Frequently Asked Questions
Laguna Niguel Lake Fish Die-Off Incident

1. **Does the lake need to be dredged?**

   Laguna Niguel Lake is a reservoir fed by Sulphur Creek, which drains an urbanized area. Based on current observations and available data, there is no evidence of significant sediment accumulation, infilling, or reduction in the lake's storage capacity behind the dam. Because sedimentation does not appear to be impacting the reservoir's function, dredging has not been necessary or considered at this time.

2. **Where did the funds come from to increase the air system? The one that was already there?**

   The County's contract with AquaTechnex provides for a variety of services, which is inclusive of Aeration Systems Management. Through the allotted yearly contract amount, AquaTechnex provides management and maintenance of the aeration systems. Work under the contract includes conducting routine periodic cleaning, repairing or replacing faulty equipment, installing additional aeration units, and/or making recommendations for system upgrades.

3. **Is there a fund pool to improve further?**

   Currently, the contract with AquaTechnex has yearly funding available that provides for all necessary labor, material, and equipment for providing full-service, all-inclusive lake management. Should additional funding be needed, there is a process available to amend the contract.

4. **Why was the back side closed with an ordinance that restricts fishing access?**

   OC Parks routinely assesses conditions to determine which areas are most suitable for fishing around the many lakes we manage. Numerous factors are taken into consideration when designating an area for fishing or selecting closed areas.

   Typically, areas of the shoreline are closed to fishing to protect sensitive habitat and ensure visitor safety. At Laguna Niguel Lake, reeds and shoreline trees provide vital habitat for birds and fish. Areas with steep shoreline and areas that lack sufficient room to safely cast without impacting trails are also closed. Fishing is allowed along a large portion of the lake where access is safe and appropriate.

5. **Roughly one year ago a large aeration system was added to the lake. Is it working?**

   In December 2024, two Oxygen Saturation Systems (OSTs) were installed in the lake. These OSTs use cutting edge technology to saturate the water with dissolved oxygen, particularly beneficial for the deeper part of the lake and have been consistently running since install.

6. **How can we reduce the amount of herbicide and restore natural lake plant?**

   OC Parks is continuing to evaluate and refine our approach, looking for balanced solutions that maintain healthy aquatic habitats while supporting the fishing community.

   The use of chemicals under the AquaTehnex contract are applied only for public health and safety reasons, such as harmful algae blooms which are significant concern for the State Water Resources Control Board. Chemicals are applied by Licensed Aquatic Pesticide Applicators, complying with all applicable Federal, State, County, and local regulations.

7. **Did lake flip due to air pumps being off?**

   We understand the importance these lakes have for the community and have been working diligently to better understand what happened. OC Parks has publicly shared the findings of multiple investigations and analyses to provide transparency throughout the response. Low oxygen events that lead to fish die offs like this can occur naturally and have been documented at this lake since OC Parks acquired the property. It is not believed that the aerators that were offline from late-June through July 18 had an effect on this incident. More information about the findings can be found here: https://ocparks.com/news/laguna-niguel-lake-fish-die-off.

8. **Did the broken aerators contribute to the fish swimming into the creek to seek oxygen?**

   Although OC Parks and AquaTechnex use cutting edge equipment, perform routine lake maintenance and follow lake best management practices, there are several natural factors, especially in this semi-arid/desert climate, that can rapidly impact fish health in these lakes. Dissolved oxygen levels can change quickly, often due to weather-related changes. These cycles happen naturally in lakes and reservoirs throughout the year. In many cases, the event is already underway or nearly over once the low levels are detected. However, recognizing the need for better early warning, OC Parks and AquaTechnex will explore additional detection systems that can provide real-time data between regular lake management visits. While we are unable to control the weather and the temperature of the lake, these systems can arm us with additional knowledge about lake conditions to better identify trends, which could help guide future management practices or equipment.

   The results of many tests that have been done on the lake since the incident further support the conclusion that the fish die off was most likely a natural event. More information about the findings can be found here: https://ocparks.com/news/laguna-niguel-lake-fish-die-off. Once the results of the necropsies are received, the website will be updated.

9. **Why was the lake water so high? The benches were submerged for six months (January – June).**

   Laguna Niguel Lake is a man-made reservoir fed by Sulphur Creek. There are numerous factors that influence the water level of the lake including weather events, wet weather years, the flow of Sulphur Creek, urban irrigation/runoff, and the dam at the lake. A spillway near the

dam is designed to regulate water levels by preventing them from exceeding a specific elevation.

The Orange County Flood Control District (OCFCD), administered by OC Public Works (OCPW), owns Sulphur Creek Dam, located at the north end of the lake. Originally constructed in 1966 to store reclaimed irrigation water, the dam is now maintained to ensure flood control capacity and protect water quality. The dam is part of the OCFCD inventory governed by the County's Flood Control Design Manual and related standards.

10. Is there any run-off from the bordering neighborhoods coming into the lake?

Yes, Laguna Niguel Lake is a reservoir fed by Sulphur Creek, which does get urban runoff from the surrounding neighborhoods.

11. What can be done to restock the lake with bass and other fish?

Catfish and trout are stocked seasonally at Laguna Niguel Lake. These species are chosen because they are well suited to the lake's desert-like climate and seasonal changes, and most likely to survive and thrive. The California Department of Fish and Wildlife also stock the lake with trout or catfish on occasion, but the stockings are infrequent and unannounced.

Currently, OC Parks is analyzing the various fish species that could potentially be sustainably stocked at Laguna Niguel Lake in the warmer/summer months, taking into account environmental conditions and long-term ecosystem health.

12. What happened to the aerators on the 20th of June?

In late June, one of the manifolds responsible for delivering air to some of the aerators was broken during a routine, manual inspection. This caused six aerators to go offline while waiting for the replacement parts to arrive, while six aerators remained fully operational. At this time, two oxygen saturation systems (OSTs) in the north end of the lake continued to saturate the water with dissolved oxygen. The manifold was quickly fixed once the parts arrived and the six aerators were brought back online on Friday, July 18.

13. Did AquaTechnex add chemicals to kill the algae bed in mid-July?

Phycomycin, a non-copper based algaecide was used to treat a recent algae bloom. It contains sodium carbonate peroxyhydrate and is certified for use in drinking water.

14. Why are the reed beds overgrown at the outlets and fishing spots?

Reeds play a crucial role in the management of urban runoff and stormwater flow by effectively absorbing and filtering out nutrients and pollutants. Their dense root systems help to reduce nutrient loads, thereby improving water quality. Additionally, reeds create an excellent habitat for various fish species, offering shelter, breeding grounds, and protection from predators, which contributes to maintaining healthy aquatic ecosystems.

15. **Has a study been conducted to assess the downstream impact to the watershed when the lake is treated for aquatic vegetation?**

    OC Public Works Environmental Resources coordinates watershed efforts, collects, manages and analyzes water quality, hydrologic and meteorological data to assess the state of the Orange County environment.

16. **Was this one and done? Have any fish died since?**

    Approximately 500 bass and bluegill were affected in the recent die off incident at Laguna Niguel Regional Park. There have been no further signs of fish in distress since the incident occurred.

17. **The weather was not hot before this happened, but was very hot this week. Did that lead to any changes?**

    The results of many tests that have been done on the lake since the incident-further adding to the thought that the fish die off most likely occurred naturally due to changing weather conditions throughout July. This was further influenced by cloud cover, which blanketed the area for multiple days. We have not seen any additional signs of distress in the fish since the die off incident in July.

18. **Did you rule out intentional acts?**

    The results of the various tests do not appear to indicate any intentional acts. OC Parks is still awaiting the results from the necropsies, which may provide some additional information as to what occurred.

19. **Is there a chance to restock the bass? If not about how long to regrow the bass?**

    Currently, OC Parks is analyzing the various fish species that could potentially be stocked at Laguna Niguel Lake in the warmer/summer months, taking into account environmental conditions and long-term ecosystem health. Additionally, OC Parks is working to gather more detailed information about the lake's overall carrying capacity, including environmental conditions, available habitat, and food sources, in order to determine what population level of certain fish species would be considered sustainable and beneficial for the lake's long-term health.

20. **How many aerators were working?**

    In late June, one of the manifolds responsible for delivering air to some of the aerators was broken during a routine, manual inspection. This caused six aerators to go offline while waiting for the replacement parts to arrive, while six aerators remained fully operational. At this time, two oxygen saturation systems (OSTs) in the north end of the lake continued to

saturate the water with dissolved oxygen. The manifold was quickly fixed once the parts arrived and the six aerators were brought back online on Friday, July 18.

21. Will the weeds be cleared to fish?

What is often referred to as weeds is often habitat such as cattails which play an important role in maintaining a healthy environment. These vegetated channels act as natural filters to support water quality and provides habitat to fish, birds, and wildlife. Removal often requires special permitting.

22. Are all aerators working now?

Yes, all aeration systems are online and operational, this includes 12 aerators and two Oxygen Saturation Systems (OSTs).

23. When will someone start maintaining the shoreline/vegetation? Overgrowth that often dies and pollutes the water and limits fishing spots?

OC Parks utilizes the shoreline vegetation strategically to support the ecological health of the lake. The dense vegetation along the water's edge serves multiple purposes: it provides essential cover for fish, creating a natural habitat that supports breeding and shelter, and it also acts as a natural filtration system by absorbing excess nutrients from the water. This helps maintain water quality and reduce the risk of harmful algal blooms.

In contrast, the west side of the lake has been intentionally designed with fishing in mind. This area features a more open terrain, which not only allows for easier and safer casting for anglers of all skill levels, but also minimizes interference with surrounding vegetation. The open space ensures that fishing activities can be enjoyed without damaging sensitive plant life or disturbing aquatic habitats, striking a balance between recreation and conservation.

24. What proactive measures will be taken to ensure this does not happen again?

Following this incident, OC Parks is taking steps to have the necessary equipment and resources in place to be more prepared and respond quicker should anything like this ever occur in the future. OC Parks and AquaTechnex are thoroughly reviewing inspection protocols to identify where improvements can be implemented to minimize downtime and prevent future equipment failures. This includes increasing the frequency of inspections for critical components like manifolds and aerators and creating a preventative maintenance schedule. Additionally, we are exploring remote lake monitoring options to give better insights into changing lake conditions to proactively respond in the future

25. Lake is disgusting and needs to be drained, dredge, restocked, and retouched

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26. Please plant additional fish habitats.

OC Parks is actively exploring ways to enhance aquatic and shoreline habitats to better support fish populations, while also ensuring continued access and enjoyment for our community of anglers. One of our primary goals is to increase the presence and diversity of aquatic vegetation, which plays a crucial role in creating healthy fish habitat. These plants offer shelter, breeding grounds, and a source of food for fish, contributing to a more balanced and sustainable lake ecosystem.

At the same time, we recognize the importance of preserving open shoreline areas that allow anglers to safely and effectively fish. Striking the right balance between habitat restoration and recreational access is essential. To achieve this, we are currently studying a variety of techniques such as strategically placed vegetation zones, floating islands, and shoreline contouring that can enhance fish habitat without obstructing popular fishing spots.

Through careful planning, collaboration with biologists and local stakeholders, and ongoing monitoring, OC Parks' aim is to create a lake environment that supports both thriving wildlife and a positive recreational experience for all visitors.