

PSNGP AC

PRELIMINARY FINDINGS

Background material for discussion

June 2, 2020

Ecology is still processing results from the year 1 optimization scenarios. However, our modeling team was able to provide me with some early results from the 2006 model year that have been through final QA. The second slide provides context to slide 1 by looking at the absolute values rather than just the percent change relative to existing conditions.

From the modeling team: As you can see from the table on the second slide, the noncompliant days and area is reduced to a larger degree than the maximum noncompliance magnitude (which does not change much with any of the BNR scenarios). Additionally, the 4th column shows the noncompliant area as a % of the total area of Greater Puget Sound. As you can see, the 57% reduction in noncompliant area from Annual BNR relative to existing conditions is due to a reduction in noncompliant area in Greater Puget Sound from 17% to 7.3%.

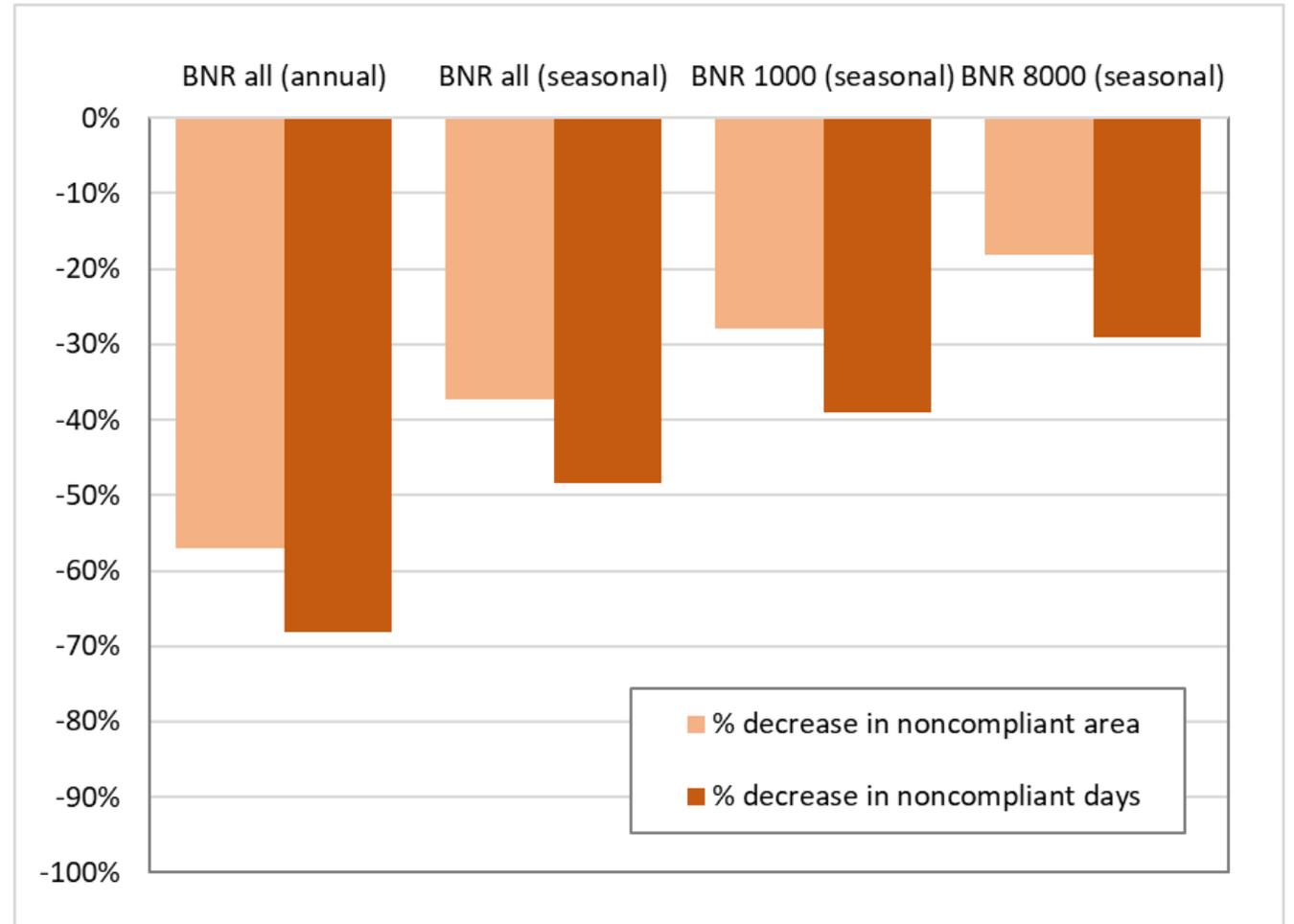
Also, for clarification:

BNR1000 represents domestic WWTPs discharging effluent to marine waters with DIN load of 1,000 kg/day or greater. BNR8000 represents domestic WWTPs discharging effluent to marine waters with DIN load of 8,000 kg/day or greater. Facilities discharging less than either 1,000 or 8,000 kg/d (depending on the evaluation) remained at their existing discharge condition in these scenarios.

A detailed memo discussing Year 1 results will be out later this year.

BNR Scenarios: Percent decrease in noncompliance area and days

- Annual BNR vs. seasonal BNR - % decrease in noncompliance relative to existing conditions
- Results are for greater Puget Sound
- **BNR*:** $\text{DIN} \leq 8 \text{ mg/L}$
 $\text{CBOD5} \leq 8 \text{ mg/L}$



* TetraTech 2011. Technical and Economic Evaluation of Nitrogen and Phosphorus Removal at Municipal Wastewater Treatment Facilities in Washington State. Ecology Publication Number 11-10-060

BNR Scenarios: difference relative to Existing (2006) conditions

Model Scenario	Average noncompliant days per cell*	Max magnitude of DO noncompliance	Noncompliant area (km ²)	Noncompliant area as a % of Greater Puget Sound's area
Existing	67.38	-1.9	484	17.0%
BNR All - Annual	20.84	-1.7	208	7.3%
BNR All - Seasonal	34.11	-1.8	304	10.7%
BNR 1000 - Seasonal	40.34	-1.8	349	12.2%
BNR 8000 - Seasonal	47.33	-1.9	396	13.9%

*This values represents the number of noncompliant days for each scenario, divided by the total number of model cells that are noncompliant under existing conditions