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### Burr's Pond and Runnins River – An Annual Watershed Survey 2008

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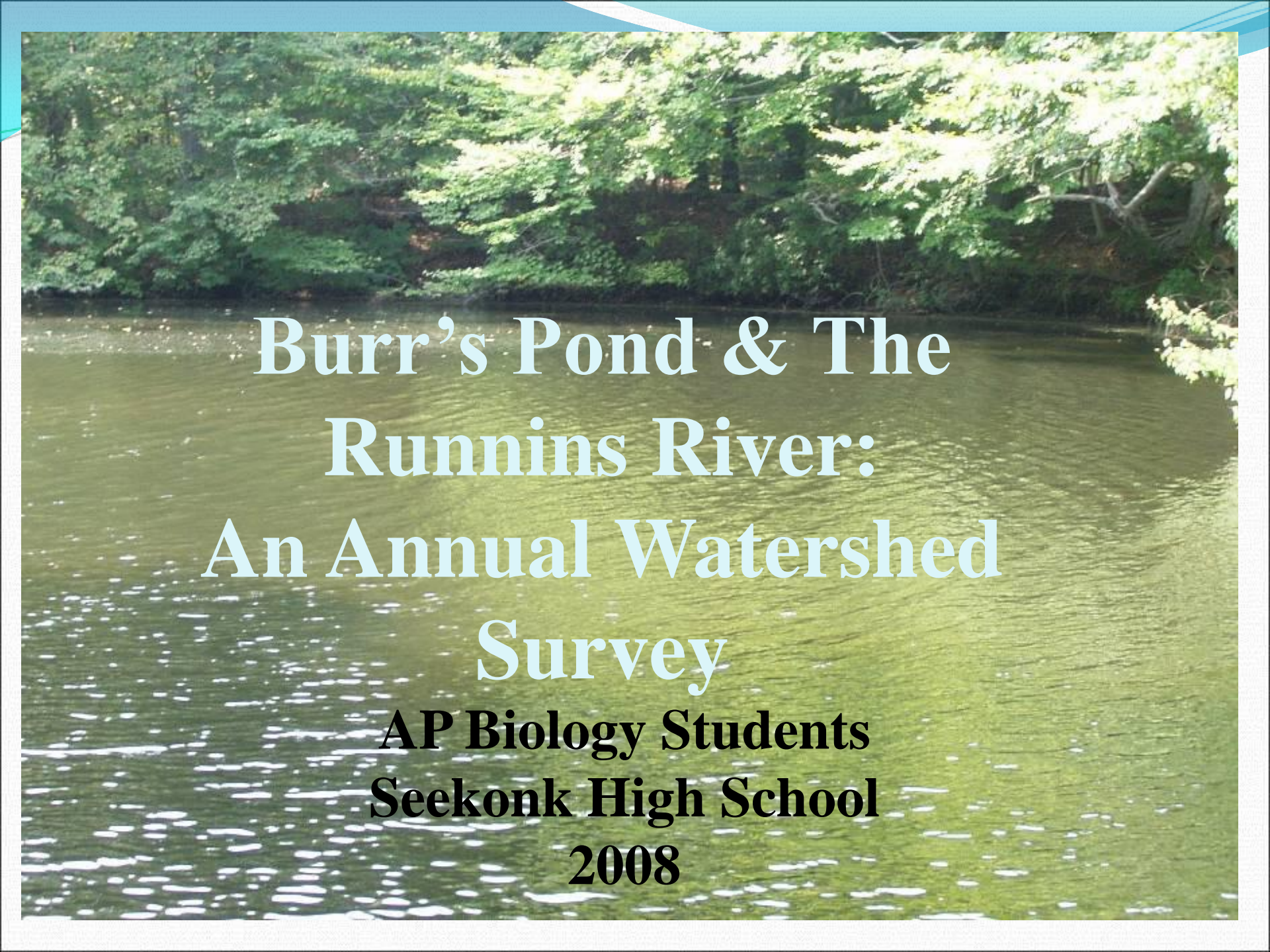
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# **Burr's Pond & The Runnins River: An Annual Watershed Survey**

**AP Biology Students  
Seekonk High School  
2008**



# Burr's Pond Research Overview



- Pond Features
  - Meadow-stream pond
  - Location
  - Runnins River sub-watershed;
  - Approximately 1 acre
  - Paths surrounding pond

# Burr's Pond Research cont.

- Aspects Explored
  - Biodiversity
  - Ecological Pyramids
  - Food Webs
  - Interactions and Behaviors
  - Predation and Defense
  - Population Densities
  - Abiotic and Biotic Factors
  - Biological Magnification
  - Dissolved Oxygen Levels













# *Biodiversity*

## Plant Life







## Animal and Fungi Life



# Runnin's River: Site A

- Site A of the Runnin's River is a spot at the end of the river before the river flows into Burr's Pond.
- The site we chose had a dense canopy, and was located right before the small bridge crossing the river.
- Site A was about 4 or 5 feet deep, and was very blurry, and filled with silt.
- The bottom of the river was soft and mushy, and had many sticks and rocks.
- The sides of the river had gathered with dead branches, and floating organic matter.





# Factors of Dissolved Oxygen at Site A

## Factors:

- The canopy blocking the sun from hitting the river, which would decrease/increase the amount of dissolved oxygen.
- The amount of aquatic plant life that live on the water because the plants survive off the oxygen.
- The pollution in the area, if there was more pollution, then that could possibly affect the plants and also the algae that grows on the water.
- Algae covering the pond
- Organisms in the pond





# Runnin's River: Site B

Site B at Runnin's River includes a waterfall flowing into a shallow stream. The primary site is the pond, in which the waterfall comes from. At the bottom of the waterfall, there is shallow water with various green plants and rocks within it. There is also an overhanging canopy casting a shadow on the water. The bottom of the stream is filled with pebbles and not many aquatic animals live within this environment.





# Factors at Site B



## Temperature

- the colder the water, potentially the more dissolved oxygen it can hold.
- affects migration, spawning, and egg incubation in fish

## Canopy

- a temperature decrease due to overhanging of leaves causing an increase in dissolved oxygen

## Pollution

- bacteria feeds off pollution (more oxygen)
- entire aquatic ecosystems maybe disrupted if bacteria uses up the oxygen fish and aquatic insects need

## Stream velocity

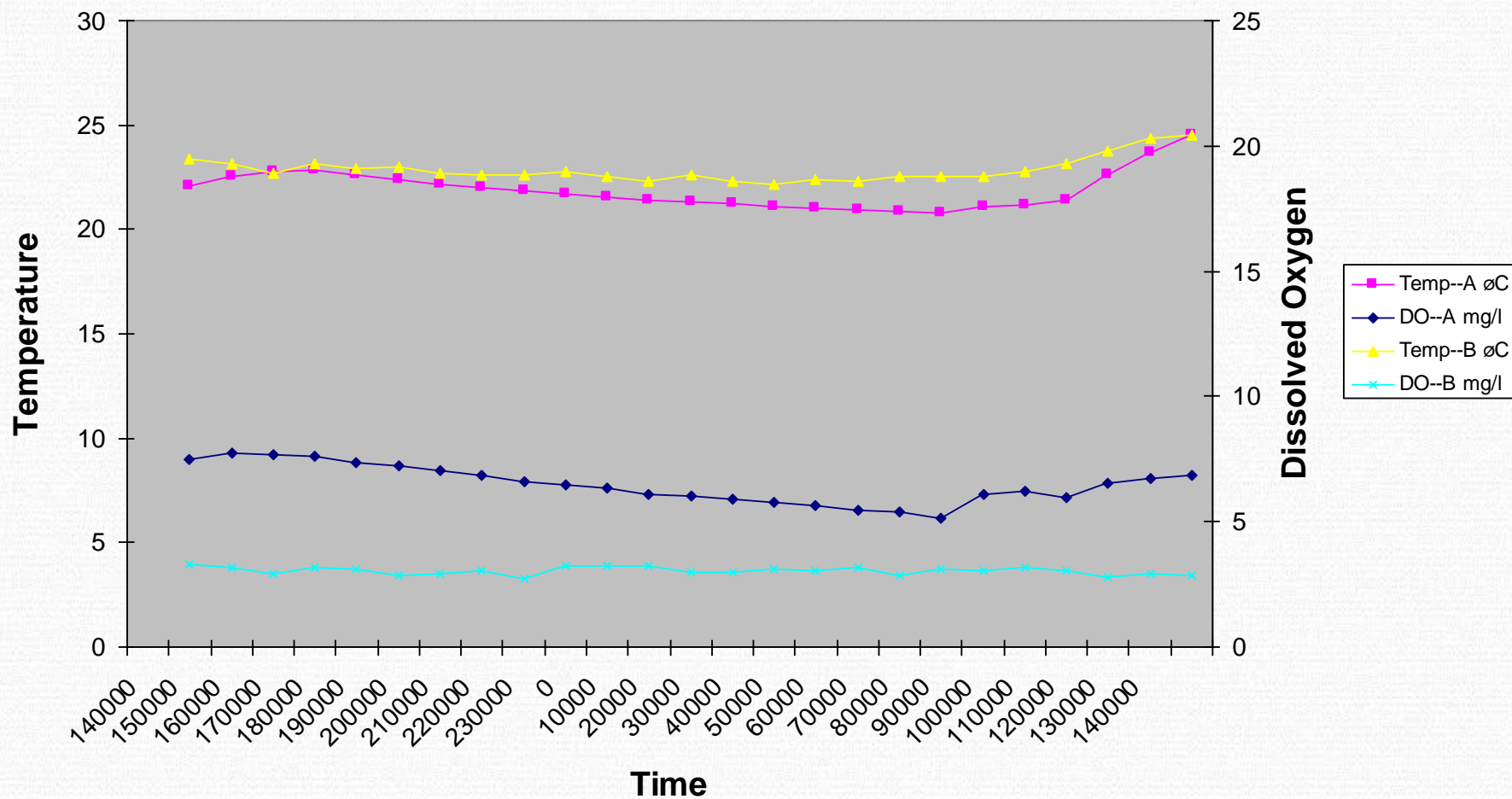
- oxygen diffuses into the water and mixes as it tumbles by the waterfall

## Aquatic Plant Life

- green plants produce oxygen through photosynthesis during the day

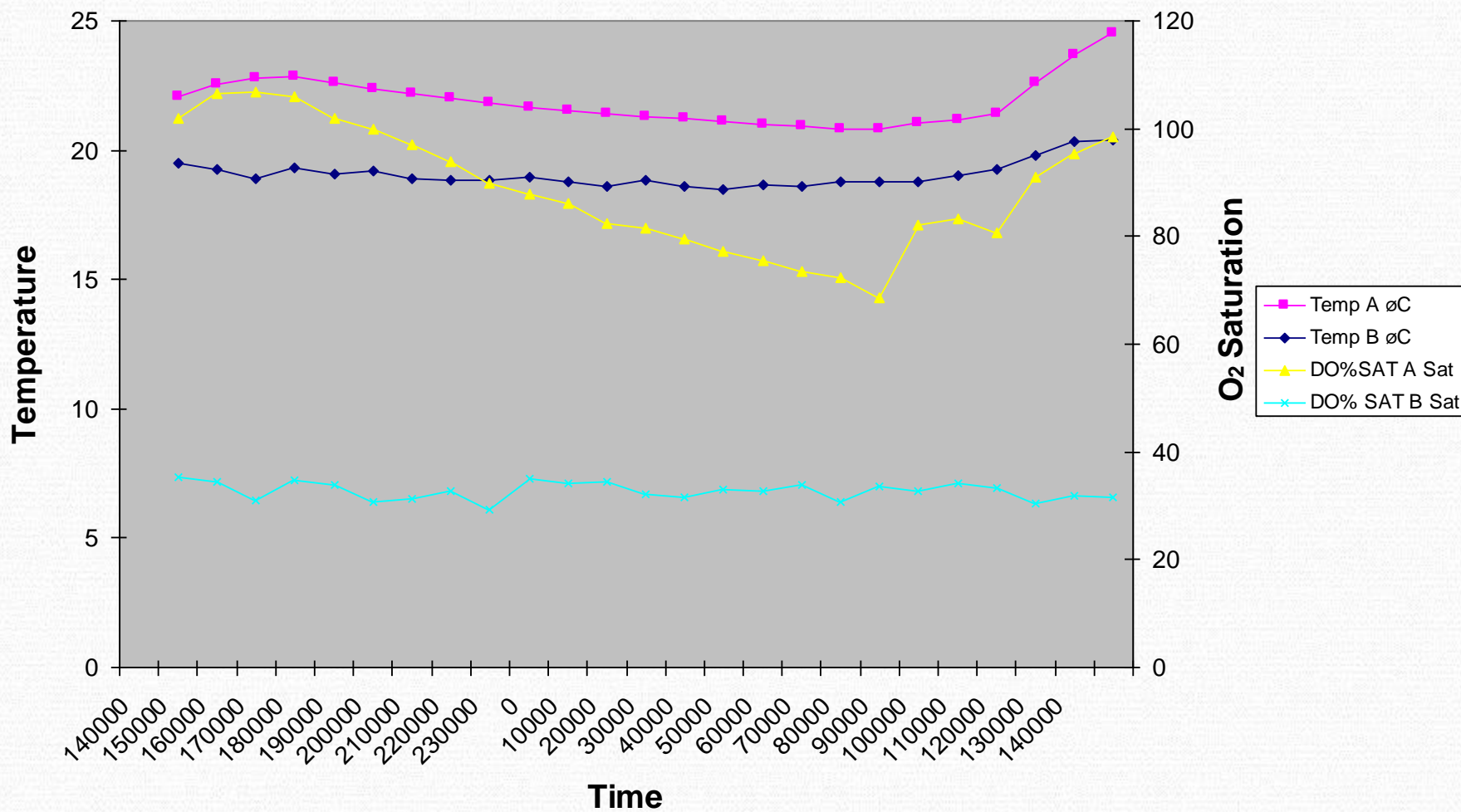


# Comparison of Dissolved Oxygen at Sites A and B on the Runnin's River



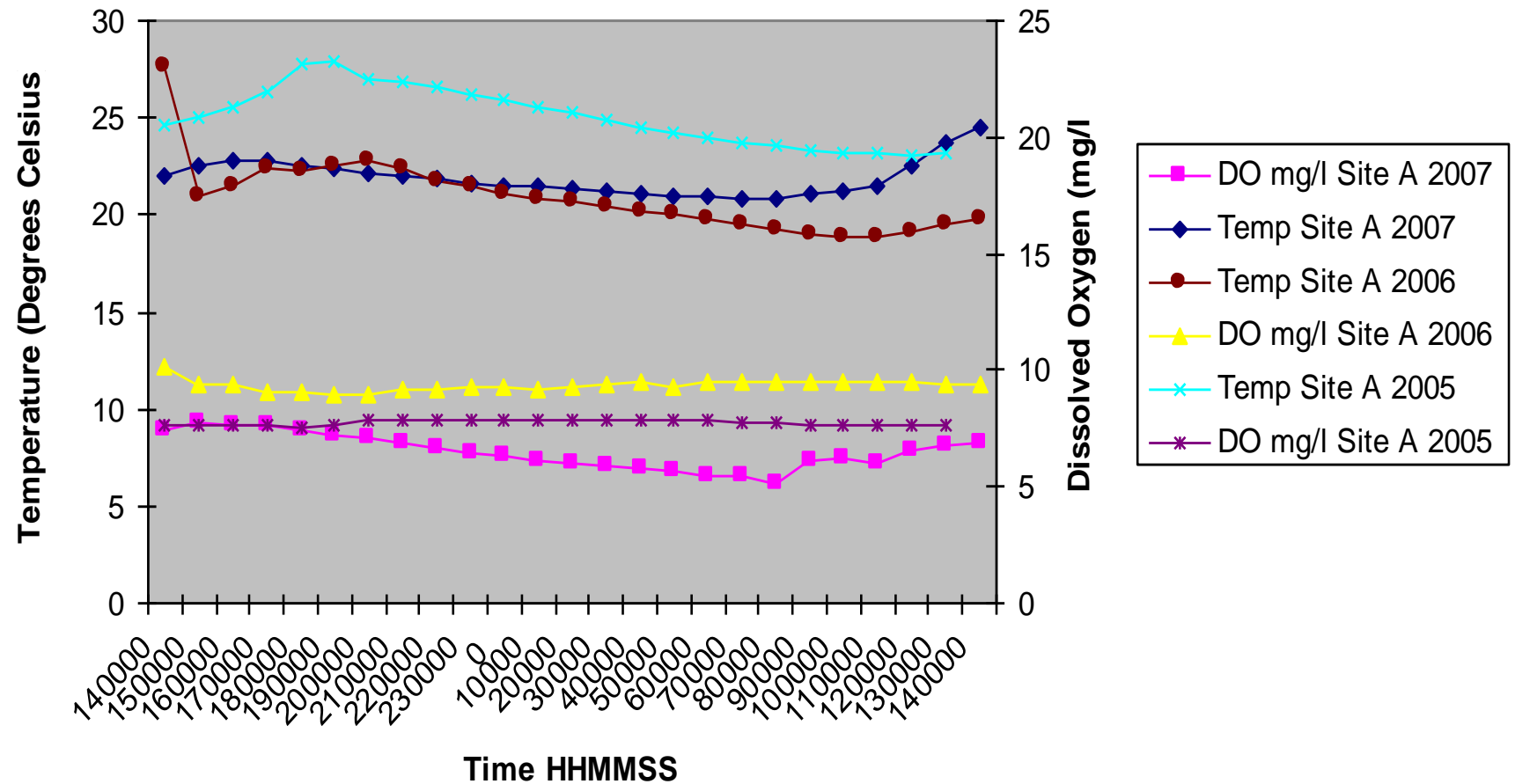


## O<sub>2</sub> Saturation Comparison of Sites A & B 2007



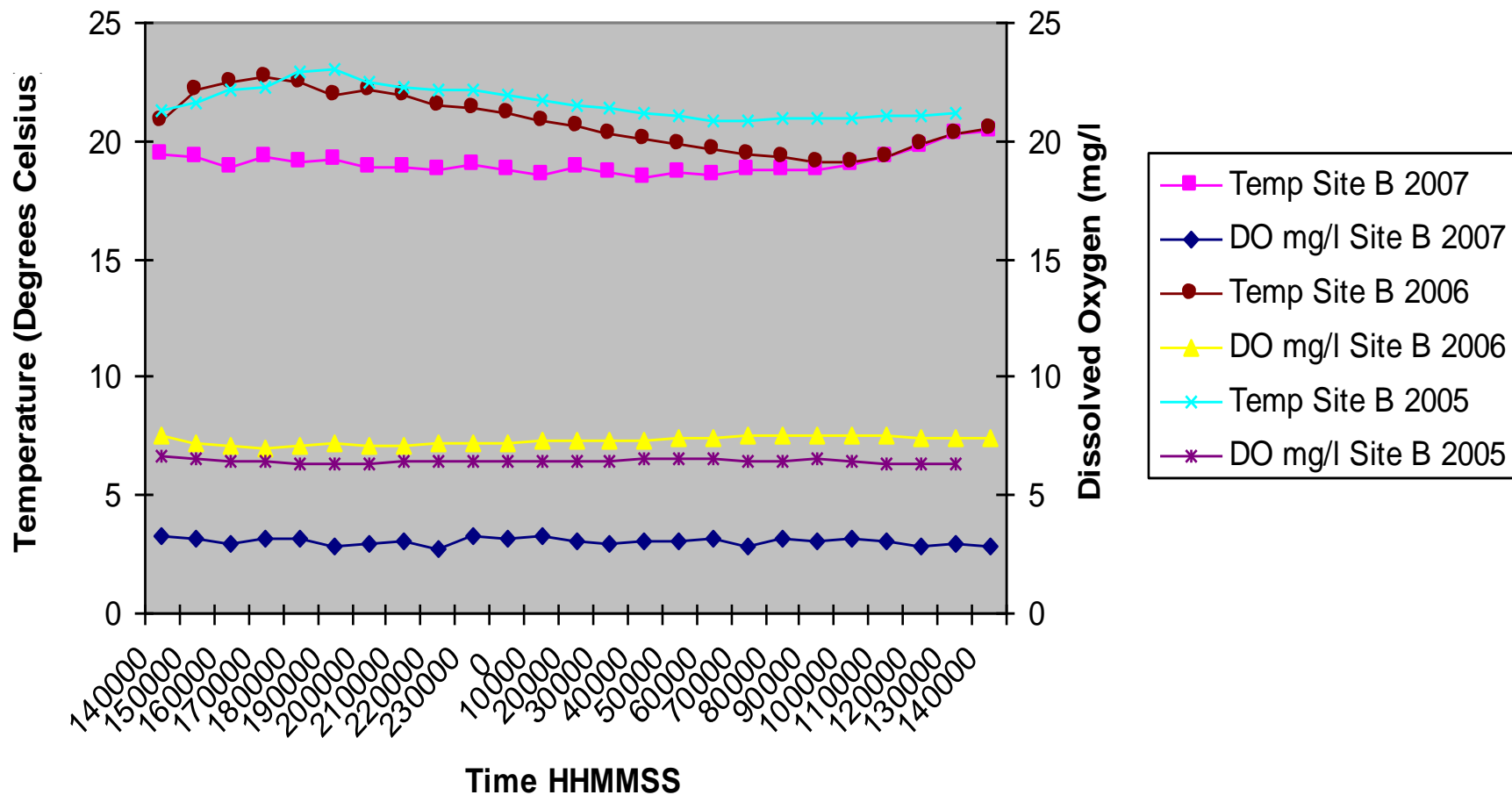


## Site A Comparison of DO and Temp for 2005-2007



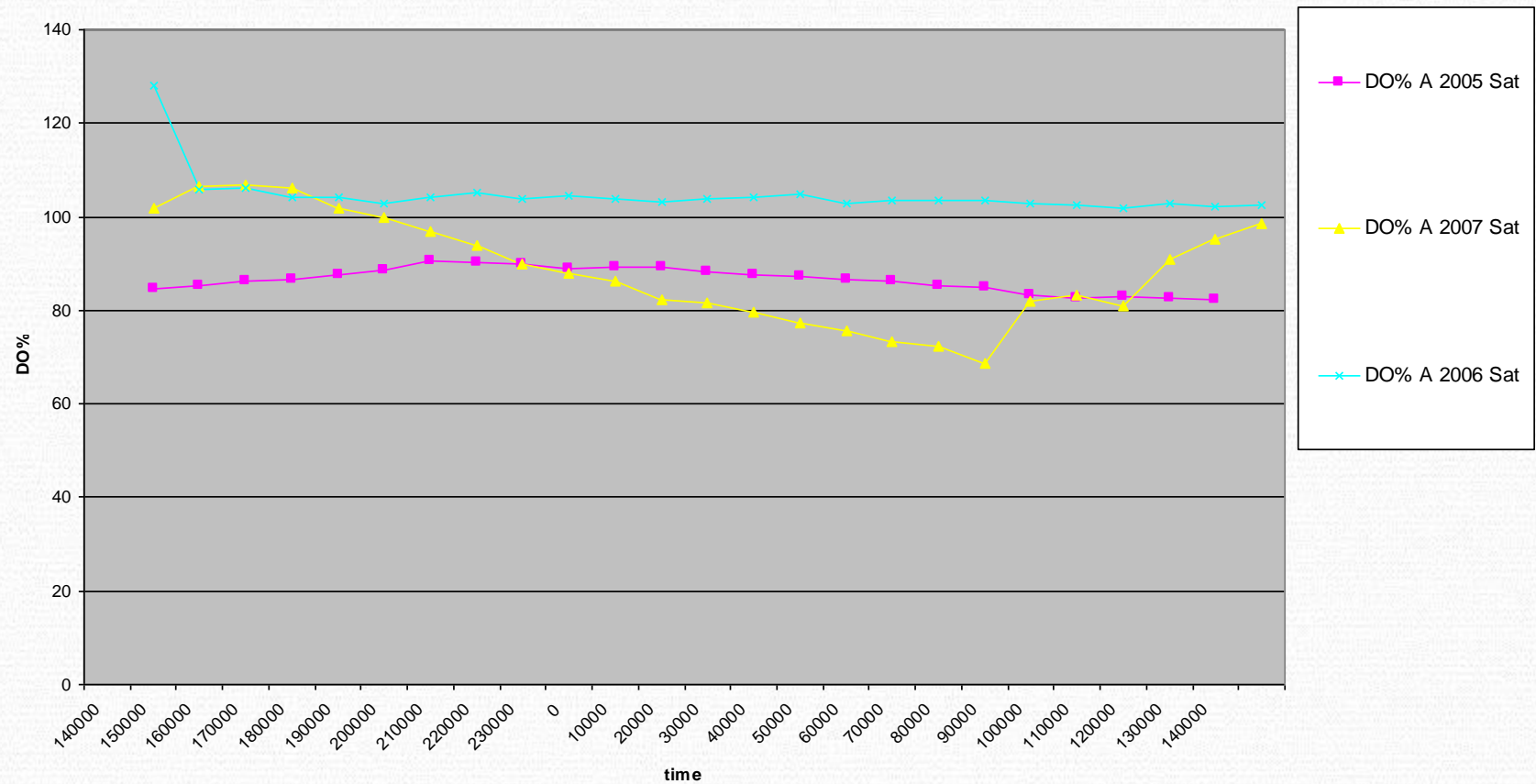


## Site B Comparison of DO and Temp for 2005-2007



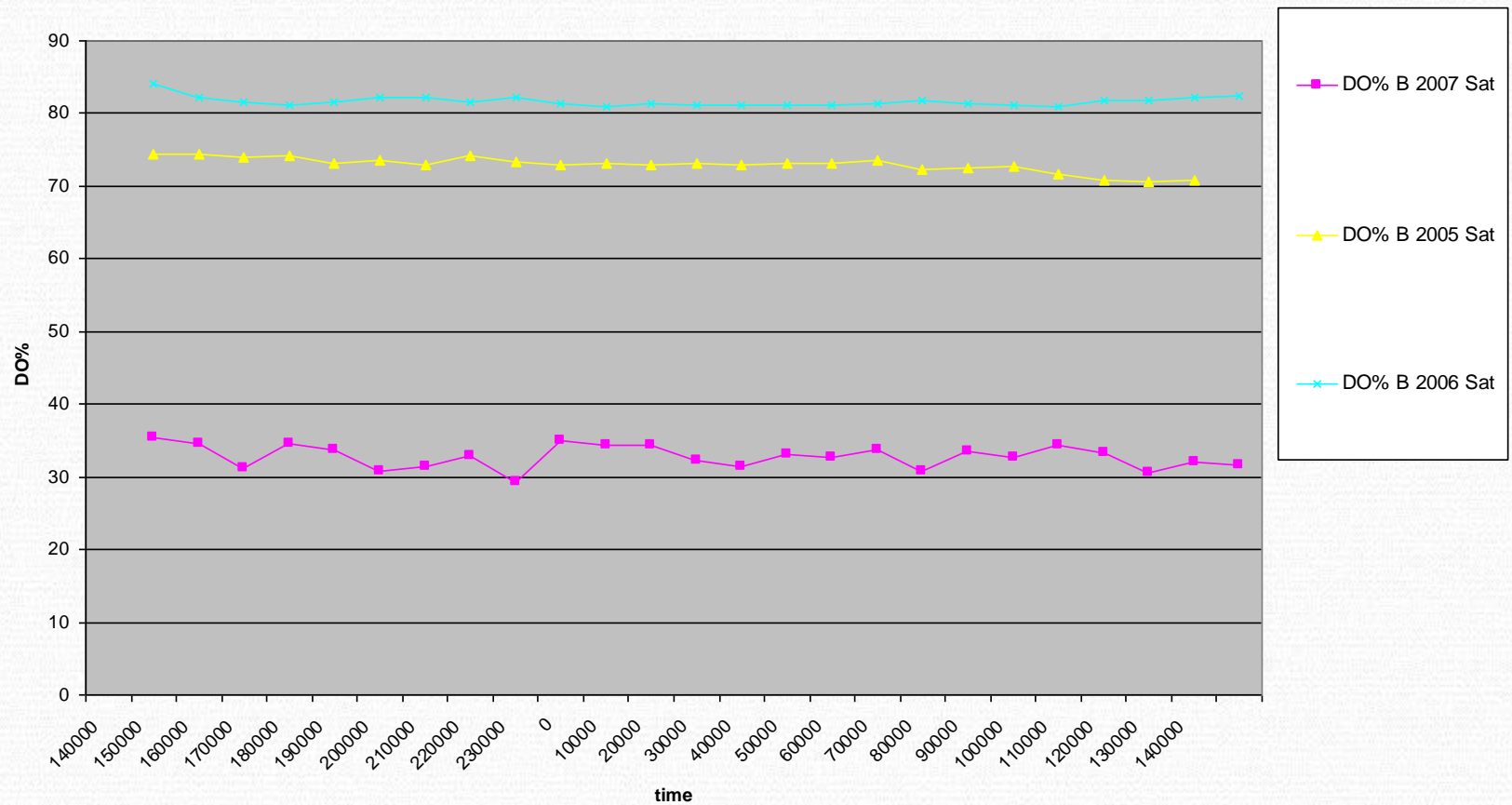


# O<sub>2</sub> Saturation Site A 05,06,07





# O<sub>2</sub> Saturation Site B 05, 06, 07





A yellow school bus is shown from the side, parked outdoors. The bus has several windows and a set of double doors on the right side. Text is overlaid on the image in a large, black, serif font. The bus itself has some text on it, including "EMERGENCY EXIT", "HEIGHT 10FT 4IN", "AmTran", "9", "77-13 INCH SEATS", "DIESEL ONLY", and "SEEKONK PUBLIC SCHOOLS SEEKONK, MA".

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# AP BIOLOGY 2008

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