Dissolved Oxygen Downstream of Glen Canyon Dam, 2019

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U.S. Department of the Interior
U.S. Geological Survey
2019 water quality statistics

- Max. temp: 16.3°C
- Min. DO: 4.0 mg/L
- 38 days w/ DO <5 mg/L

Graph showing temperature and dissolved oxygen for Colorado River below Glen Canyon Dam

Unpublished data, subject to change, do not cite.

https://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09379901
Dissolved oxygen and trout

- **Temps <15°C**
  - DO can be lethal if <3 mg/L
- **Temps >15°C**
  - DO can be lethal if <5 mg/L

References:
Dissolved oxygen in Lees Ferry

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Dissolved oxygen increases downstream

- Rule of thumb: Air-water gas exchange increases DO in Lees Ferry by ~0.04 mg/mile

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Dissolved oxygen increases downstream – cont.

- Increase in maximum DO owing to algae production

<table>
<thead>
<tr>
<th>Site</th>
<th>Max. DO (mg/L)</th>
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</thead>
<tbody>
<tr>
<td>Dam (RM-16)</td>
<td>5.65</td>
</tr>
<tr>
<td>RM -7.6</td>
<td>7.50</td>
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<tr>
<td>Lees Ferry (RM 0)</td>
<td>7.74</td>
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Summary

- In 2019
  - Water temperature was high
    - Max of 16.3°C at Glen Canyon Dam
    - 2nd highest temp since Dam filling (2005 highest at 16.4)
  - Dissolved oxygen was low
    - Min of 4.0 mg/L on Oct 12
    - Lowest at dam and increases downstream

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