WATER TEMPERATURE IN THE PLATTE RIVER

STUDY 3.0 WATER TEMPERATURE IN THE PLATTE RIVER

At the April 21, 2009, Study Plan Meeting, the goals and objectives of Study 3.0, Water Temperature in the Platte River, were discussed with the attending agencies, which included FERC, Nebraska Game and Parks Commission, U.S. Fish and Wildlife Service, Nebraska Department of Environmental Quality, Tern and Plover Conservation Partnership, Lower Loup Natural Resources District, National Park Service, Ponca Tribe of Nebraska, and City of Columbus, as well as others. The consensus of all agencies at the meeting was that this study (as defined in the District's Proposed Study Plan) could not be successful in isolating Project effects and is not necessary to facilitate Project relicensing. Therefore, the District is eliminating the study of water temperature in the Platte River.

The study was originally introduced in the District's Proposed Study Plan to address agency concerns with Project effects on pallid sturgeon related to water temperature. The accepted reach of the pallid sturgeon is defined as the Platte River below the confluence with the Elkhorn River. The primary concern was related to how changes in water temperature might affect the spawning and migration cues of the species.

The discussion at the April 21, 2009, Study Plan Meeting focused on the following variables that would be too great to overcome in attempts to isolate Project effects on water temperature in the lower Platte River:

- Tributaries

  Multiple tributaries contribute flow to the Platte River between the Tailrace Canal and U.S. Geological Survey (USGS) Gage 06805500, Platte River at Louisville, NE.[1] These tributaries include the Elkhorn River, Salt Creek, Buffalo Creek, and Shell Creek. These multiple inflows provide significant variability that would complicate the isolation of Project effects on water temperature in the lower Platte River.

- Lag Time

  Discharge from the Tailrace Canal travels approximately 80 miles before reaching USGS Gage 06805500, Platte River at Louisville, NE. On average, the travel time of flows for this distance is 2 to 3 days. This amount of time allows for significant attenuation of Project effects. The lag time coupled with the inflows of multiple tributaries makes it extremely difficult to isolate Project effects.

[1] USGS Gage 06805500, Platte River at Louisville, NE, was proposed because it is the only existing temperature sensor in the accepted reach of the pallid sturgeon habitat (downstream of the Elkhorn River confluence).

- Dominant Atmospheric Effects

  Preliminary evaluation of temperature data at USGS Gage 06805500, Platte River at Louisville, NE, indicated that the overriding influence on water temperature appears to be related to solar radiation and atmospheric influences, with no obvious influence from the Project.