Please note: due to time constraints, the following slides were **not** presented at the 3.9.2021 Nutrient Forum despite being on the agenda. We plan to share these slides at a future Nutrient Forum meeting in 2021.

SSM & calculating meeting standards

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DO Standards Are Protective

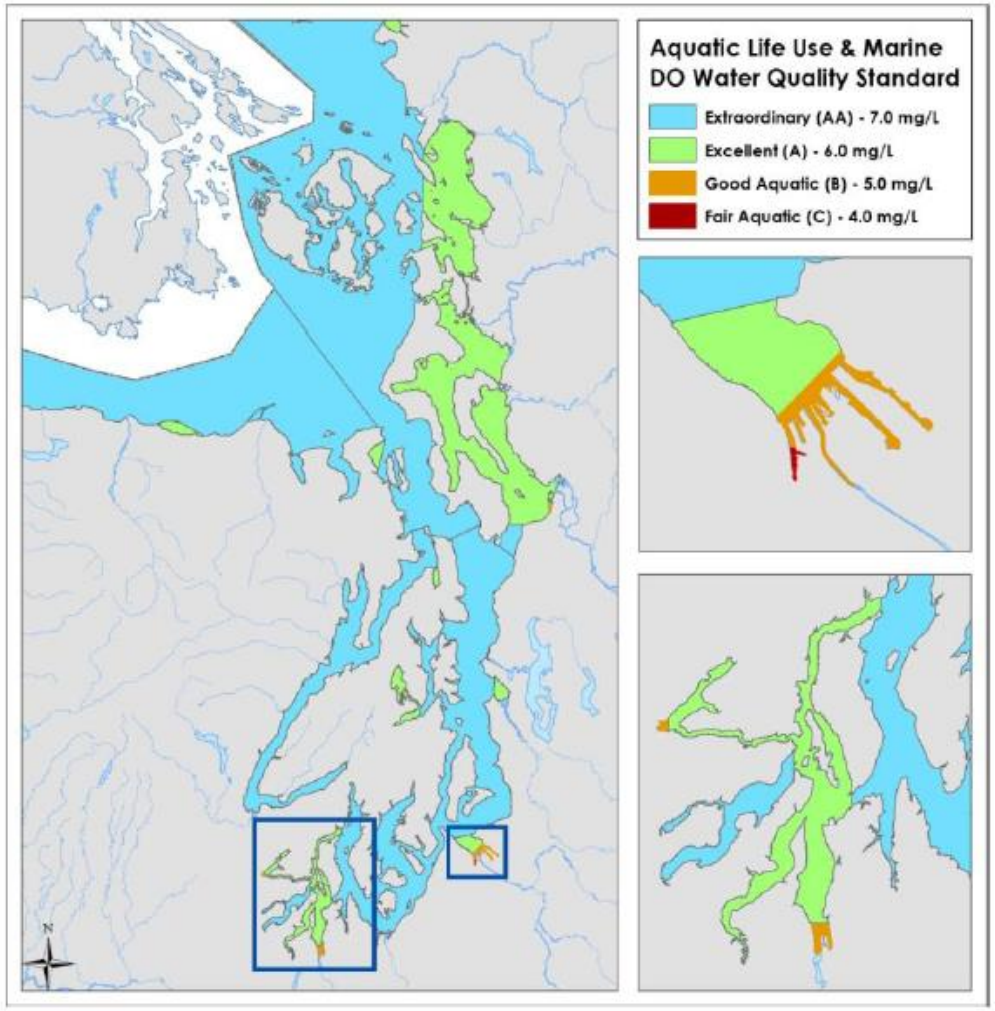
Dissolved oxygen levels
established in the water quality standards
are intended to set levels that protect healthy and robust
aquatic communities, including the most sensitive species

PART A- Biologically Based Numeric Criteria

Table 210 (1)(c) from WAC 173-201A-210

- **7.0** mg/L (Extraordinary)- most of Puget Sound and the Straits
- **6.0** mg/L (Excellent)- Bellingham Bay, Samish Bay, Skagit Bay, most of the Whidbey Basin, parts of Budd Inlet and other parts of South Sound Basin
- **5.0** mg/L (Good)- Commencement Bay, Budd Inlet, and headwaters of some inlets
- **4.0** mg/L (Fair)- finger of Commencement Bay

- Concentrations are measured as 1-day minimum (Dmin)
- Average frequency of not meeting standards less than once per 10 years



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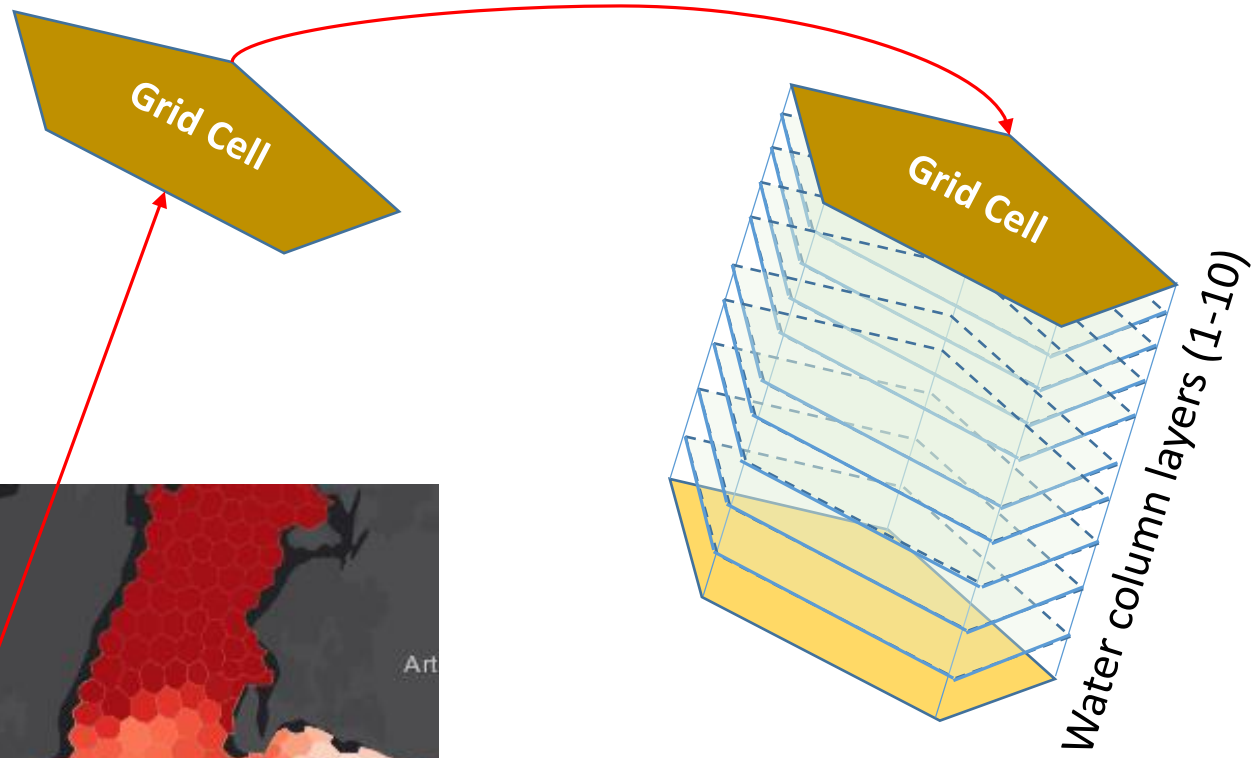
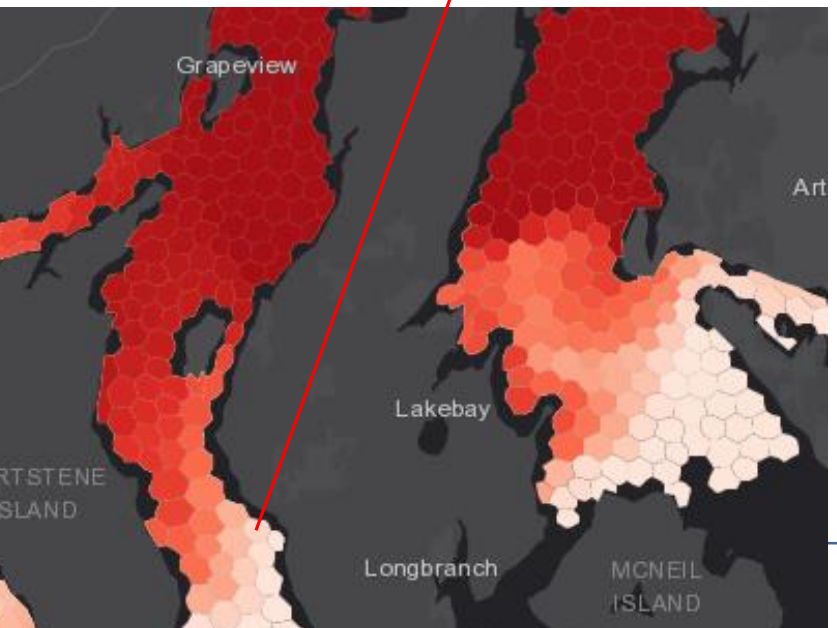
PART B- Limit Human Impacts to the Natural Condition

WAC173-201A-210(d)(i): When a water body's DO is lower than the criteria in Table 210(1)(d) (or within 0.2mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the DO of that water body to decrease more than 0.2mg/L.

Cannot lower DO more than 0.2mg/L below natural conditions due to human actions

Salish Sea Model Grid Cells

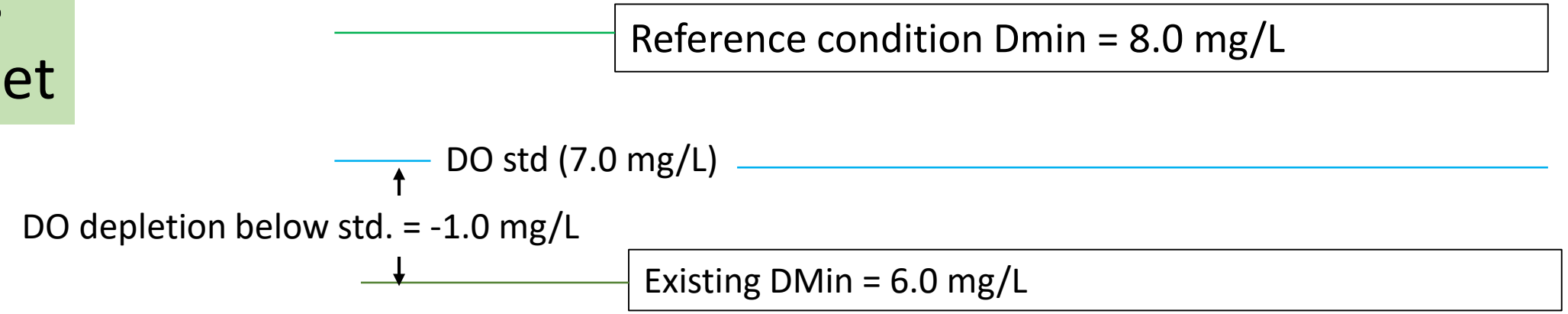




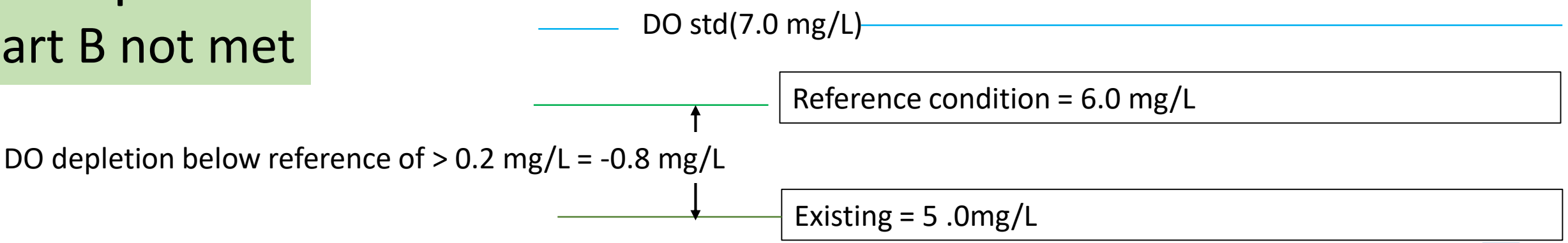
- Each grid cell has 10 vertical layers
- Results represent average conditions within each grid cell layer
- Compare daily minimum DO for every layer to DO standards
- Plan-view maps show layer with largest DO depletion below standards

Example comparing DO standards with the model results

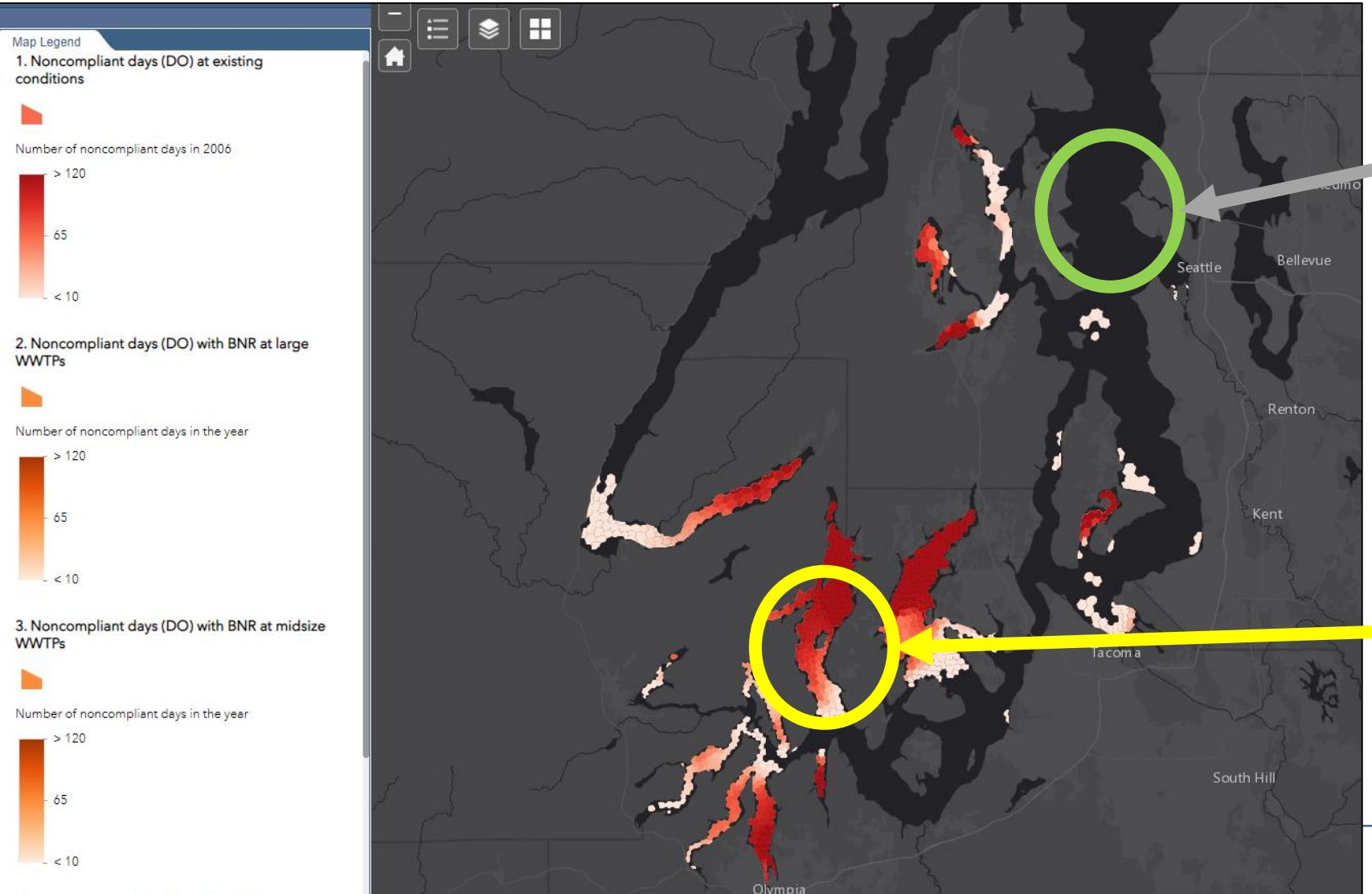
Example 1: Part A not met



Example 2: Part B not met



Days Not Meeting Standards in 2006



No color means that the grid cell meets standards and passes both Part A and B tests

If a grid cell is colored in, then it does not pass either the Part A or Part B tests (or both) and does not meet standards

New Results Coming at the Next Forum

- Optimization Technical Memo (Year 1)
  - Impacts of watersheds by region/basin
  - Impacts of WWTPs by region/basin
  - Improvement from annual BNR8
  - High/Low future population nutrient load impacts
  - Combinations of watershed and WWTP reductions