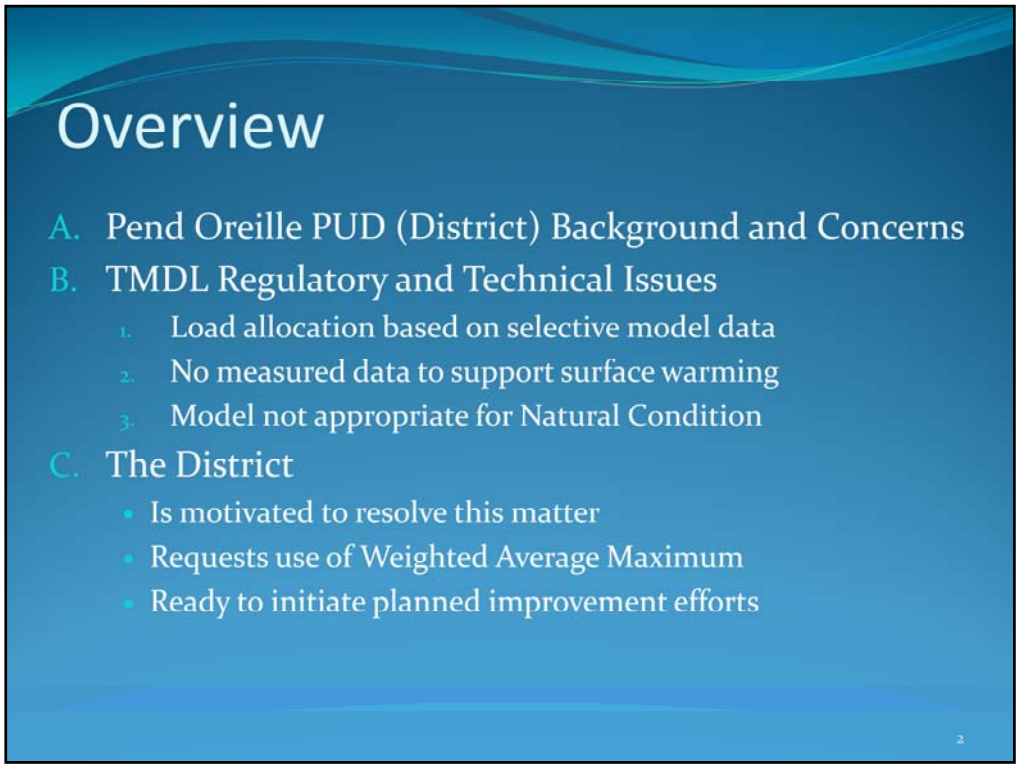
This is the final version of the presentation as presented to the Dispute Resolution panel on June 30.

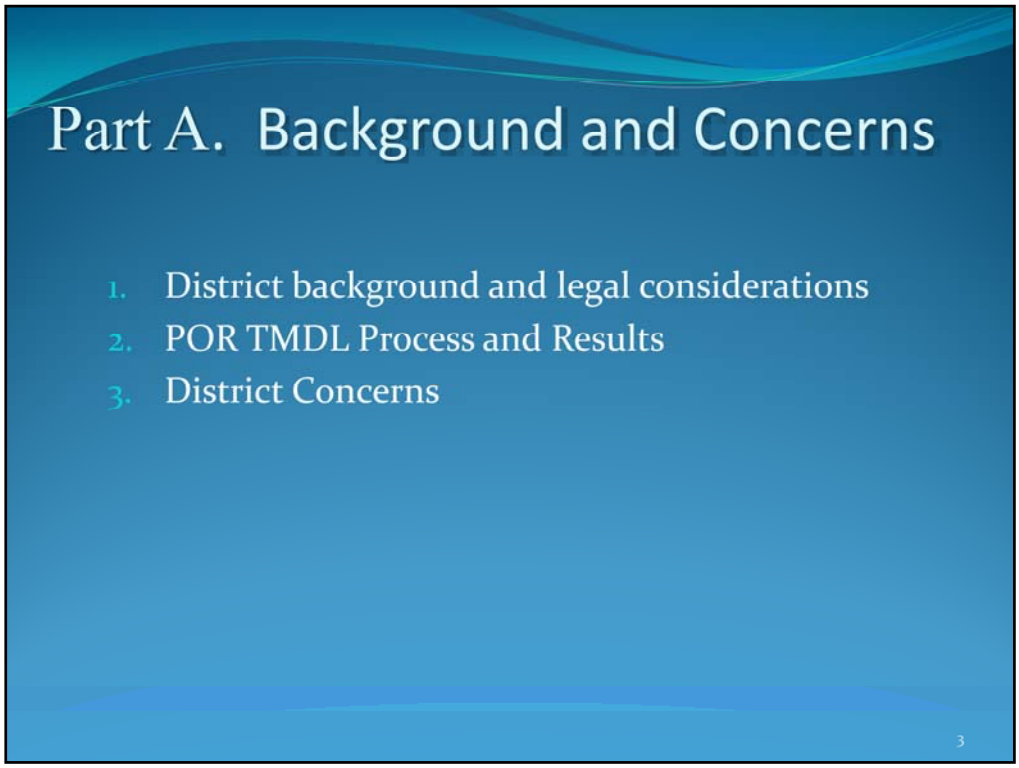


Presenters:

- Jerry Boyd / Paine Hamblen LLP, Spokane
- Dennis Schult / EES Consulting
- Jack Snyder, P.E. / McMillen Engineering, Seattle
- Jack Harrison, PhD, PE / HyQual, Boise
- Mark Cauchy, POPUD, Newport

- The primary focus will be presentation of regulatory and technical issues regarding selection of the model data showing surface warming, the lack of measured data to support the level of surface warming modeled, and the inappropriate used of the model to estimate maximum temperatures under natural conditions.

- The District is requesting use of volume or flow weighted average daily maximums, and will proceed with “refocused” mitigation efforts to improve support of beneficial uses.



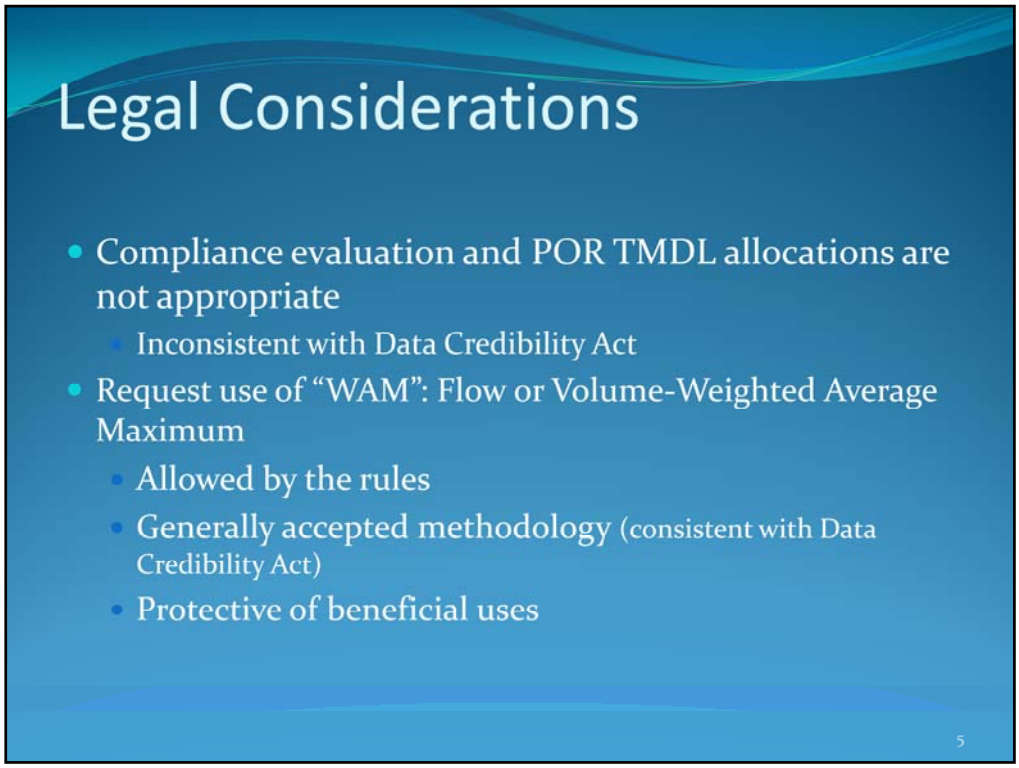
This part of the presentation introduces the project, the TMDL, and primary concerns.

Note: The POR TMDL refers to the Pend Oreille River Temperature TMDL and Water Quality Improvement Report published by Ecology in March 2011.

A.1. Pend Oreille PUD

- Pend Oreille Public Utility District #1
- Municipal non-profit corporation under WA state law
- Supplies power to all residents of Pend Oreille County
- Three elected commissioners
- Office in Newport, WA
- Operator and owner of Box Canyon Dam
- Relatively small run-of-river project

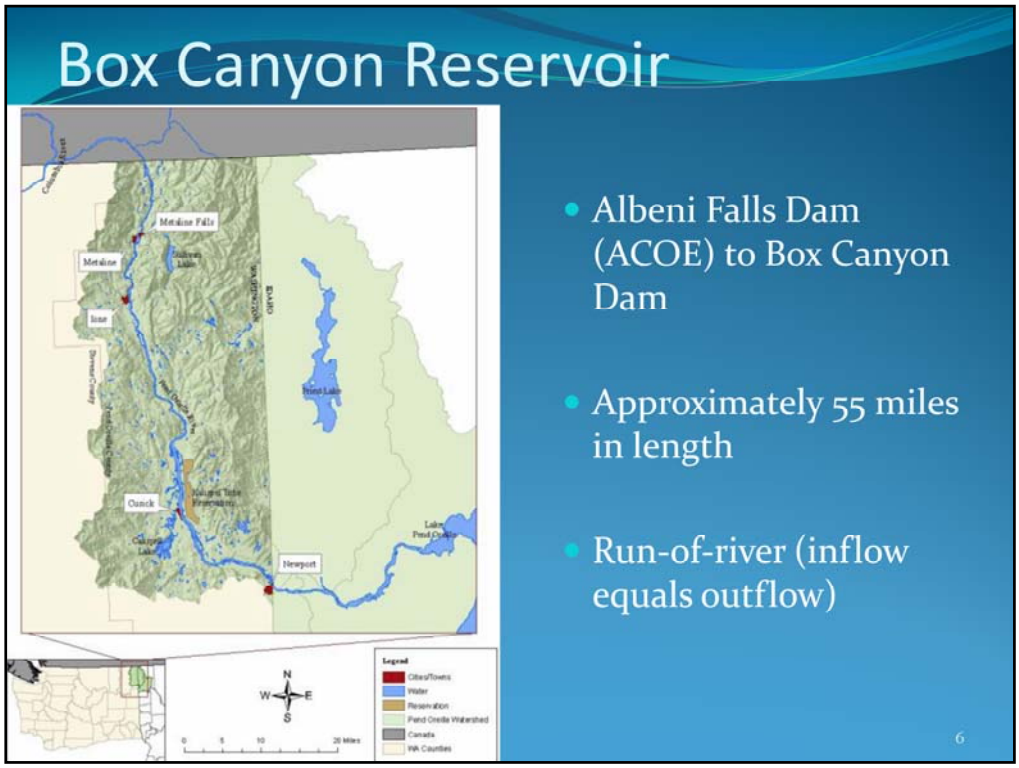
4



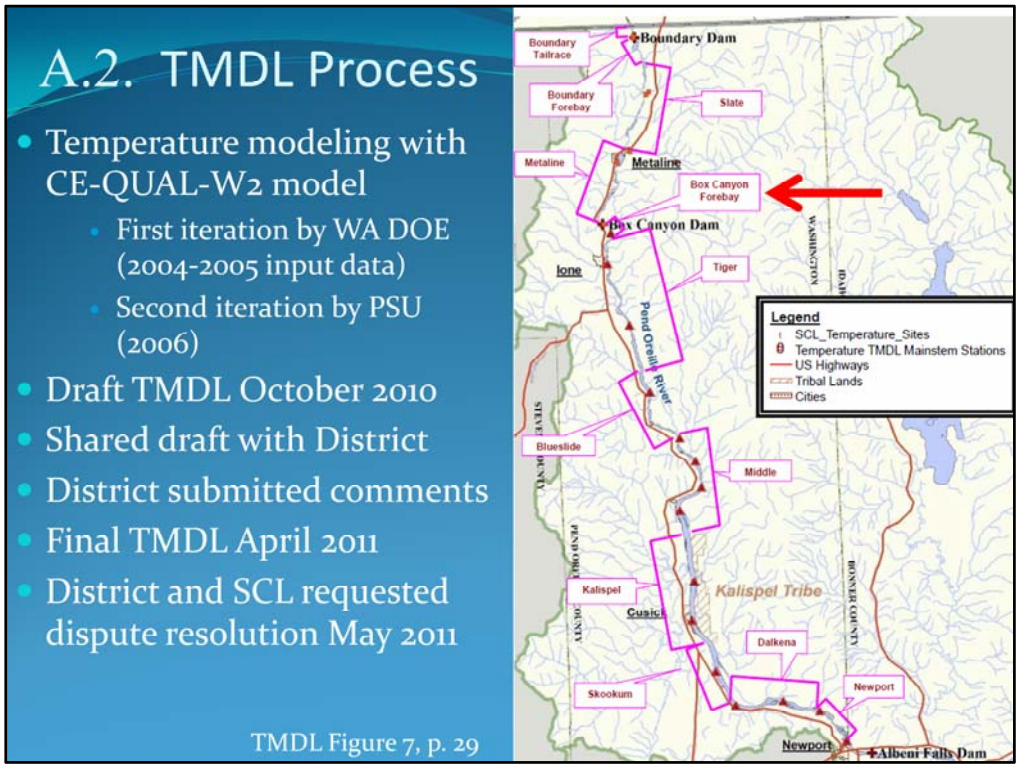
Notes:

Compliance evaluation refers to comparison of Existing Scenario with Natural Conditions Scenario to select a maximum differential as an allocation for the District.

"WAM" refers to a "weighted average maximum", as will be explained more fully later.

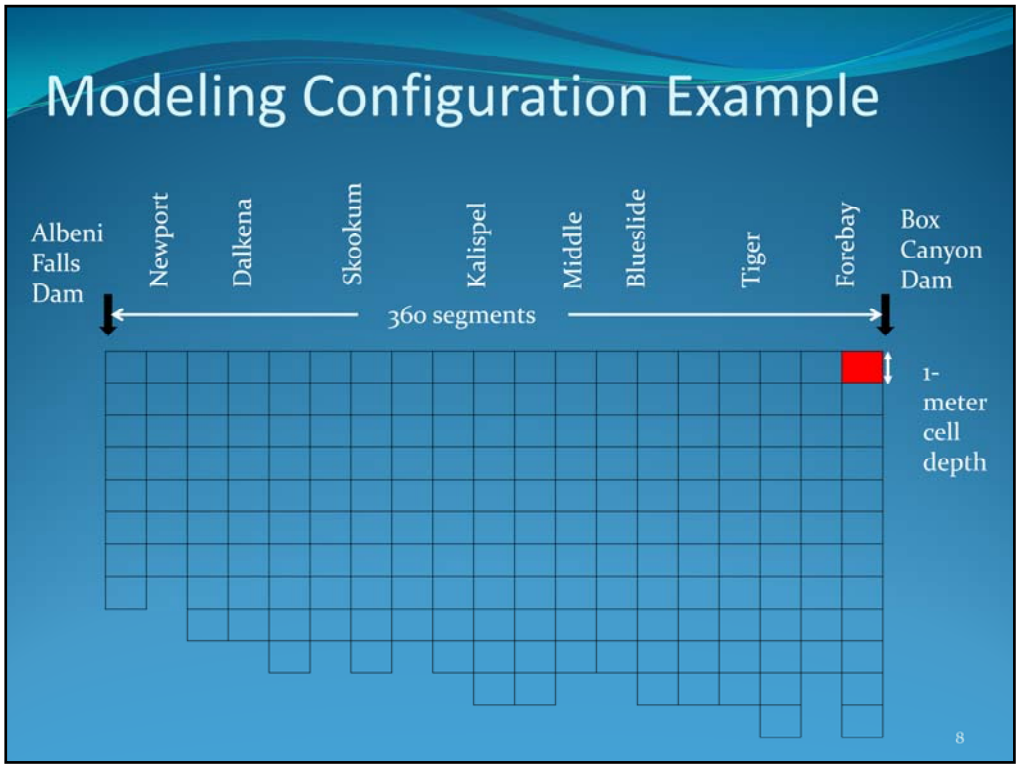


Map showing TMDL study area and POR watershed (POR TMDL Figure 2).



For purposes of compliance evaluation and TMDL allocation, the Box Canyon reservoir was divided into 8 reaches.

Ecology selected a maximum differential from the Forebay reach, which is the shortest of them all.



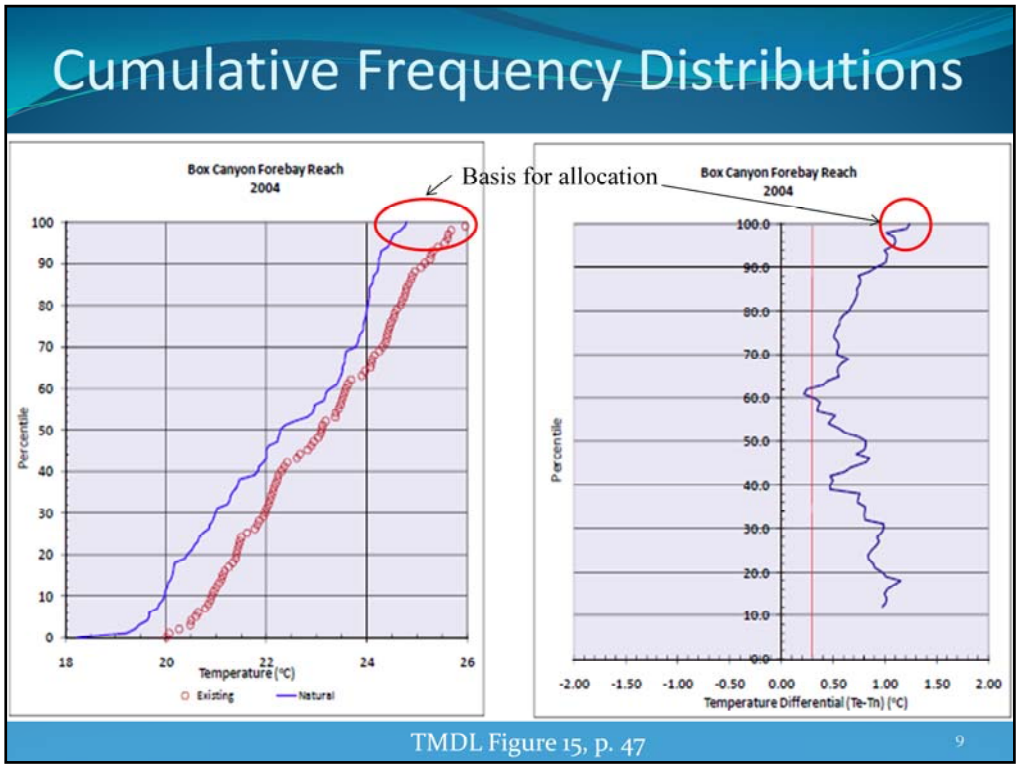
Segments are laterally averaged.

Daily maximum temperatures selected from each segment – both in time and space – hottest part of the day and hottest part of the water column.

Daily maximums grouped by reach, and median of the maximums selected for analysis.

Entire allocation is based on modeled temperatures from one cell at the surface in the Forebay reach.

If allocation is to be based on the modeling result from one cell, while ignoring the other thousands of cells modeled, confidence in that one cell's result ought to be extremely high. We don't think that confidence is justified in this case.



Data filtered to include only those times when existing conditions led to maximum temperatures >20°C

Natural conditions maxima then selected to correspond to dates when existing conditions >20°C

Cumulative frequency distributions (CFD) compiled for each data set (existing and natural) - done to account for differences in travel time through the reservoir due to impoundment

Maximum temperature differential selected from the CFD's for evaluation of exceedance and allocation – means a single modeled temperature differential was selected from >10M modeled temperatures for purposes of allocation

TMDL Compliance Evaluation

Reach	Criteria Met		Maximum Temperature Differential [1] (Existing – Natural)		Average Temperature Differential [2]		Level of Criteria Exceedence [3]	
	2004	2005	2004	2005	2004	2005	2004	2005
Newport	Yes	Yes	==	==	-0.55°C	-0.55°C	==	==
Dalkena	Yes	Yes	==	==	-0.30°C	-0.23°C	==	==
Skookum	No	No	0.51°C	0.50°C	+0.03°C	+0.11°C	0.21 °C	0.20 °C
Kalispel	Yes	Yes	==	==	-0.38°C	-0.49°C	==	==
Middle	Yes	Yes	==	==	-0.64°C	-0.81°C	==	==
Blueslide	Yes	Yes	==	==	-0.59°C	-0.75°C	==	==
Tiger	No	No	0.74°C	0.81°C	+0.34°C	+0.39°C	0.44 °C	0.51 °C
Box Canyon Forebay	No	No	1.25°C	1.23°C	+0.78°C	+0.76°C	0.95 °C	0.93 °C
Metaline	No	No	0.88°C	0.47°C	-0.11°C	-0.07 °C	0.58 °C	0.17 °C

TMDL Table 6, p. 41

Note: estimate of modeling uncertainty ~0.6°C

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The estimate of model uncertainty is discussed in more detail below.

A.3. District Concerns

- All costs to the District must be passed on to the rate-payers
- New FERC license on Box Canyon Dam has added substantial costs, causing significant upward pressure on electric rates
- Increased costs due to TMDL compliance measures have the potential to add significantly to current electric rates
- Uncertainty of future costs can have large impact on rate-payers and economic development

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District Questions about the TMDL

- TMDL report contains what appear to be anomalies that raised questions with the District
- Selection and processing of modeling data has potential to greatly change the results
- What TMDL results raised questions to the District?

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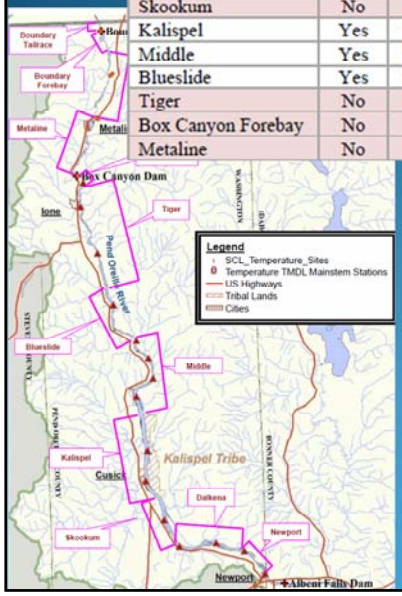
TMDL Questions

- All data is modeled – only source of both natural and existing temperatures are modeled predictions, so accuracy of the model is key
- Temperatures suddenly increase then immediately decrease at certain locations – where does the heat go?
- Model uncertainty considerations

13

TMDL Table 6, p.41

Reach	Criteria Met		Maximum Temperature Differential [1] (Existing – Natural)		Average Temperature Differential [2]		Level of Criteria Exceedence [3]	
	2004	2005	2004	2005	2004	2005	2004	2005
Newport	Yes	Yes	==	==	-0.55°C	-0.55°C	==	==
Dalkena	Yes	Yes	==	==	-0.30°C	-0.23°C	==	==
Skookum	No	No	0.51°C	0.50°C	+0.03°C	+0.11°C	0.21 °C	0.20 °C
Kalispel	Yes	Yes	==	==	-0.38°C	-0.49°C	==	==
Middle	Yes	Yes	==	==	-0.64°C	-0.81°C	==	==
Blueslide	Yes	Yes	==	==	-0.59°C	-0.75°C	==	==
Tiger	No	No	0.74°C	0.81°C	+0.34°C	+0.39°C	0.44 °C	0.51 °C
Box Canyon Forebay	No	No	1.25°C	1.23°C	+0.78°C	+0.76°C	0.95 °C	0.93 °C
Metaline	No	No	0.88°C	0.47°C	-0.11°C	-0.07 °C	0.58 °C	0.17 °C



- Temperatures suddenly increase then immediately decrease at certain locations

TMDL Figure 7, p.29

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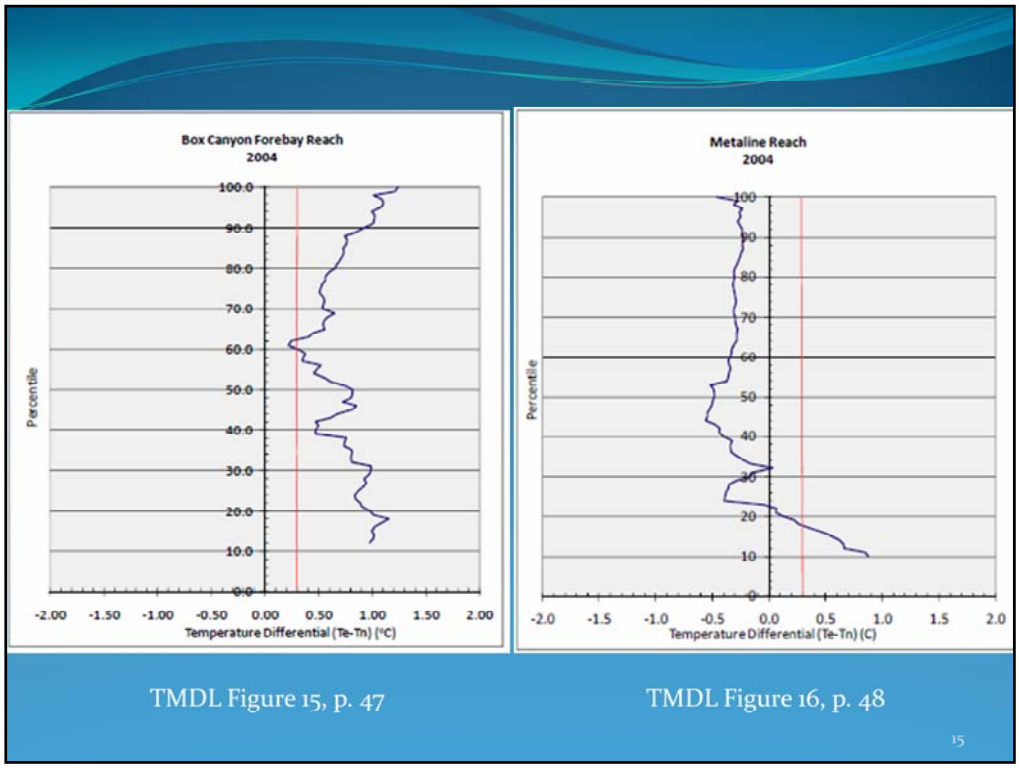
Skookum reach out of compliance but reaches upstream and downstream both in compliance.

Water flows are the same through all reaches, so what caused a rapid rise in the Skookum reach, and what caused the drop?

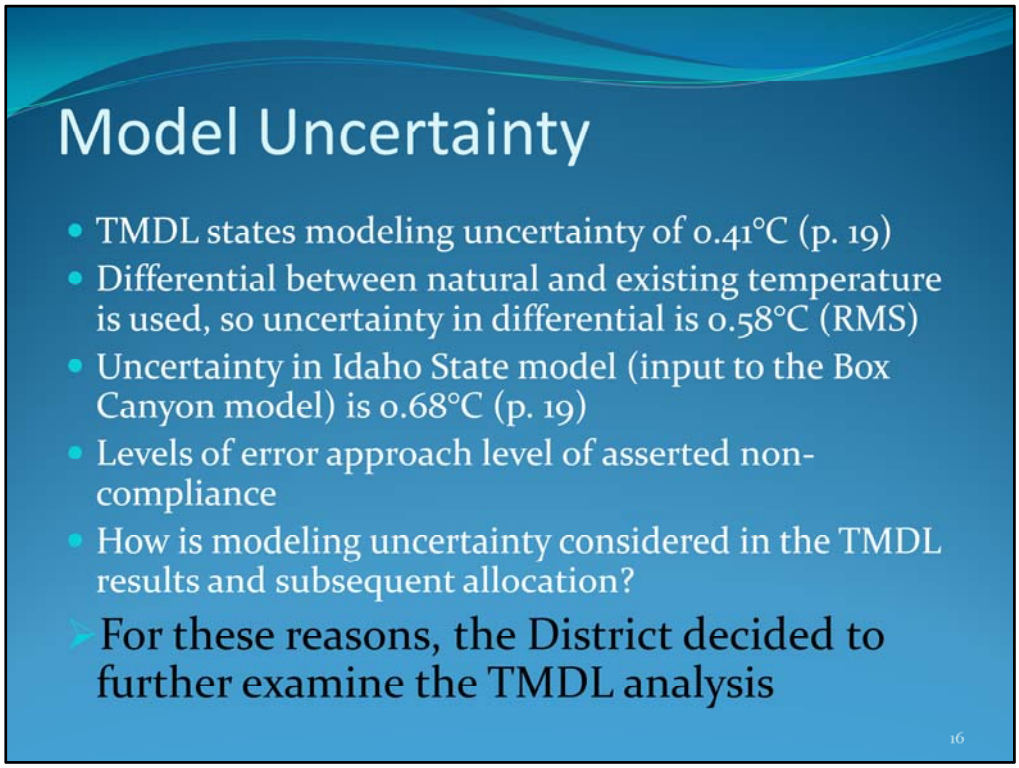
Where did the heat go?



CFD's show differences between Forebay and Metaline reaches.

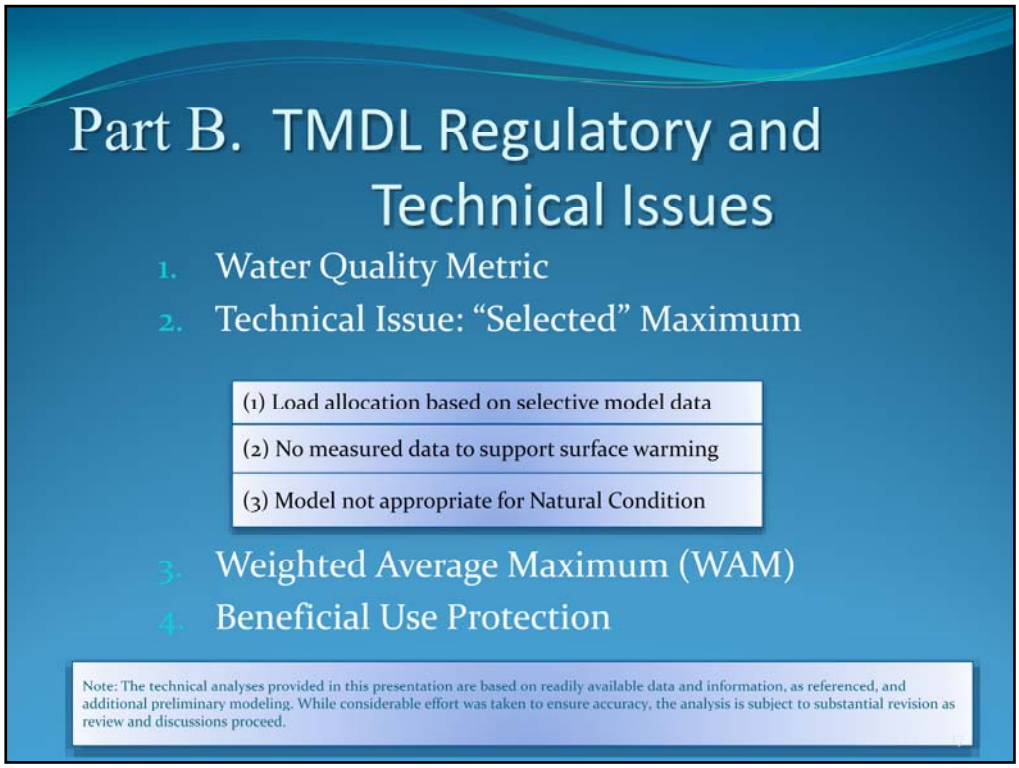
Implies "cooling" due to passage through Box Canyon Dam.

But where did the heat go?

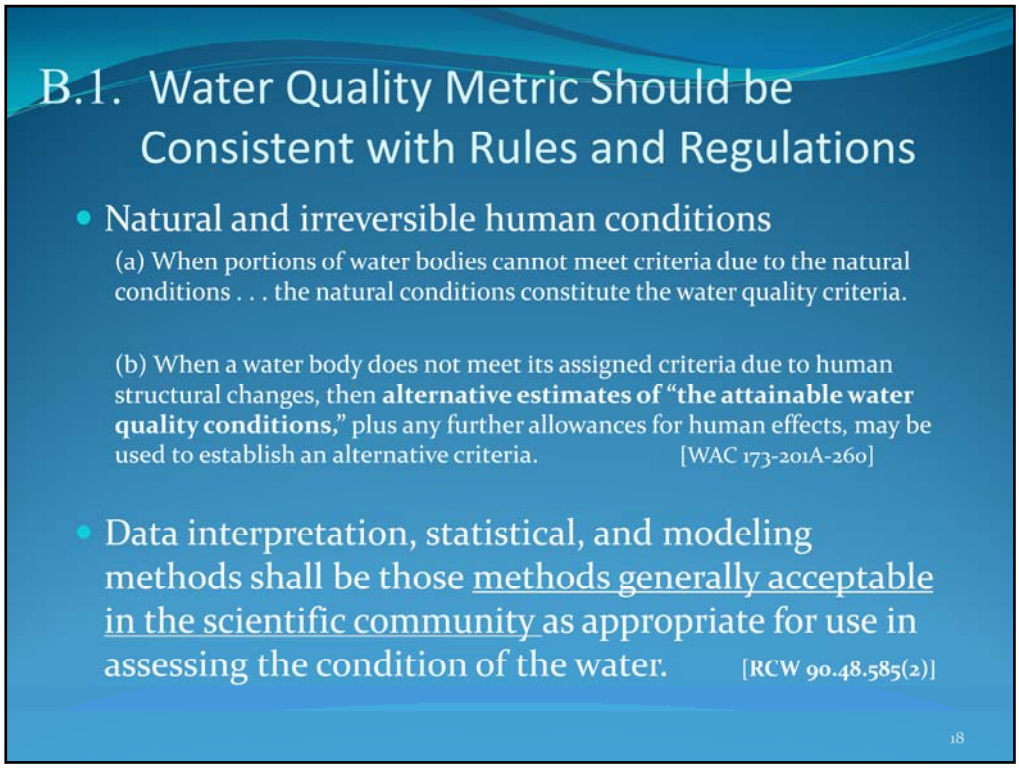


Model uncertainty is cumulative:

$= [(0.41^2 + 0.41^2)]^{1/2}$



Note: The technical analyses provided in this presentation are based on readily available data and information, as referenced, and additional preliminary modeling. While considerable effort was taken to ensure accuracy, the analysis is subject to substantial revision as review and discussions proceed.



When natural conditions exceed a 1-day maximum of 20°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C.

- 1-day maximum – temporal constraint
- No spatial constraint explicitly stated (subject to interpretation)

WAC 173-201A-260: **Natural conditions and other water quality criteria and applications**

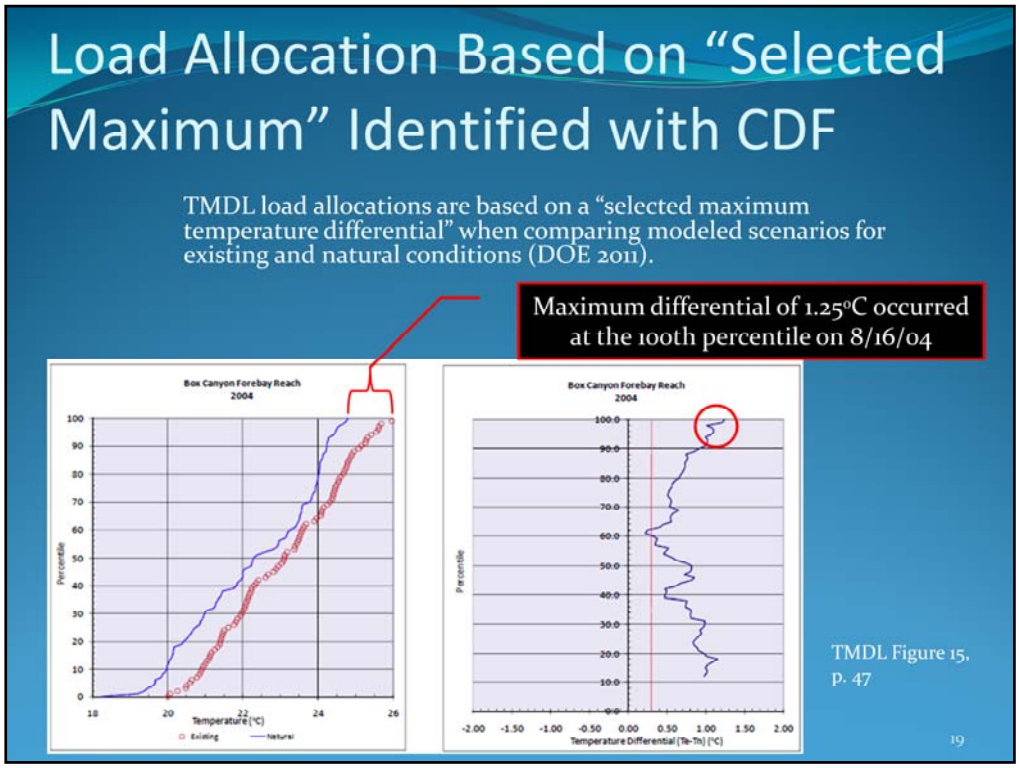
(1) Natural and irreversible human conditions.

(a) It is recognized that portions of many water bodies cannot meet the assigned criteria due to the natural conditions of the water body. When a water body does not meet its assigned criteria due to natural climatic or landscape attributes, the natural conditions constitute the water quality criteria.

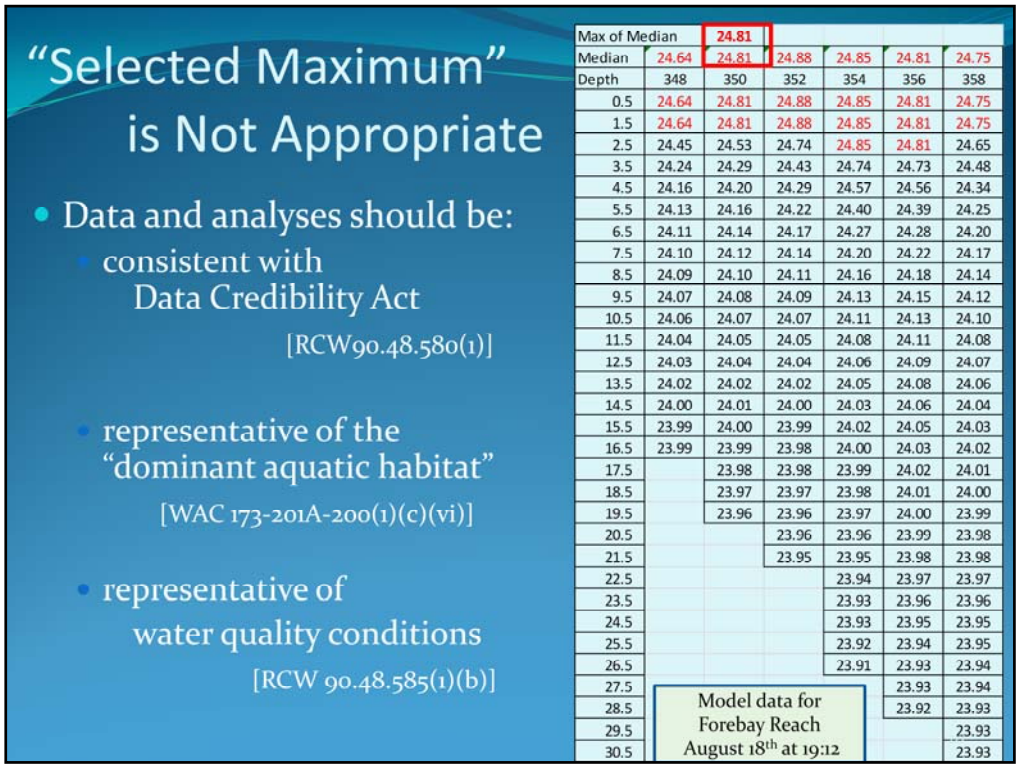
(b) When a water body does not meet its assigned criteria due to human structural changes that cannot be effectively remedied (as determined consistent with the federal regulations at 40 CFR 131.10), then alternative estimates of the attainable water quality conditions, plus any further allowances for human effects specified in this chapter for when natural conditions exceed the criteria, may be used to establish an alternative criteria for the water body (see WAC 173-201A-430 and 173-201A-440).

RCW 90.48.585 (1) In collecting and analyzing water quality data for....

(2) Data interpretation, statistical, and modeling methods shall be those methods generally acceptable in the scientific community as appropriate for use in assessing the condition of the water.



The CDF shows "aggregation" of model data by Ecology. Using the CDF for all reaches, a "Maximum" was selected from one reach to establish the load allocation for all reaches.



Max of Median		24.81				
Median	24.64	24.81	24.88	24.85	24.81	24.75
Depth	348	350	352	354	356	358
0.5	24.64	24.81	24.88	24.85	24.81	24.75
1.5	24.64	24.81	24.88	24.85	24.81	24.75
2.5	24.45	24.53	24.74	24.85	24.81	24.65
3.5	24.24	24.29	24.43	24.74	24.73	24.48
4.5	24.16	24.20	24.29	24.57	24.56	24.34
5.5	24.13	24.16	24.22	24.40	24.39	24.25
6.5	24.11	24.14	24.17	24.27	24.28	24.20
7.5	24.10	24.12	24.14	24.20	24.22	24.17
8.5	24.09	24.10	24.11	24.16	24.18	24.14
9.5	24.07	24.08	24.09	24.13	24.15	24.12
10.5	24.06	24.07	24.07	24.11	24.13	24.10
11.5	24.04	24.05	24.05	24.08	24.11	24.08
12.5	24.03	24.04	24.04	24.06	24.09	24.07
13.5	24.02	24.02	24.02	24.05	24.08	24.06
14.5	24.00	24.01	24.00	24.03	24.06	24.04
15.5	23.99	24.00	23.99	24.02	24.05	24.03
16.5	23.99	23.99	23.98	24.00	24.03	24.02
17.5		23.98	23.98	23.99	24.02	24.01
18.5		23.97	23.97	23.98	24.01	24.00
19.5		23.96	23.96	23.97	24.00	23.99
20.5			23.96	23.96	23.99	23.98
21.5			23.95	23.95	23.98	23.98
22.5				23.94	23.97	23.97
23.5				23.93	23.96	23.96
24.5				23.93	23.95	23.95
25.5				23.92	23.94	23.95
26.5				23.91	23.93	23.94
27.5					23.93	23.94
28.5					23.92	23.93
29.5						23.93
30.5						23.93

Table shows example of how "median of maximum" is estimated from 30-minute "time-step" of model output. The "daily maximum" of the "median of the maximum" from all daily estimates (i.e. 48 per day) is used in the CDF.

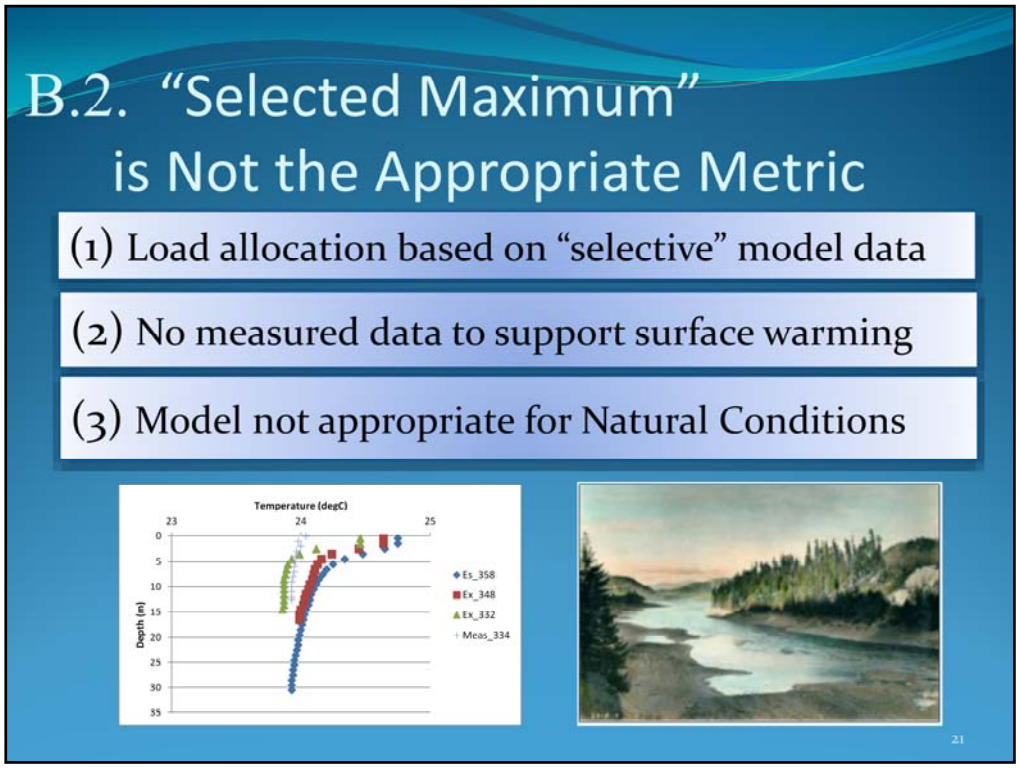
Surface maximums do not represent dominant aquatic habitat, and are not representative of water quality conditions.

Selecting only maximum temperatures from the surface of the water column is not appropriate in a regulatory context

1. Counter to the Data Credibility Act – not a method generally acceptable in the scientific community; ignores vast majority of data generated by the model
2. "Represent the dominant aquatic habitat" [WAC 173-201A-200(1)(c)(vi)]
3. Data analysis must be representative of water quality conditions [RCW 90.48.585(1)(b)]

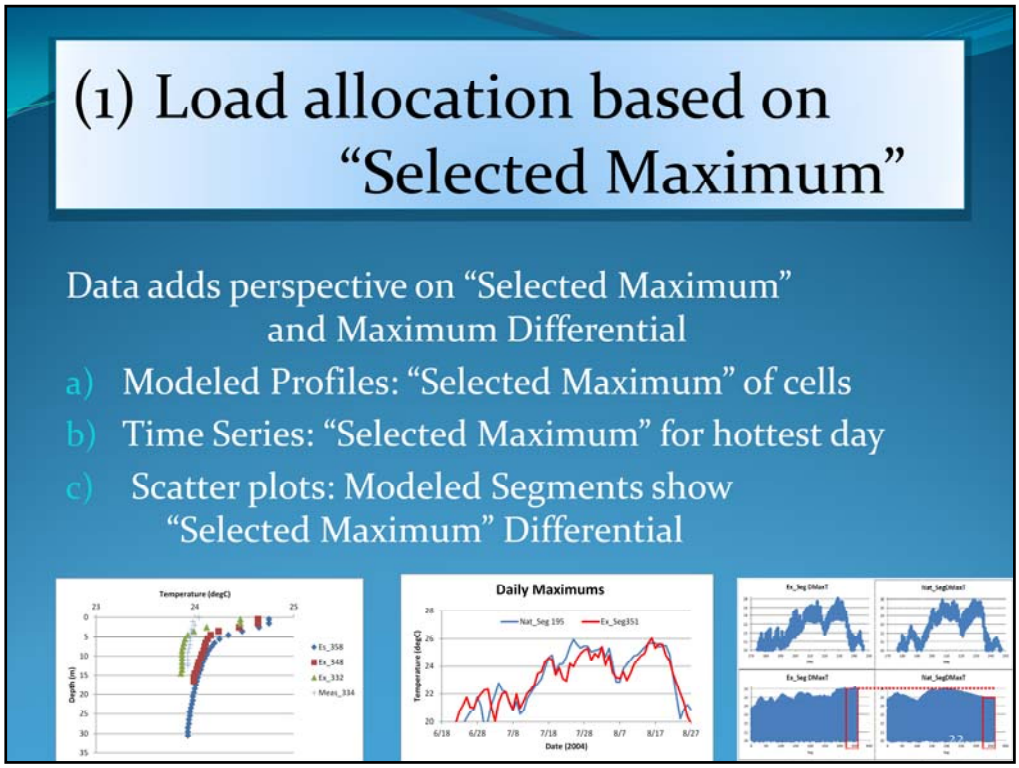
Data Credibility Act states:

> Data interpretation, statistical, and modeling methods shall be those methods generally acceptable in the scientific community as appropriate for use in assessing the condition of the water. [RCW 90.48.585 (2)]



Our technical review resulted in 3 primary technical issues concerning the use of maximum differential as used in the POR TMDL to establish load allocations.

Information, data, and analyses for each of these issues provide a broader water quality perspective on the "Selected Maximum", what the TMDL allocation represents, and why a Weighted Average Maximum is more appropriate.

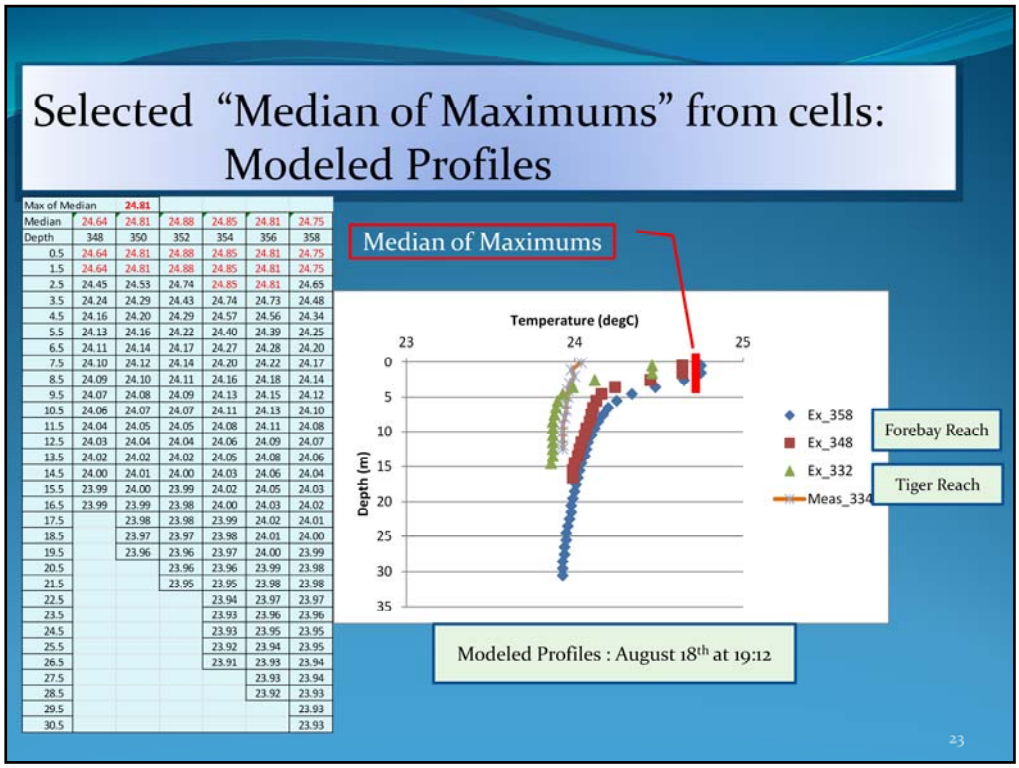


The "Selected Maximum" is:

- The median of the highest temperatures in reach on one day – hottest time of day (of 48 time-steps) and hottest location (surface) in each segment. The median of the segment maximums in a reach.

- the highest day of two years

- The maximum differential between existing and natural scenarios.



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2.5	24.45	24.53	24.74	24.85	24.81	24.65
3.5	24.24	24.29	24.43	24.74	24.73	24.48
4.5	24.16	24.20	24.29	24.57	24.56	24.34
5.5	24.13	24.16	24.22	24.40	24.39	24.25
6.5	24.11	24.14	24.17	24.27	24.28	24.20
7.5	24.10	24.12	24.14	24.20	24.22	24.17
8.5	24.09	24.10	24.11	24.16	24.18	24.14
9.5	24.07	24.08	24.09	24.13	24.15	24.12
10.5	24.06	24.07	24.07	24.11	24.13	24.10
11.5	24.04	24.05	24.05	24.08	24.11	24.08
12.5	24.03	24.04	24.04	24.06	24.09	24.07
13.5	24.02	24.02	24.02	24.05	24.08	24.06
14.5	24.00	24.01	24.00	24.03	24.06	24.04
15.5	23.99	24.00	23.99	24.02	24.05	24.03
16.5	23.99	23.99	23.98	24.00	24.03	24.02
17.5		23.98	23.98	23.99	24.02	24.01
18.5		23.97	23.97	23.98	24.01	24.00
19.5		23.96	23.96	23.97	24.00	23.99
20.5			23.96	23.96	23.99	23.98
21.5			23.95	23.95	23.98	23.98
22.5				23.94	23.97	23.97
23.5				23.93	23.96	23.96
24.5				23.93	23.95	23.95
25.5				23.92	23.94	23.95
26.5				23.91	23.93	23.94
27.5					23.93	23.94
28.5					23.92	23.93
29.5						23.93
30.5						23.93

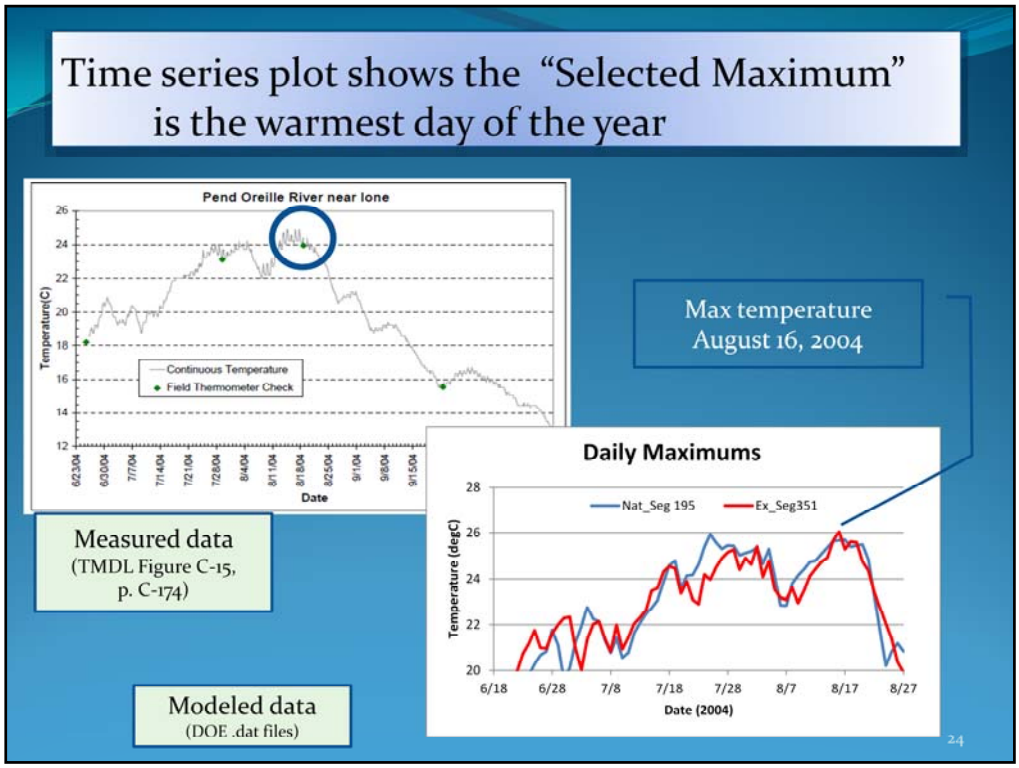
This slide shows how the Median of the Maximums was estimated for a segment, at a single point in time.

The "Median of the Maximums" is derived from the maximums that occur in a 24-hr period. Model post-processing is used to select the daily maximum of the segment, in both time and space, then the median is selected for all segments in the reach.

Notes:

1. Profiles of "Existing Model Scenario" results (i.e. Ex_) are for cells at segments 332, 348, and 358

2. Profile of measured data (i.e., Meas_) is located in segment 334 (approximately 500 meters from segment 332)



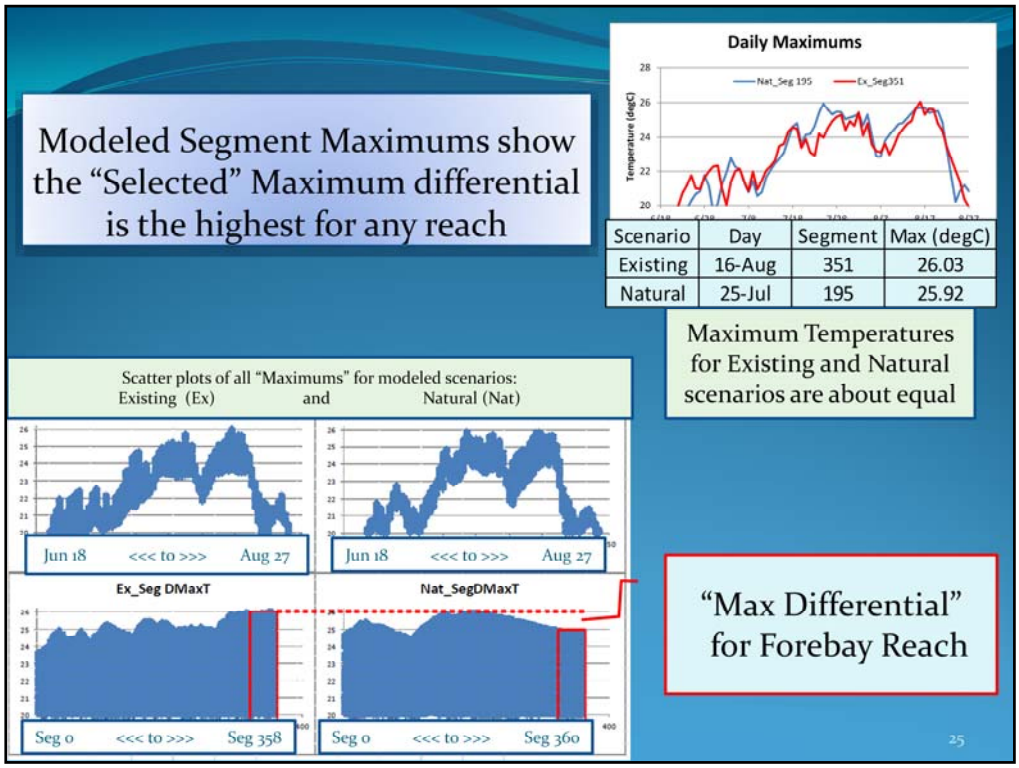
Ecology collected water temperature data in 2004 and 2005 for TMDL assessment and to provide data for modeling (POR TMDL 2011). These data, which show some of the highest measured water temperatures presented in the TMDL, were measured near Ione, which is in the downstream end of the Tiger Reach.

This can be compared to maximums of model data for individual segments (provided by Ecology in ".dat files") also plotted as time series. This graph shows water temperature changes at two locations:

- Ex_ Seg 351 shows maximums for Existing Conditions near the Box Canyon Dam (i.e., in Forebay Reach)
- Nat_ Seg 195 shows maximums for Natural Conditions near Ruby (i.e., in the Middle Reach)

Notes: the "Selected Maximum"

1. occurred on August 16, 2004
2. was similar to the "maximum" for the Natural condition
3. was about 1°C higher than the measured data.



Upper scatter plots show all segment maximums above 20°C by date - shows trend over time. Lower scatter plots show segment maximums above 20°C by segment (i.e., 0 to 358/360) - shows where maximums occur.

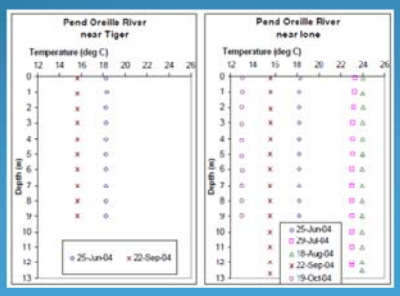
The highest Maximum for simulated existing conditions (i.e., 26.03°C) occurs on August 16, 2004, in segment 351. The highest Maximum for simulated natural conditions (i.e., 25.92°C) occurs on July 25, 2004, in segment 195 (figure at top-right).

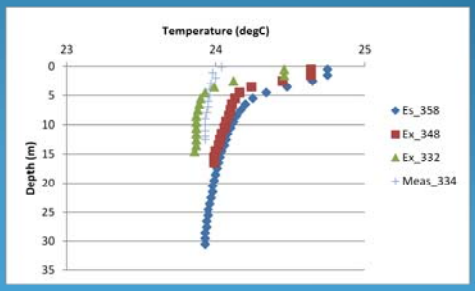
Existing and natural condition models produce water temperatures for each model cell during each simulation time step. Post processing of modeling results produced simulation data (.dat files provided by Ecology) used to compare simulations and develop TMDL temperature load allocations. These data were used to generate the CDF for each model reach (i.e., a group of segments) for each scenario, which were then used to compare scenarios and calculate the "temperature differential" used for the allocation.

Above, the post processing data were used to generate "scatter plots" of the maximum temperatures produced for each segment and day (i.e., Julian day referred to as Jday).

(2) No measured data to support modeled surface warming

a) DOE data: Profiles are limited
b) Modeled and measured data: PSU
c) Weather data station – 70 miles south
d) Modeled data: well mixed or not?





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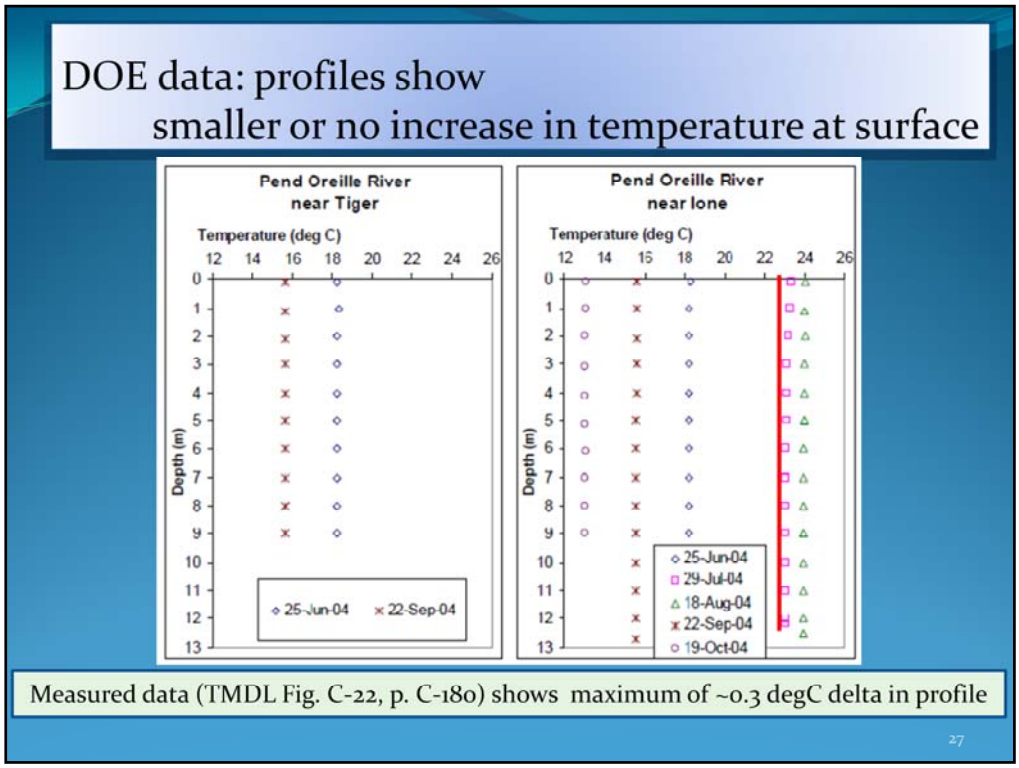
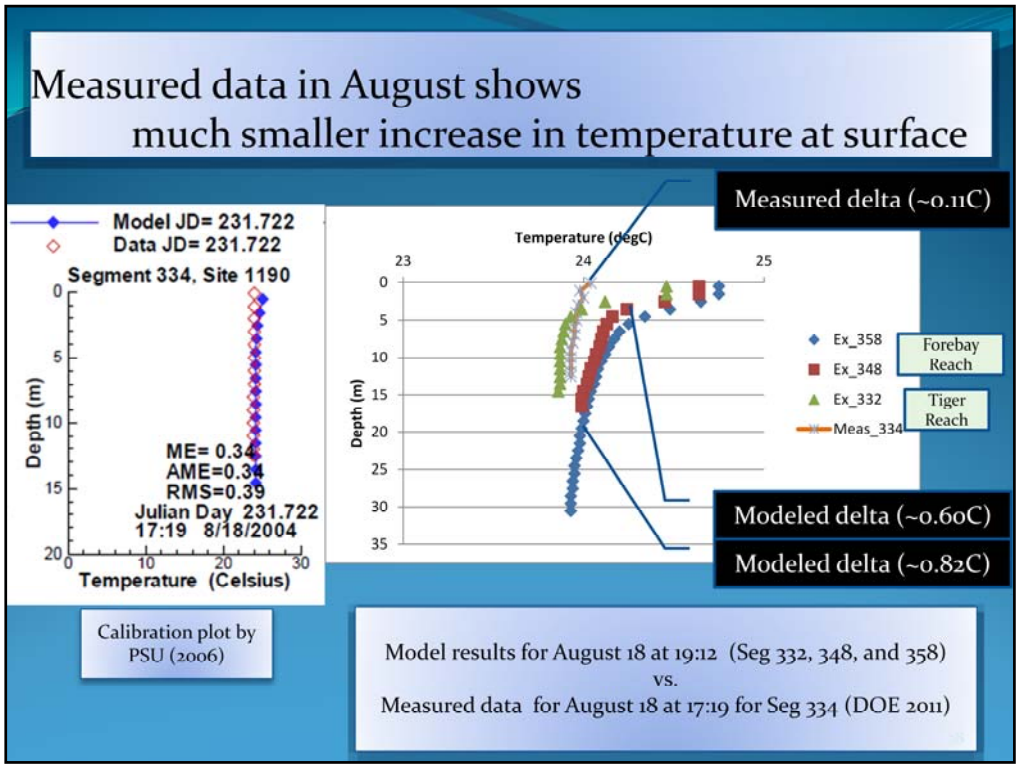
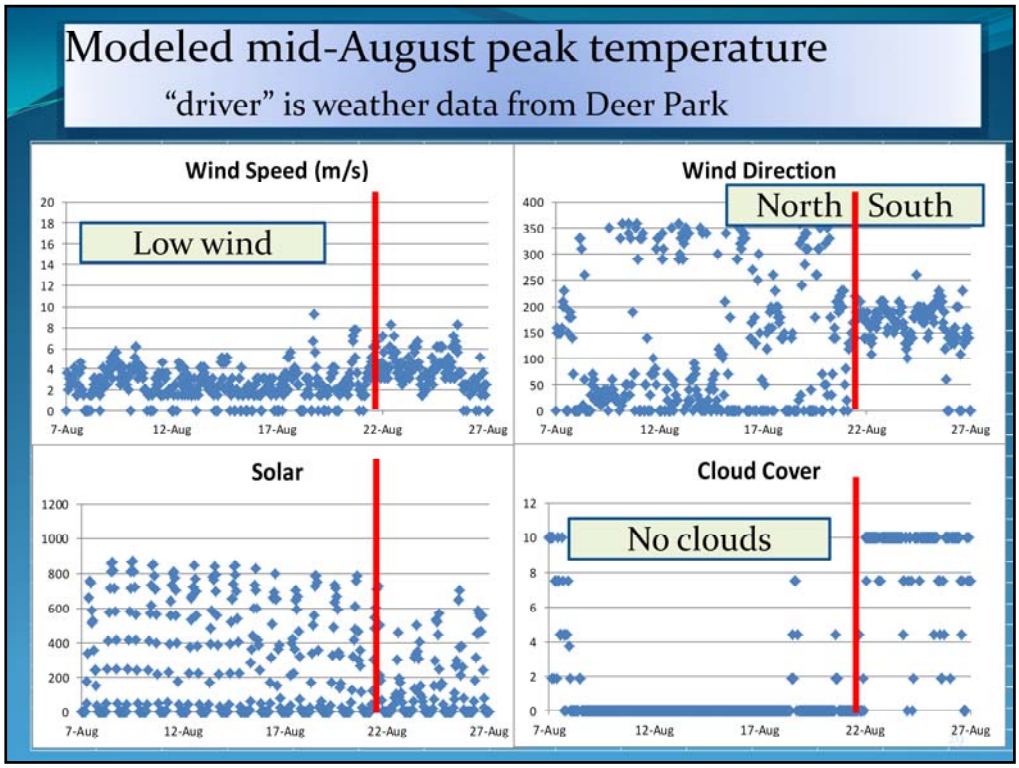
The measured data do not show a similar level of surface warming. Modeled and measured data will be compared, and the cause of “modeled” surface warming presented.



Ecology measured data as provided in POR TMDL (2011). These are the profiles that show the maximum measured warming at the surface.



Modeled profiles for Segments 332, 348, and 358 from preliminary simulation of Existing condition performed by HyQual.

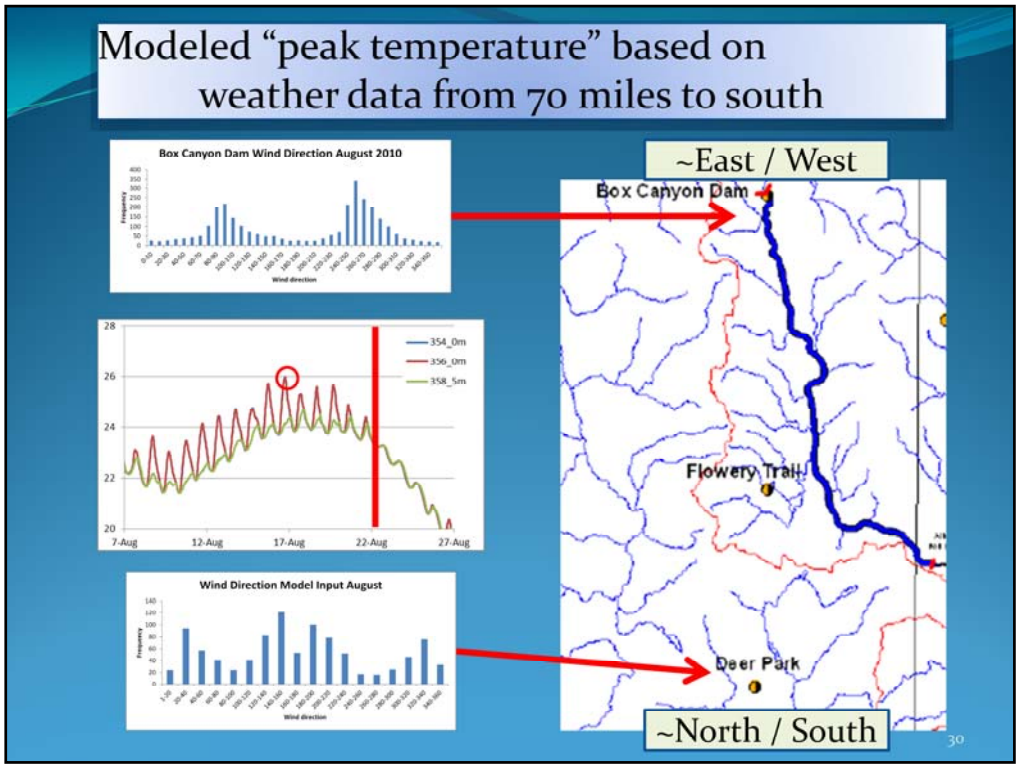


The warmer surface temperatures appear to occur during a period of relative calm, cloudless weather as, evident from the meteorological data used in the model. Thus, the temperature differential and subsequent TMDL load allocation are directly related to the meteorological conditions represented in the model by weather data from the Deer Park Airport.

The wind data shown is the data used in the model that produces the warmest water temperatures over the 2-year record.

PSU (2006) commented on the importance of met data.

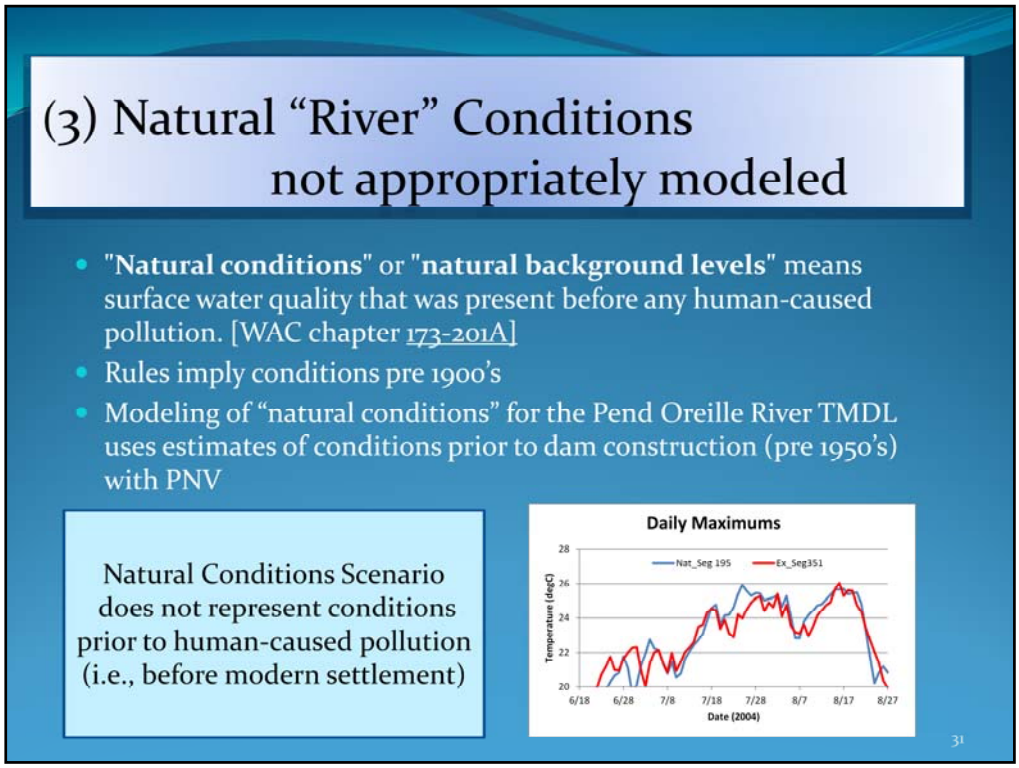
> The omission of cloud cover input may have a more significant effect on the "without project" model predictions than the "with project" predictions. Without the dam, the river would be shallower and more sensitive to meteorological forcing.



This slide compares more current data collected at Box Canyon dam with data used in the model.

Box Canyon Dam wind direction data for August 2010 (upper frequency plot) shows an east-west dominant direction, which appears to be different compared to Deer Park general direction (lower frequency plot).

The dam and Forebay reach are in a “river drainage” that can have very different wind conditions compared to surrounding areas. A “summer drainage wind” has been observed in some reaches of the river. Even light wind can cause increased surface mixing.

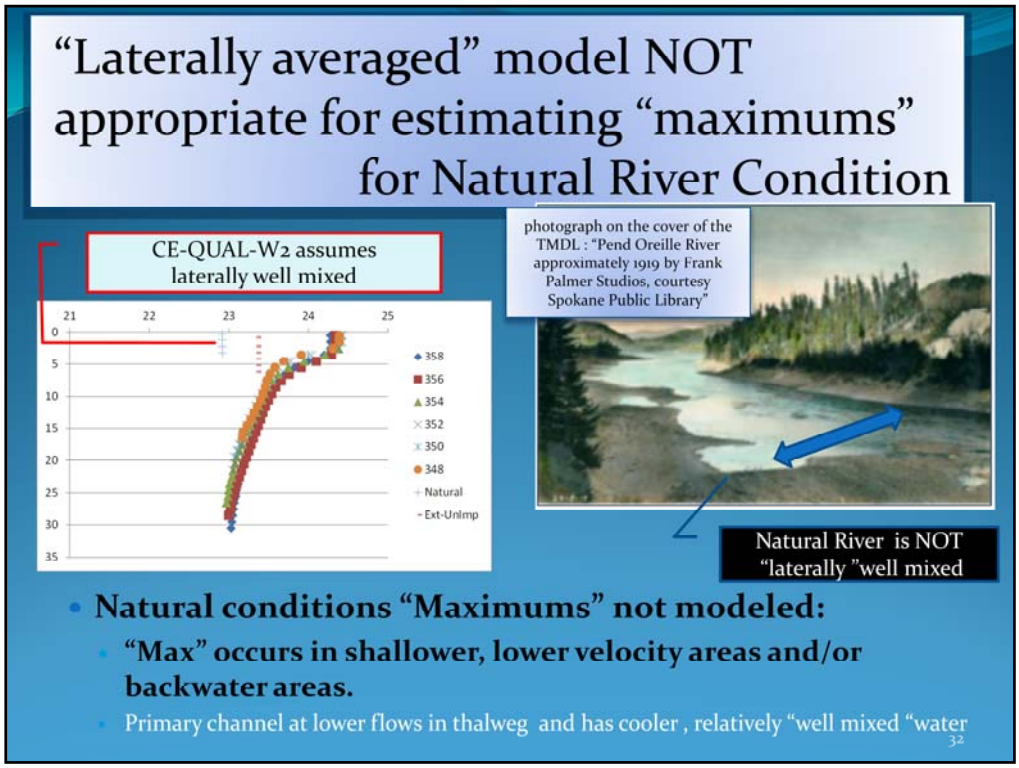


Graph shows time series of "Daily Maximums" for the two segments with the highest maximum temperatures in 2004:

- Segment 195, in the Natural conditions scenario, is located in the Middle Reach, in the mid-section of the modeled river (near Ruby).
- Segment 351, in the Existing conditions scenario, is located in the Forebay Reach, upstream of Box Canyon Dam.

Notes

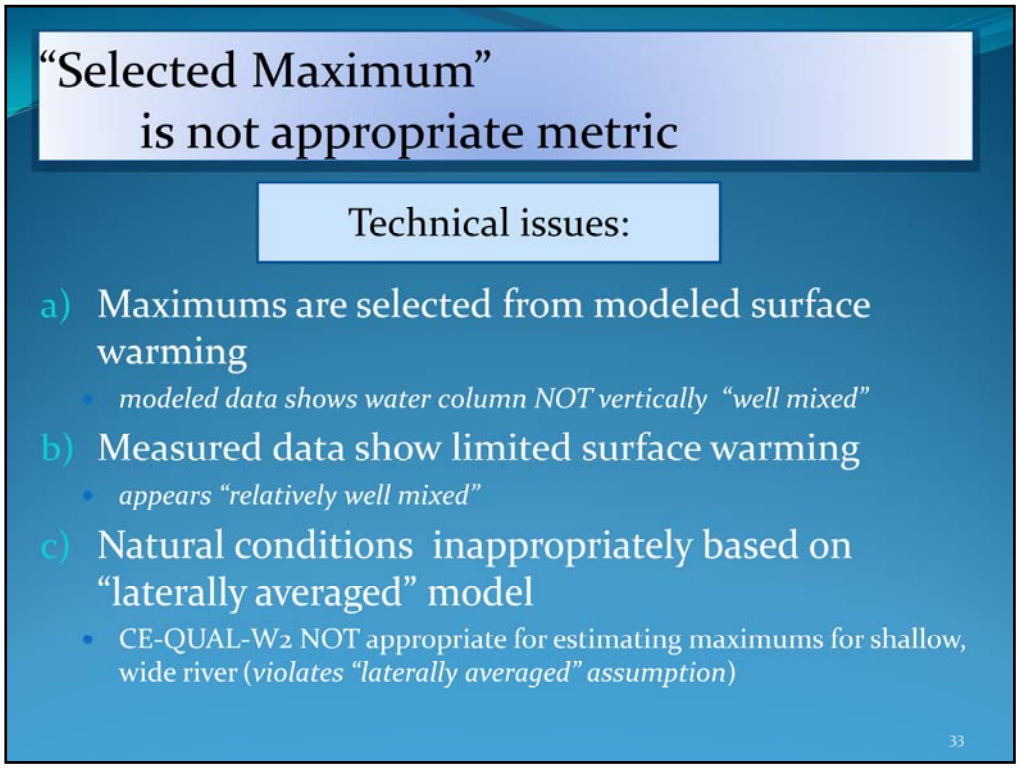
1. Natural conditions means surface water quality that was present before any human-caused pollution.
2. Modeling of "natural conditions" for the Pend Oreille River TMDL was conducted using estimates of conditions prior to dam construction.
3. Modeling as conducted does not represent conditions prior to human-caused pollution, i.e., before modern settlement.



As explained by Martin and McCutcheon in "Hydrodynamics and Transport for Water Quality Modeling (1999), laterally averaged 2-dimensional models "are generally applicable to longer, deeper, stratified reservoirs where lateral variations are negligible." Where as, two-dimensional, depth-averaged models "are generally applicable to long, wide, and relatively shallow water bodies, or in the cases where complete vertical mixing can be assumed."

The 2-dimensional, laterally average model, CE-QUAL-W2, was used for both the "Existing" reservoir modeling and the "Natural Conditions" river modeling. The model was developed for modeling relatively narrow and deep reservoirs that thermally stratify in the summer. Often the thermal structure of these reservoirs is a dominant feature, and the 2-D modeling provides powerful insights when assessing water quality.

Modeling temperature variations in the shallow, relatively wide river requires a different approach (i.e, 2-dimensional, depth averaged). The primary channel is located in the thalweg at lower flows, and has areas of deeper, well mixed water, with warmer, shallower water and sandbars. This produces lateral temperature variations with cooler and vertically-mixed water in the higher velocity thalweg, and warmer water in lower velocity and/or backwater areas.

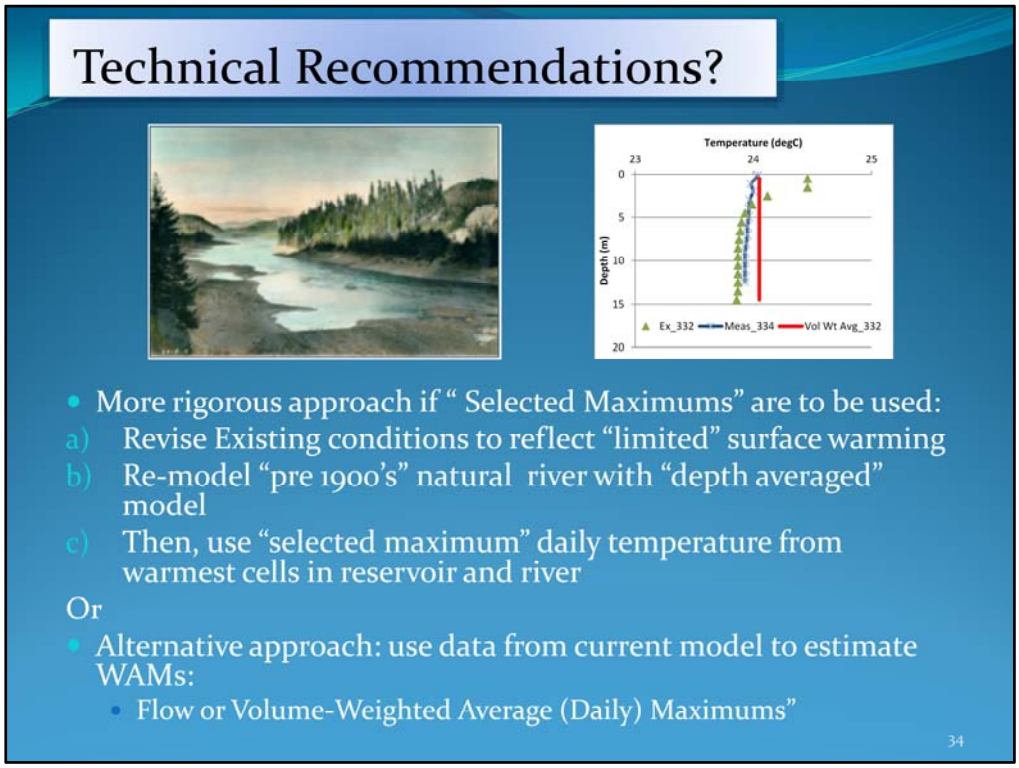


Technical issues:

1. Measured data shows limited warming of surface layer (appears relatively well mixed)

2. CE-QUAL-W2 simulation results "indicate" elevated temperature only in upper cells (modeled data shows water column NOT vertically "well mixed")

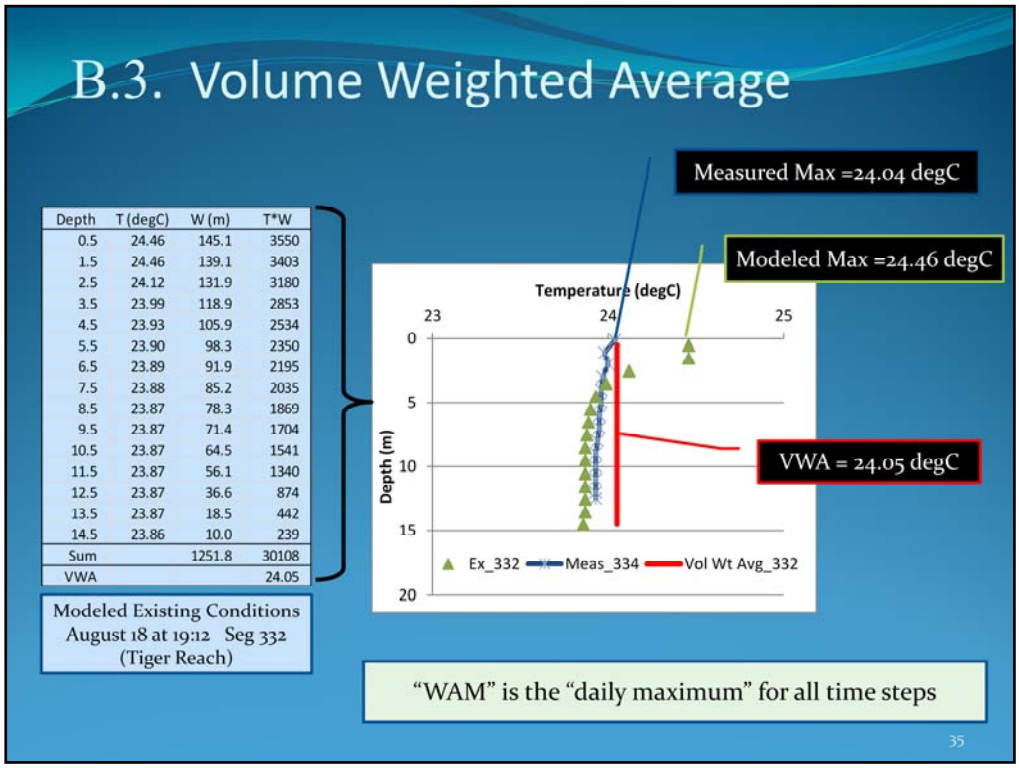
3. "Laterally Averaged" model NOT appropriate for assessing maximum temperatures for shallow and wide "Natural River" conditions (violates "laterally averaged" assumption)



There are many approaches that could be used to compare natural conditions in a river with existing in a relatively shallow, run-of-the-river reservoir. Often a one-dimensional model is used, which assumes lateral and depth average conditions predominate.

If Ecology believes "maximums" must be modeled and used to establish allocations, then appropriate models for each condition should be applied.

Alternatively, the District is requesting use of weighted average maximums (WAMs), which allows comparison between the two different modeled conditions, and is consistent with "methods generally acceptable in the scientific community."



Depth	T (degC)	W (m)	T*W
0.5	24.46	145.1	3550
1.5	24.46	139.1	3403
2.5	24.12	131.9	3180
3.5	23.99	118.9	2853
4.5	23.93	105.9	2534
5.5	23.90	98.3	2350
6.5	23.89	91.9	2195
7.5	23.88	85.2	2035
8.5	23.87	78.3	1869
9.5	23.87	71.4	1704
10.5	23.87	64.5	1541
11.5	23.87	56.1	1340
12.5	23.87	36.6	874
13.5	23.87	18.5	442
14.5	23.86	10.0	239
Sum		1251.8	30108
VWA			24.05

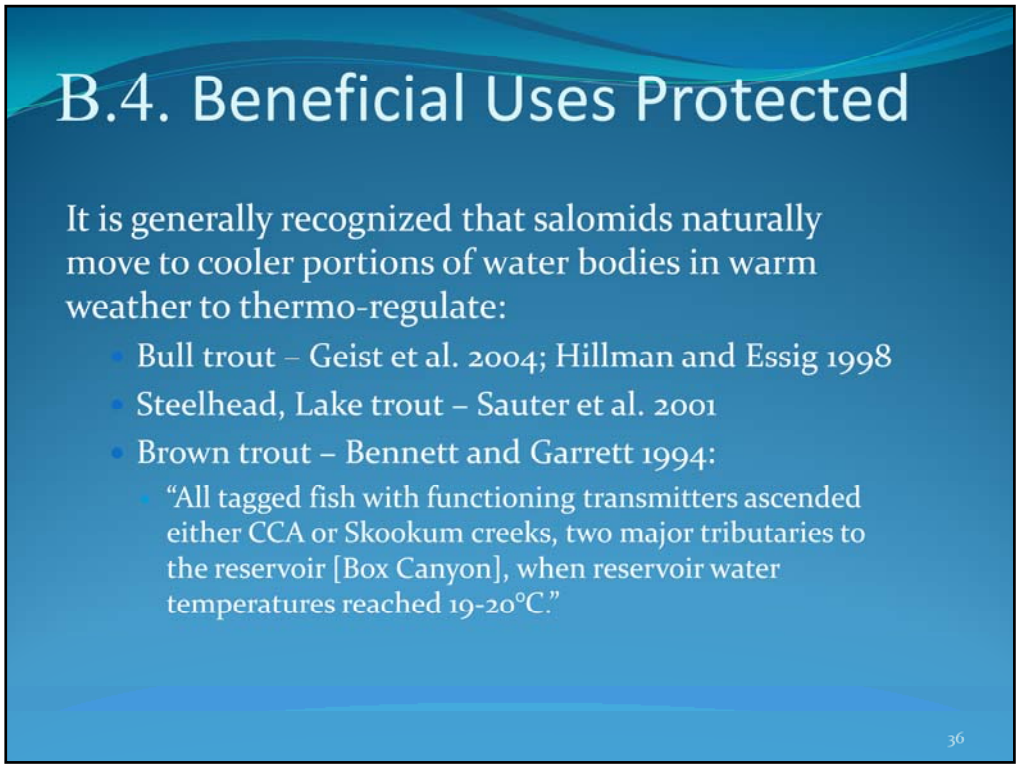
A volume-weighted average was calculated for the Segment 332 of the Existing Conditions model results for August 18, 2004 at 19:12 (shown as a redline line in the figure above). The volume-weighted average (24.05 degC) is approximately equal to the maximum measured temperature (24.04oC) recorded on August 18, 2004 at 17:19 near Ione (about 500m downstream).

This volume-weighted average is for one point in time (i.e., one time-step). The daily WAM would be the maximum of all the volume (or flow) weighted averages in a 24-hr period.

Notes:

The widths are located in the bathymetry file of the model provided by Ecology. The cell volume is the width (per table) * length (250.36m) * thickness (1m).

Measured data from POR TMDL; modeled from preliminary HyQual simulation.



All species of trout and char actively seek out colder water (cold water refugia) as water temperatures of their habitat approach the upper end of their preferred temperature range for a particular life history stage (spawning, incubation, fry, juvenile, and adult). These cooler refugia may be deeper water, side channels receiving groundwater upwelling, or cooler tributary streams.

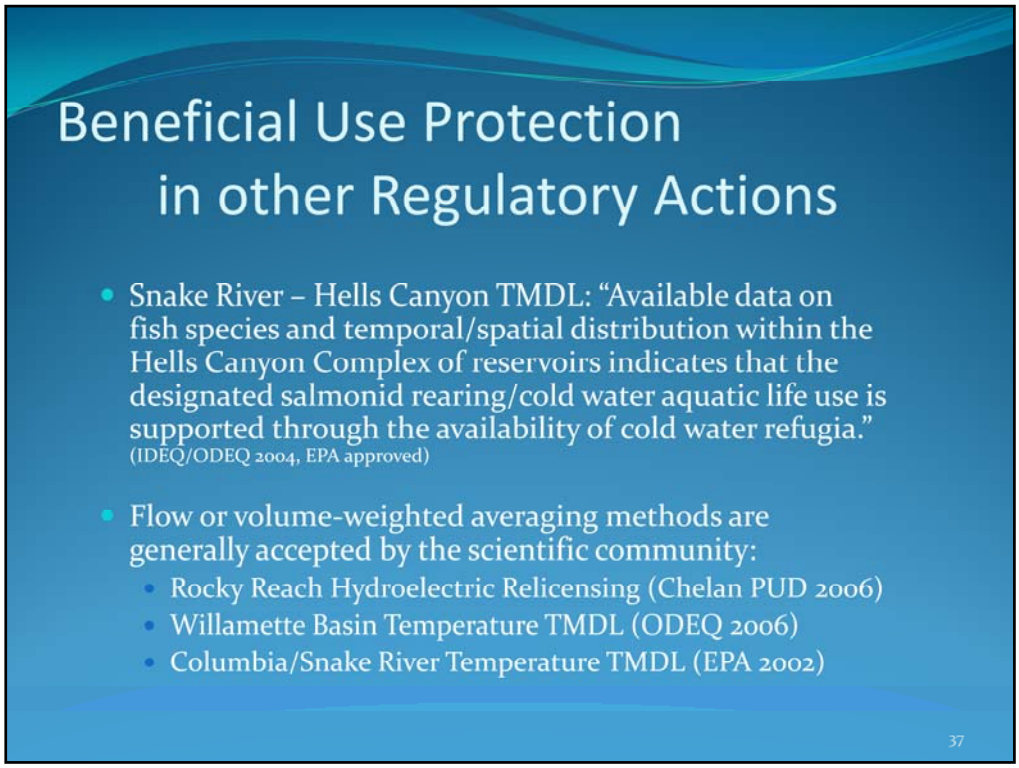
References:

Sauter, S.T., J. McMillan, and J. Dunham. Salmonid behavior and water temperature. EPA Issue Paper 1, EPA-910D-01-001. US EPA Region 10.

Geist, D.R., R.S. Bown, A.T. Scholz, and B. Nine. 2004. Movement and survival of radio-tagged bull trout near Albeni Falls Dam. Final Report to the Seattle District, U.S. Army Corps of Engineers, February 18, 2004.

Hillman, T., and D. Essig. 1998. Review of bull trout temperature requirements: a response to the EPA bull trout temperature rule. Idaho Division of Environmental Quality, Boise, Idaho.

Bennett, D., and J. Garrett. 1994. Abundance and habitat use of Box Canyon Reservoir, Pend Oreille River, Washington and tributaries by trout with emphasis on brown trout. Department of Fish and Wildlife Resources, College of Forestry, Wildlife and Range Sciences, University of Idaho. Moscow, Idaho.



Water quality standards are focused on protection of beneficial uses.

WAMs account for the cooler portions of a reservoir providing the beneficial use protection required, have been used in other regulatory actions, and are "generally accepted by the scientific community" as required under the Data Credibility Act:

> Data interpretation, statistical, and modeling methods shall be those methods generally acceptable in the scientific community as appropriate for use in assessing the condition of the water. [RCW 90.48.585 (2)]

References:

IDEQ/ODEQ. 2004. Snake River-Hells Canyon TMDL. Idaho Department of Environmental Quality, Boise, Idaho, and Oregon Department of Environmental Quality, Pendleton, Oregon. Revised June, 2004.

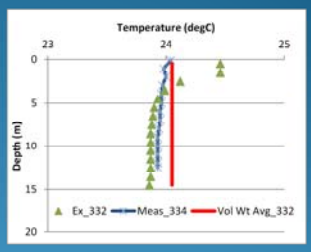
Chelan County PUD. 2006. Technical report on the development of a CE-QUAL-W2 model for the Rocky Reach Hydroelectric project. Wenatchee, Washington. Prepared by West Consultants. January, 2006.

ODEQ. 2006. Willamette Basin TMDL. Oregon Department of Environmental Quality. September, 2006.

EPA. 2002. Columbia/Snake Rivers preliminary draft temperature TMDL. US EPA Region 10. September 13, 2002.

Part C. PUD Requested Actions

1. Request: Use of "WAM"
2. Planned Restoration



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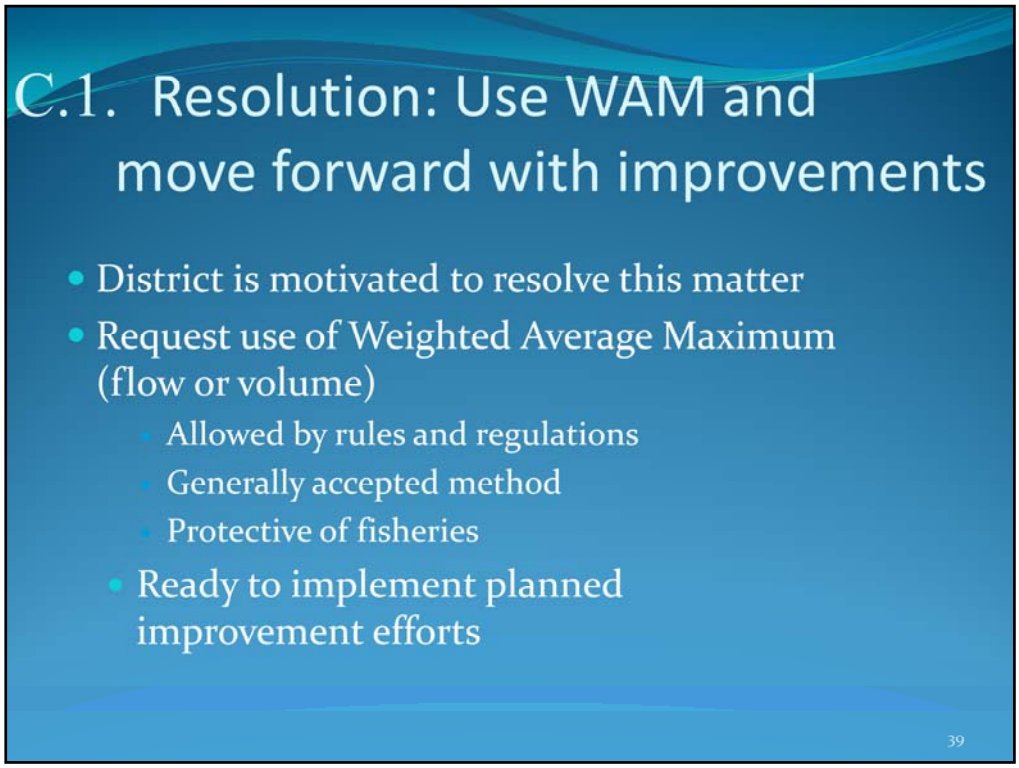
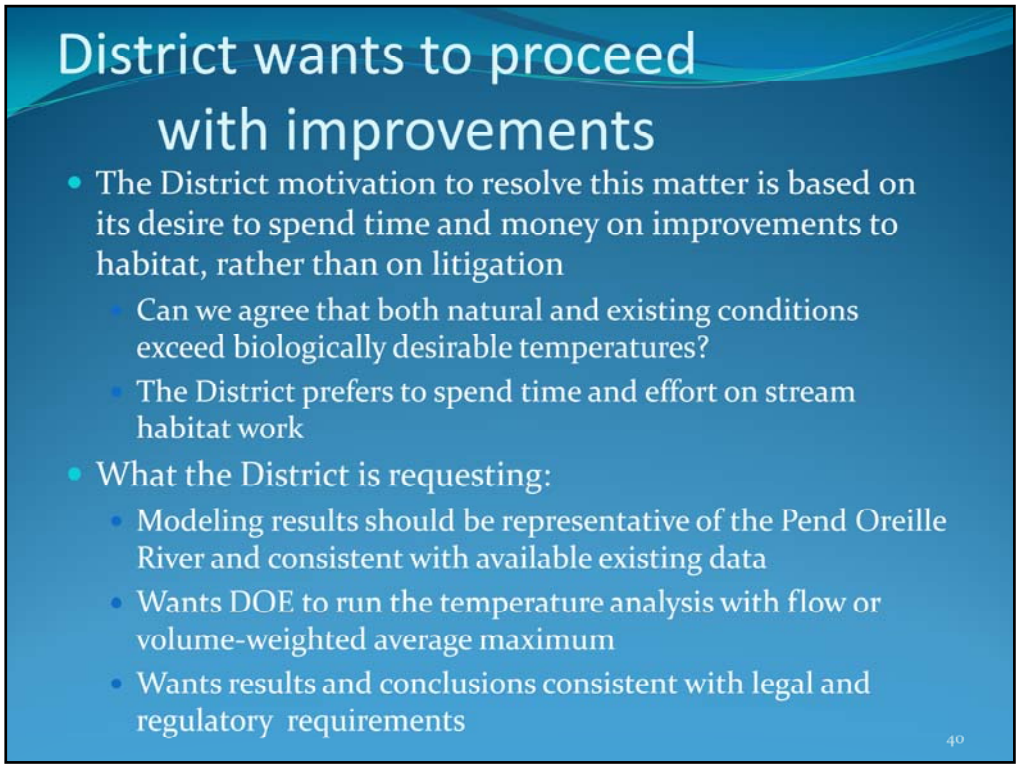
You were presented with a lot of information today, and hopefully, you can understand and appreciate why this is so important to the District.

As you can see, we are very concerned about this issue, as it has huge implications on our future, not only in costs, but also on how we operate the project.



With that, we are motivated to resolve this matter, and in doing so request the use of a weighted average maximum for the reasons we have stated earlier and state now.

We are also ready to discuss how we can implement planned improvement efforts as it relates to the fisheries.

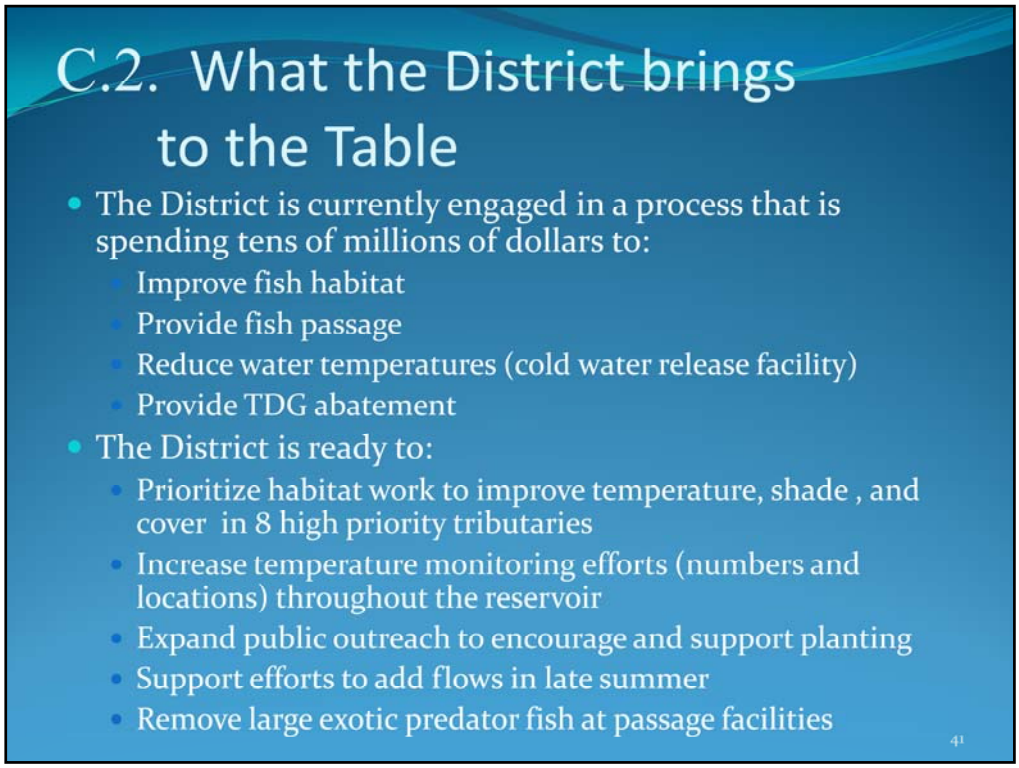


We also understand what a drain on resources this can have in continuing down the road of disagreement and possible litigation.

We can agree that temperatures are not the most desirable from a biological viewpoint.

So we believe strongly that the analysis of modeling results should be based on generally accepted methods, representative of what is truly more like a river system, and consistent with the data that has been collected.

Running the analysis with a weighted average maximum is most appropriate, and we feel that by doing so, the results would be consistent with past practices, and still meet legal and regulatory requirements.



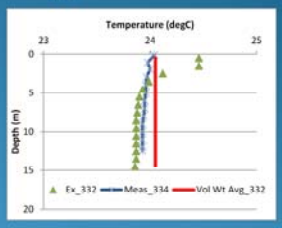
We are currently investing tens of millions of dollars to improve the biological component through stream habitat work, TDG abatement and fishways, and cottonwood recruitment, just to name a few.

Since the District will be investing heavily toward improving the resource, it makes sense that this effort work hand in hand, where we can, by prioritizing it toward improving temperature, but more importantly, improving the habitat for the fisheries to utilize when temperatures are higher in the river for the short duration of time.

The District is ready to discuss how to coordinate planned programs and tie them into this effort.

Next Steps?

- Revise allocations with Weighted Average Maximum (flow or volume)
  - Allowed by rules and regulations
  - Generally accepted method
  - Protective of fisheries
- District moves forward with:
  - Coordinated fisheries restoration efforts
  - Habitat improvement of mainstem and tributaries
  - Fully coordinated with agencies and tribe
- Questions?



Let's start by revising the analysis, and at the same time work with stakeholders and coordinate future work now.