Is the Water Safe? Assessing Water Quality of Freshwater Recreation Areas in Los Angeles County

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Heal the Bay, Santa Monica, CA
March 28, 2019
A DAY AT THE BEACH SHOULD NOT MAKE ANYONE SICK
Welcome Beach Lover.

We believe that no one should get sick from a day at the beach, and that’s why we’ve created a simple, yet comprehensive tool that lets you search for the latest water quality information at your favorite beach.

To get started, enter the location of a beach in the search bar or play around with the map to find water quality information for beaches near you.

NowCast Predictions

<table>
<thead>
<tr>
<th>Grade</th>
<th>Beach Report Card Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Good</td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

un+ Poor

un- Poor
A DAY AT THE RIVER SHOULD NOT MAKE ANYONE SICK
What questions are we trying to answer?

- What is the water quality in recreation areas?
- Is the water safe for recreation?

Know Before You Go!
2014 and 2016 Integrated Report

All Assessed Waters

Impaired Waters; Pollutant Category: Pathogens
Study Goals

- Assess water quality at popular freshwater recreation spots in the greater LA region
- Protect public health
  - Information should be available for individuals to make informed decisions
- Use the information to educate waterbody users and advocate for water quality improvements
Study Location
Los Angeles River
Los Angeles River Recreation Zones

- Recreation zones opened in 2011 and 2013 in Sepulveda Basin and Elysian Valley
  - Public allowed to access the river to walk, fish, kayak
  - Recreation being promoted by City
LA River Sites
Expansion of monitoring

Storm drain outfall monitoring to look for sources
Fecal Indicator Bacteria

- Test for total coliform, *E. coli, Enterococcus*
  - Presence indicates existence of other pathogens that can pose a risk to humans, causing:
    - Stomach flu, ear & upper respiratory infections, skin rash
  - Sources: sewage/septic leaks, animal waste, runoff
### L.A. River Recreational Zones

<table>
<thead>
<tr>
<th>Site</th>
<th>Year</th>
<th>n</th>
<th>No. single sample (ss) exceedances</th>
<th>% ss exceedances</th>
<th>Summer Season Geometric Mean (MPN/100 mL)</th>
<th>n</th>
<th>No. single sample (ss) exceedances</th>
<th>% ss exceedances</th>
<th>Summer Season Geometric Mean (MPN/100 mL)</th>
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<tbody>
<tr>
<td>Sepulveda Basin</td>
<td>2015</td>
<td>10</td>
<td>5</td>
<td>50%</td>
<td>185</td>
<td></td>
<td>10</td>
<td>2</td>
<td>110</td>
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<tr>
<td></td>
<td>2016</td>
<td>18</td>
<td>1</td>
<td>6%</td>
<td>52</td>
<td></td>
<td>18</td>
<td>0</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>21</td>
<td>5</td>
<td>24%</td>
<td>66</td>
<td></td>
<td>22</td>
<td>8</td>
<td>264</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>12</td>
<td>8</td>
<td>67%</td>
<td>126</td>
<td></td>
<td>12</td>
<td>1</td>
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<tr>
<td>Rattlesnake Park</td>
<td>2015</td>
<td>12</td>
<td>12</td>
<td>100%</td>
<td>401</td>
<td></td>
<td>12</td>
<td>8</td>
<td>312</td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td>18</td>
<td>18</td>
<td>100%</td>
<td>650</td>
<td></td>
<td>18</td>
<td>10</td>
<td>239</td>
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<tr>
<td></td>
<td>2017</td>
<td>25</td>
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<td>48%</td>
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<td>42</td>
<td>14</td>
<td>187</td>
</tr>
<tr>
<td></td>
<td>2018</td>
<td>12</td>
<td>7</td>
<td>58%</td>
<td>166</td>
<td></td>
<td>12</td>
<td>2</td>
<td>157</td>
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<tr>
<td>Steelhead Park</td>
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<td>11</td>
<td>11</td>
<td>100%</td>
<td>337</td>
<td></td>
<td>11</td>
<td>1</td>
<td>157</td>
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<tr>
<td></td>
<td>2016</td>
<td>18</td>
<td>11</td>
<td>61%</td>
<td>151</td>
<td></td>
<td>18</td>
<td>0</td>
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<tr>
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<td>24</td>
<td>11</td>
<td>46%</td>
<td>101</td>
<td></td>
<td>42</td>
<td>10</td>
<td>204</td>
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<tr>
<td></td>
<td>2018</td>
<td>10</td>
<td>5</td>
<td>50%</td>
<td>118</td>
<td></td>
<td>10</td>
<td>1</td>
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<tr>
<td>Frogspot</td>
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<td>5</td>
<td>83%</td>
<td>230</td>
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<td>6</td>
<td>0</td>
<td>122</td>
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<tr>
<td></td>
<td>2017</td>
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<td>71</td>
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<td>22</td>
<td>6</td>
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<td></td>
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<td>5</td>
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<td>126</td>
<td></td>
<td>10</td>
<td>0</td>
<td>114</td>
</tr>
</tbody>
</table>
What do the grades mean?

- Updated weekly to twice a week during summer
- Based on fecal indicator bacteria levels
- Maximum of 4 criteria that are being graded

Green
Yellow
Red
This site is located in the Elysian Valley section of the L.A. River. This recreation zone has been open since 2013. The sampling spot near Rattlesnake Park is a primary entrance point for many kayaks and kayak tours and is the upstream end of the Elysian Valley open recreation zone. The recreation zone is approximately 2.4 miles long, bounded by Fletcher Ave. on the upstream end and Steelhead Park/Oros St. and the 5 Freeway on the downstream end. L.A. River Kayak Safari, L.A. River Kayaks, and L.A. River Expeditions operate kayak rentals and tours in the Elysian Valley.

Heal the Bay and the Los Angeles River Watershed Monitoring Program (LARWMP), specifically the Council for Watershed Health and Aquatic Bioassay & Consulting Laboratories, monitor at this location.

9/28/2018
4/4 Exceedances (Red)

9/27/2018
2/2 Exceedances (Red)

9/25/2018
2/2 Exceedances (Red)

9/21/2018
4/4 Exceedances (Red)

9/20/2018
2/2 Exceedances (Red)
## LA River Outfalls

<table>
<thead>
<tr>
<th>Site</th>
<th>2017</th>
<th>2018</th>
<th>2018</th>
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<tr>
<td></td>
<td>n</td>
<td>% Exc E. coli</td>
<td>E. coli GM</td>
</tr>
<tr>
<td>SDR8</td>
<td>DRY</td>
<td>-</td>
<td>-</td>
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<tr>
<td>SDR10</td>
<td>12</td>
<td>42%</td>
<td>215</td>
</tr>
<tr>
<td>SDR13</td>
<td>DRY</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SDR18</td>
<td>DRY</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SDR20</td>
<td>5</td>
<td>100%</td>
<td>9658</td>
</tr>
<tr>
<td>SDR25</td>
<td>1</td>
<td>0%</td>
<td>10</td>
</tr>
<tr>
<td>Fletcher</td>
<td>23/22</td>
<td>36%</td>
<td>167</td>
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<td>70%</td>
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<tr>
<td>SDL50</td>
<td>12</td>
<td>100%</td>
<td>1150</td>
</tr>
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</table>
E. coli
Enterococci
What has changed since we began monitoring?

- Additional agencies test water quality in the L.A. River recreation zones
- Data sharing
- Increased Public Awareness
Impact of our study

- LA SAN posted signs along L.A. River
- LA County Department of Public Health has a new fresh water webpage
- Official City of LA protocol for notification and closure of the LA River
Successes: Media Coverage

If we want a real river in L.A., we should start by cleaning up the water

They didn't know the LA River was full of E. coli — but public officials did
Successes: Workforce Development

Partnership with Los Angeles Trade-Tech College (LATTC)
Successes: Education & Outreach

Presentations to Thousand Oaks High School, LATTC Stem High School Group
Next Steps

- 2019 Summer Sampling
  - To include Lower LA River sites

- Los Angeles River Revitalization
  - Flow Objectives
  - Biological Objectives
  - Additional Recreation Space
Acknowledgements

- Heal the Bay
  - Katherine Pease
  - Science and Policy Team
- LATTC
  - Tikiesha Allen, Ren Capati, Xochitl Garcia, Nelson Chabarria, Vanessa Granados, Chris Zamora, John Silva, Yuris Delcid, Sheraye Esfandyari, Virgen Cabrera, Denisse Garduno
- Funders
  - US EPA Urban Waters Grant
  - Wells Fargo
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Questions?