

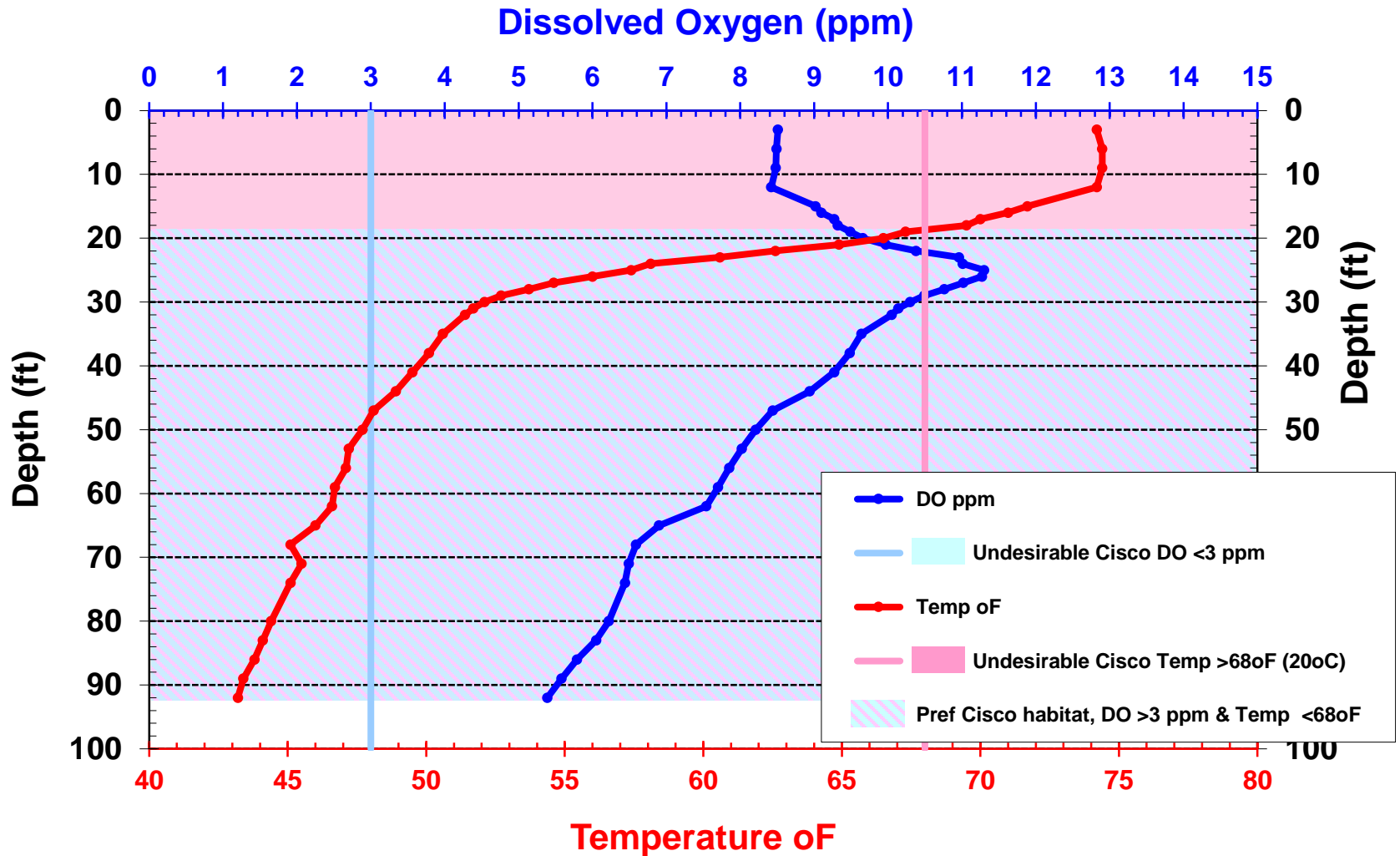
2019 DO/Temperature Summary and Profile

Doug Kingsley recently provided a summary of this year's DO/Temp Study data through 9/28/19. In short, conditions seem to exist for maintaining a Cisco population, with adequate habitat where water temperatures are 68 degrees or less and DO is 3 mg/l or more. Conditions change through the summer, with the worst conditions usually in late August or early September. Conditions also change from year to year, mostly depending on air temperatures. 2016 was the worst year since this type of monitoring began. There was only about 24 feet of water, from 35 to 59 feet deep, with cool enough water temperature and high enough DO, to be suitable for Cisco. However, that was better than Kabekona Lake that experienced a summer fish kill of Lake Whitefish and Cisco because of inadequate temperature/DO or Long Lake where there was only about a quarter foot of suitable habitat. It appears that there may be a slight increasing trend for temperature where dissolved oxygen is 3 mg/l (TDO3). That may be due to increasing air temperatures because of climate change. See the charts and graphs below for further information.

Big Sand Lake

Dissolved Oxygen / Temperature profile

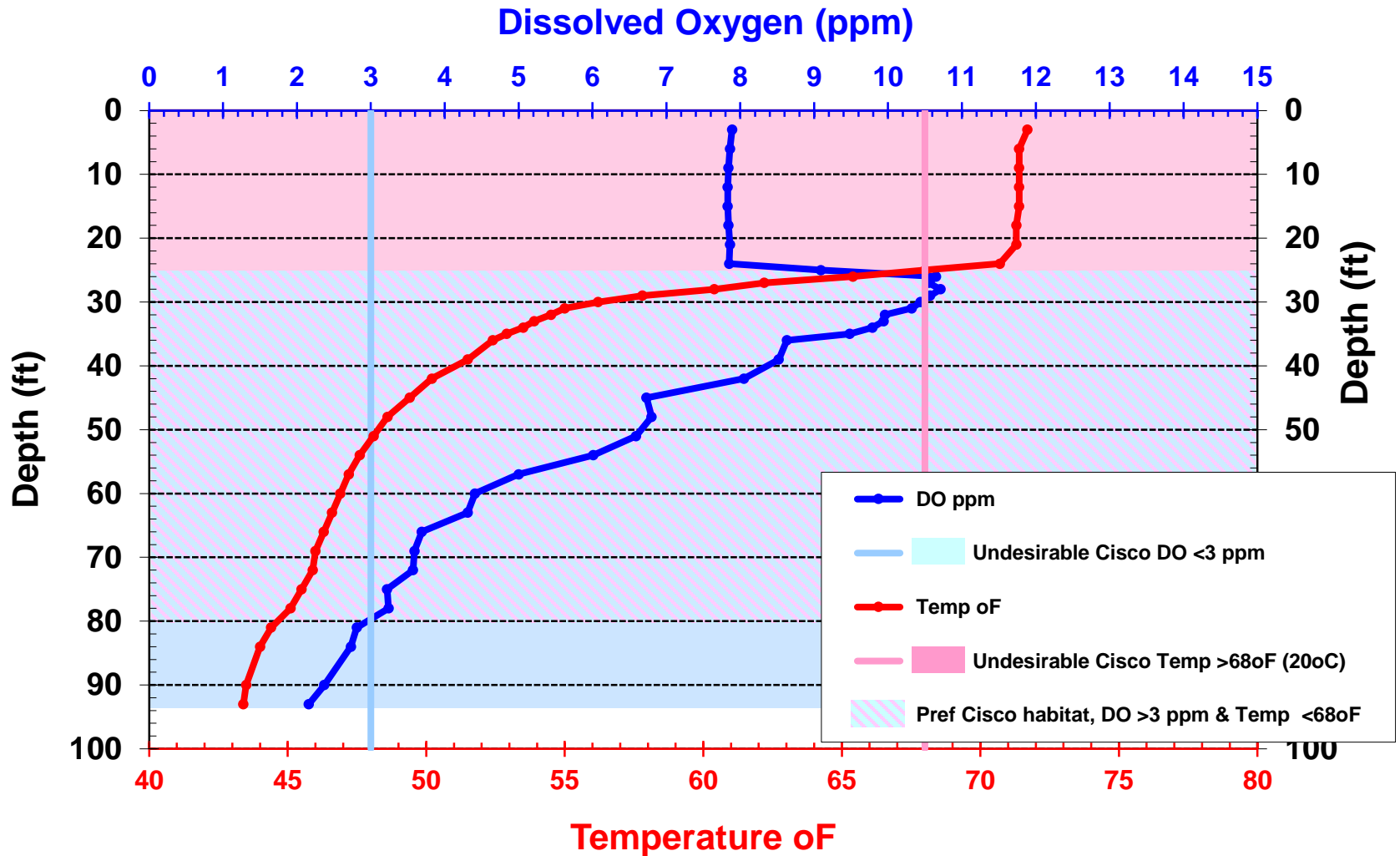
7/7/2019



Big Sand Lake

Dissolved Oxygen / Temperature profile

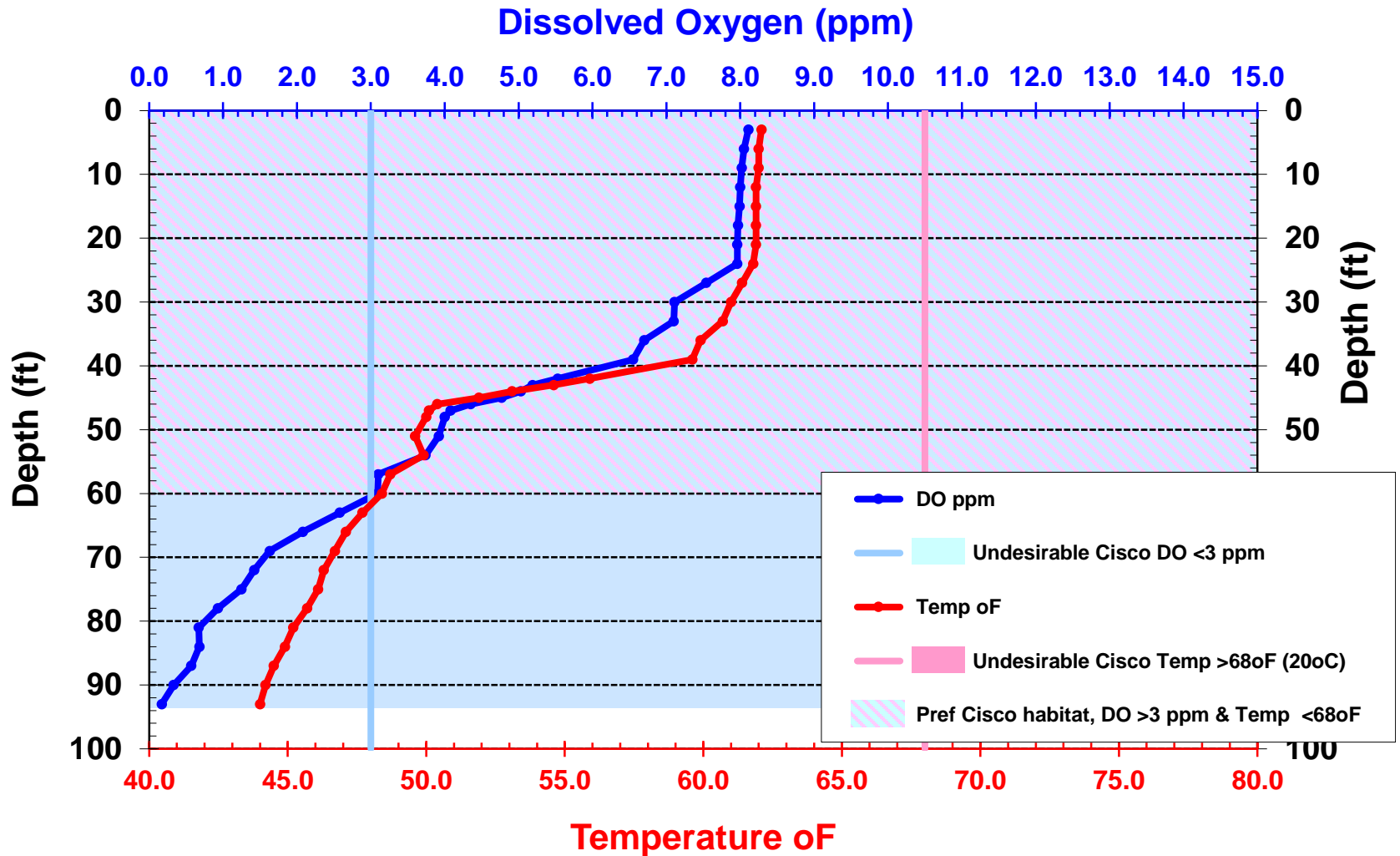
8/16/2019



Big Sand Lake

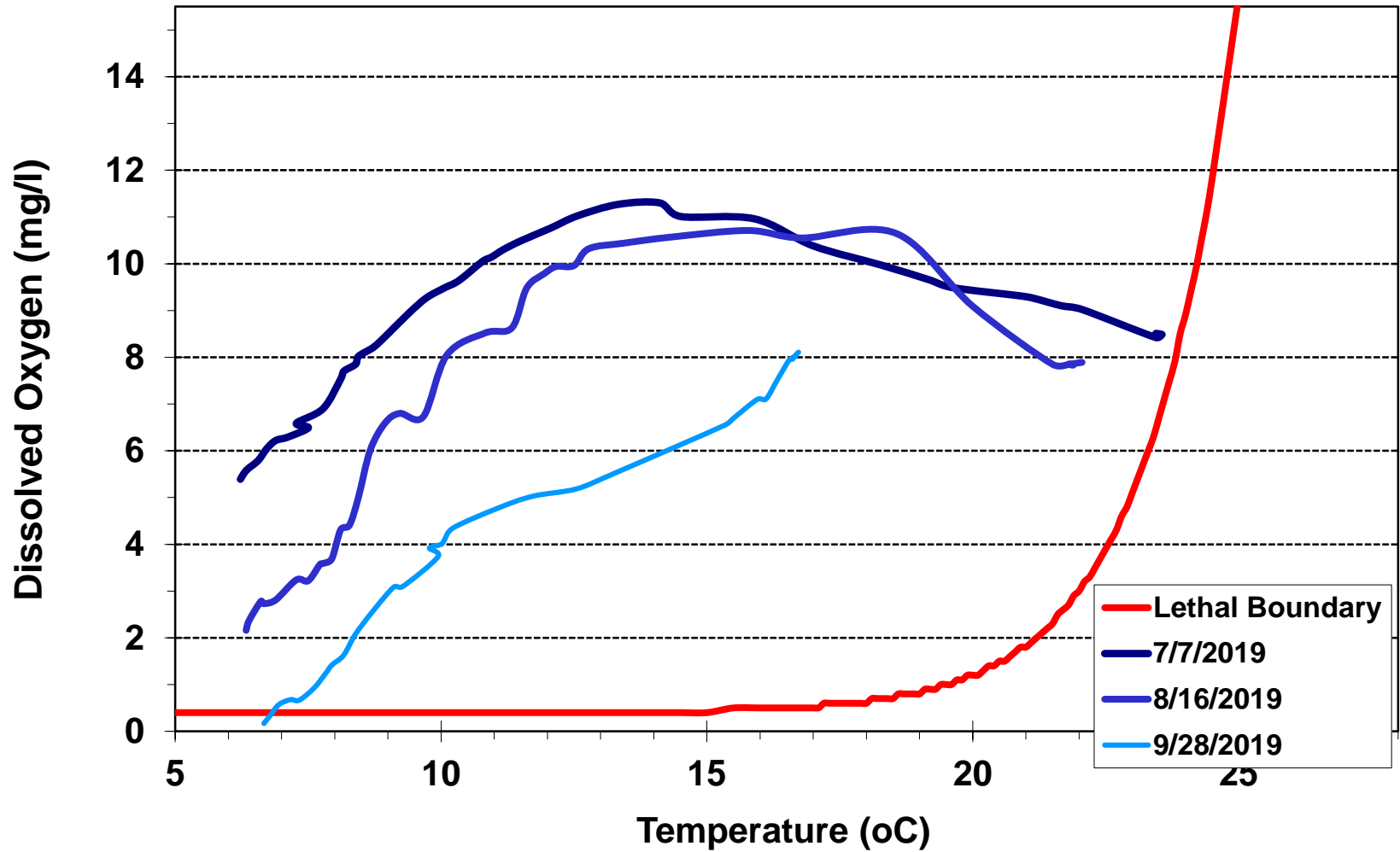
Dissolved Oxygen / Temperature profile

9/28/2019



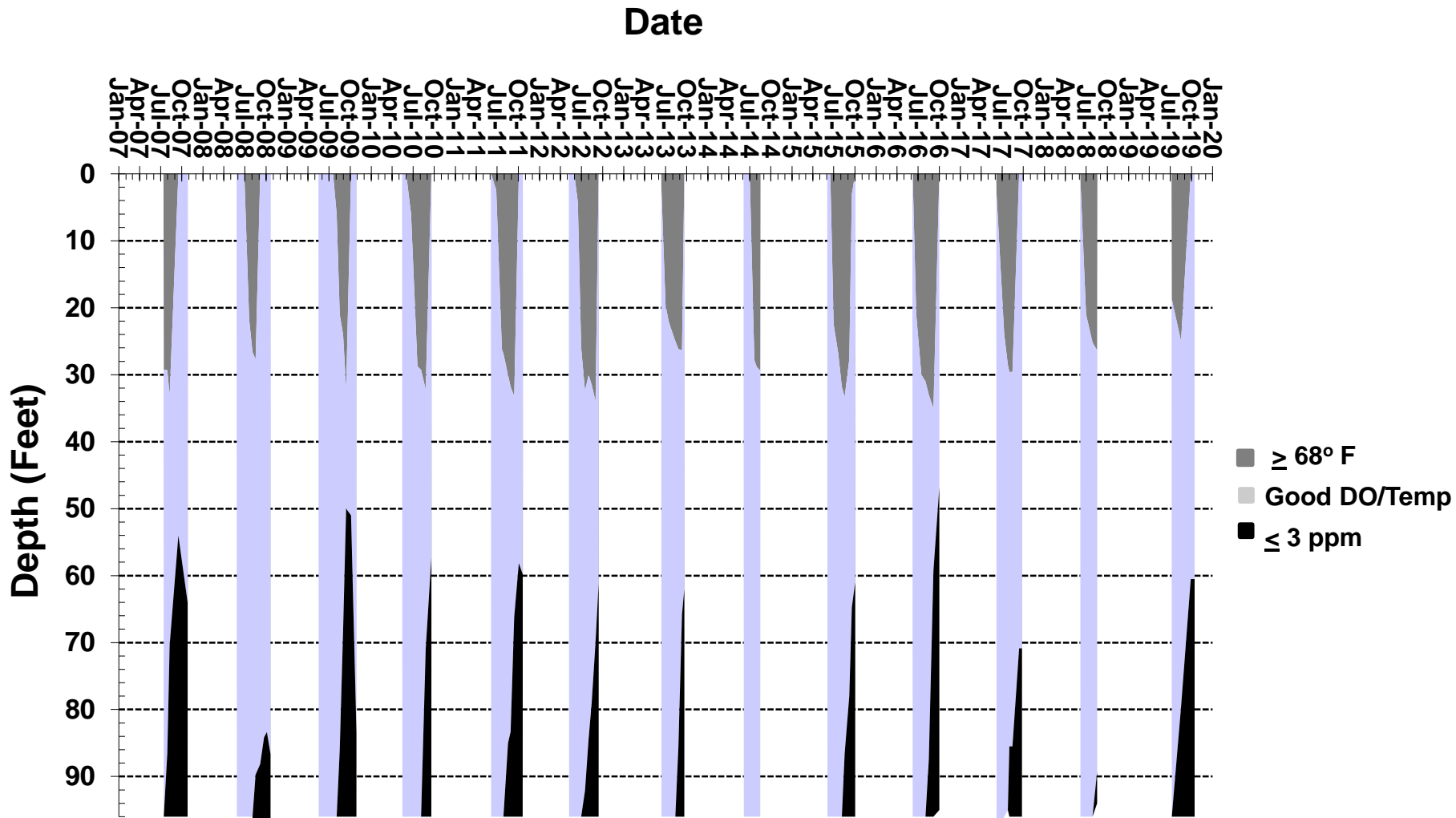
Big Sand Lake 2019

Lethal Oxythermal Niche Boundary for Cisco



Big Sand Lake

Dissolved Oxygen (DO) / Temperature, 2007-2019



Big Sand Lake

Temperatures at 3 mg/l DO – mid-August 2007-2019

