
Facility Flow, cfs (calculated)	38.68	61.88	92.82

	Condition	Receiving Water	Allowable % of	Max Dilution
	Condition	Flow, cfs	river flow	Factor Allowed
Aquatic Life - Acute	7Q10	25000	0.025	7.7
Aquatic Life - Chronic	7Q10	25000	0.25	102.0
HH-Non-Carcinogen	30Q5	35000	0.25	142.4
HH-Carcinogen	Harmonic Mean	75000	0.25	485.8
Whole river at 7Q10	7Q10	25000	1	405.0

#### Step 3: Enter Critical Data

Step S. Enter Critical Bata		
	Effluent	Receiving Water
Temp, *C	17	19
pH, s.u.	7.4	6.8
Alkalinity, mg/L as CaCO3	65	62
Hardness, mg/L CaCO3	100	110
Salinity, psu		
Receiving water TSS, mg/L (lea	ve blank if unknown)	
If TSS is annual data, enter 'A'; if fro 'S'; If no TSS, leave blank	m critical period, enter	

#### Step 4: Specifiy if using 'Mixed' values for hardness, temperature, and pH

	Use 'Mixed Hardness' (Y/N)	Use 'Mixed Max Temp' (Y/N)	Use 'Mixed pH (Y/N)
	N	N	N
Acute Zone Boundary	108.7	18.7	6.8
Chronic Zone Boundary	109.9	19.0	6.8
Whole river at 7Q10	110.0	19.0	6.8

### Permit Calc WQ Criteria

#### **TSD Calculations - Water Quality Criteria Table**

Source: WAC 173-201A-240

Source: EPA National Recommended Water Quality Criteria

Criteria below calculated using:

Acute Hardness, mg/L: 0.0 Chronic Hardness, mg/L: 0.0

		Priority Pol-	Car-	Aq	uatic Life Cri	teria, μg/L		Human Heal		Organ-		Metals 1	 	
Pollutant, CAS No. & NPDES Application Ref. No.		lutant?	gen?	Fr	esh	Ma	rine			oleptic Effects	Freshwater		М	arine
	-		<b></b>	Acute	Chronic	Acute	Chronic	Fresh	Marine	2110010	Acute	Chronic	Acute	Chronic
AMMONIA unionized -see seperate sprdshts for FW criteria		N	N			233	35							
ACENAPTHENE 83329 1B		Υ	N					670.00	990.00	20.00				
ACROLEIN 107028 1V		Υ	N					6.0	9.0					
ACRYLONITRILE 107131 2V		Υ	Υ					0.059	0.66					
ALKALINITY		N	N		20,000									
ALDRIN 309002 1P		Υ	Υ	2.50	0.0019	0.71	0.0019	0.00013	0.00014					
ALUMINUM, total recoverable, pH 6.5-9.0 7429905		N	N	750										
ANTHRACENE 120127 3B		Υ	N					9600	110000					
ANTIMONY (INORGANIC) 7440360 1M		Υ	N					14	4300					
ARSENIC (dissolved) 7440382 2M		Υ	Υ	360	190	69	36				1.00	1.00	1.00	
ARSENIC (inorganic)		Υ	Υ					0.018	0.14					
ASBESTOS 1332214		Υ	Υ				7	7,000,000 fibers/	L					
ATRAZINE	•			350.00	12.00	760.00	26.00							
BACTERIA		N	N	see document										
BENZENE 71432 3V		Υ	Υ					1.20	71					
BENZIDINE 92875 4B		Υ	Υ					0.00012	0.00054					
BENZO(a)ANTHRACENE 56553 5B		Υ	Υ					0.0028	0.031					
BENZO(a)PYRENE 50328 6B		Υ	Υ					0.0028	0.031					
BENZO(b)FLUORANTHENE 205992 7B		Υ	Υ					0.0028	0.031					
BENZO(k) FLUORANTHENE 207089 9B		Υ	Υ					0.0028	0.031					
BERYLLIUM 7440417 3M		Υ	Υ											
BHC - ALPHA 319846 2P		Υ	Υ					0.0039	0.013					
BHC - BETA 319857 3P		Υ	Υ					0.014	0.046					
BHC - GAMMA 58899 4P (Lindane)		Υ	Υ	2	0.08	0.16		0.0190	0.063					
BHC - DELTA 319868 5P		Υ	Υ											
BIS(2-CHLOROETHYL)ETHER 111444 11B		Υ	Υ					0.031	1.4					

			Reas	onable l	Potentia	l Calcu	ılation						
	_						_	Dilution Fac	ctors:				Chronic
Facility	Anytown USA V							Aquatic Life				7.7	102.0
Water Body Type	Freshwate	:[						Human Health					485.8
Rec. Water Hardness	110 mg/L						L	Human Health	n Non-Carci	nogenic			142.4
							:		:			:	
Pollutant, CAS No. & NPDES Application Rel	f. No.		AMMONIA, Criteria as Total NH3	COPPER - 744058 6M Hardness dependent									
	# of Samples (n)		24	12	<u>-</u>	·	·	· ·	· ·	·	· ·	·	
	Coeff of Variation (Cv)	)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Effluent Data	Effluent Concentration (Max. or 95th Percenti		80	1500									
	Calculated 50th perce Effluent Conc. (when	n>10)		1100									
Receiving Water Data	90th Percentile Conc., Geo Mean, ug/L	.ug/L	10[	0									
	Aquatic Life Criteria,	Acute	28,046	18.61505			,					,	
	ug/L	Chronic	1,578	12.31402			······	·····					
Water Quality Criteria	WQ Criteria for Protec Human Health, ug/L	tion of	-	1300	·	<b>"</b>	,					,	
	Metal Criteria	Acute	-	0.996			······	·····					
	Translator, decimal	Chronic	-	0.996			· · · · · · · · · · · · · · · · · · ·	·····					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Carcinogen?		N	N			,	· · · · · · · · · · · · · · · · · · ·					,
Aquatic Life Reasonable													
Effluent percentile value			0.950	0.950									
s	s²=In(CV²+		0.555	0.555									
Pn	Pn=(1-confidence		0.883	0.779			•						
Multiplier			1.00	1.63		•				•		,	
Max concentration (ug/L) at	t edge of	Acute	19	313.965			,	, , , , , , , , , , , , , , , , , , ,				,	
		Chronic	11	23.804			7		, , , , , , , , , , , , , , , , , , ,			,	
Reasonable Potential?			NO	YES			,					-	

Aquatic Life Limit Calculation										
# of Compliance Samples Expected per month	•	4								
LTA Coeff. Var. (CV), decimal	`	0.6	•	•	•	•	•	•	•	•
Permit Limit Coeff. Var. (CV), decimal		0.6	•	•	•	•	•			
Waste Load Allocations, ug/L	Acute	143.9588								
	Chronic	1256.054								
Long Term Averages, ug/L	Acute	46.22276								,
	Chronic	662.4849	<b>y</b>	<b>y</b>						
Limiting LTA, ug/L		46.22276								
Metal Translator or 1?	•	1.00			•	•				•
Average Monthly Limit (AML), ug/L	,	72.0								
Maximum Daily Limit (MDL), ug/L	•	144.5	•	•						
Human Health Reasonable Potential	4)	0.554513								
s s'=In(CV'+ Pn Pn=(1-confidence		0.554515	•	•	•				•	
Multiplier Frie (Fcontidence	; level) ir i	0.652812								
Dilution Factor	•	142.4027			•	•			•	•
Max Conc. at edge of Chronic Zone, ug/L		7.724572							•	
Reasonable Potential? Limit Required?		NO P								
ricasonable i otericiai: Elinic ricquireu:		110								
Human Health Limit Calculation										
# of Compliance Samples Expected per month	•									
Average Monthly Effluent Limit, ug/L										
Maximum Daily Effluent Limit, ug/L	7	, , , , , , , , , , , , , , , , , , ,	•	•	•	•	•	•	•	•
Comments/Notes:										
References: WAC 173-201A.										
Technical Support Document for Water Quality-b	ased Toxics	Control, US EPA, March 19	91. EPA/50	5/2-90-001.	<u>pages 56/99</u>	!				

### Permit Calc, cont.

- Fecal Coliform and pH at Edge of Chronic MZ
- Temperature RPA and Limit Development
- DO Sag
- PBELs
- Checks data for normality





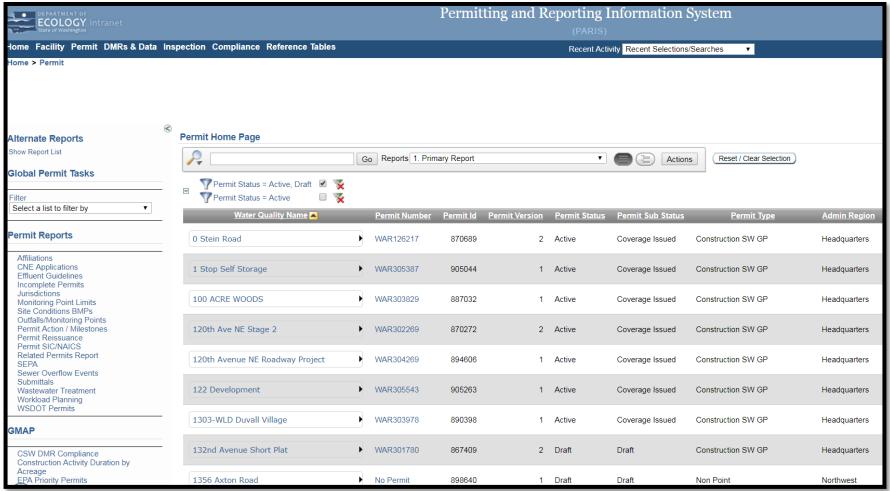
# Tools for Permit Management

### Permitting Database

- Permit and Reporting Information
   System
  - Internal & External Interfaces
  - Increased transparency
  - Feeds ICIS

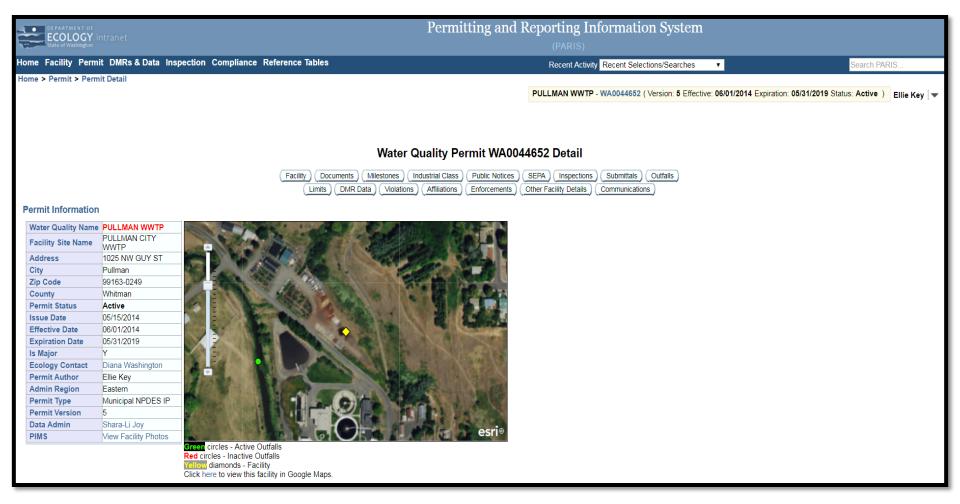


### Permit Lookup





## **Detailed Facility Information**



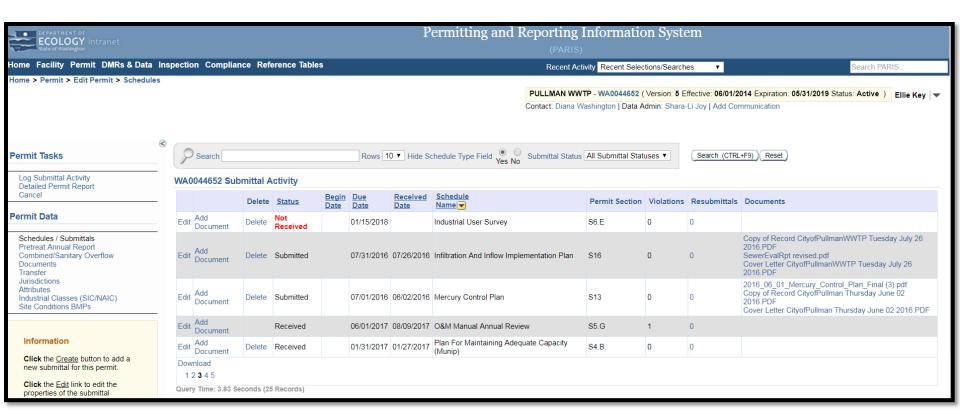


### Compliance

- Check submittal status
- View DMRs
- Check on missing/late DMRs
- Create informal and formal enforcements

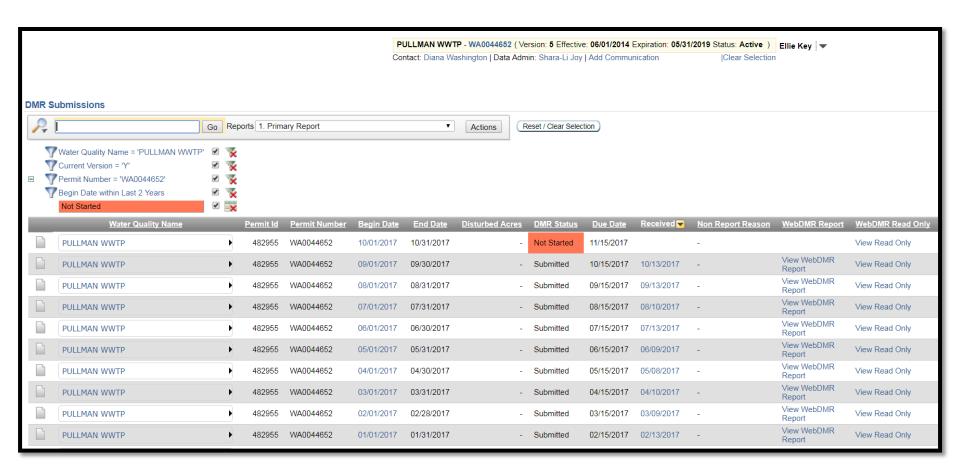


### Submittal Activity



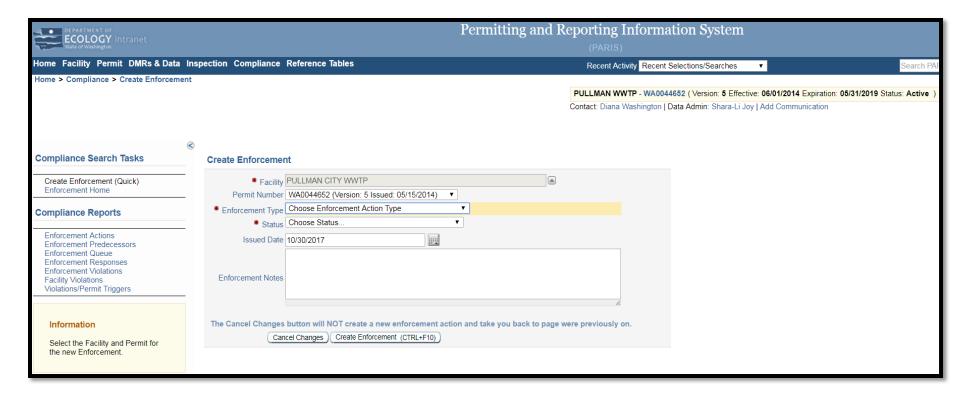


#### **DMR Status Review**





#### **Enforcements**





### **DMR** Reporting

- WO Web DMR
  - Monitoring
  - -Submittals
  - -Connects with PARIS



#### **Electronic DMR Data Submission**



Water Quality Permitting Portal wqwebPortal

#### Welcome to the Water Quality Permiting Portal

The WQWebPortal allows you a single sign-on for all your electronic Water Quality permit actions. You can access and reference your electronic submissions at the WQWebPortal site anytime—day or night.

Entering your data electronically guarantees instant receipt of the data—no more mailing paper DMRs every month! It also reduces application approval times and improves the accuracy of the data.

#### Apply for:

- Permit Coverage Notice of Intent (NOI)
  - Construction Stormwater General Permit
  - o Industrial Stormwater General Permit
  - Sand and Gravel General Permit
  - Upland Fin-Fish Hatching and Rearing General Permit
  - o Water Treatment Plant General Permit
  - o Boatyard General Permit
- Conditional No Exposure Exemption (CNE)
  - o Industrial Stormwater General Permit

#### Submit data for:

- Discharge Monitoring Report (DMR)
- Permit Submittals (Annual Reports, SWPPP, etc)

#### **Ecology only:**

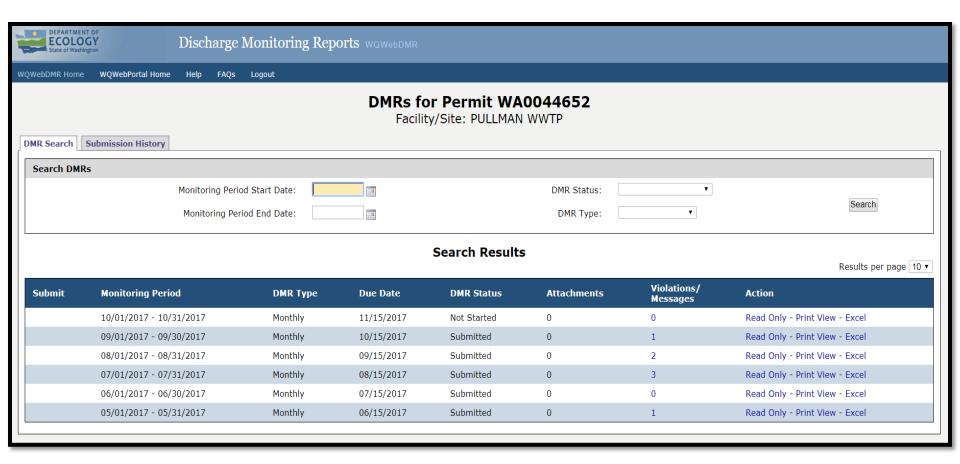
· Web Documents - Mass permit letter processing

If you need any document from this site in a version for the visually impaired, call the Water Quality Program at 360-407-6401. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

Ecology Home | Home | Technical Assistance Request (TAR) | Help | Release Notes | Contact Us



### **WQWebDMR**



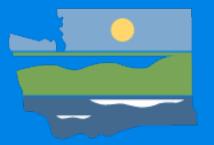


# **DMR** Example

Read			PULL	044652 MAN WW <sup>-</sup> - PALOUSE	25	ni <sup>1</sup>	Ori	Read	Orniv	Read	Fa	coring Period: cility County: eceived Date:	Whit	tman	/2017	4º	ad Only	Q.e?	d Only	Only	ead	July Set	,00	Read Read	Onli	Read	MIN	Reado	KIN
You c	DMR Reporting Codes:  (Covers all outfalls)  Add Overall Comments														4º	ad Only	ee?	d Out	Only	ead	July Be	,00	Read	onli	Read	Inly	Reado	P. P. P.	
	ch parameter at											es You must enter a monitoring poi				26	adonly		d Ouly	Only	end	July 268	,00	in sead	Onli	dead.	MIN	aead o	KIN
Monit	toring Point													IN1 - W	ASTEWATER I	NFLL	JENT 🔲												
Pa	rameter	Flow		pH Þ		Total BOD	5 •	BOD5 Calculated		Solids (Residue		Solids (Residue)		Arsenic *	Cadmium <sup>1</sup>	,	Copper *		Chromium *	Lead >		Mercury )	'	Nickel *		Silver *		Zinc	
F	raction					Total		Calculate	d	Total suspe (TSS)		Total suspended (TSS)	d	Total	Total		Total		Total	Total		Total		Total		Total		Total	
	Units	Millio Gallons/	/Day	Standard		Milligrams (mg/L)		Lbs/Day		Milligram (mg/L	.)	Lbs/Day		icrograms/L (ug/L)	Micrograms, (ug/L)	/L	Micrograms (ug/L)	/L	Micrograms/L (ug/L)	Microgram (ug/L)		Milligrams/ (mg/L)	/L	Micrograms/ (ug/L)	L	Micrograms, (ug/L)	L	Micrograms (ug/L)	s/L
	e Frequency	Continu	JOUS	5/Wee	ek	2/Week	c	2/Week		2/Wee	k	2/Week		Monthly	Monthly		Monthly		Monthly	Monthly	/	Monthly		Monthly		Monthly		Monthly	
Week	9/1/2017	2.884		8.1		353.5		8502.58		254		6109.35							9/1/2017									9/1/2017	
1	9/2/2017	2.724		8.09																									
		_		_					-	_																			
Week	9/3/2017	2.74		8.03						9/3/2017			_						9/3/2017									9/3/2017	
_	9/4/2017	2.658		7.76		0000																							
	9/5/2017	2.982		7.88		278.6		6928.749		206		5123.195	_																
	9/6/2017	2.851		8.08		302.5		7192.646		215		5112.128			0.404				1.50	4.57		0.0000		0.40		0.407		400	
	9/7/2017	2.861		8.08		257.8		6151.299		209		4986.895	1		0.124		44.4		1.53	1.57		0.0666		2.48		0.427		130	
	9/8/2017	2.922		7.99		290		7067.149		214		5215.069																	
	9/9/2017	2.806		7 97																									

Parameter	Flow	pH 🕨	Total BOD5 >	BOD5 Calculated	Solids (Residue)	Solids (Residue)	Arsenic 🕨	Cadmium )	Copper •	Chromium *	Lead •	Mercury •	Nickel •	Silver	Zinc F
Fraction			Total	Calculated	Total suspended (TSS)	Total suspended (TSS)	Total								
Units	Million Gallons/Day	Standard Units	Milligrams/L (mg/L)	Lbs/Day	Milligrams/L (mg/L)	Lbs/Day	Micrograms/L (ug/L)	Micrograms/L (ug/L)	Micrograms/L (ug/L)	Micrograms/L (ug/L)	Micrograms/L (ug/L)	Milligrams/L (mg/L)	Micrograms/L (ug/L)	Micrograms/L (ug/L)	Micrograms/L (ug/L)
Sample Frequency	Continuous	5/Week	2/Week	2/Week	2/Week	2/Week	Monthly								
Minimum		7.69			Minimum					Minimum					Minimum
		Report Only													
Average Monthly	2.8596		294.5823	7109.041	233.35	5646.242				Average Monthly					Average Monthly
	Design Limit: 4.3		Report Only	Design Limit: 8080	Report Only	Design Limit: 9420									
Weekly Average					Weekly Average					Weekly Average					Weekly Average
Maximum	3.023	8.18	353.5	8502.58	282	6691.099	1	0.124	44.4	1.53	1.57	0.0666	2.48	0.427	130
	Design Limit: 5.2	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only	Report Only





### Plans for the Future

#### **Identified Needs**

 Limit Development Spreadsheet for Intermittent/Episodic Discharges

Tool for Nutrient WQBELs

 Electronic NPDES 'Smart' Application





# Questions and Discussion