Pend Oreille River Temperature TMDL Meeting

Kalispel Tribe & EPA
November 30, 2011
Seattle, WA

Principal Concern of the Kalispel Tribe

Ecology's TMDL infringes on the sovereignty of the Kalispel Tribe by determining impairment of tribal water quality standards through a methodology that the Tribe opposes

Discussion points

- How tribal sovereignty is implicated
- The 2005 MOA and consequences of abandoning it
- Technical bases of the Tribe's water quality concerns
- Requested actions

Treatment as a State (TAS)

- EPA approved the Kalispel Tribe's application for "treatment in the same manner as a state" in 2002
  - Recognized Kalispel are "People of the River" and have reserved fishing rights on the Pend Oreille River (p.14)
  - "Prior to human degradation of water quality, the Tribal trout fishery on the Pend Oreille River was year round" (p.14)
- EPA approved Kalispel Tribe's water quality standards in 2004
  - Standards designed to be protective of bull trout migration even though "bull trout are currently not present in Reservation waters due in part to the presence of upstream dams" (p.4)
- Approval places Tribe on equal footing with states
  - "EPA . . . believes that Congress has expressed a preference for Tribal regulation of surface water quality to assure compliance with the goals of the CWA. This is confirmed by the text and legislative history of section 518 itself. The CWA establishes a policy of "recogniz[ing], preserv[ing], and protect[ing] the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, [and] to plan the development and use (including restoration, preservation, and enhancement) of land and water resources" section 101(b). By extension, the treatment of Indian Tribes as States means that Tribes are to be primarily responsible for the protection of reservation water resources." (56 FR 64878-89)

TAS Protects Core Sovereign Interests

- "Water quality management serves the purpose of protecting public health and safety, which is a core governmental function, whose exercise is critical to self-government." (56 FR 64879)

- A productive bull trout fishery – one of the Tribe's highest priorities – is contingent on fish passage and restoration of the natural temperature regime
  - Fish passage planned for Boundary, Box Canyon, and Albeni Falls dams
  - TMDL is the mechanism to address system-wide temperature impairment

Tribal Sovereignty in the 2005 POR TMDL MOA

- Kalispel Tribe, Washington, and Idaho treated as co-equal sovereigns
- EPA exerts itself as trustee to ensure compliance with Kalispel water quality standards
  - "Because the Washington portion of the Pend Oreille River abuts Kalispel Tribal waters, and these waters are impaired for temperature and TDG under the Kalispel Tribe's water quality standards, EPA is the lead on a TMDL to address impairment to Tribal waters in the Pend Oreille River."
- All parties agree that a single multi-jurisdictional TMDL is necessary to address temperature impairment
  - "A single TMDL document in which all the data are presented and analyzed within the same model would provide the most sound basis for determining natural background temperature conditions, setting allocations that address cumulative effects, and developing an integrated implementation plan."
  - "[A] single, joint interstate-EPA Tribal TMDL for temperature in the Pend Oreille . . . is the only alternative that adequately addresses the inter-jurisdictional technical and regulatory issues for temperature impairment."

Consequences of Abandoning the MOA

- WA and ID TMDLs are "sequential processes addressing the same issues" – one of the evils the MOA expressly sought to avoid
- Tribe has no sovereign authority in state process
- WA illegally asserting authority to determine impairment of Kalispel water quality standards over repeated objections from the Tribe
- EPA no longer exerting leadership on Tribe's behalf
- Tribe left without a way to remedy on-Reservation temperature impairment because a tribal TMDL would not allow the Tribe to regulate the off-Reservation heating sources causing the problem

Technical Concerns

- The TMDL's use of cumulative frequency analysis is inappropriate given the minimal time lag on the Pend Oreille River
- CFM masks the frequency and magnitude of violations of Kalispel water quality standards; thus, the TMDL does not accurately describe impairment of tribal standards
- There is a direct correlation between violations of Kalispel water quality standards and heat loading at the Stateline; by assuming that river temperature is cooler at Stateline than under natural conditions, the TMDL will not remedy impairment of Reservation waters

A Comparison of Conclusions (based on same model output)

Issue	Conclusions in the TMDL	Conclusions based on our analyses
Tribe's criteria in the reach along the Kalispel Reservation	**No violations.**	5 violations for 2004. Max. 1-day violation is 0.28 ºC and max. 7DADM violation is 0.20 ºC.
Tribe's criteria at Reservation upstream boundary	**Max. 1-day violation is 0.30 ºC and max. 7DADM violation is 0.10 ºC.**	27 violations for 2004. Max. 1-day violation is 0.80 ºC and max. 7DADM violation is 0.36 ºC.
Achievement of the Tribe's criteria	**Criteria will be met through efforts to achieve load allocation for the Box Canyon Dam fore-bay.**	Criteria will not be met through efforts to achieve load allocation for the Box Canyon Dam fore-bay.
Water flowing from Idaho across the Stateline	**Water is cooler under existing conditions than under natural conditions.**	Water is warmer under existing conditions than under natural conditions on most days when there are violations at the Reservation boundary

The Box Canyon Model was developed by Portland State. Model predictions are compared at RM 88, RM 72 and RM 66.

RM 88 is near the stateline.

RM 72 is at the upstream end of the Kalispel Reservation.

RM 66 is at Tacoma and Cee Cee Ah Creek and represents conditions on the Kalispel Reservation.

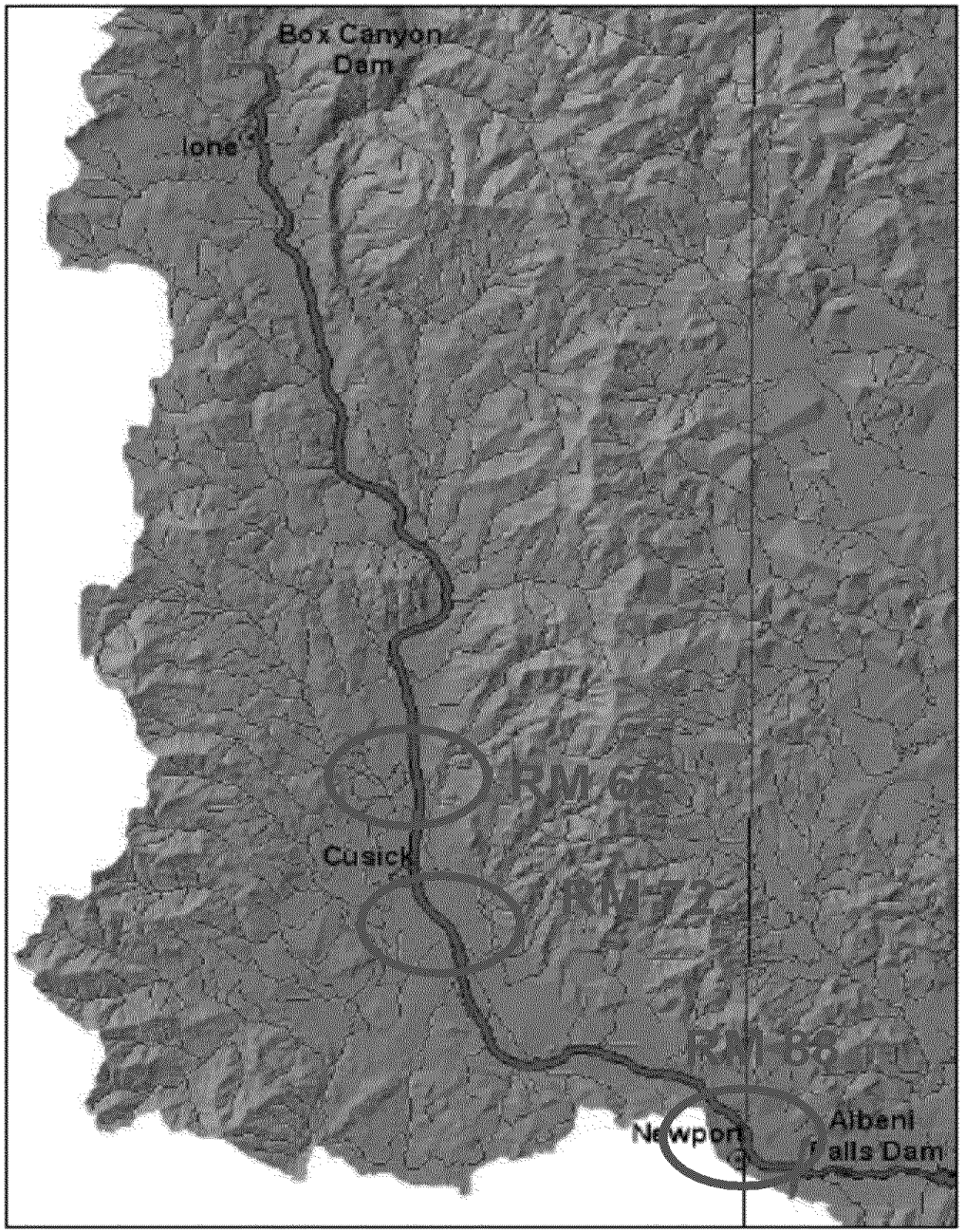
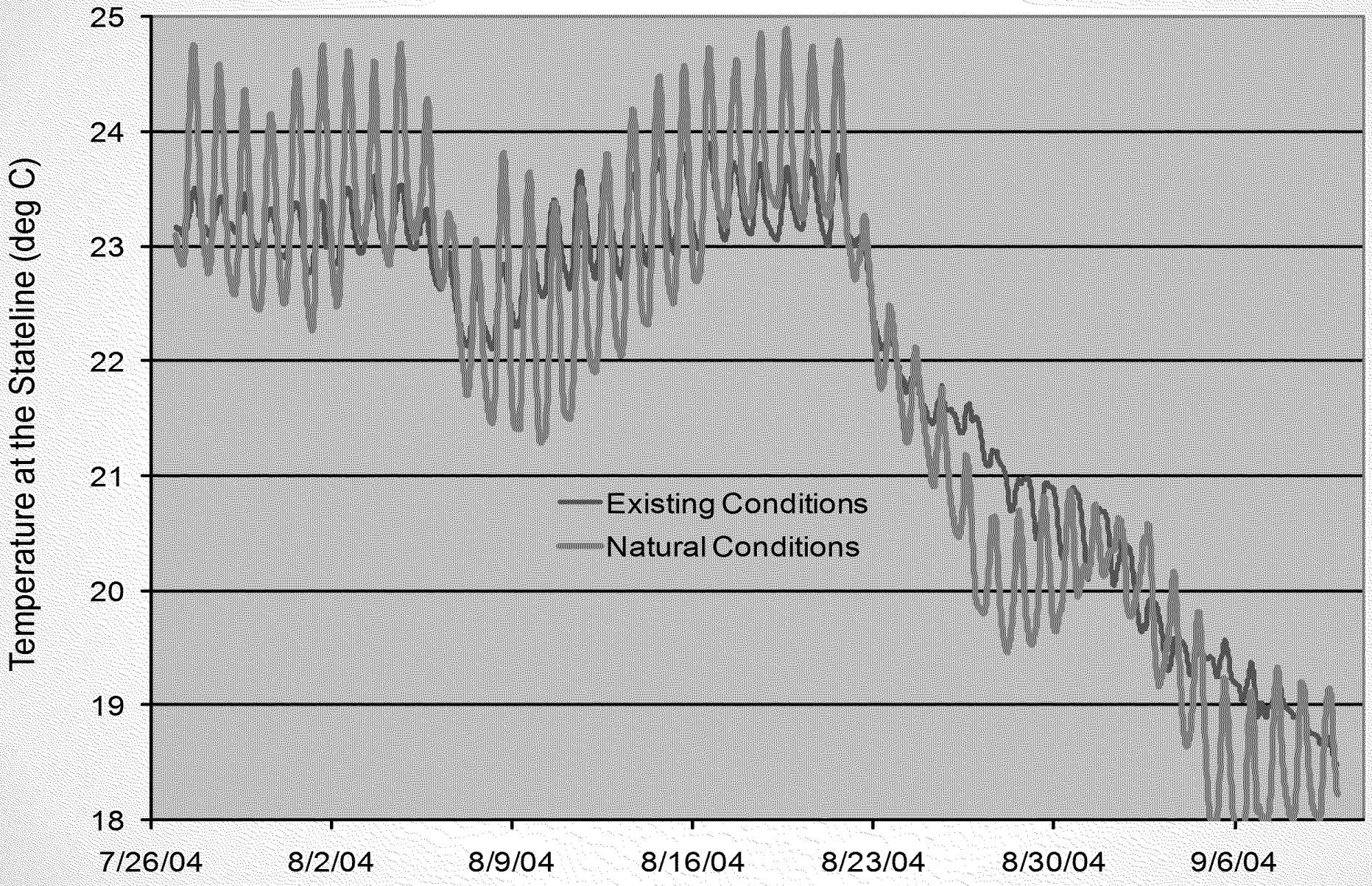


Figure 1: Pend Oreille River downstream of Albeni Falls Dam.

Example model output



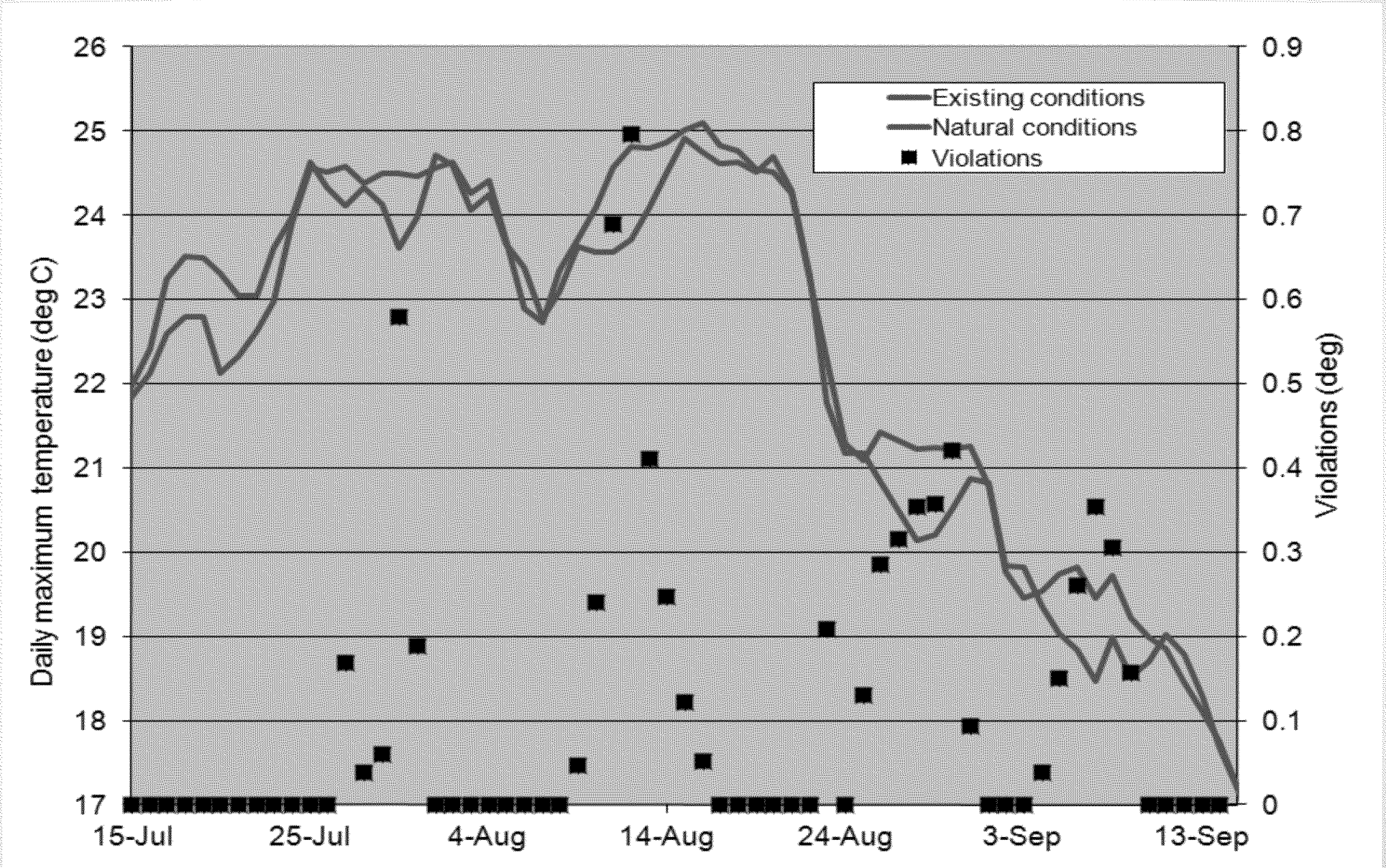
Key Issue: Cumulative frequency distribution versus daily-comparison approach.

"The transit time through the study reaches is on the order of days as opposed to weeks so, despite volume and water column profile changes, the movement of water through the study area has not changed substantially. This is the reason why if natural and existing daily temperature recordings (i.e. daily maximums) are plotted together there is not a substantial shift or time lag evident between the two."

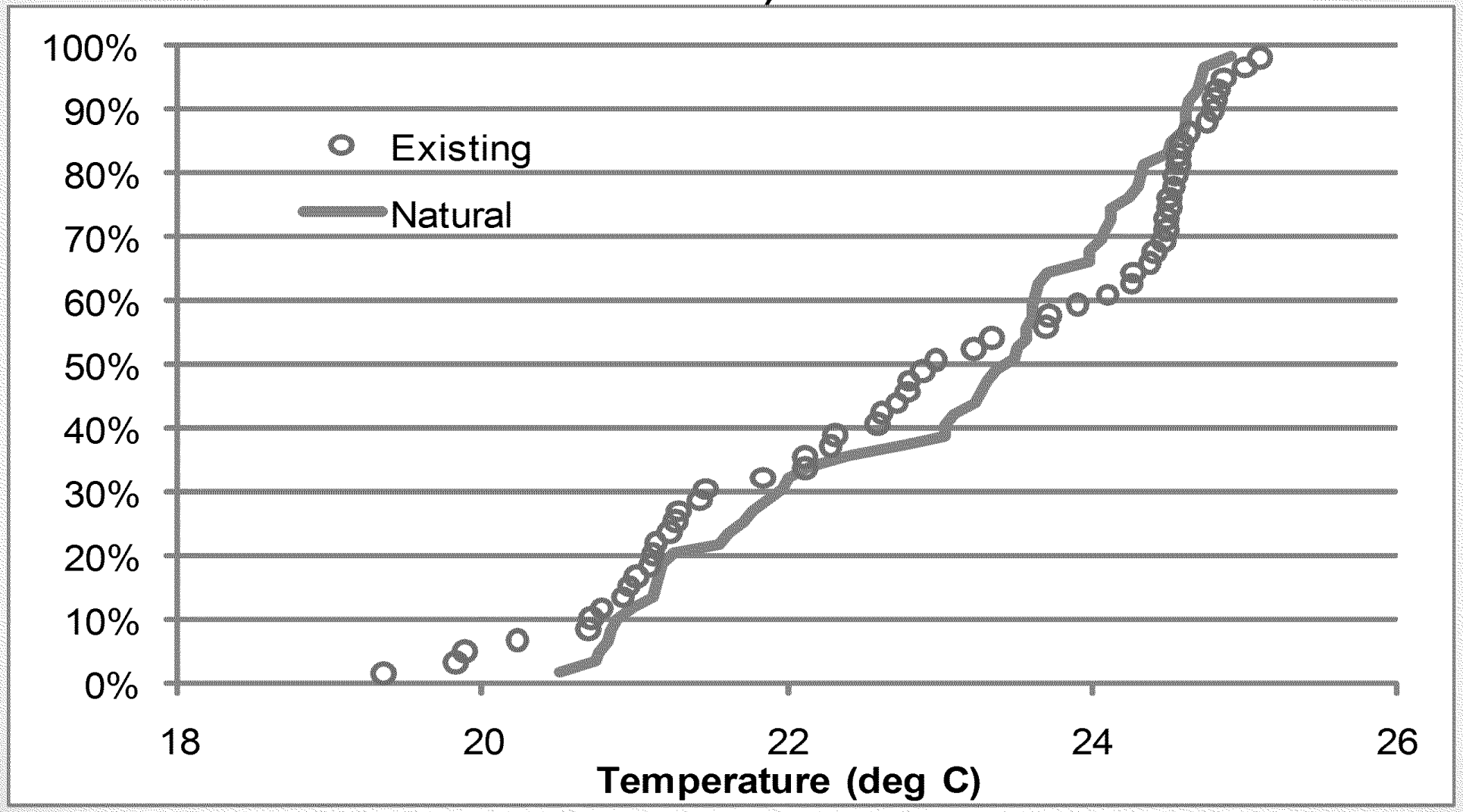
"The use of a cumulative frequency type analysis approach was chosen in recognition of the hydraulic changes to the Pend Oreille River, a consequence of hydroelectric power generation, which complicates temperature comparisons between the existing and pre-hydroelectric conditions."

Source: Whiley, A.J., *Temperature analysis of the Pend Oreille River,* Technical Memorandum, May, 2009.

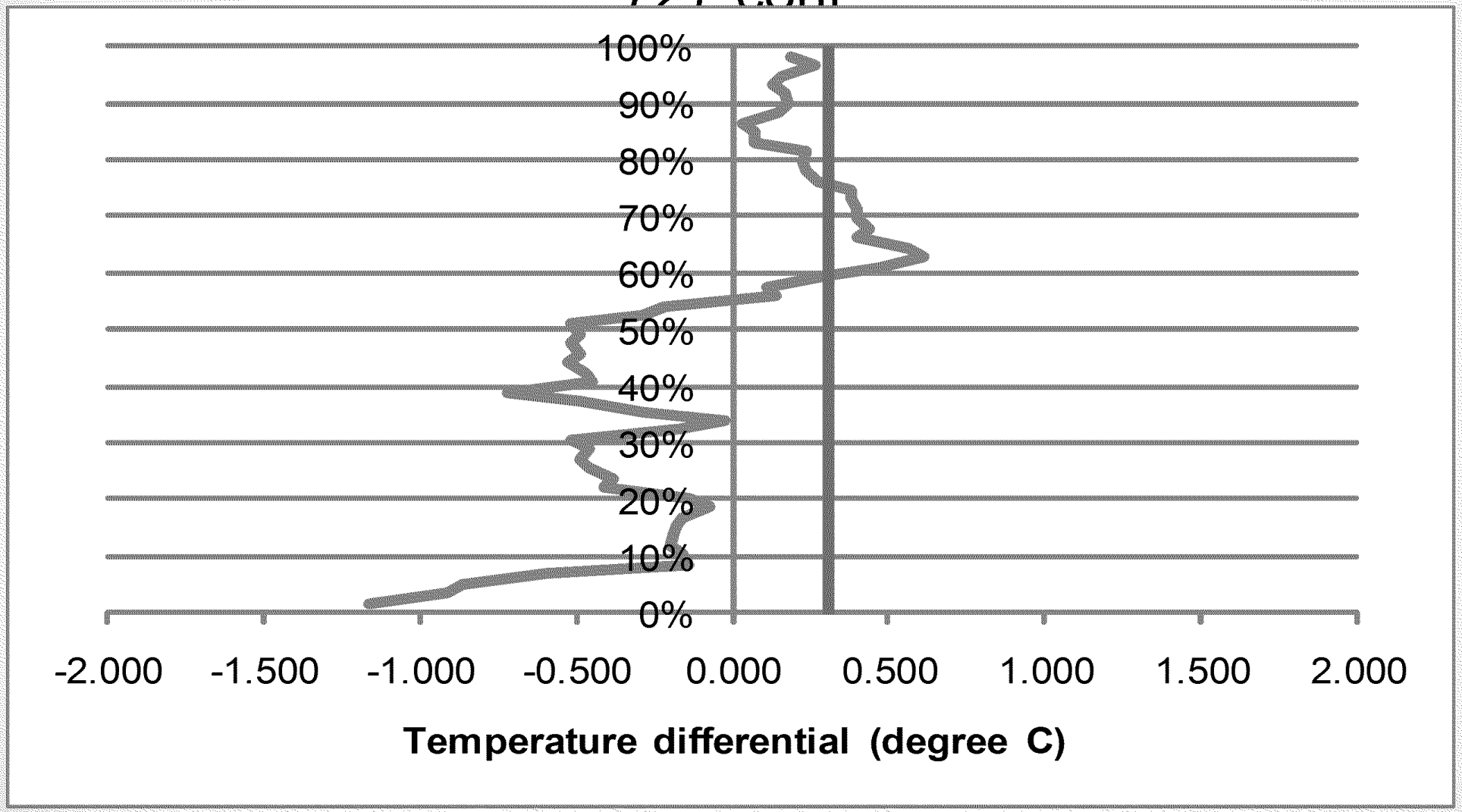
Daily-comparison approach for maximum temperature at Reservation upstream boundary (RM 72)



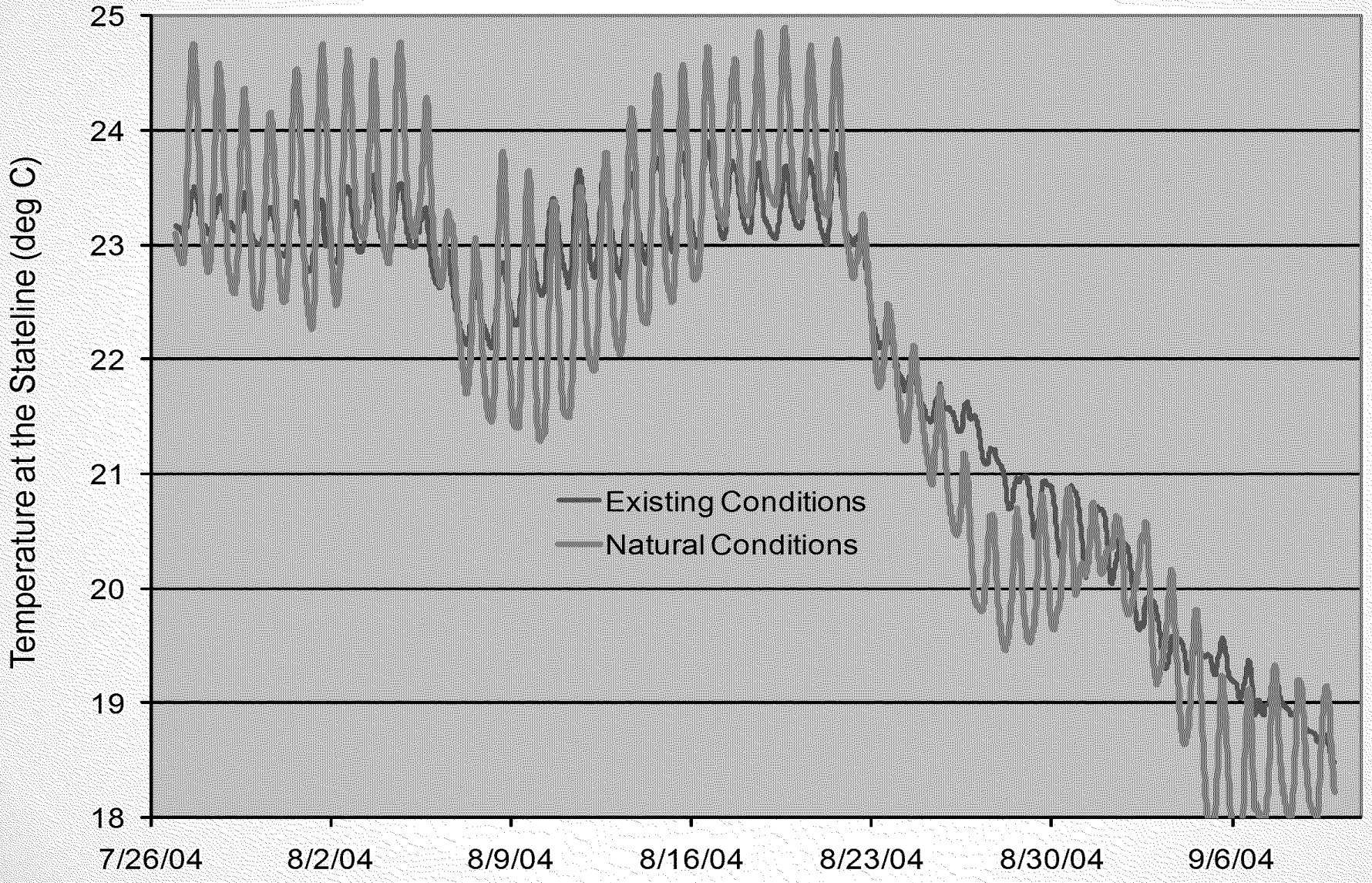
Cumulative frequency approach for maximum temperature at Reservation upstream boundary (RM 72)



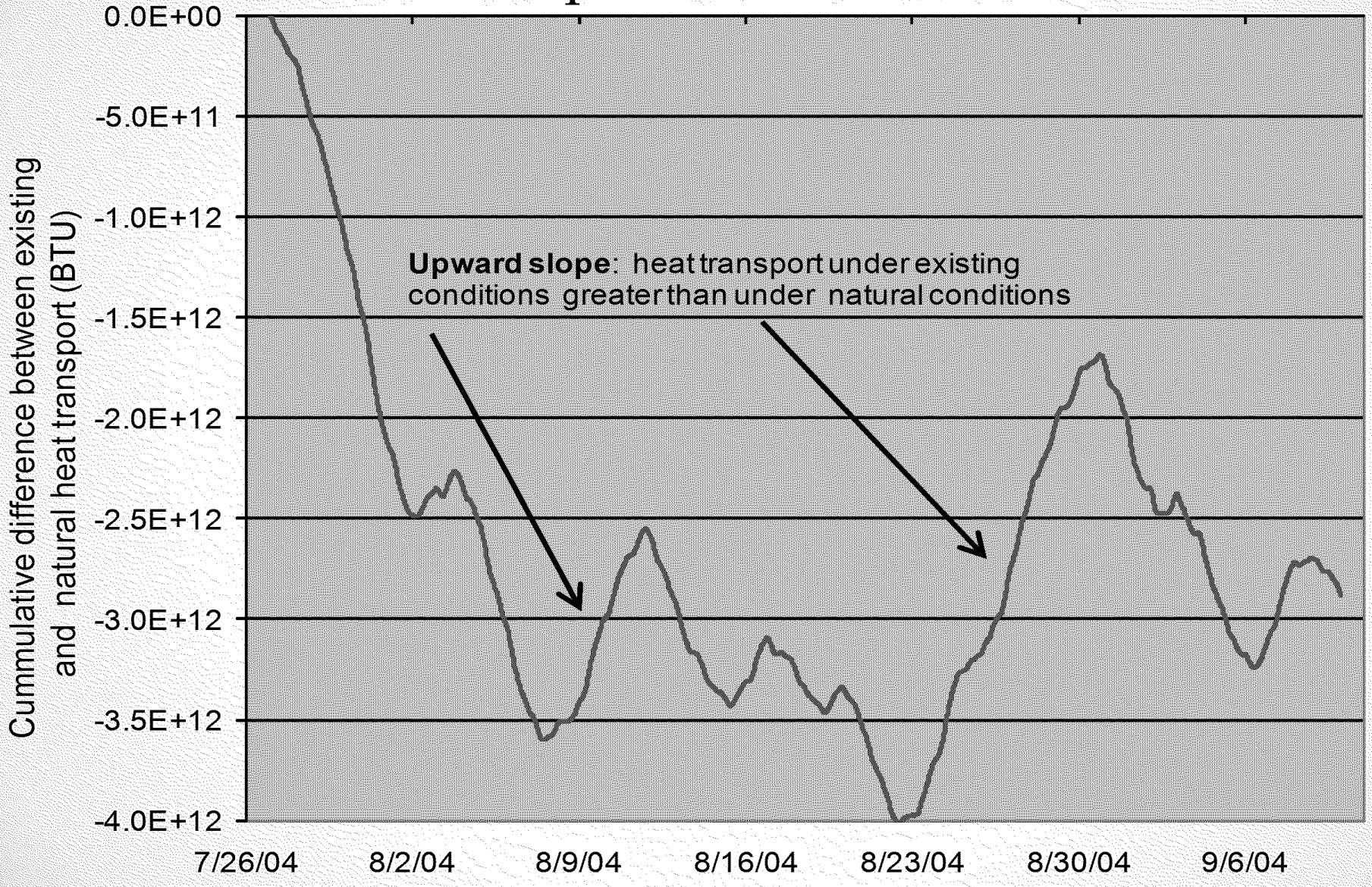
Cumulative frequency approach for maximum temperature at Reservation upstream boundary (RM 72) cont



Key Issue: Temperatures at the Stateline



Summation of differences between existing and natural temperatures at the Stateline



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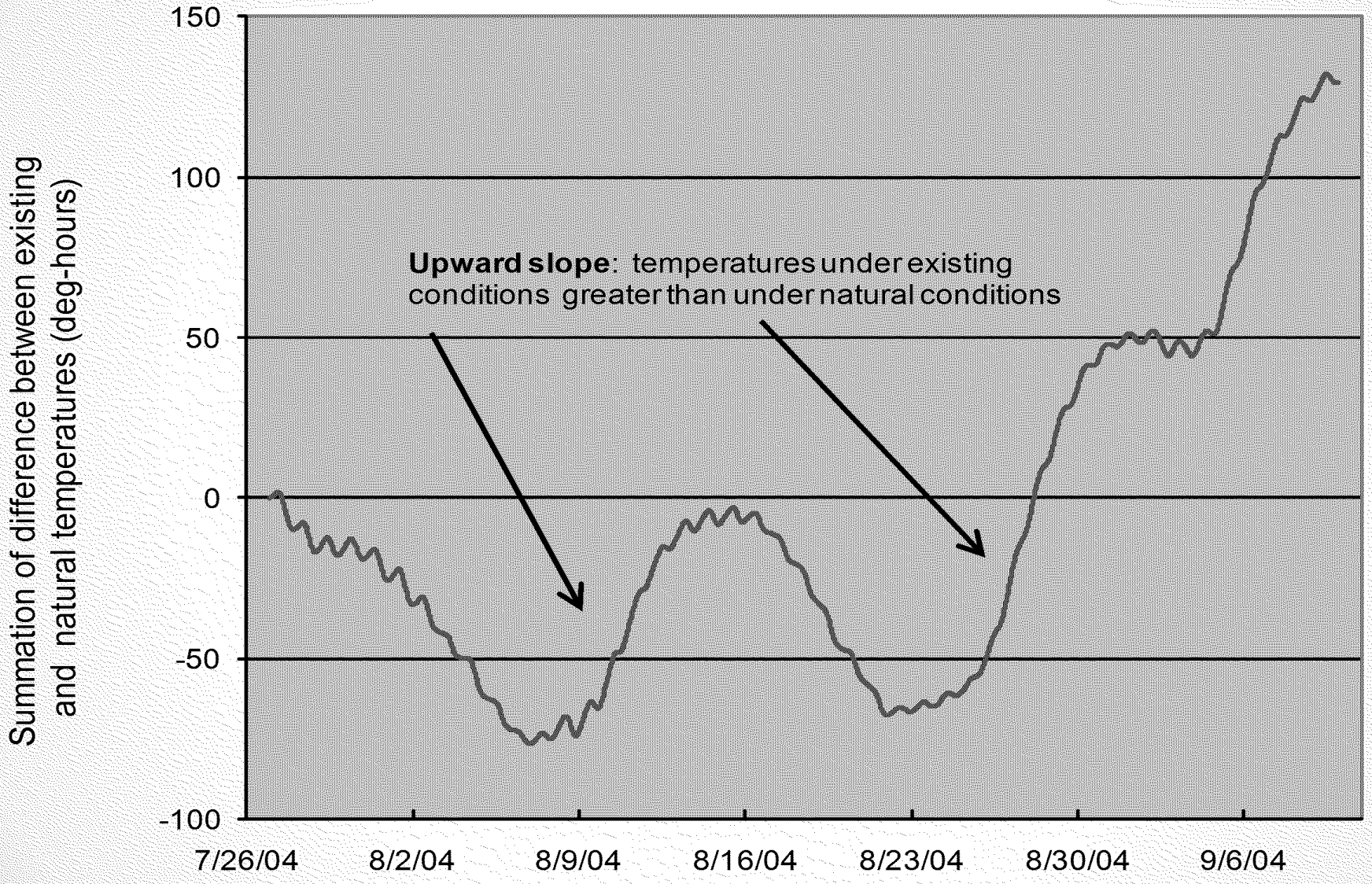

Date	Type of Violation	Magnitude of Violation (deg C)	Temperature under existing conditions		Warming between RM 88 and RM 72 (deg C)
			RM88	RM72	
07/27/04	Tmax	0.17	23.51	24.59	1.08
07/28/04	7DADM	0.04	23.44	24.38	0.95
07/29/04	Tmax	0.06	23.47	24.49	1.02
07/30/04	Tmax	0.58	23.34	24.50	1.16
07/31/04	Tmax	0.19	23.40	24.47	1.07
08/09/04	**7DADM**	**0.05**	**23.15**	**23.72**	**0.57**
08/10/04	**Tmax**	**0.24**	**23.43**	**24.10**	**0.67**
08/11/04	**Tmax**	**0.69**	**23.68**	**24.56**	**0.88**
08/12/04	Tmax	0.80	23.61	24.81	1.20
08/13/04	Tmax	0.41	23.65	24.80	1.15
08/14/04	7DADM	0.25	23.79	24.87	1.08
08/15/04	**7DADM**	**0.12**	**23.83**	**25.01**	**1.18**
08/16/04	**Tmax**	**0.05**	**23.92**	**25.10**	**1.18**
08/23/04	**Tmax**	**0.21**	**22.38**	**22.29**	**-0.10**
08/25/04	**7DADM**	**0.13**	**21.78**	**21.10**	**-0.69**
08/26/04	**7DADM**	**0.29**	**21.63**	**21.42**	**-0.21**
08/27/04	**7DADM**	**0.32**	**21.50**	**21.33**	**-0.18**
08/28/04	**7DADM**	**0.35**	**21.08**	**21.22**	**0.14**
08/29/04	**7DADM**	**0.36**	**20.97**	**21.24**	**0.26**
08/30/04	**Tmax**	**0.42**	**20.90**	**21.23**	**0.33**
08/31/04	7DADM	0.09	20.75	21.26	0.51
09/04/04	7DADM	0.04	19.55	19.54	-0.01
09/05/04	**7DADM**	**0.15**	**19.58**	**19.75**	**0.17**
09/06/04	**7DADM**	**0.26**	**19.38**	**19.82**	**0.44**
09/07/04	**7DADM**	**0.35**	**19.27**	**19.45**	**0.18**
09/08/04	**7DADM**	**0.31**	**19.01**	**19.72**	**0.71**
09/09/04	7DADM	0.16	18.76	19.21	0.46

A Summary of Conclusions

Issue	Conclusions based on our analyses
Cumulative frequency versus direct daily comparison	No evidence of significant time lags or effects of short-term events such as weather fronts.
Tribe's criteria in the reach along the Kalispel Reservation	5 violations for 2004. Max. 1-day violation is 0.28 °C and max. 7DADM violation is 0.20 °C.
Tribe's criteria at Reservation upstream boundary	27 violations for 2004. Max. 1-day violation is 0.80 °C and max. 7DADM violation is 0.36 °C.
Achievement of the Tribe's criteria	Criteria will not be met through efforts to achieve load allocation for the Box Canyon Dam fore-bay.
Water flowing from Idaho across the Stateline	Water is warmer under existing conditions than under natural conditions on most days when there are violations at the Reservation boundary

Requested Actions

Require that any Pend Oreille River Temperature TMDL:

- Ensure attainment of Kalispel water quality standards;
- Defer to the Tribe's technical determination of impairment of its own water quality standards (subject to the same review that EPA would give a state determination of impairment); and
- Set allocations that will remedy tribally determined violations of Kalispel water quality standards.

Options for Implementing Requested Actions

- Require a multi-jurisdictional TMDL or create a similar process in which the Tribe is a co-equal sovereign;
- Require Ecology to amend the TMDL to: (1) include language recognizing the Tribe's sovereign authority to determine impairment of its own water quality standards, (2) adjust the existing analysis in light of the Tribe's impairment determination, and (3) set allocations to ensure attainment of tribal water quality standards; or
- Disapprove the TMDL and publish a TMDL that is responsive to the Tribe's concerns.

EPA's Authority to Implement Request

- It is well established that a TMDL must ensure that the water quality standards of all affected states are attained.
  - Chesapeake Bay TMDL, App'x W, p. 206 ("As a legal matter, EPA is authorized to consider downstream water quality standards (including those in other states), when establishing or approving a TMDL.")
  - Snake River – Hells Canyon Temperature TMDL, p. 57 ("Because of the bi-state nature of the SR-HC TMDL, and the fact that the Snake River from RM 409 to RM 188 is an interstate water body with the state boundary line described as the centerline of the river, water quality standards and particularly water quality criteria for both Oregon and Idaho must be attained.")
  - Columbia River Dioxin TMDL, p. A-2 (requiring attainment of downstream water quality standards); *see also* Coeur d' Alene Basin TMDL, Technical Support Doc., pp. 2-3; Christina River Basin TMDL, p. 11; Tug Fork TMDL, p. 5; Shenandoah River TMDL, p. 3; Pend Oreille River Temp TMDL, pp. 2, 8.
- Having been approved for TAS by EPA, the Kalispel Tribe must be treated as a state under the CWA.
- Therefore, the Pend Oreille River Temperature TMDL must ensure attainment of Kalispel water quality standards.

EPA's Authority to Implement Request

- The only novel legal issue here is whether the Tribe gets to determine impairment of its own water quality standards
- Acknowledging that the Tribe has this authority is consistent with the intent of the Clean Water Act
  - *See* slides 4 & 5; *see also Texas v. United States*, 497 F.3d 491, 525 n.3 (5th Cir. 2007) (noting that the Indian canons of construction may trump *Chevron* deference where an agency action is inconsistent with a statutory provision enacted for the benefit of Indians, but that an agency is entitled to additional deference if its action furthers the statutory benefit conferred on a tribe)
- Such acknowledgment is also consistent with Ecology's understanding of its rights under the Clean Water Act.
  - Washington believes it has authority to determine impairment of its water quality standards when it is the downstream sovereign in a TMDL. 4/28/08 WAG notes (According to Karin Baldwin, "Ecology will determine impairment at the stateline, and IDEQ will determine the allocation for the stateline.")