

**Pend Oreille River TMDL
Watershed Advisory Group:
Washington and Kalispel Tribe
Temperature Standards**



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Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



- TMDLs and Water Quality Standards
 - A TMDL is a plan to meet WQ Standards
 - Standards are set by regulation
 - Two sets of standards apply in Washington:
 - Dept. of Ecology standards in State waters
 - Kalispel Tribe standards in Tribal waters
 - Both must be met in shared waters
 - Standards protect the designated uses
 - Standards include numeric criteria



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



➤ Washington State Temperature Standards

▪ Mainstem Pend Oreille River

- Protection of salmon spawning, rearing and migration
- Site specific criteria:
 - ✧ Shall not exceed a 1-DMax of 20 degrees Celsius due to human activities
 - ✧ When natural conditions exceed a 1-DMax of 20 degrees Celsius, no temperature increase will be allowed which will raise the receiving waters temperature by more than 0.3 degrees Celsius
 - ✧ nor shall such temperature increases, at any time, exceed $t=34/(T+9)$



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



- **Washington State Temperature Standards**
 - **Pend Oreille River Tributaries**
 - Different uses and criteria for different tribes
 - All criteria as 7-day average of daily maximum
 - ✧ Char Spawning and Rearing: 12 degrees C
 - ✧ Core Summer Salmonid Habitat: 16 degrees C
 - ✧ Salmon Spawning Rearing and Migration: 17.5 deg C
 - If natural conditions are greater than the criteria, no increase above 0.3 degrees C



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



➤ **Kalispel Tribal Temperature Standards**

- **Pend Oreille River and Calispell Creek**
 - Adult Salmonid Migration
 - Temperature shall not exceed 18°C as a moving 7-day average of the daily maximum temperatures
 - No single daily maximum temperature greater than 20.5°C.
 - When natural background conditions prevent the attainment of the numeric temperature criteria, human-caused conditions and activities considered cumulatively can increase temperature levels by only an additional 0.3°C.



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



➤ **Kalispel Tribal Temperature Standards**

▪ **Cee Cee Ah Creek**

- **Adult Salmonid Migration March-September**
- **Brown Trout Spawning October – February**
 - ✧ Temperature shall not exceed 9°C as a moving 7-day average of the daily maximum temperatures
 - ✧ No single daily maximum temperature greater than 13°C.
 - ✧ When natural background conditions prevent the attainment of the numeric temperature criteria, human-caused conditions and activities considered cumulatively can increase temperature levels by only an additional 0.3°C.



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



➤ Integrating the Standards

- All tributaries must meet tributary standards
- Model determines natural conditions
- In Washington Waters:
 - Natural daily maximum temperatures greater than 19.7 °C:
 - * no increase in daily maximum temperatures greater than 0.3 °C
 - Natural daily maximum temperatures less than 19.7 °C, the lesser of:
 - * No increase in daily maximum temperatures greater than 20 °C
 - * No increase in daily maximum temperatures greater than $t=34/(T+9)$, where T = natural temperatures.



Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards

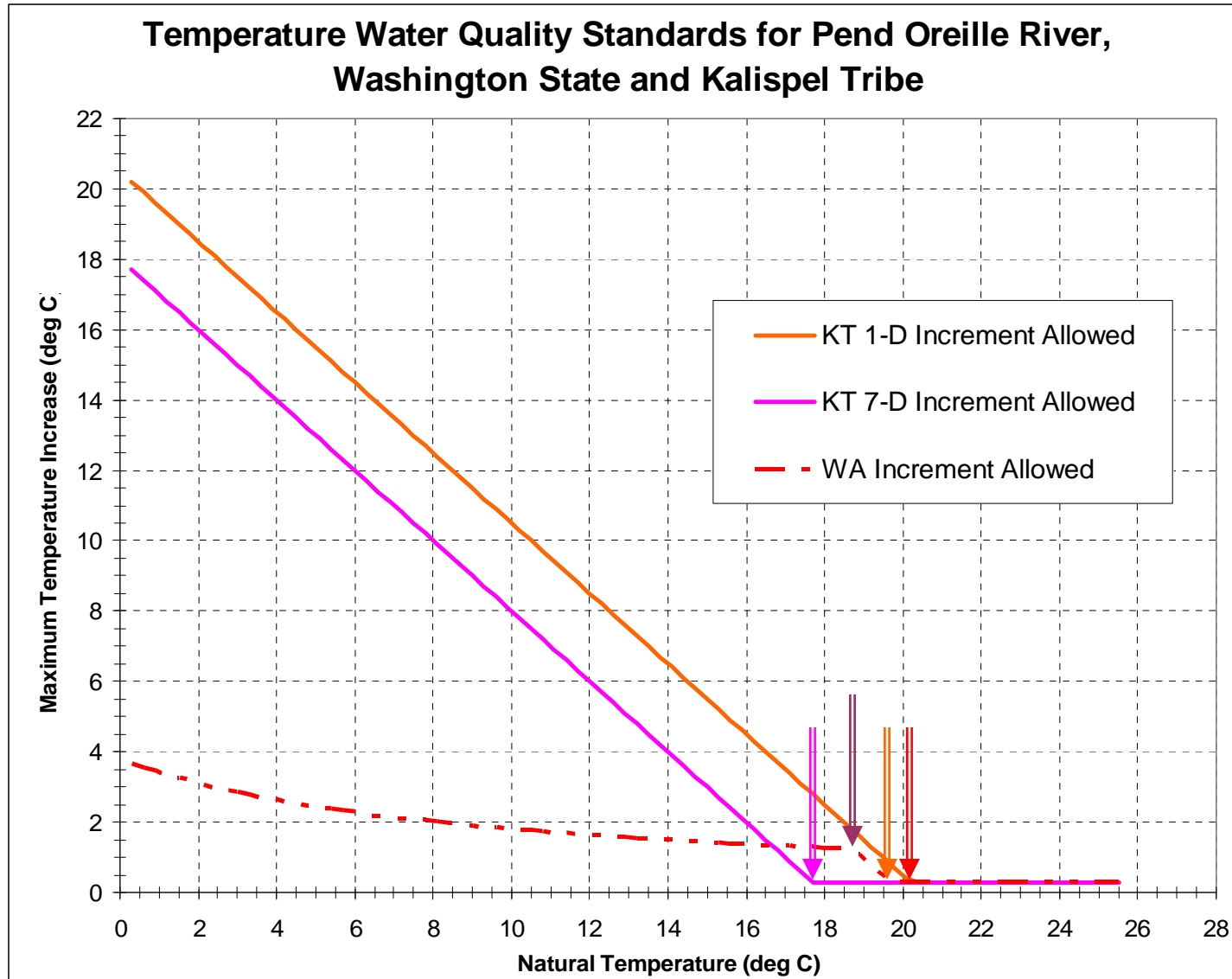


➤ Integrating the Standards

- In waters shared with Kalispel Tribe, two additional tests:
 - Natural 7-day average of daily maximum temperatures greater than 17.7 °C:
 - *no increase in 7-day average of daily maximum temperatures greater than 0.3 °C
 - Natural 7-day average of daily maximum temperatures less than 19.7 °C:
 - *No increase in 7-day average of daily maximum temperatures greater than 18 °C

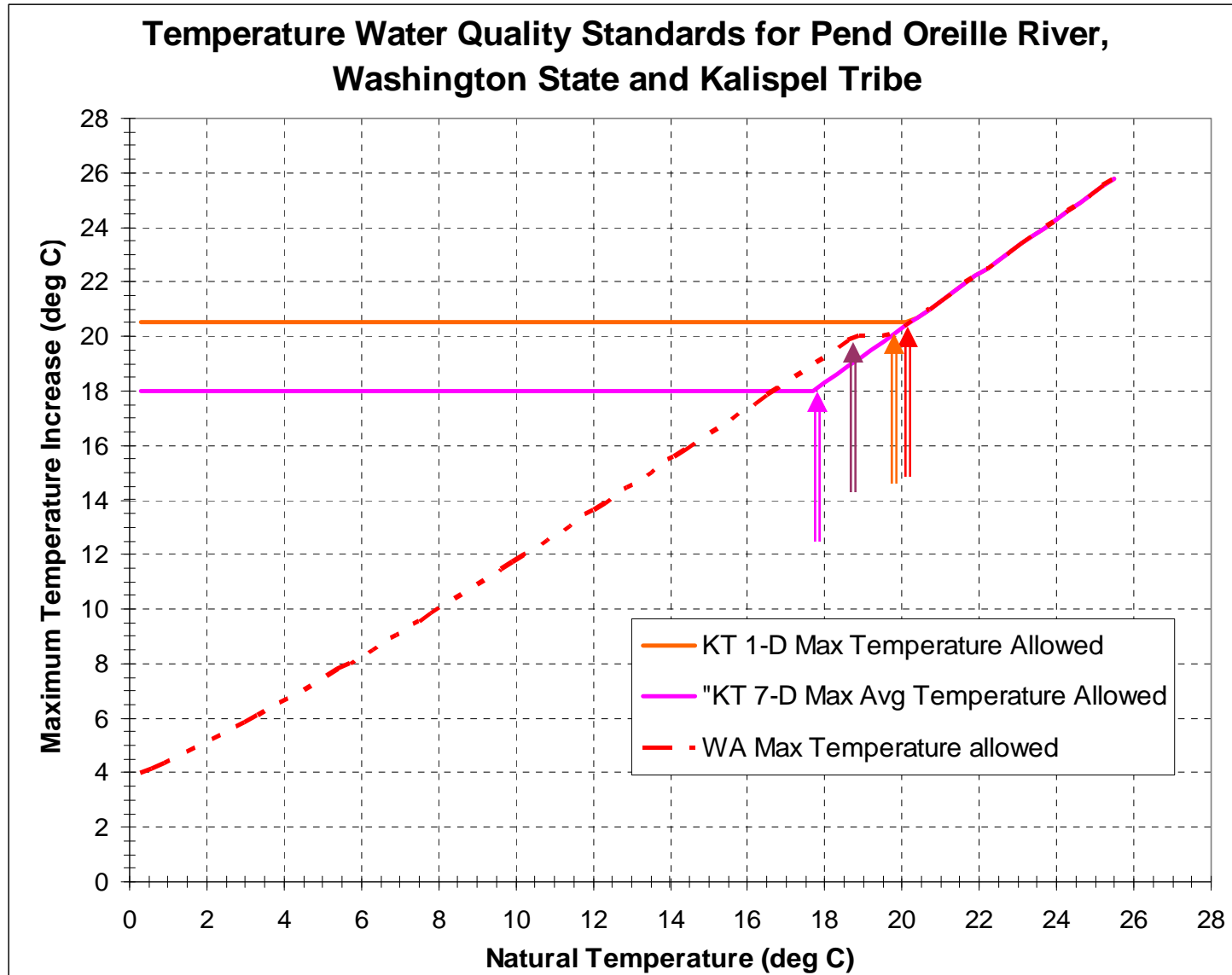


Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards





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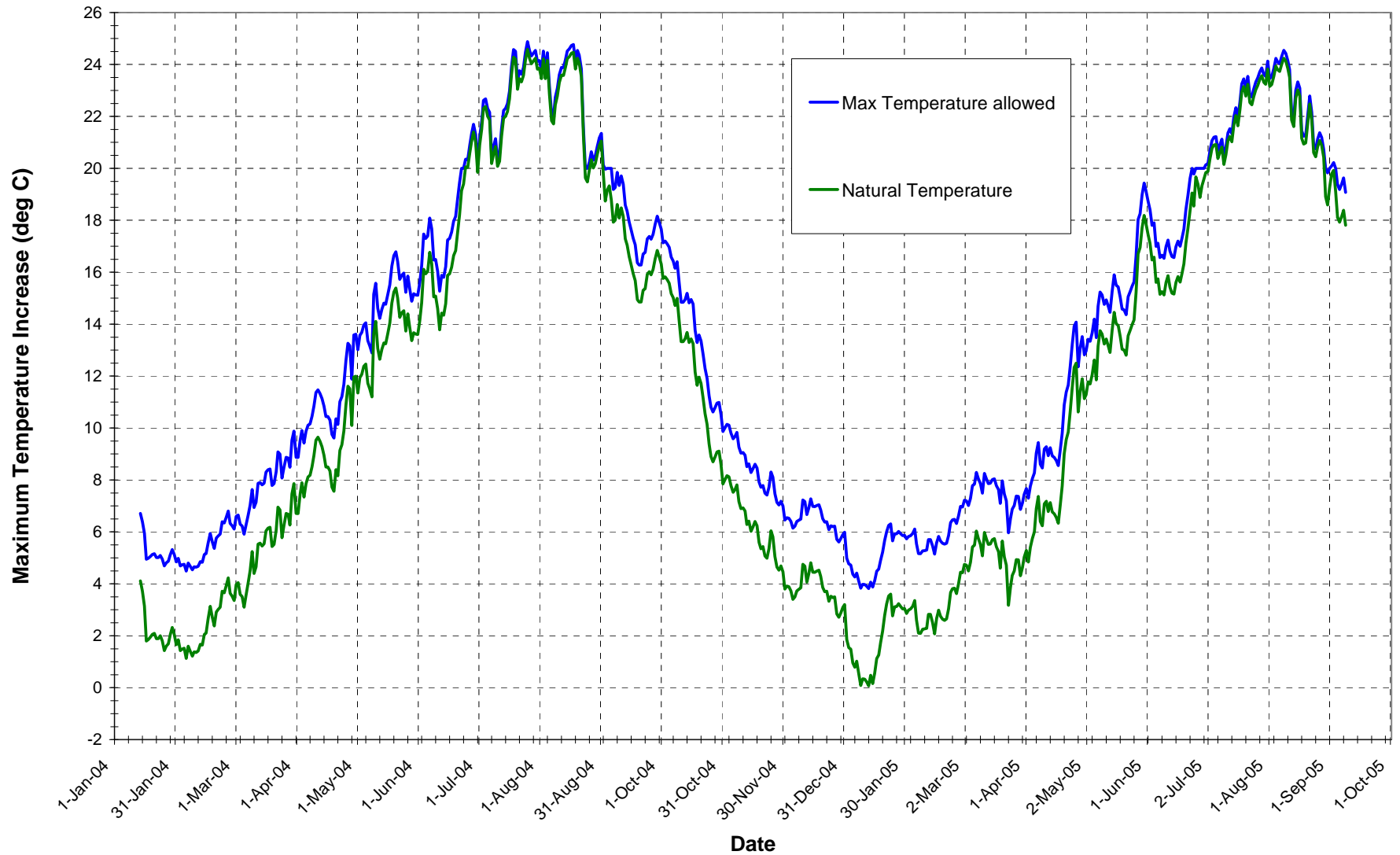




Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



Maximum Temperatures for Pend Oreille River, Box Canyon Segment 318, 2004-05

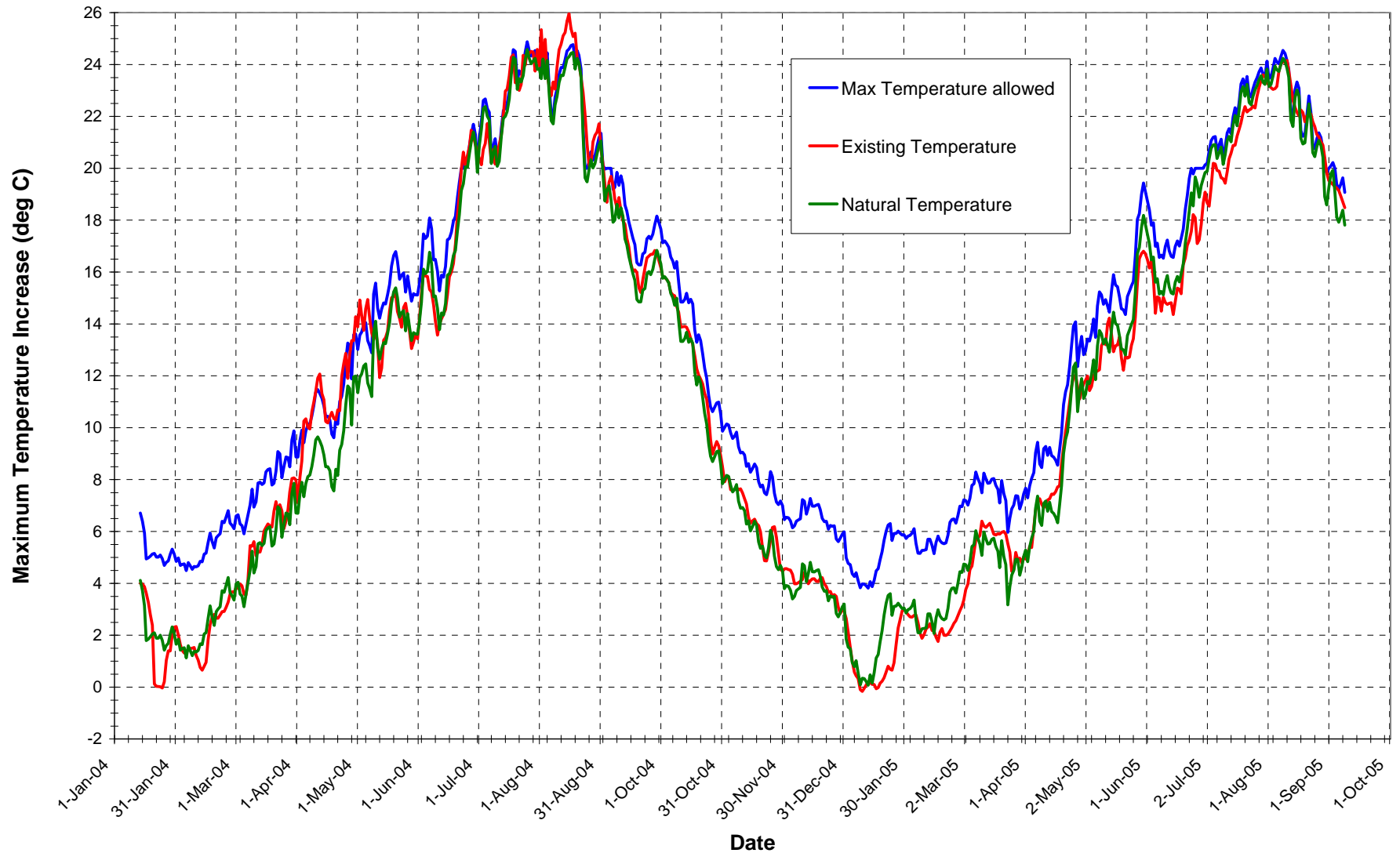




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Maximum Temperatures for Pend Oreille River, Box Canyon Segment 318, 2004-05

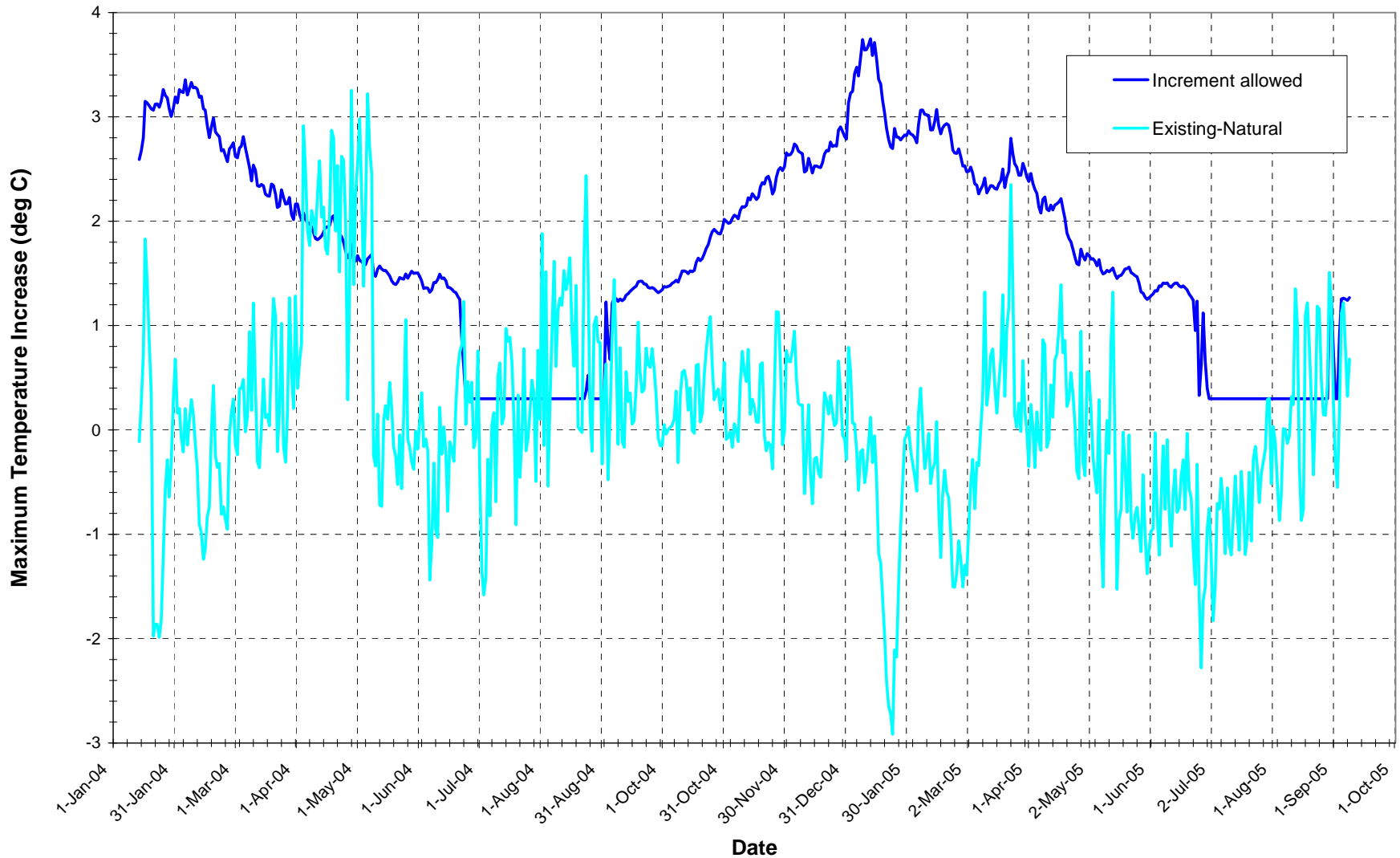




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Maximum Temperatures for Pend Oreille River, Box Canyon Segment 318, 2004-05

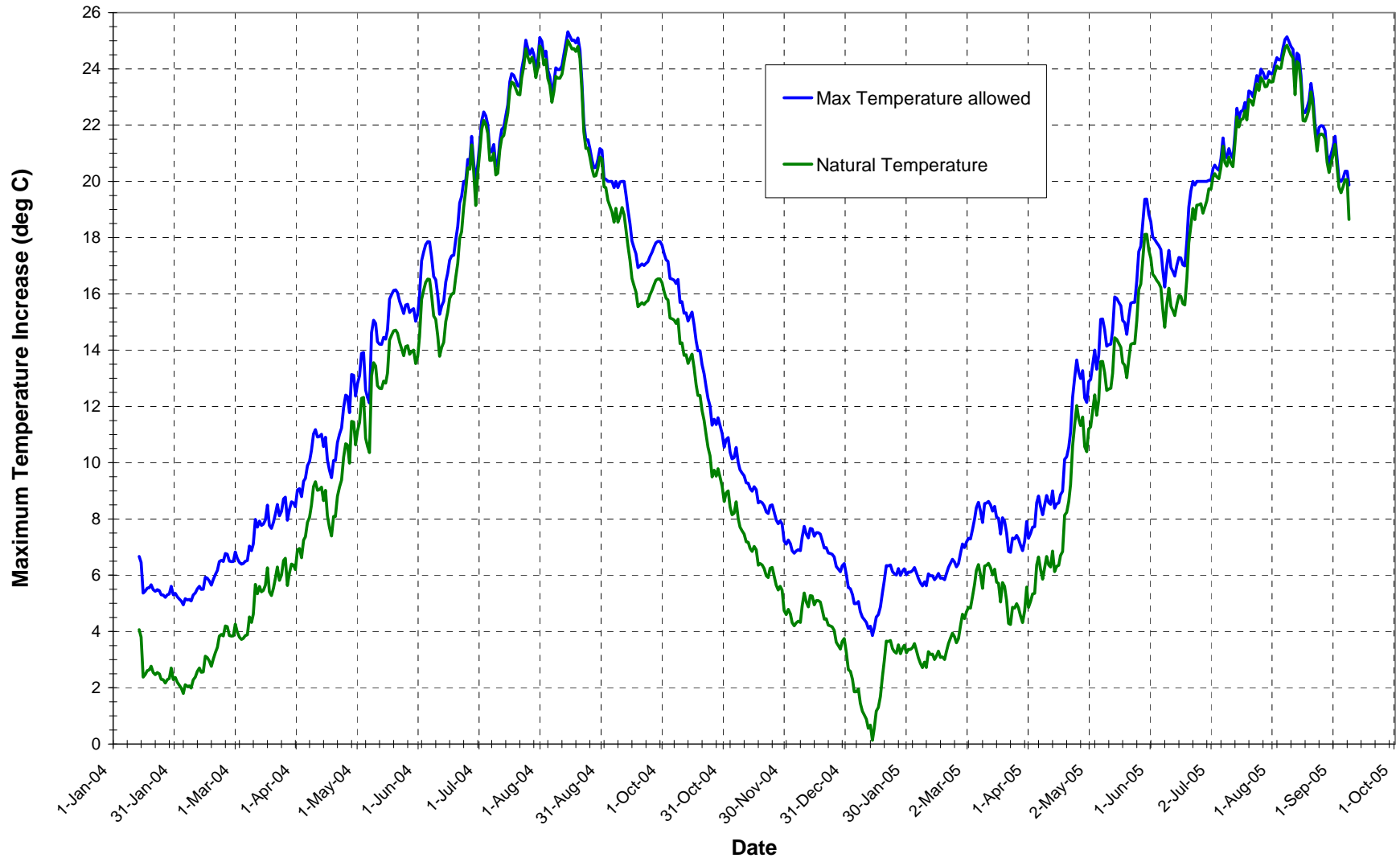




Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



Maximum Temperatures for Pend Oreille River, Box Canyon Segment 117, 2004-05

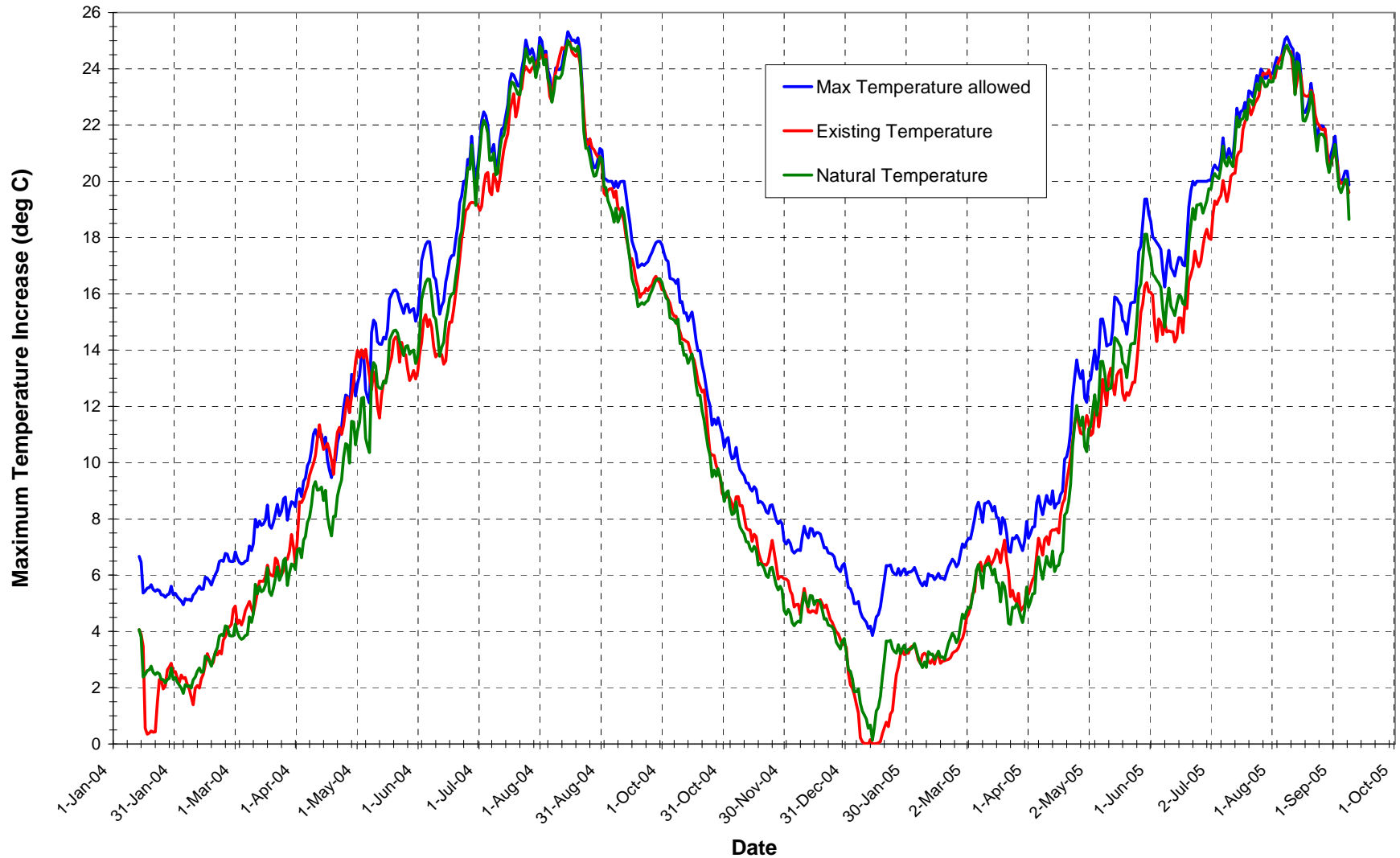




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Maximum Temperatures for Pend Oreille River, Box Canyon Segment 117, 2004-05

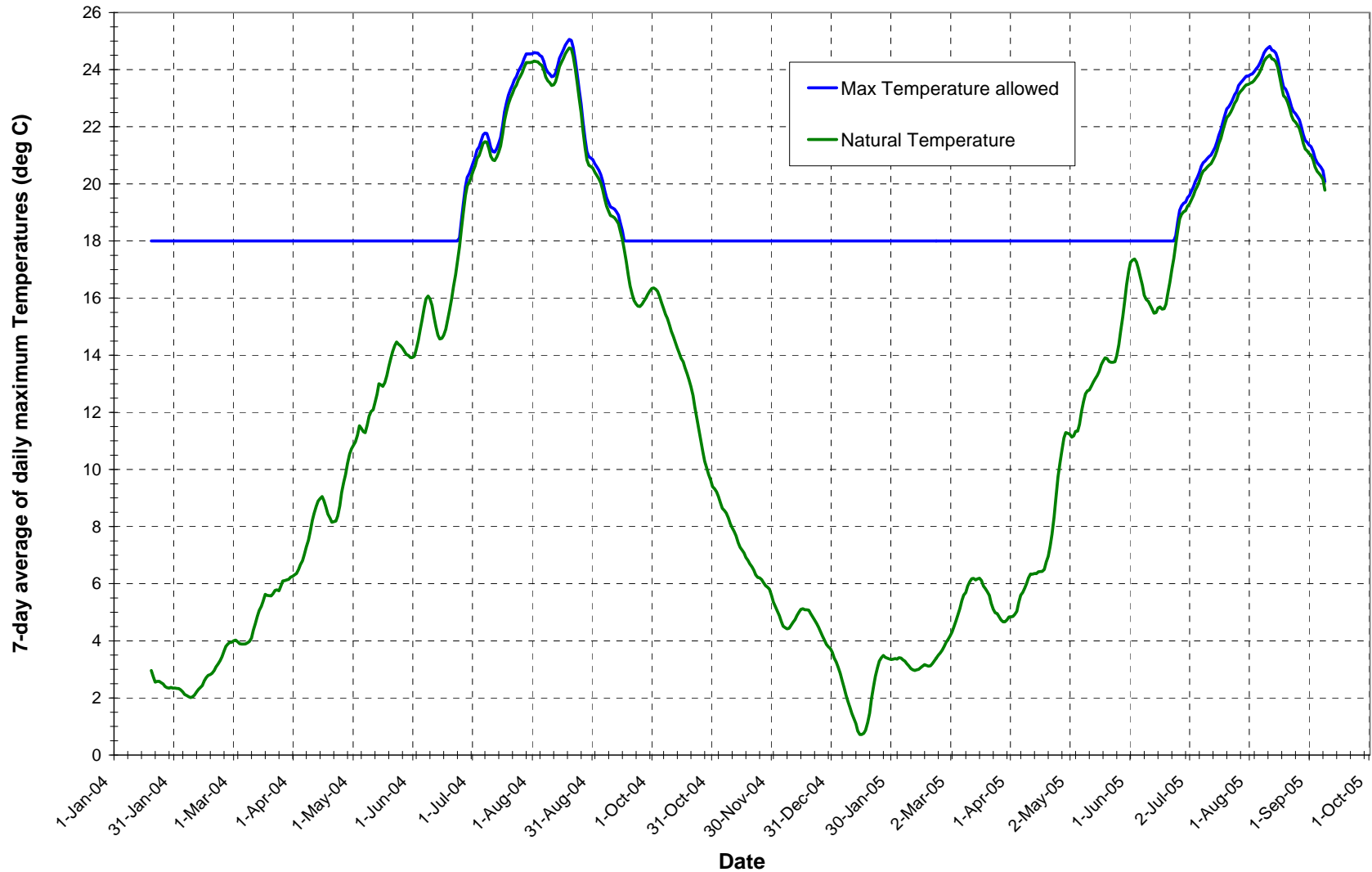




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Maximum Temperatures for Pend Oreille River, Box Canyon Segment 117, 2004-05

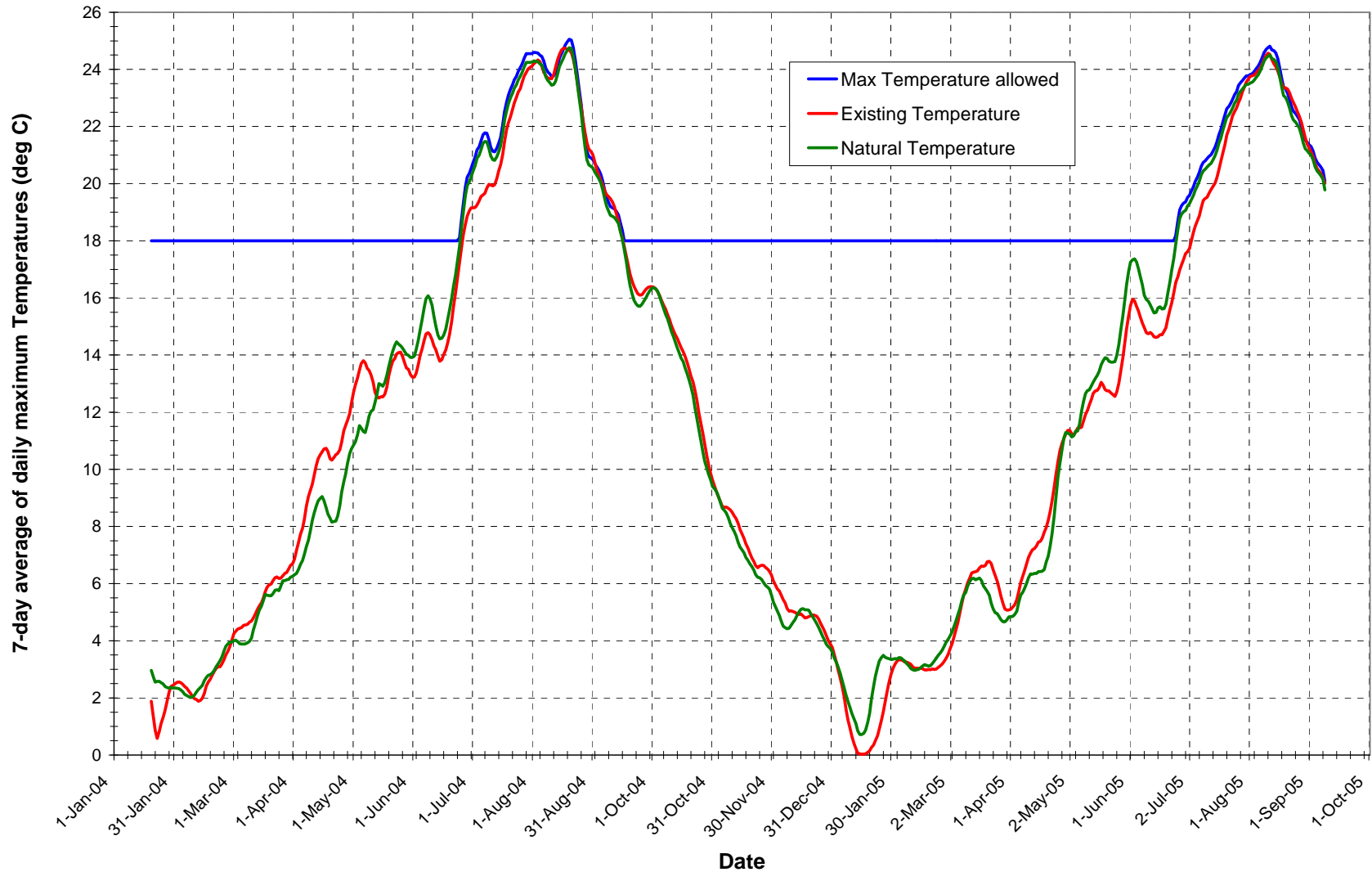




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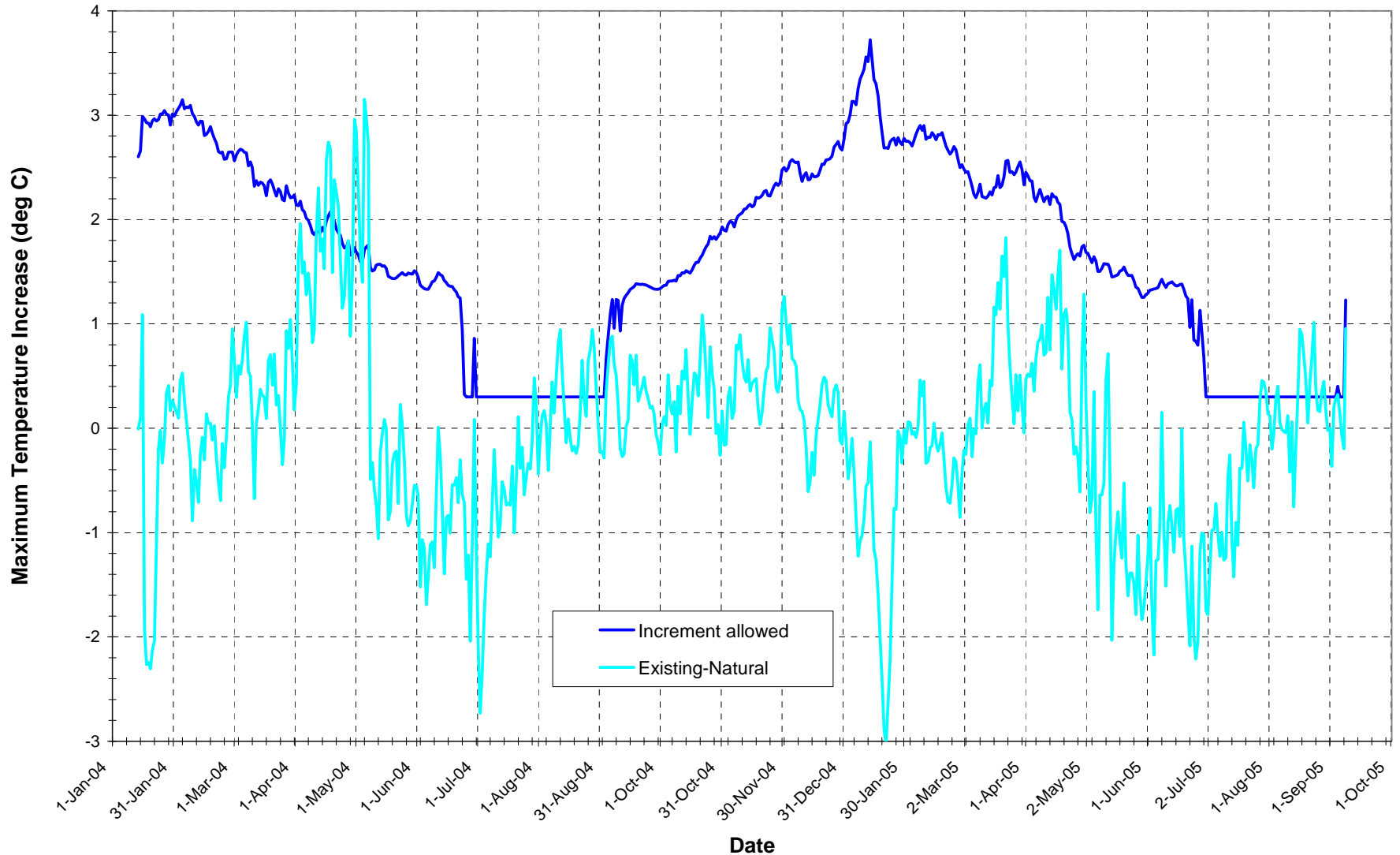




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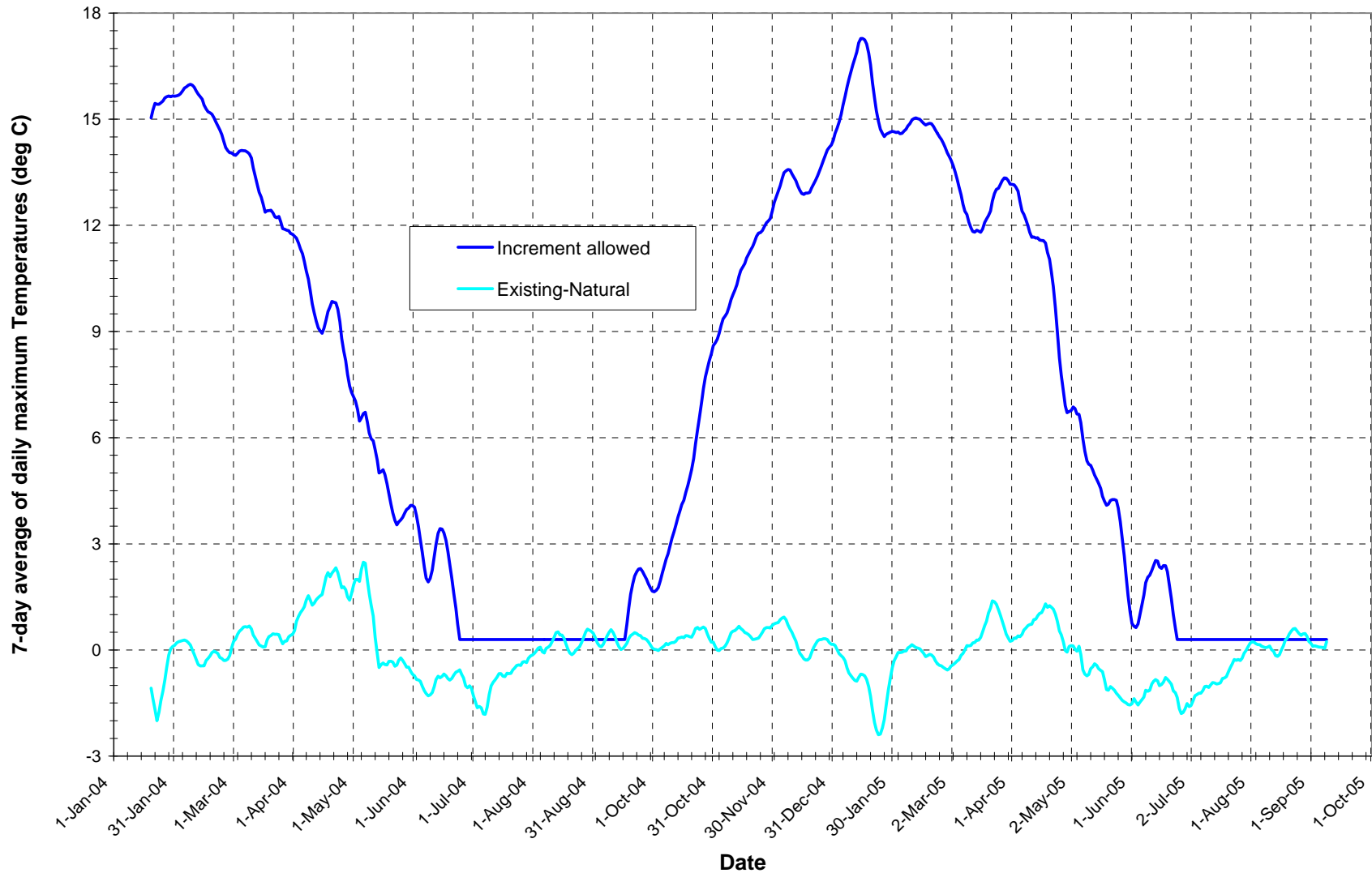




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Pend Oreille River Temperature TMDL: Washington and Kalispel Tribe Standards



- **Common Questions about the Standards**
 - **Didn't Washington's standards just get changed?**
 - Only for the tributaries
 - We are using the new WQS
 - **Are the standards realistic?**
 - Standards are based on scientific research on uses (fish)
 - Standards are mostly statewide, but sometimes site-specific
 - **Can the standards be changed?**
 - Standards are regulations and must go through the rule-making process and approval by EPA
 - Uses protected by the standards can be changed through a Use Attainability Analysis process
 - Site-specific criteria can be developed for particular waterbodies