Heal the Bay

2024 River Report Card

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Heal the Bay is an environmental non-profit dedicated to making the coastal waters and watersheds of Greater Los Angeles safe, healthy, and clean. To fulfill our mission, we use science, education, community action, and advocacy.

The scope of our work takes place across the lands of coastal Indigenous Peoples and Native Nations of the Tongva, Chumash, Fernandeño Tataviam Band of Mission Indians, and Kizh Nation tribes. We would like to acknowledge and pay our respects to elders past, present, and emerging, as they continue their stewardship of these lands and waters.

Heal the Bay believes people have a right to know about the quality of the water where they swim and play. We are pleased to provide our community with this science-based, easy-to-use report card. This annual report can be used to make decisions about where to get in the water, as well as policies to protect public health and the environment.

Cover: L.A. River at Sepulveda Dam, photo credit: Dr. Tania Pineda and Naomi Meurice

August 25, 2025

Heal the Bay

Dear Friends and Supporters of Heal the Bay,

We are pleased to share the seventh annual River Report Card, Heal the Bay's assessment of fecal indicator bacteria at freshwater recreation sites across Los Angeles County. This report provides critical insight into bacteria specific water quality conditions from May through September 2024, helping to inform safe access to our region's creeks and rivers. However, as we release this report, we must acknowledge the devastating fires that tore through communities of Los Angeles in January 2025.

Our hearts go out to all those who have been affected by these fires, those who have lost homes, cherished natural spaces, and a sense of security. The destruction has been immense, not just for our landscapes but for the communities who live, work, and recreate in these areas. As we grieve the loss and begin the long process of recovery, we are reminded of the deep connection we all share with our environment and the vital need to protect and restore it.

These fires have left a profound impact on our communities, landscapes, and watersheds. Because this report uses data that predate these events, it serves as a crucial pre-fire baseline. The freshwater sites that earned high grades in 2024 may no longer be safe, especially if they are within or downstream of burn zones, as fire-related runoff can impact water quality. Because some of these sites are still inaccessible, it could be months until we can better understand the full impact on water quality and safety. Fire-related impacts (e.g., increased erosion, debris flows, contamination) are expected to alter water quality, and we will observe those effects in our summer 2025 sampling season which started in May.

To ensure a comprehensive understanding of fire-related impacts, we will adapt our monitoring efforts this upcoming sampling season. In Malibu Creek, we will collect data both above and below the burn zone to track changes in water quality. We will also continue our sampling in the L.A. River to assess how fire-impacted areas may be affecting water conditions downstream. These adjustments will help us provide accurate, science-based recommendations for public health and environmental protection. Our 2025 RRC report will offer a more comprehensive analysis of different freshwater recreation sites.

The Heal the Bay River Report Card is a tool for awareness and action. As we face the challenges of recovery, we remain committed to protecting our waterways and advocating for policies that build climate resilience. We encourage you to use this report, along with the interactive map at https://healthebay.org/riverreportcard/ to stay informed about the water quality this summer and to support efforts that safeguard our freshwater resources for all communities.

Together, we will work toward healing, not just for our rivers and streams, but for all those who call Los Angeles home. We appreciate your support and dedication to protecting our waterways, especially in times of challenge and recovery.

With gratitude,

Tracy Quinn
President & CEO, Heal the Bay

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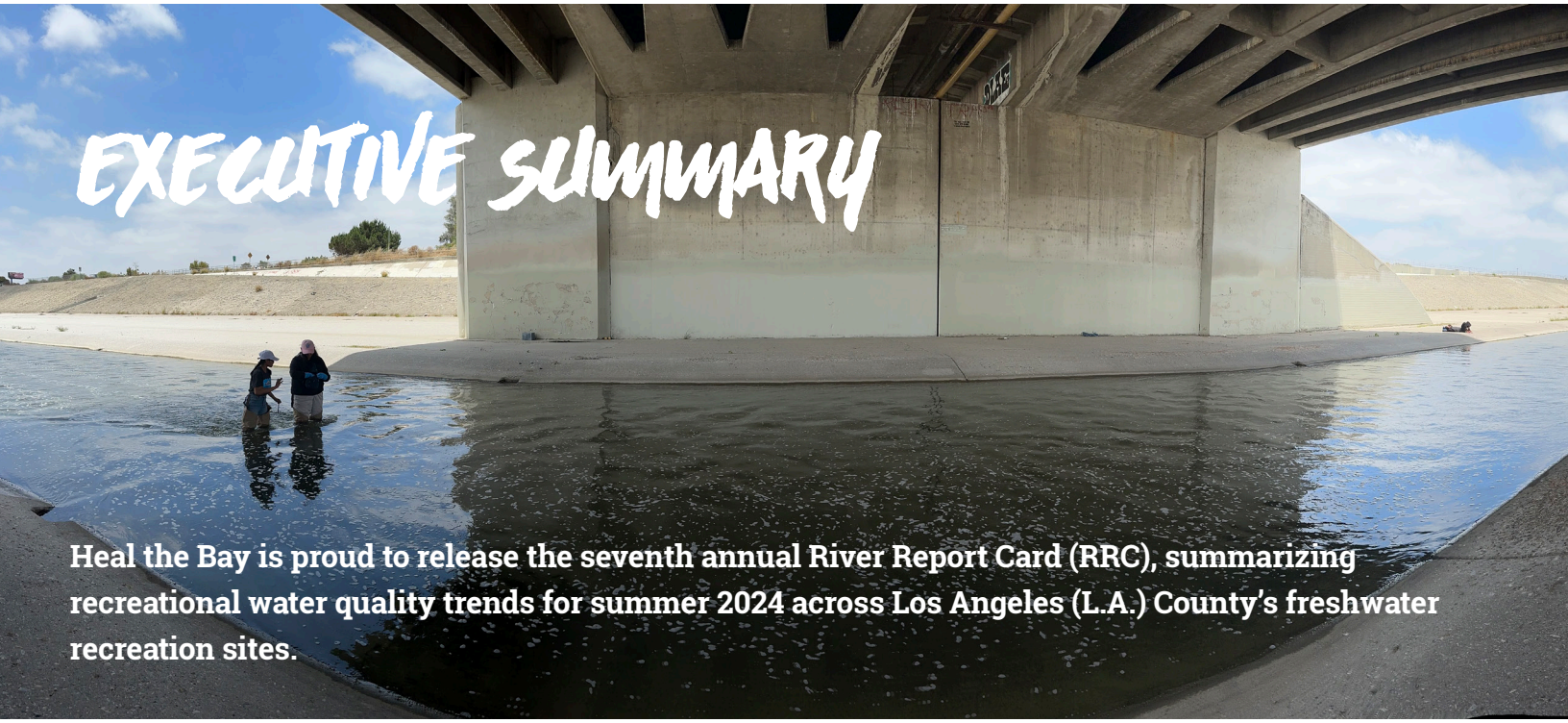


EXECUTIVE SUMMARY

Heal the Bay is proud to release the seventh annual River Report Card (RRC), summarizing recreational water quality trends for summer 2024 across Los Angeles (L.A.) County's freshwater recreation sites.

L.A. County freshwater rivers, streams, and lakes receive multitudes of visitors yearly, providing essential recreation and green spaces, and supporting cultural practices. However, many of these sites continue to face fecal indicator bacteria (FIB) pollution. These bacteria are not harmful themselves but indicate the presence of pathogens that can cause infections, skin irritation, and respiratory and gastrointestinal illnesses. This report aims to highlight water quality concerns, advocate for improvements, and empower community members with information to enjoy natural spaces safely.

2024 marks the second year the River Report Card has implemented letter grades (A+, A, B, C, D, and F) for weekly and annual assessments, providing a clearer understanding of water quality risks. The 2024 report allows for comparisons of Freshwater Fails and Honor Roll lists, along with a deeper analysis of water quality trends, focusing on *Escherichia coli* (*E. coli*) levels across sites.

2024 River Report Card Highlights

This year's grading results reveal significant improvements in overall water quality across L.A. County's freshwater recreation sites, compared to last year's report. The percentage of sites receiving low-risk grades (A+, A, B) increased from 54% in 2023 to 68% in 2024, with 24 sites meeting health standards. Meanwhile, high-risk sites (C, D, F) decreased from 46% in 2023 to 32% in 2024.

Honor Roll sites

Water quality was excellent at sites higher in the watersheds and in open spaces, such as the Upper San Gabriel River and Upper L.A. River Watershed. Among the 35 sites sampled during the summer of 2024, 28% of Los Angeles County's freshwater recreation sites received an A+ annual grade, reflecting consistently excellent water quality with no bacterial exceedances. The A+ grades for these ten sites not only indicate they are safe for swimming, but also earn them a spot on our Honor Roll list.

- Malibu Creek at Rock Pool (Malibu Creek Watershed)
- San Gabriel River Upper West Fork (San Gabriel River Watershed)
- San Gabriel River Lower West Fork (San Gabriel River Watershed)
- San Gabriel River Upper East Fork (San Gabriel River Watershed)
- San Gabriel River East Fork at Graveyard Canyon (San Gabriel River Watershed)
- Hansen Dam Lake (L.A. River Watershed—Upper)
- Gould Mesa Creek (L.A. River Watershed—Upper)
- Big Tujunga at Vogel Flats (L.A. River Watershed—Upper)
- Wildwood Picnic Site (L.A. River Watershed—Upper)
- L.A. River at Dam (L.A. River Watershed—Recreation Zones)

Recreation Zones show improvement

Some freshwater sites in the Upper L.A. River Watershed are officially designated as Recreational Zones for direct and indirect water contact recreation, such as boating, fishing, and swimming. This year, the L.A. River Watershed—Recreation Zones experienced an improvement in water quality. While sites in the Recreation Zones consistently exceeded safe *E. coli* threshold levels in 2023, 86% of sites achieved good to excellent water quality in 2024, reflecting a positive trend with A+ and A grades. Median *E. coli* concentrations decreased from 120.5 Most Probable Number per 100 milliliters (MPN/100mL) in 2023 to 74 MPN/100mL in 2024

Freshwater Fails

Unfortunately, due to urban runoff, water quality declines downstream in heavily urbanized areas, as has been reported in Heal the Bay's RRC in previous years. Of the 35 monitored sites, 26% received F annual grades in summer 2024, indicating a high risk of illness; contact with the water should be avoided at these sites. These nine sites consistently exceeded the safe limit (known as the statistical threshold values or STV) for bacteria in water, earning a spot on our Freshwater Fails List. This year, all six sites of the L.A. River Watershed—Lower had extremely poor water quality. These six sites were joined by two recurring sites from L.A. River Watershed—Upper and one new site from L.A. River Watershed—Recreation Zones. The first site (#1) has the worst water quality of all.

- #1: L.A. River at Compton Creek Confluence (L.A. River Watershed—Lower)
- #2 (tie): Riverfront Park (L.A. River Watershed—Lower)
- #2 (tie): L.A. River at the confluence of Rio Hondo (L.A. River Watershed—Lower)
- #3: L.A. River at Willow St. (L.A. River Watershed—Lower)
- #4: L.A. River at Compton Creek (L.A. River Watershed—Lower)
- #5: L.A. River at Hollydale Park (L.A. River Watershed—Lower)
- #6: Tujunga Wash at Hansen Dam (L.A. River Watershed—Upper)
- #7: Bull Creek (L.A. River Watershed—Upper)
- #8: L.A River at Balboa Boulevard (L.A. River Watershed—Recreation Zone)

Watershed News

The sharp contrast between the wet summer of 2023 and the dry summer of 2024 underscores the ongoing impacts of climate variability and human activity on water quality. This highlights the need for water management in Southern California that improves surface water quality, and that balances water supply needs with ecological health.

Recycled water is necessary in L.A. to prepare for droughts and reduce reliance on imported water. Currently, wastewater treatment plants treat sewage to a high degree and discharge treated water to the ocean and local waterways, including the L.A. and San Gabriel Rivers. However, we must also ensure that increased water recycling does not compromise the ecological health of local waterways that depend on environmental flows. Efforts from the Tillman Water Reclamation Facility to recycle more water requires assessment from the California Environmental Flows Framework on impacts of flow and temperature changes to the ecology of the L.A. River.

There has also been growing attention on restoration projects across L.A. to revive ecosystem health. The Bowtie Restoration Wetlands Project exemplifies an educational, ecologically beneficial, and sustainable project. By treating stormdrain runoff that would otherwise be discharged directly into the L.A. River, this project helps reduce pollutants while also providing critical habitat and ecosystem services that will promote greater biodiversity. Heal the Bay supports this and similar projects that prioritize creation of new green and blue spaces, contributing to a healthier and more resilient L.A.

As L.A. welcomes visitors from around the world, with the upcoming Men's World Cup in 2026 and Olympic Games in 2028, we have a unique opportunity to showcase a revitalized L.A. River, one that reflects environmental stewardship and sustainability. However, this will require significant investment in cleaning up the region's waterways and ensuring that these events do not cause additional harm to nearby ecosystems.

Heal the Bay Recommendations

Stay Informed — Check Heal the Bay's River Report Card for the latest updates on freshwater recreation sites, including weekly water quality grades during the summer.

Protect and Restore Our Waterways — L.A. must prioritize multi-benefit stormwater projects, enhance trash reduction efforts, improve equestrian area management, increase water quality monitoring efforts, and strengthen public engagement and communication about water quality and safety.

Strive for Clean, Safe Water — L.A. must commit to achieving zero trash in waterways, ensuring all recreational sites earn A grades, and eliminating F grades in all waterways by the 2028 L.A. Olympics.

Building New Capacity for Water Quality Monitoring in L.A.

In 2024, Heal the Bay welcomed 14 college and university students to our Stream Team River Monitoring Program. This program offers students practical experience in environmental science and the non-profit sector, with hands-on training for field and laboratory techniques, while fostering professional growth and workforce development. Participants learn to use specialized equipment, collect water samples, and explore the management and challenges of water quality in L.A. Our ongoing partnership with Los Angeles Trade Technical College (LATTC) and California State University Long Beach (CSULB), allowing use of their laboratories, has also significantly enhanced our capacity for water monitoring with the Stream Team.

In addition to training students, Heal the Bay collaborated with the Sacred Places Institute for Indigenous Peoples in 2024 for a hands-on water quality training, blending scientific methods with Indigenous traditions to assess L.A.'s freshwater ecosystems. The collaboration highlighted cross-organizational knowledge sharing, demonstrating how science and Indigenous perspectives can work together to protect public health and restore waterways.

INTRODUCTION

Heal the Bay is proud to present the seventh annual River Report Card. This report provides an overview of recreational water quality trends for summer 2024 in Los Angeles (L.A.) County's freshwater recreation sites.

The rivers, streams, and lakes in L.A. County attract many visitors each year and are essential for providing recreation, green space, and cultural activities to surrounding communities. Our goal is to raise awareness about water quality issues, advocate for improvements, and empower community members with the knowledge they need to stay safe and healthy while enjoying their local swimming and recreation spots.

Many freshwater recreation sites in L.A. County suffer from fecal indicator bacteria (FIB) pollution. These bacteria are not harmful themselves, but indicate the presence of pathogens that can cause infections and various illnesses. Sources of FIB pollution include urban runoff, leaks or spills from wastewater systems, illegal discharges, and failing wastewater infrastructure. Unlike ocean beaches, there is no statewide oversight, standardization, or funding for freshwater FIB monitoring, nor are there mandated public water quality notifications for freshwater recreational areas. Regulatory permits for discharge into surface waters often require monitoring, but the data collected are not typically shared with the public in an accessible format. Heal the Bay is committed to ensuring everyone is

informed about the condition of their local waters, enabling them to make safe choices. Since 2014, we have monitored freshwater recreational areas and introduced the RRC in 2017 to expand water quality information and make it available for free to the public.

In 2024, we were excited to welcome 14 local college and university students to our river monitoring program, the highest number of hires in a single summer to date. Students hailed from California State University (CSULA), University of California Santa Barbara (UCSB), University of California Santa Cruz (UCSC) and LATTC and CSULB. Additionally, our ongoing partnerships with LATTC and CSULB have significantly expanded our operational reach. By using their laboratory facilities to process river water samples, we have enhanced our capacity for water quality monitoring and analysis. As the RRC program continues to expand, our commitment to ensuring high water quality and protecting public health remains a top priority at Heal the Bay.

Since Heal the Bay began monitoring freshwater recreation sites and publicizing water quality data, positive changes have occurred, including increased bacterial monitoring and public notification in L.A. River—Recreation Zones. Additionally, users of the weekly RRC saw significant changes starting in the summer of 2023, when we updated our grading system to letter grades (A+, A, B, C, D, and F) for weekly and annual grades (more details on the methodology are provided in the Appendix A). We are excited to continue sharing the new, more informative, methodology with those who use the RRC website resources.

In 2024, water quality significantly improved across L.A. County's freshwater recreation sites, with low-risk sites rising to 68% (up from 54% in 2023) and high-risk sites dropping to 32% (down from 46% in 2023). This positive change underscores the importance of protecting public health through consistent water quality monitoring, timely public notifications, and continued efforts to improve water quality at these sites.

The Freshwater Fails list in 2024 encompasses sites that earn F annual grades, with high bacteria levels that pose significant health risks. All six sites from the L.A. River Watershed—Lower made the list, joined by two recurring sites from the L.A. River Watershed—Upper and one site from the L.A. River Watershed—Recreation Zones. All these sites are within urbanized areas surrounded by highways, industrial and warehouse facilities, and high population density.

In contrast, the Honor Roll list reflects sites with A+ annual grades, proving excellent water quality and bacteria levels consistently well below health standards, posing the lowest risk of illness. This year, ten sites were on the list, with no exceedances of bacterial health standards throughout the year. The majority of these sites are within open spaces in the upper sections of the L.A River Watershed—Upper and Recreation Zone, Malibu Creek Watershed, and San Gabriel River Watershed—Upper. Despite the L.A. River Dam's location within a more urbanized area, this site met the standards to be included in the Honor Roll list.

This year, we are incorporating policy recommendations that can help our readers better understand the actions that are taking place across L.A. County to protect public health, and the community's connections to these waters. Clean water is fundamental for drinking, recreation, agriculture, and supporting diverse aquatic ecosystems.

RIVER REPORT CARD BASICS

L.A. County's rivers, streams, and lakes host numerous popular recreation areas that are vital to many peoples' quality of life.

Annual Grading Methodology Update

Heal the Bay implemented an updated grading methodology in June 2023. This year marks the second year we have used letter grades for both weekly and annual grades. The full grading methodology and steps are provided in Appendix A. This updated approach provides a more comprehensive view of each site's water quality over time and includes historical weekly grades. This year allows for the first comparison of two full seasons of letter grades, helping users better understand trends, variations, and concentrations of *E. coli* in the water.

To calculate this year's annual grades, we revised the weighting of Single Sample (SS) results and the Geometric Mean (GM). Previously, we took the average of all weekly grades, which used the 60/40 method and therefore the annual grade similarly is more representative of the SS results. Then for this year, we took the average of all weekly grades using the 50/50 method, to provide a better overall understanding of water quality throughout the season, giving equal importance to SS and GM.

This year we decided to re-grade last year's annual grades for comparison to this year. This method prioritizes the SS results to reflect immediate health risks more directly than GM, which averages results over time. While the 60/40 method is still used to calculate weekly grades to provide up to date information on the website that is based on the most recent sample, we have shifted to a 50/50 weighting when calculating annual grades to provide a better overall understanding of water quality throughout the season, giving equal importance to SS and GM, with each contributing 50 points to the total grade.

This change aligns with the methodology used in Heal the Bay's Beach Report Card (BRC), where equal weight is assigned to SS and GM for annual grades in terms of Total Points Available. Since these grades are intended to summarize water quality over the past year, the most recent sample is not emphasized as heavily as in weekly grading.

Sampling, Locations, and Dates

Heal the Bay collected water samples weekly during the summer months of June (6/17/24) to September (9/27/24) at 12 freshwater sites in L.A. County. Two sites are located in the Malibu Creek Watershed and ten sites are located in the L.A. River Watershed. Heal the Bay uses the Defined Substrate Technology method to quantify FIB (total coliform, *E. coli*, and *Enterococcus*) utilizing Colilert™ and Enterolert™ (IDEXX, Westbrook, ME). During wet weather, the RRC will not issue water quality grades due to potential physical hazards in freshwater areas.[1] Instead, we will provide advisories to alert the public about these risks, prioritizing safety and raising awareness of the potential dangers associated with rain events. Therefore, all RRC grades reflect dry weather data only. With no rainfall events, we retained all water samples for this year's analysis, providing a comprehensive dataset for 2024.

During the summer of 2024, the Stream Team collected 147 water samples, during 14 weeks, for 12 freshwater sites. In addition to the Stream Team monitoring program, Heal the Bay compiles water quality data from other monitoring programs and government agencies that oversee some of the

1 We want to remind the public to avoid contact with waterways for at least three days following a rain event of 0.1 inches or more. Rainfall increases the risk of flooding and swift currents while also carrying harmful contaminants into local waterways, posing serious health risks.

same locations that Heal the Bay monitors (Elysian Valley Recreation Zone) as well as 23 other locations. Typically, agencies collect samples every week during the summer months and quantify levels of *E. coli*. For the L.A. River Watershed, data is collected and shared by the Los Angeles River Watershed Monitoring Program (LARWMP)[2] and the City of L.A., Bureau of Sanitation and the Environment (LASAN).[3] The LARWMP collected 467 water samples during 20 weeks for 17 freshwater sites. The locations in the San Gabriel River Watershed are monitored by the San Gabriel River Regional Monitoring Program (SGRRMP).[4] The SGRRMP collected 176 water samples during 14 weeks for nine freshwater sites. Data have been collected by these groups for many years and were made public starting in 2017 in the L.A. River Watershed and 2018 in the San Gabriel River Watershed. Site locations, monitoring groups, and date ranges are detailed in Appendix B.

Complete field and laboratory protocols are available in Heal the Bay's Quality Assurance Project Plan (QAPP), which was approved by the USEPA, with reviewers from the State Water Board, and the LASAN Environmental Monitoring Division.

Presentation of Results

For our analysis, we grouped sites by watershed. For the L.A. River Watershed, we further divided it into three areas: 1) official recreation zones, 2) popular recreation sites outside of official zones (L.A. River Watershed—Upper), and 3) L.A. River—Lower which are sites not designated for recreation, but are nonetheless used in ways that might still involve water contact. Each site's grades were compared to other sites in L.A. County as well as within its respective watershed or zone.

The RRC grades are based on REC-1, California's recreational freshwater bacteria objective thresholds for *E. coli*, associated with a 32/1000 illness rate among water recreators.[5] The STV is equivalent to the single sample threshold and is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population. The STV for *E. coli* is 320 colony-forming units (cfu) per 100 milliliters (mL) and is considered health protective (**TABLE 1**). The STV value is not to be exceeded by more than 10% of the samples collected in 30 days. These thresholds have been substantiated by numerous epidemiological studies across various water bodies and geographic regions. They ensure that bacteria concentrations remain health protective, as illness rates below these thresholds are not statistically different from those observed in individuals who do not engage in water recreation in untreated waters. The GM of *E. coli* is not to exceed 100 cfu/100mL, calculated weekly (**TABLE 1**).

Illness Rate of 32/1000 Recreators		
	Geometric Mean (GM) cfu/100 mL	Statistical Threshold Value (STV) cfu/100 mL
E. coli	**100**	**320**

TABLE 1. Freshwater bacteria objectives used by the State of California. Heal the Bay uses the above limits in the River Report Card based on California's recreational freshwater bacteria objective thresholds for *E. coli*, associated with a 32/1000 illness rate among water recreators.

This year's results establish a new baseline for future assessments under the current grading methodology, enabling a two-year comparison moving forward. As part of this year's analysis, we are providing median concentration values of *E. coli* for the 35 monitored freshwater sites. For each sample, a Most Probable Number (MPN) per 100 milliliters (mL) is determined. For comparison purposes, cfu are equivalent to MPN. The median values offer additional insight into

2 Los Angeles River Watershed Monitoring Program
3 City of L.A., Bureau of Sanitation and the Environment (LASAN)
4 San Gabriel River Regional Monitoring Program
5 Bacterial Objectives, Waterboards

water quality trends, with data constrained by a lower detection limit of 5 MPN/100mL and an upper bound of >24,196 MPN/100mL. We selected the median rather than the average because the median more accurately represents typical *E. coli* levels without being skewed by extreme outliers.

2023 Summary Recap and New Changes

This year we shifted to a new grading scale when calculating annual grades, to better reflect water quality throughout the summer season. In the transition from the 60/40 annual grading scale to the 50/50 grading scale, new 2023 grades were calculated for comparability, resulting in a slightly altered representation of water quality in L.A. for last year's results. Six sites had a downgrade in their 2023 annual water quality grades, which resulted in fewer sites being classified as low health risk (54% compared to 63%), and more sites being classified as high health risk (46% compared to 37%).[6] This highlights the generally more stringent nature of this grading approach (Appendix J and **TABLE 2**). By providing an equal weight between the single sample and geometric mean, this new scale


Upper Sepulveda

6 6th Annual River Report Card

Watershed	Site Name	Annual Grade in 2023	Updated Annual Grade in 2023
L.A. River Watershed—Recreation Zone	Benedict Street	A	B
L.A. River Watershed—Recreation Zone	L.A River at Dam	B	C
L.A. River Watershed—Recreation Zone	Steelhead Park	B	C
L.A. River Watershed—Recreation Zone	Rattlesnake Park	B	C
L.A. River Watershed—Upper	Lake Balboa Boat Outlet	C	D
L.A. River Watershed—Lower	Hollydale Park	D	F Freshwater Fail 6th rank

TABLE 2. Updated 2023 Annual Grades. Grades for 2023, regraded using the new 50/50 annual grading method. Six recreational sites had a downgrade in their annual water quality grades. No sites showed improved grades, and the rest had no change in the annual grade, with the 50/50 regrading.


Big Tujunga at Hansen Dam

emphasizes cumulative water quality trends, which can result in more cautious assessments. Because the threshold for losing points related to the GM value is lower (100 MPN/100mL), this new grading method will result in more health-protective grades in most instances. This shift suggests that the 50/50 grading method is generally more health-protective, typically classifying more sites as having higher health risks, and better for identifying areas for water quality improvement opportunities.

Across all 35 sites graded throughout summer 2023, 28% of the grades issued were A+ (10 sites), 23% were A (8 sites), 3% were B (1 sites), 17% were C (6 sites), 9% were D (3 sites), and 20% were F (7 sites), **(FIGURE 1)**. This indicates that 54% of Los Angeles County's freshwater recreation sites received A+, A, or B grades (19 sites), indicating they are safe to swim with a low health risks and 46% of sites received C, D, or F grades (16 sites), indicating increased risk of illness, where contact with the water should be avoided. The new 2023 Freshwater Fails List includes seven recreation sites that received annual F grades. Notably, under the new grading scale, Hollydale Park at L.A. River Watershed—Upper has been added to the Freshwater Fails list and is tied with Rio Hondo in 6th place (**TABLE 2**). Median *E. coli* concentrations for the sites on the Freshwater Fails list in 2023 ranged from 437 MPN/100mL to 1489 MPN/100mL.

In 2023, sites in the Malibu Creek and San Gabriel River watersheds had median *E. coli* concentrations below the STV. Most sites in the L.A. River—Upper watershed also maintained safe bacteria levels, with the exception of Tujunga Wash at Hansen Dam. Sites in the Recreation Zones showed more variability, with about half the sites exhibiting safe water quality. Furthest down in the watershed, the sites at L.A. River—Lower all had median concentrations that exceeded the safety threshold (**FIGURE 4** and Appendix K).

DISTRIBUTION OF 2023 ANNUAL GRADES

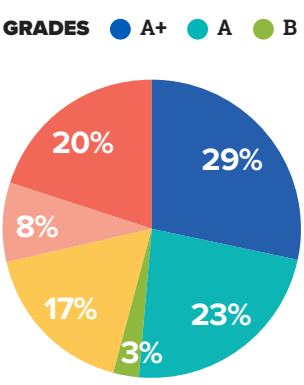
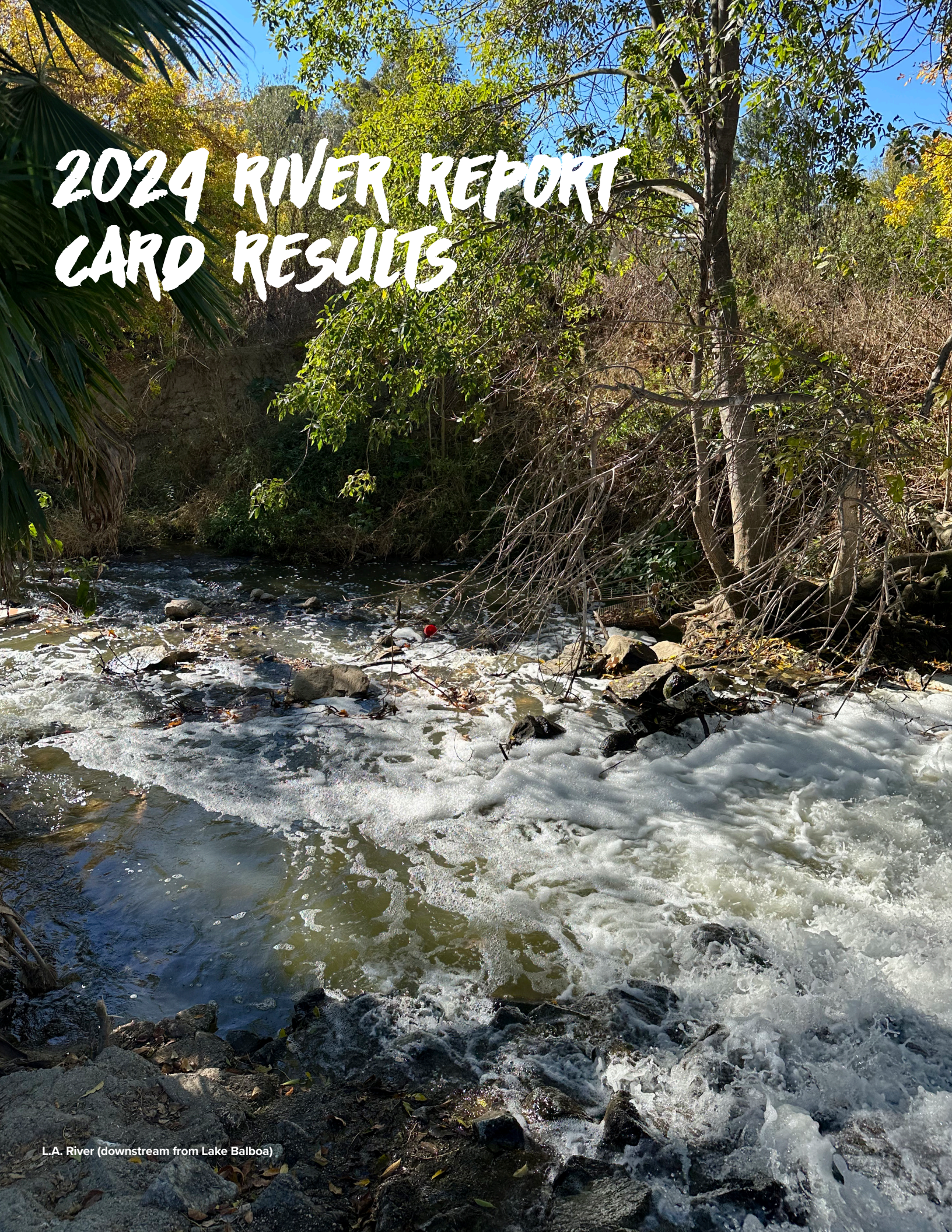


FIGURE 1. Distribution of 2023 Annual Grades. Across all L.A. County sites and by region: Malibu Creek Watershed, San Gabriel River Watershed, L.A. River Watershed: Recreation Zones, Upper, and Lower.

2024 RIVER REPORT CARD RESULTS



L.A. River (downstream from Lake Balboa)

LOS ANGELES COUNTY OVERVIEW

Across all 35 sites graded during summer 2024, 28% of the annual grades issued were A+ (10 sites), 34% were A (12 sites), 6% were B (2 sites), 6% were C (2 sites), and 26% were F (9 sites). This means that 68% of Los Angeles County's freshwater recreation sites received A+, A, or B grades, indicating they are safe to swim with a low health risk; and 32% of sites received C, D, or F grades, indicating increased risk of illness, where contact with the water should be avoided. The distribution of 2024 annual grades across all L.A. County sites is provided in FIGURE 2.

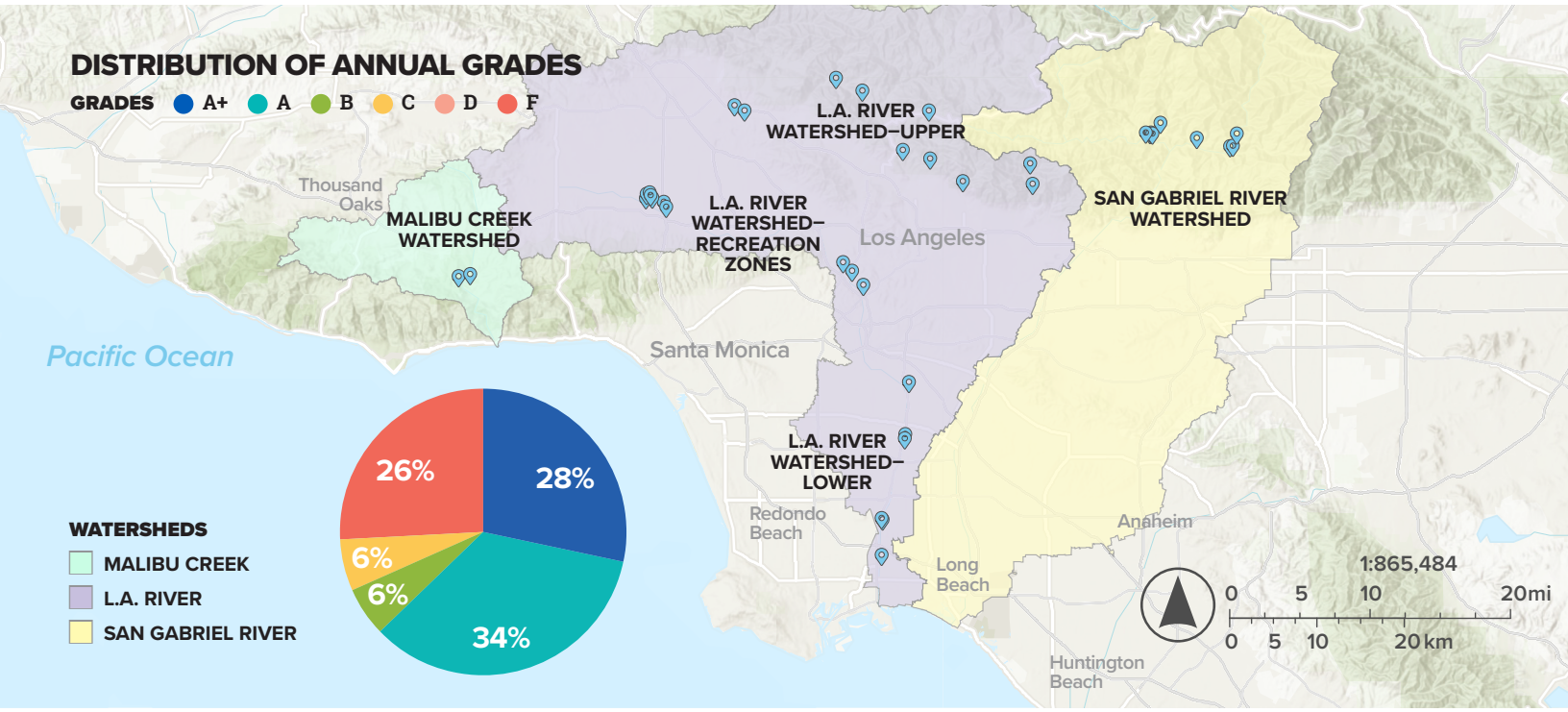


FIGURE 2. 2024 Distribution of Annual Grades. Across all L.A. County sites and by region: Malibu Creek Watershed, San Gabriel River Watershed, L.A. River Watershed: Recreation Zones, Upper, and Lower.

The 2024 grading results show an improvement in overall water quality. The number of sites with good water quality (A+, A, B) increased from 54% in 2023 to 68% in 2024, indicating 24 sites were deemed safe to swim with a low health risk. Conversely, the number of high-risk sites (C, D, F) decreased from 46% in 2023 to 32% in 2024, with 2 sites receiving a C grade, indicating increased risk of illness, and 9 sites receiving an F grade, indicating the highest risk (**FIGURE 3** and Appendix C). This year, no sites received a D grade.

The median values of *E. coli* levels at 35 freshwater recreation sites are included here to show the typical levels of bacteria at each site. The median differs from an average, which can be more heavily influenced by outliers. The data are censored by a lower bound of 5 MPN/100mL and upper bound of >24,196 MPN/100mL. Across all sites in 2024, the median *E. coli* level was 63 MPN/100mL, indicating good water quality overall throughout most sites during the summer.

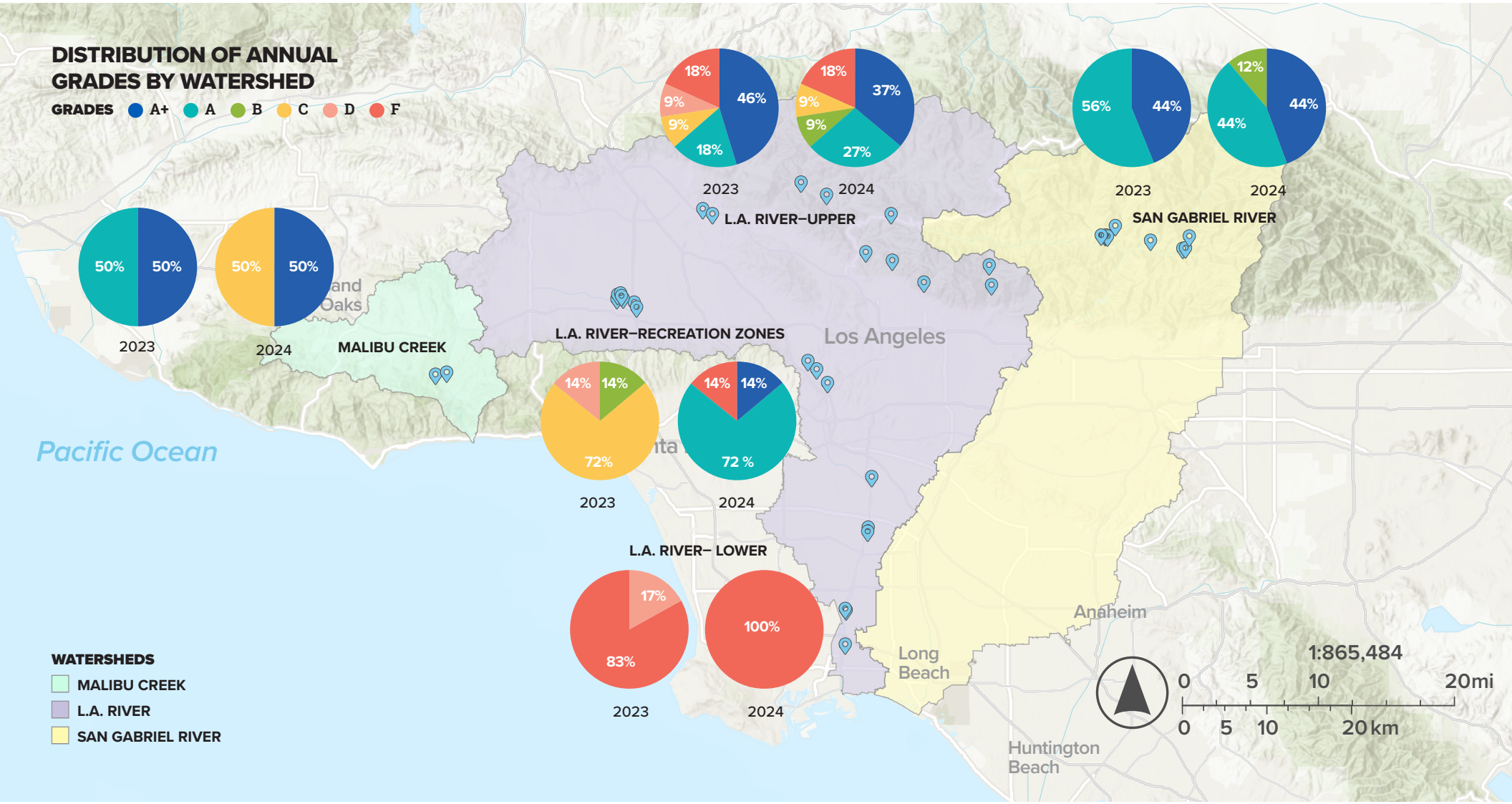


FIGURE 3. Distribution of Annual Grades by Watershed. Annual grades across all 35 freshwater monitoring sites in L.A. County, shown for both 2023 and 2024: Malibu Creek Watershed, San Gabriel River Watershed, L.A. River Watershed: Upper, Recreation Zones and Lower. **TABLES 5–9** show the percentages of grades for 2024 at each watershed.

The median *E. coli* levels broken down by watershed for 2024, in MPN/100mL are: Malibu Creek (63), San Gabriel River Watershed—Upper (31), L.A. River Watershed—Upper (63), L.A. River Watershed—Recreation Zones (74) and L.A River Watershed—Lower (1991) (**FIGURE 4** and Appendix D). In contrast, the median *E. coli* concentrations in 2023, in MPN/100mL, were: Malibu Creek (74), San Gabriel River (30), L.A. River Watershed—Upper (63), L.A. River Watershed—Recreation Zones (120.5), and L.A. River Watershed—Lower (727) (**FIGURE 4** and Appendix K). Values were similar in the San Gabriel River Watershed and L.A. River Watershed—Upper between 2023 and 2024. For Malibu Creek, the water quality remained the same; however, while the median decreased, the annual grades worsened. In the Recreation Zones, water quality improved in some areas. However, there was also a substantial decline in water quality in the L.A. River Watershed—Lower.

The distributions of *E. coli* single sample concentrations for all 35 freshwater sites are shown in **FIGURE 4**. These sites are ordered on the graph based on their location in the watershed, with those that are higher in the watershed further to the left and sites lower in the watershed further to the right. The box-and-whisker plot compares the distribution of bacteria levels across 2023 and 2024, with the exception of Delta Flats and Wildwood Picnic Site, which only have sampling results from one summer season correspondingly. The STV of the water quality objective (WQO) of 320 MPN/100mL for REC-1 beneficial use was attained by 84% samples during 2024, compared to 86% samples during 2023. Although there were improvements in many sections of the watersheds (e.g. L.A. River Watershed—Recreation Zone), sites in the L.A. River Watershed—Lower saw consistently worse water quality, with more weekly F grades, and higher overall bacteria levels. (**FIGURE 17**). Last year, most of these sites also got F annual grades, but had more safe-to-swim weekly grades (**FIGURE 15**, River Report Card 2023.

Across the Recreation Zones sites, levels of bacteria were lower in 2024, which corresponds with the better grades seen at these sites this year. Meanwhile, sites in the L.A. River—Upper, San Gabriel River, and Malibu Creek Watersheds maintained relatively consistent levels of bacteria across the two years. Sites in the L.A watershed—Lower had higher bacterial levels, resulting in worse grades in 2024 compared to 2023 (Appendix C and J).

Sites on the 2024 Freshwater Fails list exhibit significantly higher bacteria levels compared to 2023 Freshwater Fails sites. For most of these sites, the majority of the data exceed the safe threshold of 320 MPN/100mL). Median *E. coli* concentrations for the sites on the Freshwater Fails list in 2024 ranged from 202.5 MPN/100mL to 3565.5 MPN/100mL, indicating very high risk.

The 30-day GM of *E. coli* across the 35 freshwater sites was compared to the 30-day GM standard of 100 MPN/100mL (Appendix G). GM exceedance rates over the 2024 summer, broken up by watershed, are as follows: Malibu Creek (45%), San Gabriel River (4.7%), L.A. River—Upper (32.1%), L.A. River—Recreation Zones (17.8%), and L.A. River—Lower (100%). The GM indicates overall levels of bacteria from a specific time period, helping users better understand what the water quality has been like in the last 30-days.

The weekly grades counts across all 35 freshwater sites for 2023 and 2024 grouped by watershed are shown in **FIGURE 5**. LA River—Recreation Zones showed an increase in the number of A weekly grades (in teal) compared to 2023, when these sites received more C, D and F grades. This improvement reflects the overall better water quality in this area this year.

The LA River—Upper and San Gabriel River sites remained relatively stable, with most sites consistently receiving A+ weekly grades. However, the sites located lower in the watershed experienced a slight decline, with fewer safe-to-swim grades at most sites.

Lastly in Malibu Creek, one site remained consistent, receiving A+ weekly grades throughout the entire summer for both 2023 and 2024. The other Malibu site showed more fluctuation this year, with more C weekly grades.

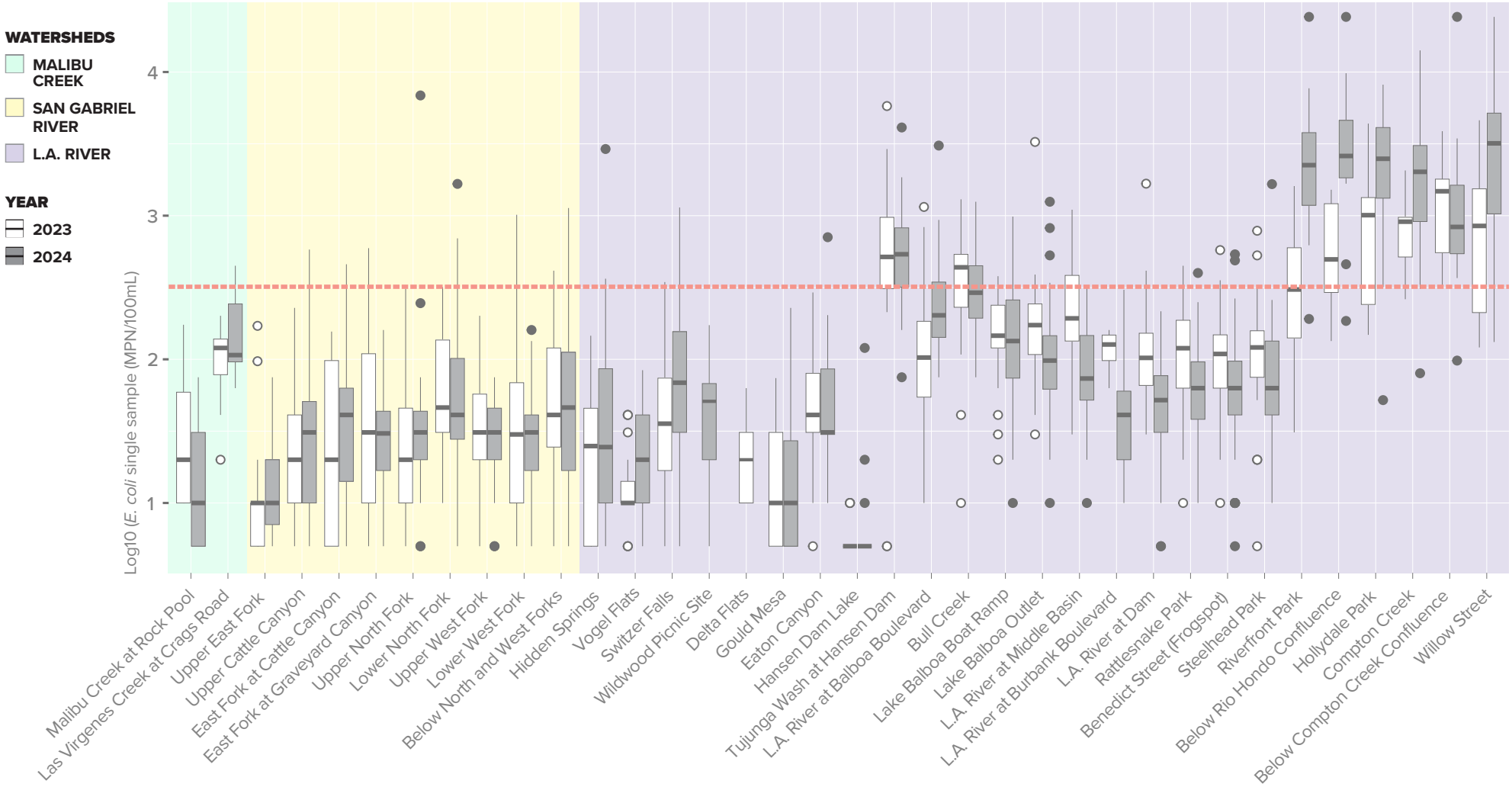


FIGURE 4. Box-and-whisker plot. Box-and-whisker plot showing log_{10}-transformed *E. coli* results for all 35 freshwater sites: Malibu Creek Watershed, San Gabriel River Watershed, L.A. River Watershed: Upper, Recreation Zones, and Lower), for both 2023 (□) and 2024 (■). Boxes show median values, and span from the lower quartile to the upper quartile. The whiskers (—) represent data points within 1.5 times the interquartile range. Data are censored by a lower bound of 5 MPN/100mL and an upper bound of > 24,196 MPN/100mL. The red dashed line (----) represents the STV of 320 MPN/100mL for REC-1, which has been log_{10} transformed. Values at or below the line comply with the water quality objective, while values above the lines exceed. Data only shown for one year for Delta Flats and Wildwood Picnic Site, as these sites were only sampled for a single season. The majority of values for Hansen Dam Lake are <5 MPN/100mL for both years. Because this distribution is so small, the boxes for this site have been condensed into a line in this graphic.

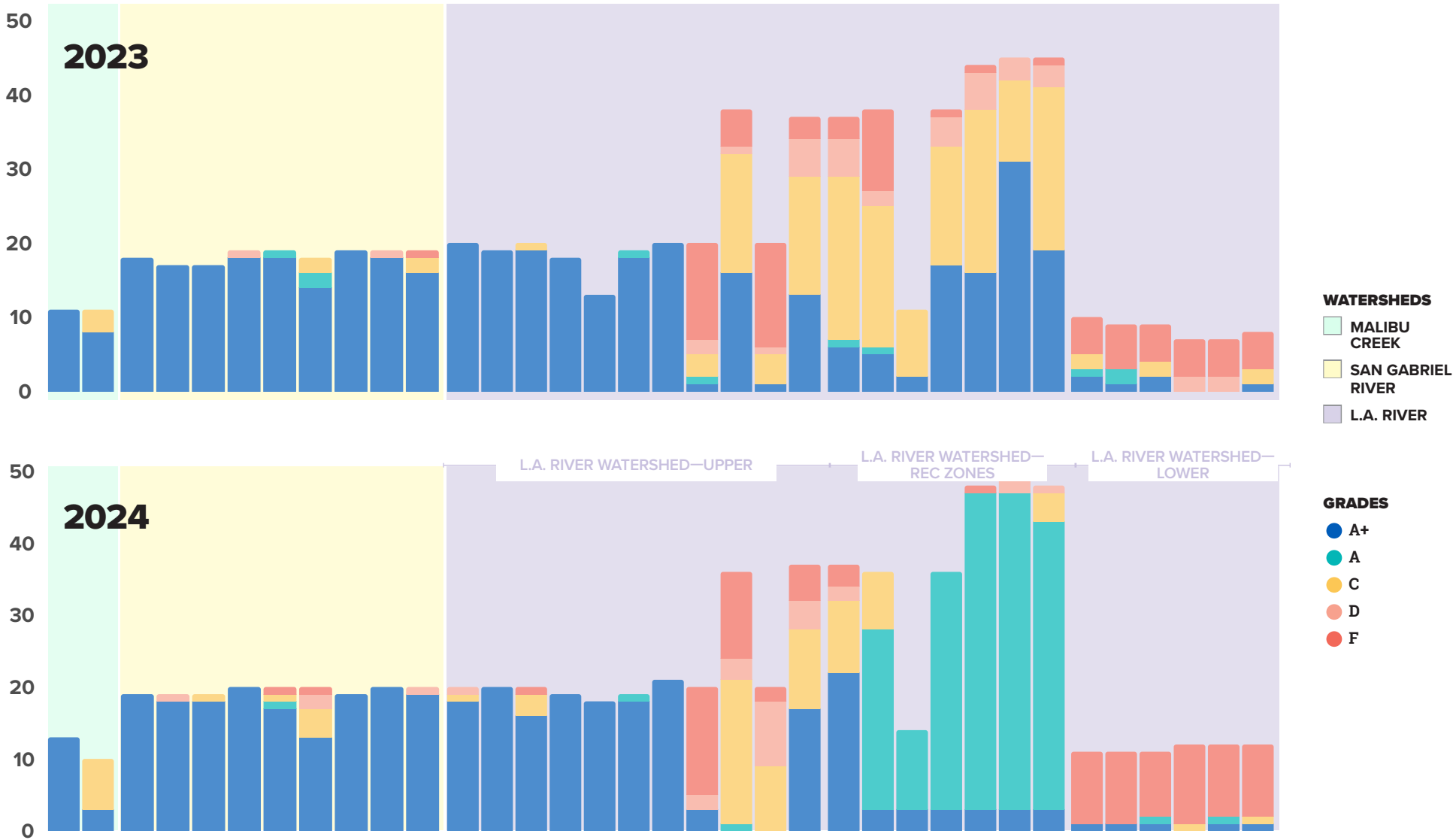


FIGURE 5. Count of 2023 and 2024 Weekly grades. Across all L.A. County sites and by region: Malibu Creek Watershed, San Gabriel River Watershed, L.A. River Watershed: Upper, Recreation Zones and Lower. Sites are ordered by their location in watershed, with sites higher in the watershed to the left of the graphic, and sites lower in the watershed to the right of the graphic. The number of samples per week varied due to differences in sampling frequency, with more samples collected at certain locations tested by LARWMP, SGRMP and HtB.

FRESHWATER FAILS

F

Freshwater Sites With Highest Health Risk And Bacteria Levels Well Above Health Standards

The Freshwater Fails list identifies the sites with the worst water quality, where bacteria levels significantly exceed health standards, posing the highest risk of illness. To qualify for the list, sites must have an annual grade of F. The 2024 list includes nine recreational sites with annual grades of F and average scores of 59 points or lower, indicating consistently high bacteria levels (**TABLE 3**). Contact with water at these sites should be avoided. This is an increase from last year's Freshwater Fails list, which consisted of only seven sites.

Additionally, sites on the fails list this year had worse average weekly scores as compared to last year. In 2024, average scores ranged from 39.6 to 57.5, while in 2023, they ranged from 43.3 to 54.4 (Appendix C and J). This signals even higher levels of bacteria at these sites this year, which resulted in worse weekly grades throughout the summer.

In 2024, Compton Creek Confluence held the #1 worst site with the lowest annual score at 39.6 points, a marked decline from 2023 when it was the #2 worst site with 43.3 points. Riverfront Park and Rio Hondo Confluence are tied for #2 worst site this year, with an average score of 41.8. Rio Hondo Confluence ranked sixth in 2023 with an average score of 54.4, while Riverfront Park received a D grade and was not on the Freshwater Fails list, indicating that both sites had

Rank	Site	Watershed	Grade	Average total points
#1	L.A. River below Compton Creek Confluence	L.A. River Watershed—Lower	F	39.6
#2	L.A. River at Riverfront Park	L.A. River Watershed—Lower	F	41.8
#2	L.A. River below Rio Hondo Confluence	L.A. River Watershed—Lower	F	41.8
#3	L.A. River at Willow Street	L.A. River Watershed—Lower	F	43.8
#4	L.A. River at Compton Creek	L.A. River Watershed—Lower	F	46.2
#5	L.A. River at Hollydale Park	L.A. River Watershed—Lower	F	46.4
#6	Tujunga Wash at Hansen Dam	L.A. River Watershed—Upper	F	48.3
#7	Bull Creek	L.A. River Watershed—Upper	F	52.5
#8	L.A. River at Balboa Boulevard	L.A. River Watershed—Recreation Zones	F	57.5

TABLE 3. Freshwater Fails sites across L.A. County received the lowest average scores (≤ 59%), earning annual grades of F. These sites exhibit very poor water quality, with bacteria levels significantly exceeding health standards, posing the highest risk of illness. The annual scores at these sites ranged from 39.6 points to 57.5 points.

a marked decline in water quality compared to last year. Willow Street ranked in third place this year, with an average score of 43.8 points. This is a decrease from last year, where this site had an average score of 51.9 and ranked fifth place on the list. In fourth place is Compton Creek, which received an average score of 46.2; a slight improvement from last year's score of 43.6. This site got slightly better this year, after being in second place last year. In fifth place is Hollydale Park with an average score of 46.4, compared to seventh place in 2023 and an average score of 54.4. In sixth and seventh place are Tujunga Wash at Hansens Dam and Bull Creek. Both sites are in the Upper zone of the L.A. River Watershed. These sites improved slightly this year, after being fourth and third on the list in 2023, with an average score of 49.0 and 47.0 respectively. Lastly, L.A. River at Balboa Boulevard placed eighth on the list, dropping significantly from last year's C annual grade, with an average score of 77.6.

Below Compton Creek Confluence

HONOR ROLL

Freshwater Sites With Lowest Health Risk And Bacteria Levels Well Within Health Standards

The Honor Roll list features sites with consistently excellent water quality, where bacteria levels remain well within health standards, indicating the lowest risk of illness. To qualify for the list, sites must have an annual grade of A+. The 2024 list includes ten recreational sites, each achieving an average score of 100 and earning the same annual grade of A+, resulting in no ranking for this list. These sites maintained the highest possible water quality, with bacteria levels never exceeding state limits, which aim to protect public health (**TABLE 4**). Among the ten sites on the Honor Roll list, one is in the Malibu Creek Watershed, four are in the Upper San Gabriel River Watershed, four are in the Upper L.A. River Watershed, and one is in the L.A. River Watershed—Recreation Zone. Many of these sites were also on the Honor Roll list in 2023.

The majority of these sites are within more natural, open spaces, with limited anthropogenic alterations to the surrounding area. These sites benefit from natural filtration and vegetation, which help to maintain a healthy and balanced ecosystem that contributes to good water quality. The Hansen Dam Lake, a man-made lake used for recreational purposes, does not offer natural filtration, but features extensive filtering, chlorinating and disinfecting systems.[7]

7 Hansen Dam Recreation Lake Facility

Site	Watershed	Grade
Malibu Creek at Rock Pool	Malibu Creek Watershed	A+
San Gabriel River Upper West Fork	San Gabriel River Watershed	A+
San Gabriel River Lower West Fork	San Gabriel River Watershed	A+
San Gabriel River Upper East Fork	San Gabriel River Watershed	A+
San Gabriel River East Fork at Graveyard Canyon	San Gabriel River Watershed	A+
Hansen Dam Lake	L.A. River Watershed—Upper	A+
Gould Mesa Creek	L.A. River Watershed—Upper	A+
Big Tujunga at Vogel Flats	L.A. River Watershed—Upper	A+
Wildwood Picnic Site	L.A. River Watershed—Upper	A+
L.A. River at Sepulveda Dam	L.A. River Watershed—Recreation Zones	A+

TABLE 4. Honor Roll sites across L.A. County that received the highest average scores (100 points), earning annual grades of A+. These sites exhibit excellent water quality, with bacteria levels never exceeding health standards, posing the lowest risk of illness.

MALIBU CREEK WATERSHED OVERVIEW

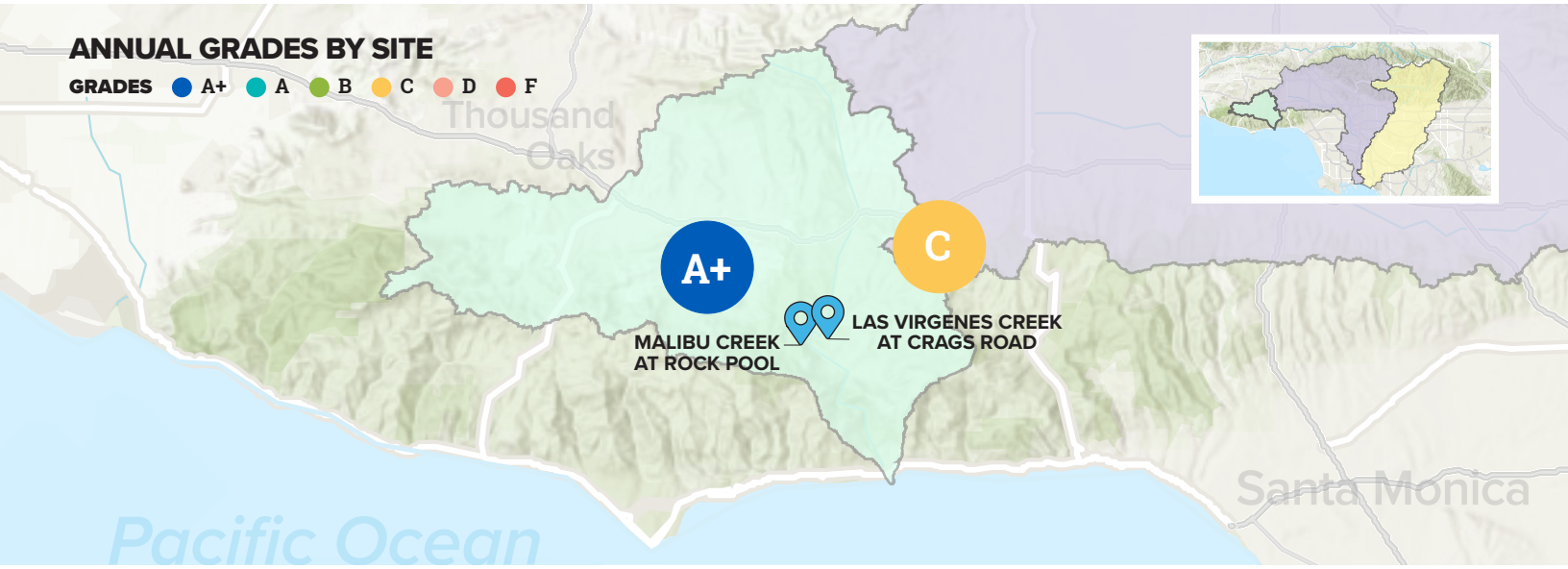


FIGURE 6. Malibu Creek Watershed 2024 Annual Grades by Site. Annual grades at Malibu Creek Watershed sites during the 2024 monitoring season.

Overview of Malibu Creek Watershed

The North Santa Monica Bay[8,9] encompasses some of L.A. County's most beautiful natural areas, including the Santa Monica Mountains, Topanga Canyon, and Malibu Creek. These areas are located in the northwest corner of Los Angeles County, bordered by the Santa Monica Mountains (to the north, west, and east), and the Pacific Ocean to the south. The Malibu Creek Watershed (highlighted in light green on the map in **FIGURE 3**) spans 109 square miles, extending from the northwestern end of Los Angeles County and the southern end of Ventura County. The Malibu Creek Watershed encompasses Malibu Creek State Park and parts of Santa Monica Mountains National Recreation Area along with urbanized areas. Runoff from nearby cities of Agoura Hills, Westlake, Malibu, and Calabasas contribute to the naturally flowing Malibu Creek, which eventually discharges into the ocean at the Malibu Lagoon.[8]

Since 2014, Heal the Bay has regularly monitored two recreation sites in the Malibu Creek Watershed: Malibu Creek at Rock Pool and Las Virgenes Creek at Crags Road (**FIGURE 6**). These popular swimming holes in Malibu Creek State Park are easily accessible and frequently used for recreation. Both sites are listed as impaired for bacteria by the State Water Board and USEPA.[10]

8 North Santa Monica Bay

9 Watershed Management Area Plan for the Malibu Creek Watershed

10 2024 California Integrated Report Map

MALIBU CREEK

ANNUAL GRADE	# SITES	%
A+	1	50
A	0	0
B	0	0
C	1	50
D	0	0
F	0	0
A+A+B	1	50
C+D+F	1	50

TABLE 5. Malibu Creek Watershed 2024 Annual Grades.

Breakdown of 2024 Annual Grades Over the Summer Season

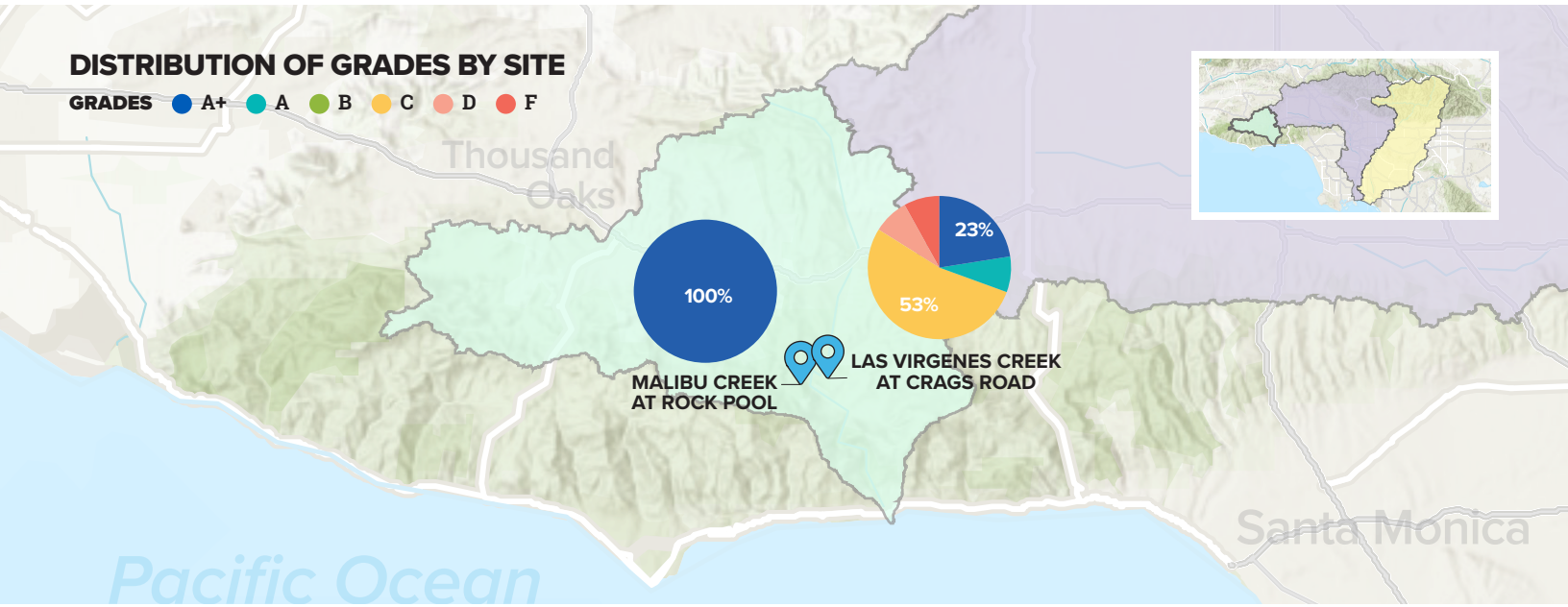


FIGURE 7. Malibu Creek Watershed Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for two sites at Malibu Creek Watershed during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

This year, Malibu Creek at Rock Pool earned an A+ grade and retained its spot on the 2024 Honor Roll, maintaining its exceptional performance from the previous year. These consistently high grades during the last two years reflect its consistently excellent water quality, and highlight the minimal health risks associated with enjoying these waters (**FIGURE 7** and **TABLE 5**).

However, the Las Virgenes Creek at Crags Road received a C in 2024, a decrease from an A grade in 2023. While Las Virgenes Creek at Crags Road exceeded the *E. coli* single sample threshold value just once this year (8% exceedance rate, Appendix F), this site consistently exceeded the 30-day geometric mean objective (90% exceedance rate, Appendix G), resulting in poor grades for 70% of the summer. Last year, this site received poor grades just 30% of the year, indicating a decline in water quality this year (**FIGURE 5 AND 7**). We observed lower than average water levels (personal observations) and higher water temperatures (in 2024 compare to 2023), which could contribute to higher levels of bacteria this summer. Despite the worse annual grade this year, median *E. coli* levels actually declined this season, falling from 120 MPN/100mL in 2023 to 107 MPN/100mL in 2024. This is representative of lower level chronic pollution at this site this year, which can be just as harmful in the long term as a single sample spike in bacteria.

Overall, water quality in the Malibu Creek Watershed was relatively safe. Median *E. coli* concentrations were 63 MPN/100mL, which is below the STV, and even a slight improvement from last year's 74 MPN/100mL. And GM exceedance rates remained low across these sites (4%), a slight increase from last year when there were no single sample exceedances (**FIGURE 4** and Appendix F and M).

SAN GABRIEL RIVER WATERSHED OVERVIEW

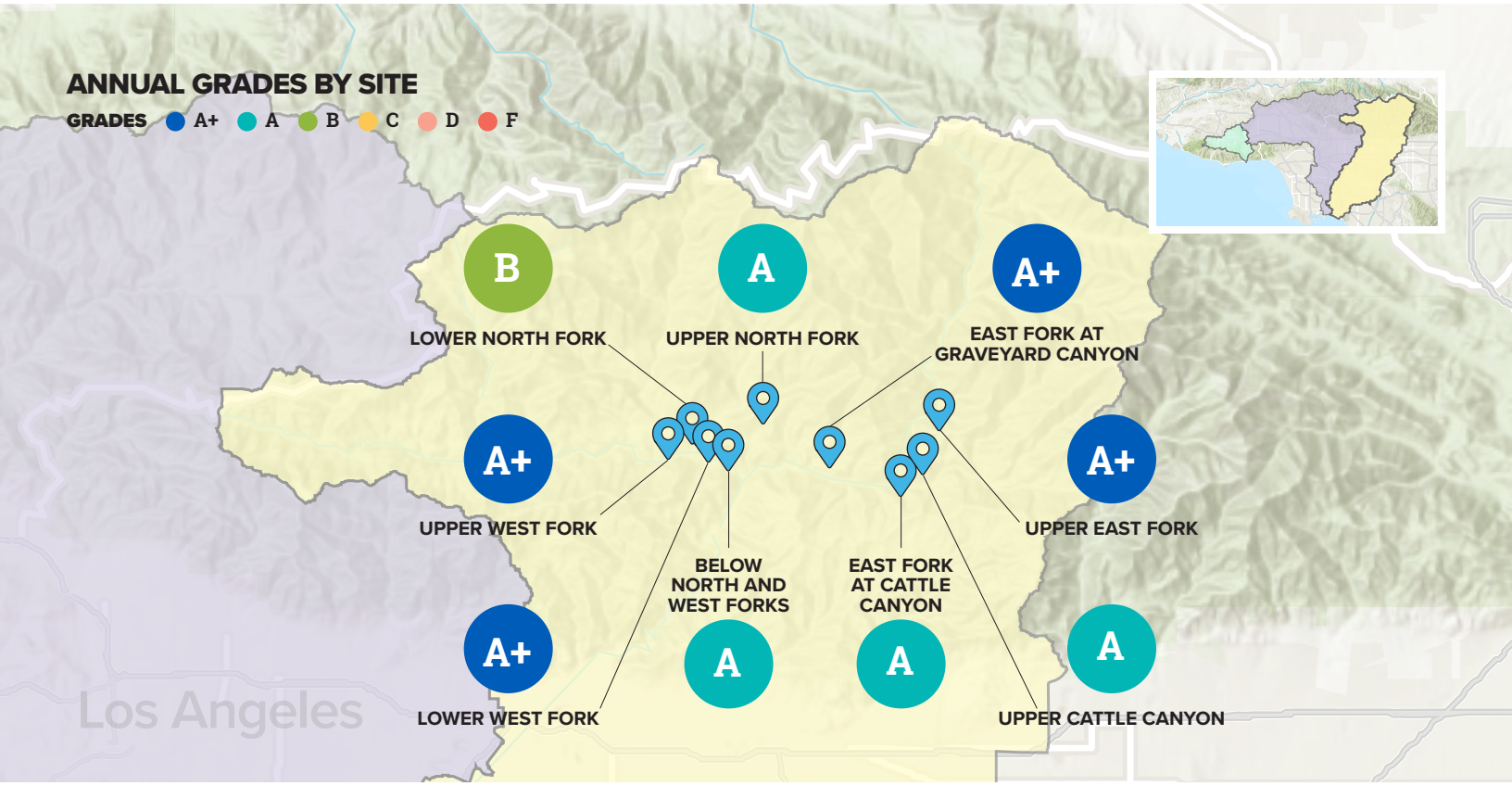


FIGURE 8. San Gabriel River Watershed Annual 2024 Grades by Site. Annual grades at San Gabriel River Watershed sites during the 2024 monitoring season.

Overview of San Gabriel River Watershed

The San Gabriel Mountain Range is part of the larger Angeles National Forest, which sits north of L.A., and home to Mount Baldy, the highest point in L.A. County. The San Gabriel River Watershed (highlighted in light yellow on the map in **FIGURE 3**) includes nine popular recreation sites within the Angeles National Forest, monitored by the SGRRMP. Rain and snow fall on the San Gabriel Mountains, mostly in the winter months, contributing to the flow of the river throughout the year. These sites are heavily recreated by swimmers, especially during the warmer summer months, justifying the need for comprehensive testing at these locations.

SAN GABRIEL RIVER

ANNUAL GRADE	# SITES	%
A+	4	44
A	4	44
B	1	12
C	0	0
D	0	0
F	0	0
A+A+B	9	100
C+D+F	0	0

TABLE 6. San Gabriel River Watershed 2024 Annual Grades.

Breakdown of 2024 Annual Grades Over the Summer Season

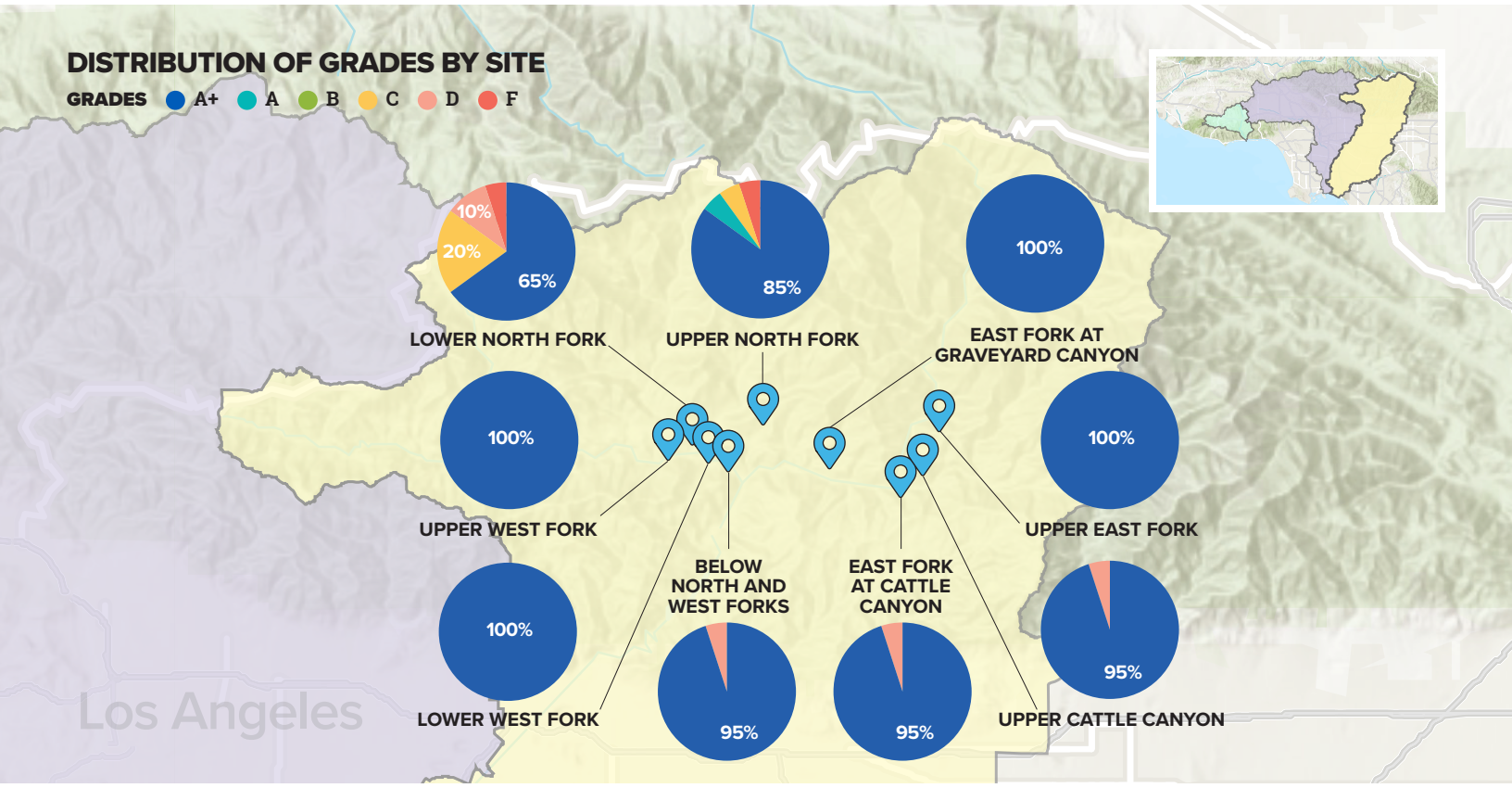


FIGURE 9. San Gabriel River Watershed Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for nine sites in the San Gabriel River Watershed during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

Four sites in the San Gabriel River Watershed—Upper received A+ grades, earning spots on the Honor Roll list, indicating they consistently met the highest water quality standards (**FIGURE 8** and **TABLE 6**). An additional four sites in San Gabriel River also demonstrated excellent water quality, meeting the criteria for an A annual grade in 2024, indicating only slight increases in bacteria levels observed throughout the summer (**FIGURE 8 AND 9**).

The four sites that received A+ annual grades were East Fork at Graveyard Canyon, Lower West Fork, Upper West Fork, and Upper East Fork. Notably, East Fork at Graveyard Canyon and Lower West Fork are new additions to the 2024 Honor Roll list (**TABLE 4**). Last year, both sites received A grades, indicating improved water quality this summer, with no exceedances (**FIGURE 8**). For the other two sites, this was the second consecutive year these sites were on the Honor Roll list.

With their A annual grades this year, East Fork at Cattle Canyon and Upper Cattle Canyon saw a decrease from their A+ annual grades last year, dropping from the Honor Roll list. However, both sites maintained safe water quality this year and only exceeded single sample standards 5% of the time during summer 2024.

Below North and West Forks received an A annual grade in both 2023 and 2024. However, water quality

at this site was better this year. In 2023, this site had C, D and F grades 16% of the time in the summer. In 2024, this site received only a D weekly grade (**FIGURE 8 AND 9**).

Upper North Fork maintained an A annual grade for both 2023 and 2024; however, water quality declined this year. In 2024, this site received C, D and F grades 10% of the time compared to none in 2023. Single sample exceedance rates increased 5% this year, up from zero last year. Despite this decline, the site remained overall safe to swim, with a median *E. coli* concentration of 31 MPN/100mL, well within the safety threshold (**FIGURE 8 AND 9**).

Lower North Fork received a B grade this year, a decline from its A grade last year. This site experienced the most variability among San Gabriel sites, with C, D and F grades reported 35% of the time. While there were no exceedances in 2023, the exceedance rate increased to 15% this year, contributing to the lower grade. Despite this, the median *E. coli* concentration remained low at 41 MPN/100mL, indicating the site is still generally within safe limits for recreation (**FIGURE 8 AND 9**).

Sites within the San Gabriel River Watershed continue to demonstrate consistently good water quality, with a low overall single sample bacteria exceedance rate of just 4% and a median *E. coli* concentration of 31 MPN/100mL, indicating minimal risk for illness and general safety when swimming (**FIGURE 4** and Appendix F). These results remain consistent, with similarly safe levels in 2023.

Besides these successes, the East Fork of the San Gabriel River still faces ongoing and significant pollution challenges, including trash pollution. Despite its natural beauty and minimal upstream urban development, which generally contribute to excellent water quality, the area is frequently overwhelmed by garbage and graffiti. This pollution not only spoils the scenic landscape but also poses a threat to the watershed's overall health, highlighting the need for improved waste management and conservation efforts to protect this vital resource.

L.A. RIVER WATERSHED OVERVIEW

Sepulveda Basin, Lake Balboa

The L.A. River Watershed[11] spans approximately 834 square miles (highlighted in light purple in **FIGURE 3**), bordered by the headwaters of the Santa Monica, Santa Susana, and San Gabriel Mountains to the north and west. The entire watershed is impacted by urban runoff, as many urbanized areas surrounding the L.A. River are highly developed. As water travels downstream, the effects of runoff are compounded, often resulting in worse water quality. This watershed includes the Upper portion of the watershed, which is closer to more natural open space, with some unchannelized tributaries. It also includes the Recreation Zones of the L.A. River, which has been paved over with cement, though some sections maintain a soft bottom, which allows for growth of trees, shrubs, and other local and native plants. This watershed also includes the Lower portion of the L.A. River, which is almost entirely channelized and encased in concrete, making this watershed one of the most diverse in terms of land use patterns and river structure.

11 Los Angeles River Watershed

L.A. RIVER WATERSHED—UPPER OVERVIEW

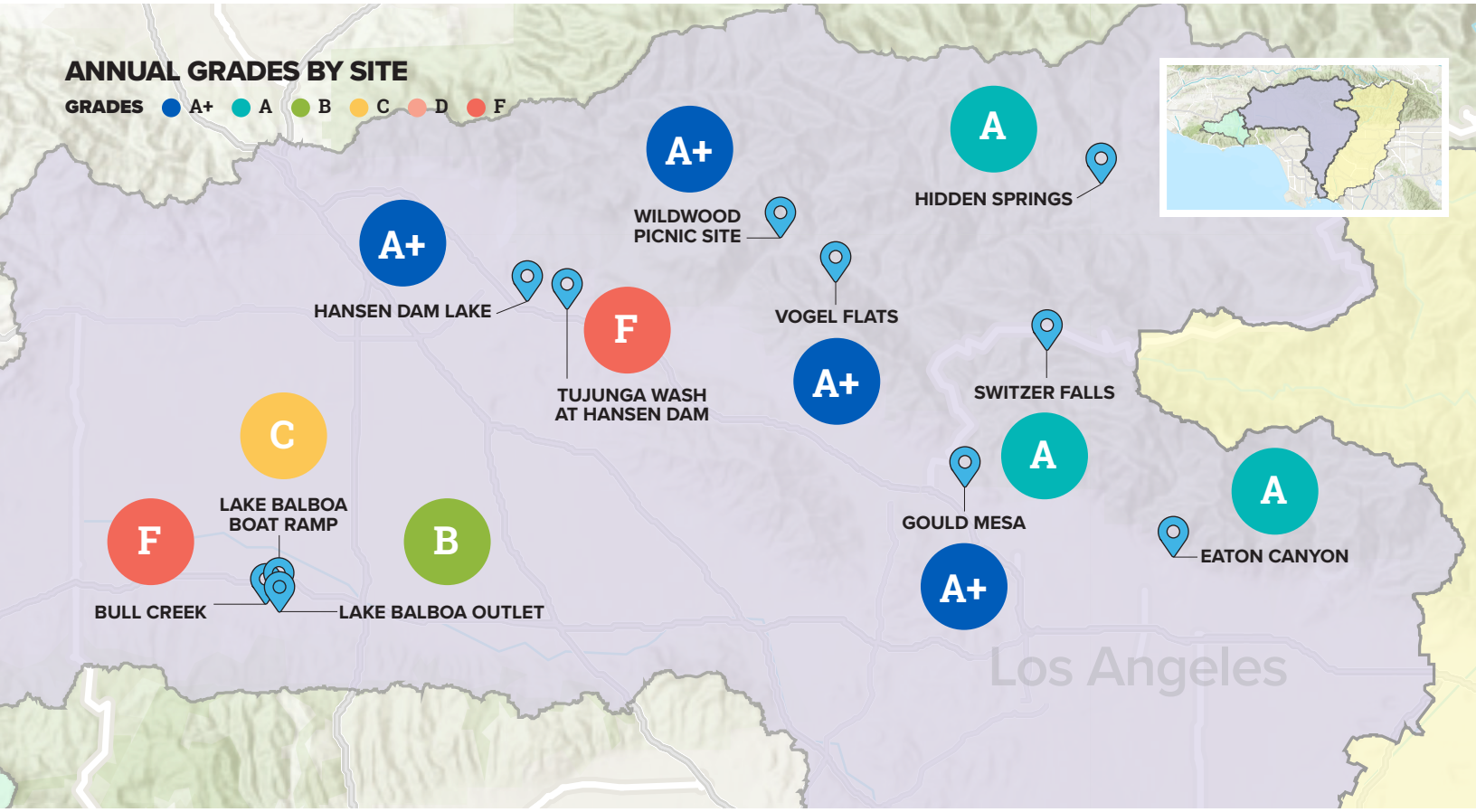


FIGURE 10. Los Angeles River Watershed—Upper 2024 Annual Grades by Site. Annual grades at Los Angeles River Watershed—Upper sites during the 2024 monitoring season.

Overview of LA River Watershed—Upper

The L.A. River Watershed—Upper[12] is part of one of the largest watersheds in the L.A. Basin, covering approximately 613 square miles in the midwest portion of L.A. County. This watershed exhibits significant variation in conditions across sites, affecting downstream ecology, water quality, and flooding. LARWMP and LASAN monitored eleven recreational and swimming sites within the L.A. River Watershed—Upper, including Unregulated Swim sites, which lack lifeguards and restrooms and are located in tributaries of the L.A. River Main channel,

L.A. RIVER–UPPER

ANNUAL GRADE	# SITES	%
A+	4	37
A	3	27
B	1	9
C	1	9
D	0	0
F	2	18
A+A+A+B	8	73
C+D+F	3	27

TABLE 7. L.A. River Watershed—Upper 2024 Annual Grades.

12 Upper Los Angeles River Watershed Area

Breakdown of 2024 Annual Grades Over the Summer Season

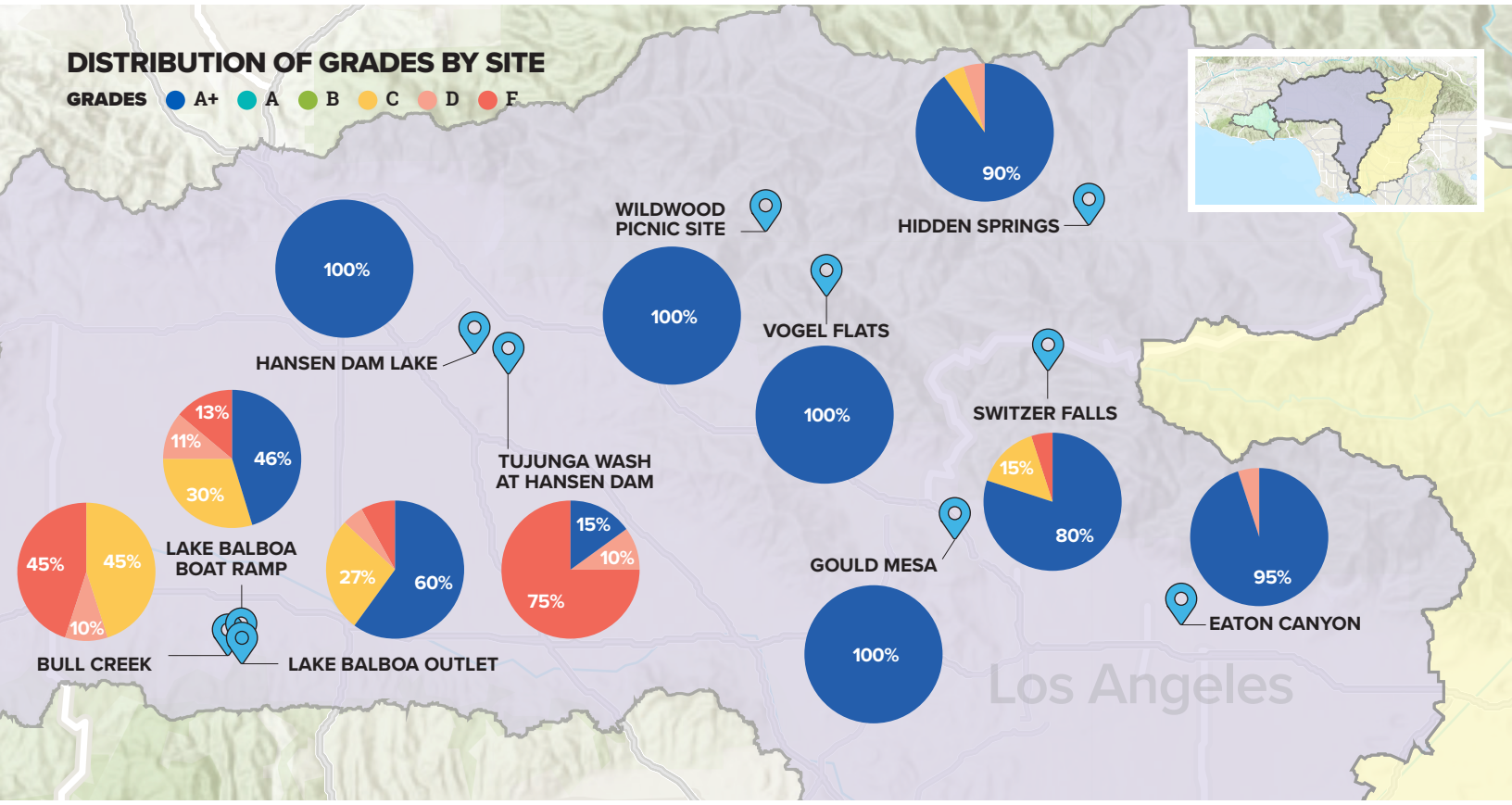


FIGURE 11. Los Angeles River Watershed—Upper Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for eleven sites in the Los Angeles River Watershed—Upper during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

many within the Angeles National Forest. Additionally, LASAN monitored two sites in Lake Balboa within the Sepulveda Basin, where swimming is prohibited, but other recreational activities are permitted. Notably, this year LARWMP stopped sampling at Big Tujunga at Delta Flats and started sampling at Wildwood Picnic Site. These sites are relatively close to each other, but results across years cannot be compared at these sites.

In 2024, the annual grades for the L.A. River Watershed—Upper varied significantly. Four recreational sites, located in less developed areas with minimal urban runoff, made the Honor Roll list, indicating excellent water quality. An additional four sites received A and B grades, indicating good water quality. Unfortunately, one site received a C grade and two sites were placed on the Freshwater Fails list, signaling the highest risk of illness, where contact with the water should be avoided (**FIGURE 3** and **TABLE 7**). These two failing sites also received F grades last year, and are within urbanized areas of the watershed (Tujunga Wash at Hansen Dam and Bull Creek), signaling continued issues with higher bacteria levels due to various sources (e.g., animal waste and leaking sewer pipes).

Of the four sites that earned an A+ annual grade in 2024, Gould Mesa, Vogel Flats, and Hansen Dam Lake maintained their Honor Roll status similar to last year, reflecting consistently excellent water quality. The fourth site, Wildwood Picnic Site, was added to the monitoring program by LASAN this year. This site had excellent water

quality in its first year of sampling, but since there are no prior data available, annual grades cannot be compared across years (**FIGURE 10**).

Eaton Canyon and Switzer Falls both received an A annual grade in 2023 and 2024, indicating excellent water quality that approaches the highest standards and remains within acceptable limits. Eaton Canyon showed a slight improvement, with median *E. coli* levels decreasing from 41 to 31 MPN/100mL. Although no samples surpassed the safety threshold last year, the site experienced a small increase in exceedance rates this year, rising to 5% (Appendix F). Similarly, Switzer Falls had just one exceedance this year and maintained safe water quality for most of the summer. The median *E. coli* levels increased slightly from 36 to 69 MPN/100mL (**FIGURE 4 AND 11**).

Hidden Springs, which received and A+ annual grade with no exceedances in 2023, dropped to an A annual grade in 2024. This year, this site had a 10% exceedance rate, but its median *E. coli* concentrations remained consistent across both years. Despite the slight decrease in grade this year, this site is still considered safe to swim for the majority of the summer (**FIGURE 10 AND 11**).

Two sites in the Upper watershed, Bull Creek and Tujunga Wash at Hansen Dam, received F annual grades on 2024, earning spots for the second consecutive year on the Freshwater Fails list. The recurrent F grades at these sites indicate consistently poor water quality.

Bull Creek is largely channelized, flowing north to south through a heavily urbanized area of the San Fernando Valley. Upon entering Lake Balboa Park, the creek transitions to a more natural landscape, but flow through the park remains limited, resulting in relatively stagnant water. The creek eventually discharges into the L.A. River, just downstream from the L.A. River at Balboa Boulevard site. This year, Bull Creek exceeded safe water quality standards 50% of the summer, an improvement from last year's exceedance rate of 70% (Appendix F and M). The median *E. coli* concentrations also decreased, dropping from 437 to 292.5 MPN/100mL. While these improvements are promising, significant efforts are still needed to address persistent water quality issues at this site.

Tujunga Wash at Hansen Dam has consistently exhibited poor water quality for two consecutive years. The area surrounding the Dam is heavily industrialized, featuring a small airport, golf course and several large warehouses. Within the Hansen Dam Recreation Area, there are several equestrian facilities and private horse barns, which contribute to the horse feces through the area. Additionally, an overgrowth of algae mats in the Dam itself could potentially further degrade the water quality. The recreation center right where the Dam is located is heavily polluted with overflowing trash bins. These factors likely contributed to the unsafe levels observed at this site. In 2024, the water quality exceeded safe standards 75% of the time, up from last year's exceedance rate of 70% (**FIGURE 10 AND 11**). The median *E. coli* concentrations also increased slightly, from 520 to 539 MPN/100mL (Appendix F and M).

Grades at Lake Balboa varied this year, but increased from last year. Lake Balboa Boat Outlet received a B grade while Lake Balboa Boat Ramp received a C grade. These sites are relatively close together, but exhibit different site characteristics. Lake Balboa Outlet, which drains overflow water from the lake into the L.A. River, sees a more steady flow than the Boat Ramp, which is more stagnant and a likely spot for people to be in contact with the water. From a site visit by Heal the Bay staff, the lake was observed to have high duck populations, including Muscovy Ducks (*Cairina moschata*), Mallards (*Anas platyrhynchos*), and American Coots (*Fulica americana*). It is also frequented by dog walkers, joggers, and hikers. Activities from humans and animals are potentially contributing to the bacteria levels in the water.

Overall, bacteria levels at these sites remained relatively stable across years. Median *E. coli* concentrations were 63 MPN/100mL for both years, with exceedance rates at 14% in 2023 and 16% in 2024. These results indicate consistently good water quality (**FIGURE 4** and Appendix F)

L.A. RIVER WATERSHED—RECREATION ZONES OVERVIEW

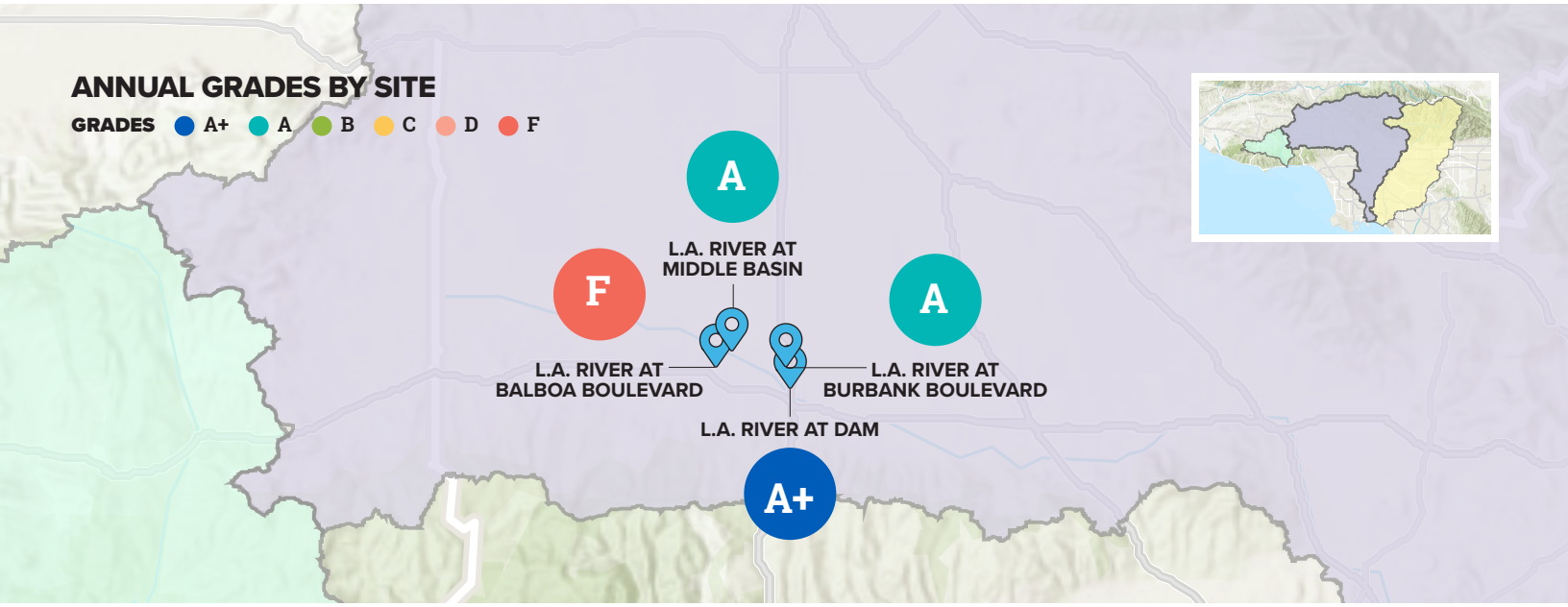


FIGURE 12. L.A. River Watershed—Sepulveda Basin Recreation Zone 2024 Annual Grades by Site. Annual grades at Los Angeles River Watershed—Sepulveda Basin Recreation Zone during the 2024 monitoring season.

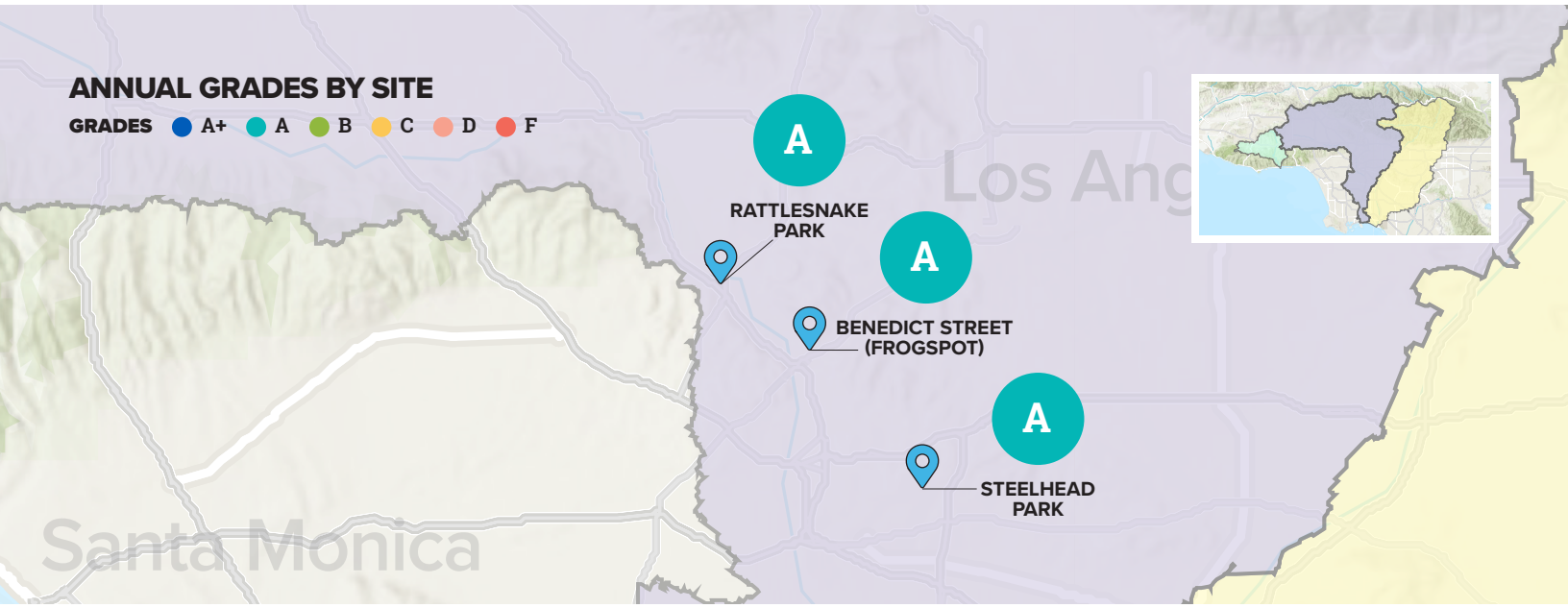


FIGURE 13. L.A. River Watershed—Elysian Valley Recreation Zone 2024 Annual Grades by Site. Annual grades at L.A. River Watershed—Elysian Valley Recreation Zone sites during the 2024 monitoring season.

Breakdown of 2024 Annual Grades Over the Summer Season

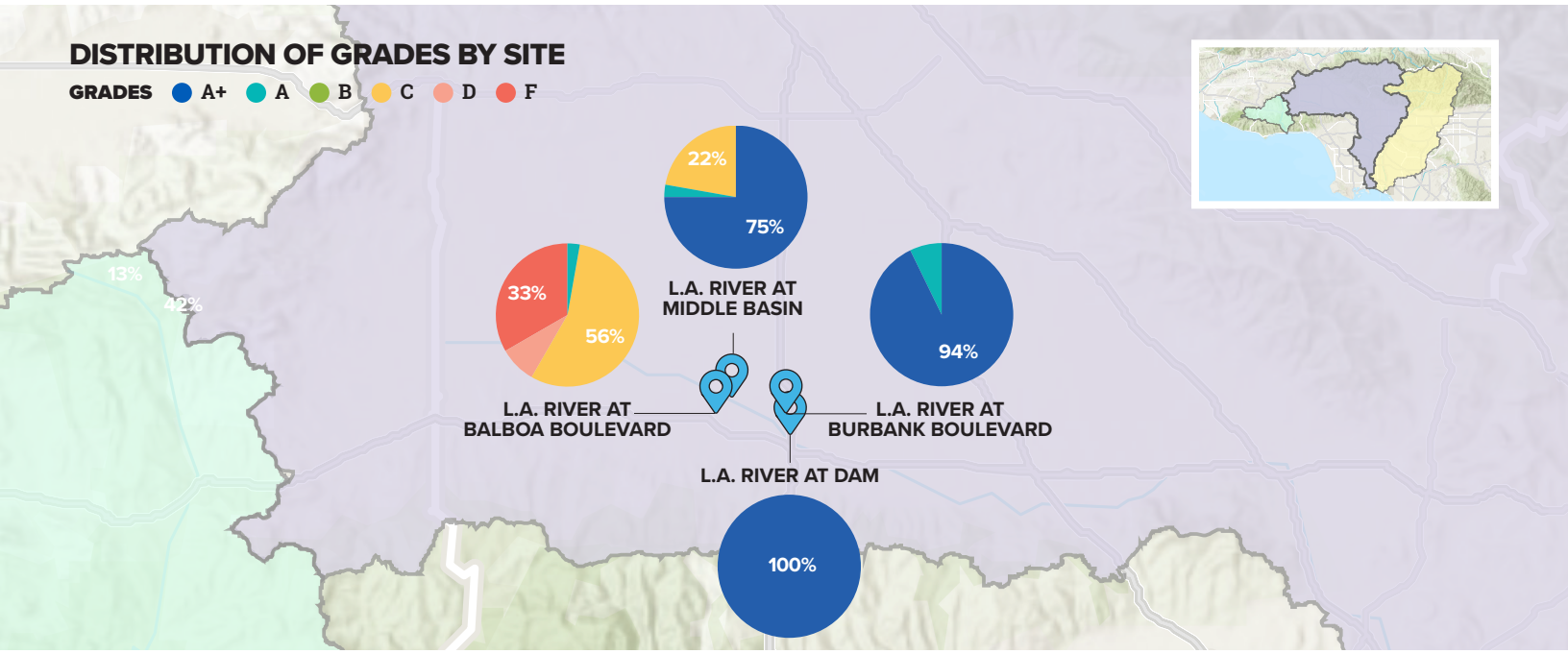


FIGURE 14. L.A. River Watershed—Sepulveda Basin Recreation Zone Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for four sites in the L.A. River Watershed—Sepulveda Basin Recreation Zone during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

Overview of L.A. River Watershed—Recreation Zones

The L.A. River Watershed—Recreation Zones[13] include two segments: the 2.5-mile Elysian Valley River Recreation Zone (encompassing Upper, Middle, and Lower Elysian Valley) and the 2-mile Sepulveda Basin River Recreation Zone (Upper Sepulveda Basin Kayak Zone, Middle Basin, and Lower Basin [at Dam]). These zones encompass six sites monitored by LARWMP and LASAN. Heal the Bay also monitors three of those same sites in the Elysian Valley that correspond to: Rattlesnake Park (Upper), Benedict Street. (Frogspot) (Middle), and Oso/Steelhead Park (Lower) in addition to one site in the L.A. River Sepulveda Basin at Burbank Boulevard. The public can access and enjoy the river for recreational activities such as fishing and kayaking in designated areas from Memorial Day through Labor Day.

The L.A. River Watershed—Recreation Zones in Elysian saw a notable improvement in water quality in 2024 compared to last year, with all three sites earning A grades. This indicates a lower risk of illness at these sites, with very few water quality exceedances, similar to last year. The median *E. coli* concentration at the Elysian Valley section of the watershed was 63 MPN/100 mL.

L.A. RIVER–RECREATION ZONES

ANNUAL GRADE	# SITES	%
A+	1	14
A	5	72
B	0	0
C	0	0
D	0	0
F	1	14
A+A+B	6	86
C+D+F	1	14

TABLE 8. L.A. River Watershed–Recreation Zones 2024 Annual Grades.

13 Los Angeles River Recreation Zone

Water quality in the Sepulveda Basin fluctuated more on the whole, though the L.A. River at Dam earned a spot on the Honor Roll, showing improved water quality from last year. The median *E. coli* concentration at the Sepulveda Basin section of the watershed was 85 MPN/100 mL.

As water flows from the Lake Balboa Outlet into the L.A. River, sites below this outfall showed a gradual improvement in water quality. This section of the L.A. River has a more natural, undisturbed environment with constant water movement, which helps with the mitigation of pollutants.

The Recreation Zones had only one site decline in water quality this year: L.A River at Balboa Boulevard, the highest site within this zone of the watershed, dropped from a C to an F annual grade, joining the Freshwater Fails list (**TABLE 3**). This site exceeded *E. coli* single sample standards 31% of the summer, compared to 18% in 2023, and had a median *E. coli* concentration of 202.5 MPN/100mL. This fluctuation in grades is likely attributed to stagnant water conditions in this area. Minimal upstream flow resulted in large sections of the river near this site having little to no movement. Combined with the presence of trash pollution, these conditions can lead to elevated bacteria levels.

In contrast, the L.A. River at Middle Basin improved significantly this year. In 2023, this site received a D annual grade, with *E. coli* exceedances occurring 32% of the time and with a median *E. coli* concentration of 193 MPN/100mL. However, in 2024, this site received an A annual grade, indicating safer conditions for recreation, with *E. coli* exceedances occurring only 3% of the time and a median *E. coli* concentration of 73.5 MPN/100mL (**FIGURE 12 AND 14**, Appendix F). This reflects a marked improvement in water quality.

The L.A. River at Burbank Boulevard also improved significantly in 2024, receiving an A annual grade, up from last year's C grade (**TABLE 8**). The *E. coli* levels remained within safe limits throughout the summer, with a median concentration of 41 MPN/100mL and no single sample exceedances this year. Located just upstream from the L.A River at Dam site, this site benefited from consistent water flows and abundance of wildlife, reflecting a thriving and healthy ecosystem (**FIGURE 4**).

Notably, L.A. River at Dam received an A+, earning a spot on this year's Honor Roll list, which indicates a significant improvement from last year's C grade (**TABLE 4** and **FIGURE 12**). In 2023, this site had an 8% single sample exceedance rate and a 55% geometric mean exceedance rate (Appendix M and N), resulting in over half of its weekly grades falling at a C level or below. This year, this site achieved consistent A+ weekly grades throughout the summer, with no exceedances and minimal health risk (**FIGURE 14**). This excellent water quality reflects a thriving ecosystem characterized by a steady water flow, lush vegetation, and abundant wildlife, including sightings of Great Blue Herons (*Ardea herodias*), Snowy Egrets (*Egretta thula*), and Red tailed hawks (*Buteo jamaicensis*), as seen by Heal the Bay staff at a site visit. This aligns with a broader trend of improved water quality across the watershed, where all seven sites in this zone scored a B grade or below in 2023.

After water goes through the Sepulveda Basin Dam (L.A. River at Dam site), the water flows east along the base of the Santa Monica Mountain range, loops around Griffith Park and reaches the Elysian Valley. All three sites in this section of the river received A annual grades. The *E. coli* concentrations remained consistently safe at all three sites throughout the summer, with a median concentration of 63 MPN/100mL across sites, highlighting improved water quality in this stretch of the river, which has a soft bottom section with vegetation (Appendix F).

Rattlesnake Park and Steelhead Park saw notable improvements this year, earning A annual grades after receiving C annual grades in 2023 (**FIGURE 13**). These two sites both exceeded the *E. coli* single sample safety threshold just once (2% exceedance rate)

Breakdown of 2024 Annual Grades Over the Summer Season

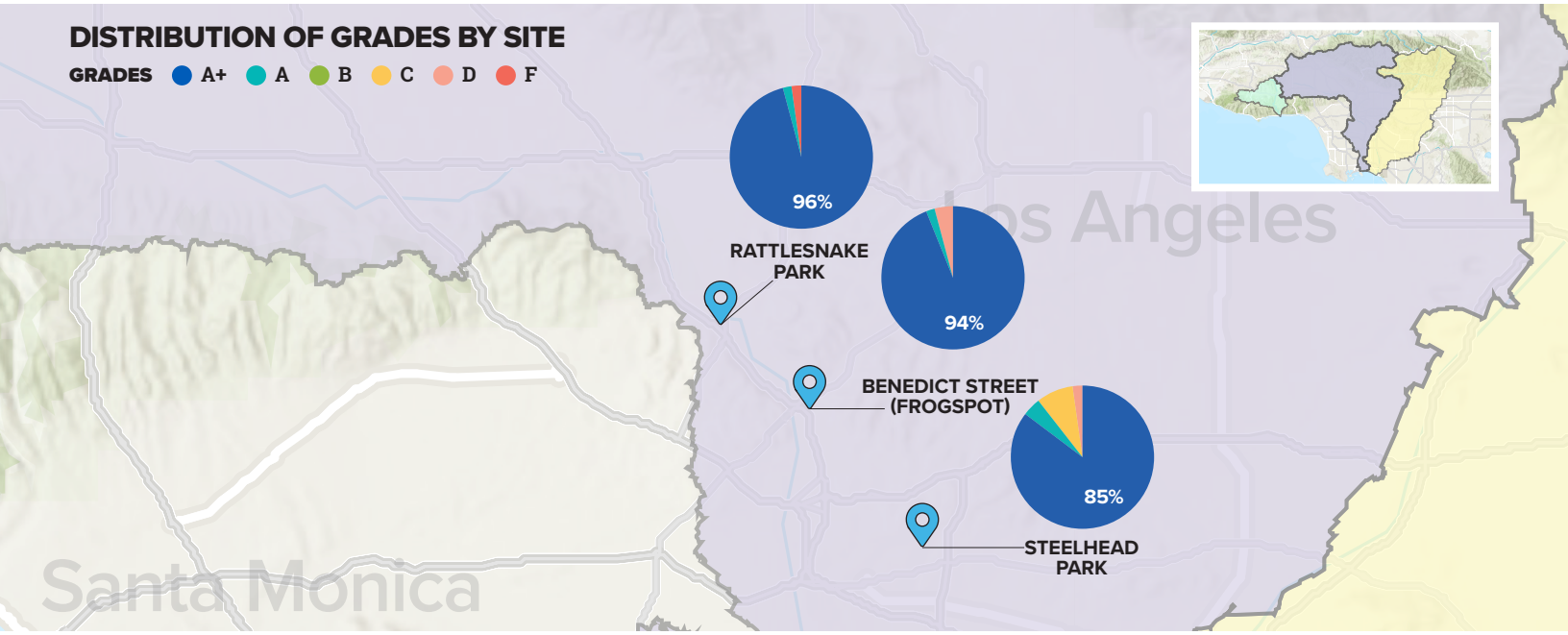


FIGURE 15. L.A. River Watershed—Elysian Valley Recreation Zone Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for three sites in the L.A. River Watershed—Elysian Valley Recreation Zone during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

(**FIGURE 4**). This marks a significant improvement from last year, when exceedance rates were 9% and 7%, respectively. Benedict Street (Frogspot) improved this year, receiving an A annual grade in 2024, up from last year's B annual grade. This site experienced a slight improvement, as exceedance rates dropped from 7% to 4%. (**FIGURE 13 AND 15**).

Bacteria levels were generally lower at the Recreation Zone sites this year, resulting in better grades for most sites. Median *E. coli* concentrations decreased from 120.5 MPN/100mL in 2023 to 74 MPN/100mL in 2024, indicating an overall improvement in water quality (Appendix F and M). Across all Recreation Zone sites, water quality exceeded the safe threshold 6% of the time this year, compared to 12% in 2023, also indicating an improvement in water quality.

While water quality at the Recreation Zones improved this year, there is still room for growth, particularly in the upstream sections where the river basin is littered with trash. This spoils one of the more natural areas of the L.A. River. Under the Clean Water Act, Trash Total Maximum Daily Loads (TMDLs) set a zero-trash limit for waterways in L.A. County.[14] To combat this issue, the County needs comprehensive and proactive trash management. This includes reducing plastic production, improving litter control through street sweeping and catch basin maintenance, and conducting more frequent in-stream cleanups. By addressing these systemic challenges, we can move closer to the goal of trash-free waterways and healthier ecosystems.

14 Trash Total Daily Maximum Loads

L.A. RIVER WATERSHED—LOWER OVERVIEW

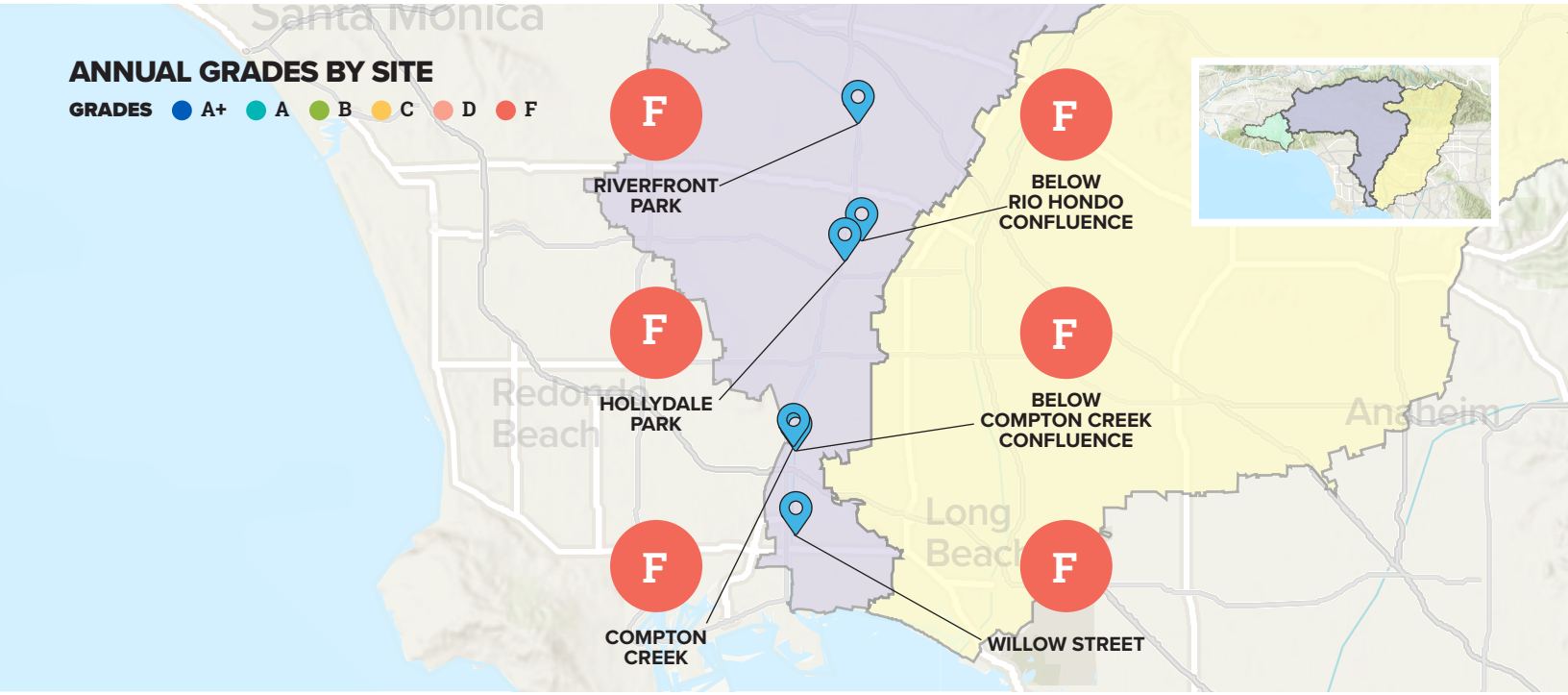


FIGURE 16. L.A. River Watershed—Lower 2024 Annual Grades by Site. Annual grades at L.A. River Watershed—Lower sites during the 2024 monitoring season.

Overview of LA River Watershed—Lower

The L.A. River Watershed—Lower,[15,16] one of the most industrialized areas within the L.A. River Watershed, is located in southeast L.A. County, spanning approximately 43.7 square miles. From Vernon to Long Beach, the Lower L.A. River traverses 19 miles of industrial, residential, and commercial zones, including storage facilities, freeways, rail lines, and rail yards. The majority of the L.A. River canal in this area is channelized, meaning the side walls and bottom of the river are paved over with concrete. Despite the industrial surroundings, numerous trails and paths along this stretch are popular for hiking, horseback riding, and bird watching. Algae and plants still grow in this area, and various fish and bird species can be found in or around the water. Bird species such as Cliff Swallows (*Petrochelidon pyrrhonota*), Snowy Egrets (Egretta thula), Sanderlings (*Calidris alba*), Great Blue Heron (*Ardea herodias*), black-necked stilts (*Himantopus mexicanus*), along with many others were seen in this area by Stream Team members during the 2024 sampling season.

15 Lower Los Angeles River Watershed Management Program

16 Lower LA River Revitalization Plan

L.A. RIVER–LOWER

ANNUAL GRADE	# SITES	%
A+	0	0
A	0	0
B	0	0
C	0	0
D	0	0
F	6	100
A+A+B	0	0
C+D+F	6	100

TABLE 9. L.A. River Watershed–Lower 2024 Annual Grades.

Breakdown of 2024 Annual Grades Over the Summer Season

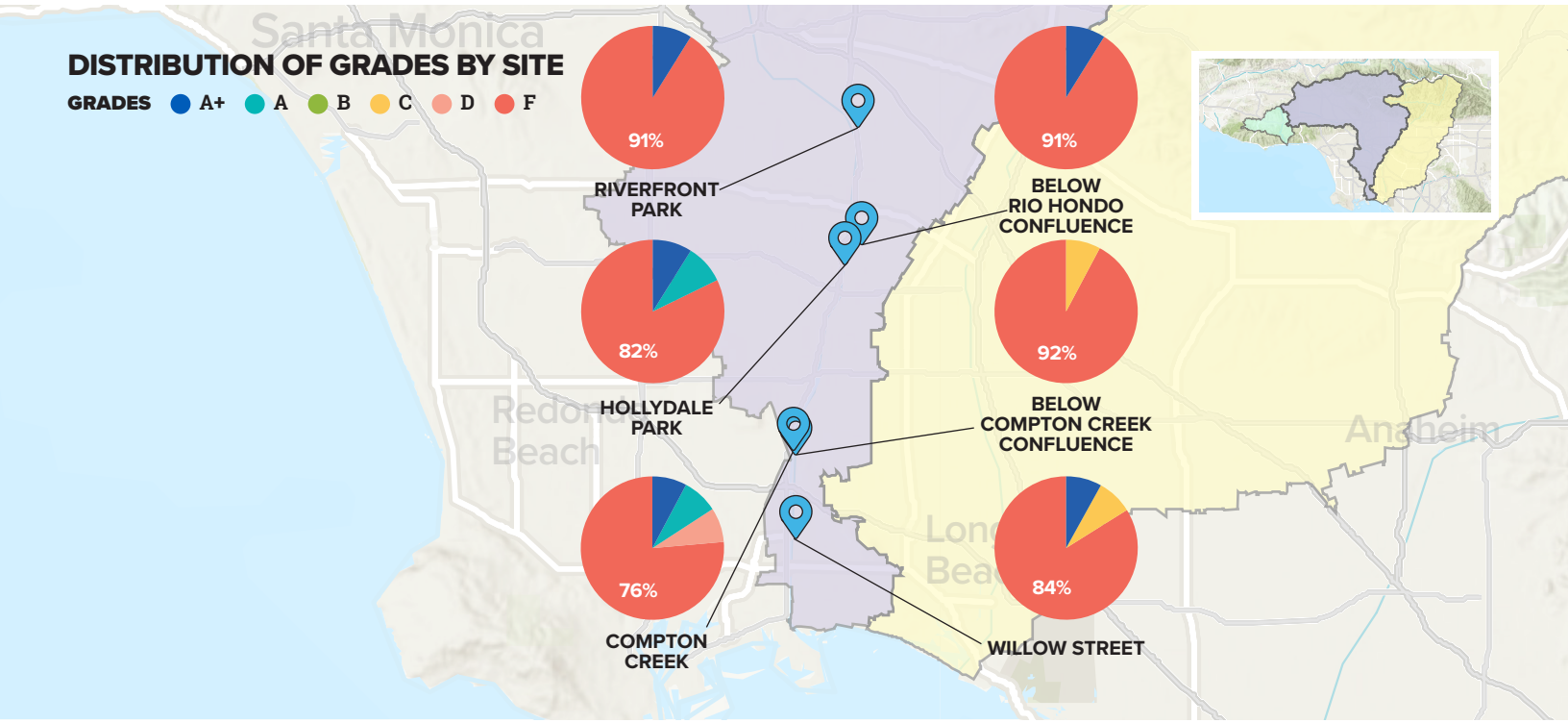


FIGURE 17. L.A. River Watershed—Lower Distribution of 2024 Weekly Grades by Site. Breakdown of Weekly Grades as percentages for six sites in the L.A. River Watershed—Lower during the 2024 monitoring season. Percentages ≤ 10% are not labelled on the pie charts; refer to Appendix H for all values.

This year marks the fourth year of Heal the Bay's sampling efforts in the lower portion of the L.A. River, located south of Downtown L.A. Six sites were sampled including L.A. River at Riverfront Park, L.A. River below the Rio Hondo Confluence, L.A. River at Hollydale Park, Compton Creek, L.A. River below the Compton Creek Confluence, and L.A. River at Willow Street before the river transitions into an estuary and then ultimately reaches the Pacific Ocean. All sites, except for Compton Creek, have a concrete riverbed and banks, and none are officially designated for recreational use.

In 2024, all sites within the L.A. River Watershed—Lower received F annual grades, cementing their positions as the six worst sites included in this report. (**FIGURE 3** and **TABLE 9**). Below Compton Creek Confluence, water quality suffers from significant pollution, indicating a chronic fecal contamination issue. This is notable given that Compton Creek supports a soft-bottom riparian/wetland habitat just before it joins the Los Angeles River.

The L.A. River Watershed—Lower shows a notable decrease in water quality in 2024. Last year, all six sites consistently exceeded the safe threshold for *E. coli*, receiving C, D, and F weekly grades at least 60% of the summer and with median *E. coli* concentrations reaching 727 MPN/100mL. In 2024, all six sites received F annual grades, indicating the highest-risk category and earning spots on the Freshwater Fails List (**TABLE 3**). These sites have consistently higher bacteria levels than in 2023, with a median *E. coli* concentration of 1991 MPN/100mL. These sites exceeded the safety threshold values 87% of the summer, reflecting a decline in water quality.

Riverfront Park is the site furthest upstream in this zone of the watershed. In 2023, it was the only site to receive a D annual grade, indicating a high health risk. Unfortunately, water quality at this site worsened in 2024, dropping to an F annual grade and earning a place in the Freshwater Fails list, tied for second place with Below Rio Hondo Confluence. *E. coli* single sample exceedance rates increased from 50% to 91%, while median bacteria levels spiked from 308 to 2603 MPN/100mL (**FIGURE 4** and Appendix F and M). This significant decline highlights ongoing challenges in addressing upstream pollution sources and stagnant flow conditions, in addition to unmanaged urban runoff (**FIGURE 16 AND 17**).

The next site, located just downstream of the confluence between the L.A River and the Rio Hondo River, is Below Rio Hondo Confluence. This site continued to experience poor water quality in 2024, repeating last year's F annual grade and also earning a spot in the Freshwater Fails list. *E. coli* single sample exceedance rates increased from 67% to 91%, while the median *E. coli* concentrations increased significantly from 496 to 2247 MPN/100mL (**FIGURE 4** and Appendix F and M).

Hollydale Park is part of the Freshwater Fails list for the second consecutive year receiving an F annual grade in 2024, ranking in fifth place. Water quality at this site also has worsened compared to 2023, with *E. coli* single sample exceedance rates increasing from 67% to 82%, and median *E. coli* concentrations doubling from 1008 to 2489 MPN/100mL (Appendix F and M). This section of the L.A. River also faces challenges from thick algae mats that are attached to the bottom of the cemented portions. These mats can pose a risk to human and pets by the presence of HABs, while also producing an unpleasant odor. Additionally, the presence of dense algae mats can also reduce the oxygen levels in the water and further degrade the water quality, impacting aquatic organisms that rely on healthy oxygen concentrations to survive.[17]

Compton Creek joins the L.A River just over five miles upstream of the river's outlet into the ocean, traveling through heavily urbanized areas in South L.A. Two sites are monitored here, Compton Creek before its confluence with the L.A. River and just below the confluence. Last year, this site was ranked number one on the Freshwater Fails list, followed by Below Compton Creek Confluence just downstream. For the second consecutive year, both sites have received an F annual grade.

Below Compton Creek Confluence holds the number one spot on the 2024 Freshwater Fails list with the lowest average score. This site had an exceedance rate for *E. coli* single samples of 92% through the summer and a median *E. coli* concentration of 835 MPN/100mL, consistently receiving F weekly grades. This indicates a higher health risk associated with this site. In 2023, this site had a lower *E. coli* single sample exceedance rate of 83%, but a higher median *E. coli* concentration of 1489 MPN/100mL (**FIGURE 16 AND 17**).

This year, the site at Compton Creek saw growth in vegetation, which could signal some potential for natural water filtration. However, water quality has gotten worse, with this site receiving a lower average score compared to 2023. In 2024, Compton Creek ranked fourth, showing variability, with this site receiving A+ 16% of the time, and A grades 16% of the time. Despite this, the site has an *E. coli* single sample exceedance rate of 85% and a median *E. coli* concentration was 2019 MPN/100mL. Last year, the site had a similar *E. coli* single sample exceedance rate of 86%, but had a lower median *E. coli* concentration of 908 MPN/100mL (**FIGURE 4, 16 AND 17**).

Lastly, Willow Street is located in the southernmost freshwater section of the L.A. River, before the water enters the Pacific Ocean at the Port of Long Beach. Willow Street is part of the Freshwater Fails list for the second consecutive year, receiving an F annual grade and ranking in third position. This site continued to experience poor water quality in 2024, with *E. coli* single sample exceedance rates of 83%. In 2023, this site showed more variability, with 12% of the sampling

17 FAQs for Toxic Algal Mats

days achieving an A+ grade and 25% receiving a C grade. This site also had a significantly lower *E. coli* concentration of 858.5 MPN/100mL (**FIGURE 4, 16 AND 17**, Appendix F and M). This year, Willow Street had a median *E. coli* concentration of 3565.5 MPN/100mL, the highest across all sites included in this year's report, which is 713 times higher than at Hansen Dam Lake, which had the lowest median *E. coli* concentration across all sites (5 MPN/100mL) and has been included in the Honor Roll twice.

Overall, bacteria levels were generally higher at all Lower sites this year, resulting in worse grades. Median *E. coli* concentrations jumped from 727 MPN/100mL in 2023 to 1991 MPN/100mL in 2024, well above the safety threshold (Appendix F and M). Across all Lower sites, water quality exceeded the safe threshold 87% of the time this year, compared to 67% in 2023, highlighting a significant decline in water quality.

The patterns observed across many Lower L.A. River sites with high exceedance rates and bacteria levels are specifically concerning, as communities rely on this area for recreation, with activities such as running, walking, and biking along the river paths. Additionally, unhoused individuals and community members living within the river canal often use the river for bathing and washing, out of necessity. This reinforces the urgency of addressing water quality concerns in this part of the watershed, as these community members deserve access to clean and safe water.

These persistent poor grades indicate a need for action and change in this area. It is no surprise that this entirely channelized section of the river exhibits the worst water quality and annual grades. Without sufficient natural filtration processes to mitigate pollution, and without proper management of urban runoff and other illicit discharges, the river will continue to pose significant risks for recreational activities and other essential beneficial uses that are critically needed by the Angeleno community.

Below Rio Hondo Confluence

Conclusions

The 2024 RRC highlights notable progress in water quality across Los Angeles County's freshwater recreation sites. Improvements were particularly evident in the L.A. River—Recreation Zones and the San Gabriel River Watershed—Upper. However, challenges persist in urbanized areas, such as the L.A. River—Lower and portions of the L.A. River—Upper watershed, where trash accumulation and urban runoff continue to degrade water quality. A very wet summer in 2023 followed by a dry summer in 2024 highlights the impacts of climate variability and anthropogenic factors that continue to influence water quality. After over 10 years of water quality testing at Heal the Bay, it is clear that ongoing monitoring, enhanced methodologies, trash removal, and community engagement will be key to ensuring safe and enjoyable freshwater recreation for all.

Water quality across various watersheds showed significant improvement this year, with 68% of sites achieving low-risk grades (A+, A, B), up from 54% in 2023. Excellent water quality persists in open spaces higher in the watershed, such as L.A. River—Upper, and San Gabriel River Watersheds, both of which maintain many A+ annual grades. The L.A. River—Recreation Zones have improved significantly this year, with most sites achieving excellent to good water quality. However, water quality declines further downstream, particularly in the L.A. River—Lower, where increased urban runoff has led to F annual grades. Additionally, two recurrent sites from the upper portion of L.A. River—Upper remain heavily impacted. With no significant rain events during summer 2024, some sites higher in the watershed experienced improvements, while others, particularly downstream, saw declines. This highlights the importance of anthropogenic activity and land use surrounding RRC sampling sites.

Los Angeles experienced a dry summer in 2024, with higher temperatures compared to the rainy summer of 2023. The water quality of freshwater systems is influenced by climatic variability, such as changes in water and air temperature.[18] Hydrological factors, such as river flow, precipitation and weather, along with land use patterns around the water will also have impacts. Additionally, human activities like agriculture, development and recreational use can alter water quality.

The variations in water quality observed across different sites this year underscore the significant impact that climatic conditions, hydrological factors, and human activities can have on freshwater systems. More specifically, climatic conditions such as wet and dry seasons can influence water quality; increased rainfall during the wet season can wash pollutants (e.g. trash, chemicals, bacteria) from urban areas into the rivers, but it can also dilute those pollutants due to a higher flow. Conversely, during the dry season, less rain can lead to higher concentration of pollutants in rivers due to stagnation or a reduced flow. Reduced flows can also cause changes in temperature, pH levels, and oxygen content, as biological processes are altered when water bodies are exposed to increased sunlight, particularly in shallower areas.[19] Hydrological factors, such as reduced discharge from reclamation plants can also alter natural flow regimens and affect the surrounding ecology. Lastly, human activities such as industrial discharges and trash pollution can also exacerbate water quality issues, particularly in areas with significant trash accumulation.

18 Paul, M.J. et al., 2019

19 Nguyen T.A. et al., 2023

San Gabriel River Reservoir

With proper management strategies, water quality can be improved, as evidenced by ten sites that achieved an annual A+ grade, demonstrating consistently excellent water quality and earning a place on our prestigious Honor Roll list. The majority of these sites are within more natural, open spaces, with limited anthropogenic alterations to the surrounding area. These sites benefit from natural filtration and vegetation, such as the filtration of water runoff through the soil by plant roots, reducing contaminants before reaching rivers and tributaries. This helps to maintain a healthy and balanced ecosystem that contributes to good water quality.

The L.A. River—Recreation Zone sites represent an intermediary zone, as this section of the river has a semi-soft bottom, which allows for some plants, trees, and other life to grow in this area of the river. While it is not completely channelized like the L.A. River—Lower, it also is not considered natural, like the sites in the San Gabriel River—Upper watershed and some sites higher up in the L.A. River—Upper watershed. Results in the Recreation Zone area reflect this duality, as this section had some sites with poor grades, but also had many improvements this year. These overall improvements underscore the positive impact of soft-bottom sections and vegetation in enhancing water quality.

Despite the successes higher in the watersheds, other challenges still persist downstream, where urban runoff continues to contribute to declining water quality. The L.A. River—Lower was the most impacted by pollution this year. This section of the river channel, which is completely covered in concrete, is within a highly urbanized area, leaving little opportunity for natural filtration to occur. Because these sites are cut off from the natural water cycle, they are unable to benefit from many of the natural processes that can help maintain good water quality.

However, trash accumulation along the L.A. and San Gabriel Rivers poses significant challenges to water quality for L.A. County waterways. In the L.A. River, particularly in upstream sections and areas with minimal flow, trash not only detracts from the natural beauty but also contributes to elevated bacteria levels as it degrades, creating conditions conducive to pollution. Trash can clog channels, disrupt natural flow, and provide breeding grounds for harmful bacteria, increasing the risk of waterborne illnesses. Additionally, the breakdown of plastics contributes to microplastic contamination, further degrading water quality and potentially harming aquatic life.

Specifically, urbanized sections of the L.A. River Watershed—Upper, particularly near equestrian facilities and private barns, experience higher bacteria levels, at least in part due to animal waste, which led to low grades. Tujunga Wash at Hansen Dam and Bull Creek have been included in the Freshwater Fails list for two consecutive years, with bacteria levels exceeding safety threshold. Equestrian facilities contribute to water quality issues through increased sediment, nutrients, and chemicals in the water. While horse waste is biodegradable, it introduces harmful bacteria and nutrients that can promote harmful algae blooms, deplete oxygen, and endanger aquatic life. Additionally, chemicals used in horse care pose risks to both human and aquatic health. Effective management practices are necessary to address these issues and protect water quality.

Based on observations throughout the watersheds, it would be beneficial for watershed managers to implement more effective trash mitigation plans. Enhanced maintenance and strategically placed trash receptacles along the river paths, along with more street sweeping and catch basin management could further improve the health and cleanliness of the L.A. River. This can be paired with the development of effective trash cleanup programs that involve the city and the community, that help to remove the trash that still makes its way into the waterways. These cleanups can target “trash hotspots,” which have already been identified as being heavily impacted by litter. For example, this year the Stream Team partnered with the Office of Hilda Solis (L.A. County Board of Supervisors) to help clean a section of the Whittier Narrows Recreation Area as part of California Coastal Cleanup Day. They removed a total of 1049 pounds of trash from the river basin with the help of 65 volunteers. These efforts will be particularly important for future events, such as the 2028 Olympics, which will be hosted in L.A and will make use of the Sepulveda Basin Recreation Area. Therefore, trash clean up is essential for improving water quality and restoring the ecological health of these river systems.

Water quality monitoring is essential for safeguarding public health and maintaining ecosystem integrity. By regularly assessing water bodies, we can identify contaminants and pollution levels that pose risks to both human and environmental health. Sites with high levels of bacterial pollution are also likely to be impacted by other pollutants from stormwater runoff. It is good news that the majority of sites monitored in L.A. County were safe-to-swim at in 2024, but we hope to see more sites within urban areas, such as the L.A. River—Recreation Zones and Lower, get better grades in future years. We will continue working with LASAN, L.A. City, and SGRRMP as well as local Steam Team students to keep informing the public about these issues. Together, we can work towards healthier waterways and a brighter future for our communities. Visitors are encouraged to consult Heal the Bay’s River Report Card for weekly water quality grades before recreating at a freshwater site in L.A. County. Grades are updated weekly during the summer months, based on the most recent sampling data.

RECOMMENDATIONS

Heal the Bay recommends the following actions to protect beneficial uses and public health.

- **Stay informed**: check the River Report Card for more information about freshwater recreation sites, including weekly grades during the summer.
- **Better maintenance of our waterbodies**:
  - **Implement trash mitigation**: sites all throughout the three watersheds in this report had significant trash pollution. Managers of these areas should consider better trash mitigation and cleaning operations to ensure these waterways are less polluted in the future. This should include reduced plastic production, strategically placed trash receptacles, better street sweeping and catch basin management, and more effective cleanup programs.
  - **Install better bacteria signage**: Provide signage of the water quality on sites that are more frequently visited by the public. Signage should include messages about how to properly dispose of trash and the impacts on the environment to prevent illegal dumping.
  - **Maintain equestrian areas**: For the Tujunga Valley, which has several equestrian facilities near swimming areas, proper horse manure disposal receptacles are necessary to keep waterways clean. Additionally, proper public education and communication about how to dispose of trash and the impacts of trash on these waterways will help with these efforts.
  - **Increase community engagement**: bringing more people to these waterways will help increase awareness of these issues and will bring important stakeholders into conversations about the future of these waters.
- **Preparation for international events**: with the 2026 Men's World Cup and the 2028 Olympics in the near future, proper preparation to help mitigate trash pollution from large-scale events is necessary to limit environmental impacts for our city.

Want to recreate safely? Here are some safety measures while recreating in a freshwater site.

- Not entering the water if you have/had diarrhea in the last two weeks
- Cleaning up after your pets. Bacteria from fecal matter, such as pet waste, can wash into our rivers and streams.
- Using restroom facilities before visiting a recreational site.
- Putting trash in appropriate receptacles, especially trash that can introduce fecal waste into streams (diapers, pet waste, toilet paper).
- Keeping an eye on children in swim diapers and changing the diapers regularly.
- Avoid water contact if your immune system is compromised (small children and the elderly are at a higher risk of contracting illnesses).
- Avoid swimming during and within 72 hours of a rain event.

Big Tujunga Wash

Want to make a big impact on reducing water pollution? Start at home! Here are some practical ways to minimize polluted runoff and protect our waterways:

- Swap out impervious surfaces like traditional driveways and sidewalks for porous pavement materials, which let water soak through. Trade high-maintenance grass lawns for native plants that could thrive naturally and save water.
- Sweep up leaves, dirt, and debris instead of hosing them away. Turn yard waste into rich compost to nourish your garden.
- Clean up responsibly. Always pick up after pets and store, use, and dispose of household chemicals safely.
- Keep your car in check. Regularly inspect your vehicle for leaks and recycle motor oil and antifreeze during changes. Make us professional car washes that prevent runoff instead of washing your car in the driveway.
- Care for your septic system. If you have a septic system, have it inspected and pumped every 3 to 5 years. Save water where you can to keep the system running smoothly and extend its lifespan.

East Fork San Gabriel

RIVER COLLABORATIONS

Collaborative approaches between Sacred Place Institute and Heal the Bay: Advancing Water Quality and Stewardship[20]

Malibu Creek at Las Virgenes

Heal the Bay partnered with the Sacred Places Institute for Indigenous Peoples in October 2024 for a hands-on water quality testing and training day, blending scientific methods with Indigenous traditions to assess L.A's freshwater ecosystems. The collaboration highlighted cross-organizational knowledge sharing, showcasing how science and traditional Indigenous perspectives can work together to protect public health and restore waterways. Activities included presentations, fieldwork at Malibu Creek State Park and Las Virgenes Creek, and lab testing protocol at Heal the Bay.

The training involved testing for FIB, with results showing low *E. coli* levels but elevated Enterococci and total coliforms, signaling potential health risks associated with being in contact with the water at Las Virgenes Creek. Sacred Places Institute emphasized: "Participating in the Heal the Bay water quality testing training validated the continued need for local and state stringent water policy regulations and enforcement as one way to keep waterways free from industrial development contamination and stormwater runoff. Moreover, it reinforced the need for water back to local Native Nations as the inherent guardians of local waterways and as an effort to reintroduce the traditional caretaking knowledge for water as a means to help bring it back to balance."

The partnership deepened understanding of water's cultural and spiritual significance, integrating Indigenous practices such as seeking consent from the land and water before collecting samples. By combining Indigenous knowledge with scientific data, the collaboration enhanced water quality monitoring efforts and reinforced the shared commitment to safe, clean water and environmental stewardship.

20 Listening to the Land: Water Quality Training with Sacred Places Institute

River and Watershed News

Malibu Creek at Rock Pool

Integrating Sustainable Water Management and Ecosystem Health: The Role of Tillman and California Enviromental Flows Framework in Los Angeles[21,22]

The Donald C. Tillman Water Reclamation Plant (Tillman) and the California Environmental Flows Framework (CEFF) are two critical projects that complement each other in advancing sustainable water management and ecosystem health in Los Angeles.

Tillman plays a key role in water recycling and conservation by treating wastewater and supplying reclaimed water to local landmarks, parks, and the L.A. County recycled water network. With the upcoming L.A. Groundwater Replenishment Project, the facility will expand its impact by producing 20 million gallons of purified drinking water daily by 2027, contributing to Pure Water L.A.'s goal of recycling 100% of the city's wastewater by 2035 (**FIGURE 18**). This shift reduces reliance on imported water, enhances drought resilience, and ensures a more sustainable urban water supply.

Meanwhile, the CEFF provides a framework for maintaining ecological health in the Los Angeles River while balancing human water needs. It offers a science-based methodology to determine optimal environmental flows, ensuring that water management decisions support both aquatic ecosystems and regional water demands. Flow can impact aquatic habitats like those found in the L.A. River and can also influence bacteria concentrations. Maintaining flows in the river is essential, and CEFF is working on recommendations to establish the required flow to ensuring that these precious urban ecosystems are kept alive and healthy. While there is momentum behind significant water recycling efforts, it is crucial to balance these efforts with maintaining appropriate river flows to preserve habitat beneficial uses and to avoid increased FIB concentrations within the L.A. River. By standardizing and improving flow assessments, CEFF helps protect river habitats and beneficial uses, aligning with broader sustainability efforts.

FIGURE 18. Map of infrastructure leading recycled water from Donald C. Tillman Water Reclamation Plant to the Hansen Spreading Grounds.

These two initiatives are inherently connected. As Los Angeles increases its use of recycled water through projects like Tillman, understanding how changes in water flow affect the L.A. River's ecological health becomes crucial. CEFF can help guide decisions on how to manage water releases and environmental flows to sustain biodiversity while meeting urban water supply goals. Together, these projects contribute to a more integrated and resilient water system, addressing both human consumption and ecosystem preservation in a rapidly evolving climate landscape.

Heal the Bay monitors several freshwater locations along the L.A River, and is invested in ensuring that these precious urban ecosystems are kept alive and healthy as more water recycling projects are implemented. Especially because nearly all flows in the L.A. River are dominated by water releases by water reclamation plants, except for during wet weather events, following the CEFF and considering environmental impacts is imperative for this waterway.

21 California Environmental Flows Framework

22 Advanced Water Purification Facility

FIGURE 19. Bowtie Demonstration Wetlands conceptual design, which includes a diverse range of habitats and species, a looping channel for water to pass through, and walkways along the constructed wetlands.

Bowtie Demonstration Project [23,24]

In a partnership between California State Parks, The Nature Conservancy, and Stantec, a new wetlands area is being built near the L.A. River Recreation Zone in the Elysian Valley. This project is part of the larger Bowtie Park Development Project, which aims to convert an 18-acre parcel of the Taylor Yard, an old rail yard, into a park adjacent to the L.A River.

The Bowtie Wetlands Demonstration project is a multi-benefit project along the L.A. River, offering stormwater management, climate resilience, habitat enhancement, and public access (**FIGURE 19**). The project will transform a former railyard into a restored green space within a densely populated urban area. The first stage of the project involves soil remediation to clean up the contaminated soil from past industrial use, followed by construction of an underground filtration system and wetland to filter stormwater, planting of native habitat, and construction of public trails. The project broke ground in September 2024 and construction will continue through 2026, with the opening of the park anticipated in 2027. The project is led by The Nature Conservancy in partnership with California State Parks. The team completed soil remediation in October 2024 and is moving forward with construction of the wetland.

23 Bowtie Demonstration Project

24 Safe Clean Water Project: Bowtie Demonstration Project

FIGURE 20. Soil remediation efforts at the Bowtie Demonstration Wetlands. These efforts are necessary to clean soils that have previously been contaminated by industrial use in the area.

FIGURE 21. Start of construction of wetlands at the Bowtie Demonstration Wetlands. The project broke ground in September 2024 and is projected to be finished by 2026.

For the demonstration wetlands, water from a nearby storm drain will be diverted to the wetlands (**FIGURE 20 AND 21**). This water will snake through the 3.4 acre constructed wetlands, where it will be partially treated before being discharged into the L.A. River.

This specific storm drain (SDL 30) has been part of Heal the Bay's River Report Card monitoring efforts, where we have conducted water sampling at targeted storm drains along the L.A. River to assess potential sources for bacteria levels in the main stream of the L.A. River. In past reports, we observed elevated bacteria levels at this site, highlighting the need for stormwater treatment solutions. While we have not been able to document additional data in our last two reports, we plan to resume storm drain monitoring this summer. We are excited that this project is taking place in a location where water will now be treated before being released into the river, providing a significant improvement for water quality and public health.

The LA28 Olympics and the future of the Los Angeles River[25,26]

Los Angeles will host the 2028 Olympic Games, bringing global attention to the city's landscapes, infrastructure, and environmental efforts. The Sepulveda Basin Recreation Area will be a key venue, hosting BMX Freestyle, BMX Racing, Archery, and Skateboarding. As thousands of visitors explore the surrounding areas, what vision of the Los Angeles River do we want to showcase?

According to the LA28 Games website, the Olympics in L.A. aim to be a transformative event that celebrates sport, innovation, and sustainability while leaving a lasting legacy. With no new permanent structures, the games will utilize existing infrastructure, renewable energy, and robust recycling programs to meet their ambitious goal of being the first "Energy Positive Games." This presents a critical opportunity to align Olympic sustainability commitments with urgent local environmental challenges, particularly water quality in the L.A. River.

Currently, this section of the L.A. River still faces some challenges. Despite years of revitalization efforts, many stretches of the river near the Sepulveda Basin continue to suffer from poor water quality, exacerbated by urban runoff and pollution. Heal the Bay's River Report Card has consistently found high bacteria levels at multiple recreation sites along the river, including areas near the Olympic venues. In this year's report, the L.A. River at Balboa Boulevard saw a sharp decline in water quality, dropping from a C to an F annual grade and joining the Freshwater Fails list. In summer 2024, it exceeded *E. coli* single sample standards 31% of the time, compared to 18% in 2023. With the world's eyes on L.A. in 2028, we must take action to ensure that all Recreation Zone sites receive A annual grades.

Heal the Bay recommends that city officials prioritize urban runoff solutions and river revitalizations projects:

- Strengthening efforts to reduce urban runoff and stormwater pollution, the primary sources of contamination in the L.A. River.
- Expanding river revitalization projects that incorporate natural filtration, green infrastructure, and habitat restoration.
- Advocating for a plastics-free Olympics to minimize trash pollution and align with LA28's sustainability goals.
- Addressing the trash pollution crisis in the Sepulveda Basin, where large accumulations of debris threaten water quality, wildlife, and recreational safety.
- Establishing water quality target objectives for the LA28 Games, ensuring that Olympic visitors, athletes, and Angelenos experience a clean and safe L.A. River.

The Olympics provide an opportunity to showcase a cleaner, healthier L.A. River, one that reflects the city's leadership in environmental stewardship and sustainable urban planning. By prioritizing these initiatives now, we can ensure that the river is not just a backdrop for the games but a revitalized, thriving ecosystem for generations to come.

25 LA 2028 Summer Olympics
26 LA28

Trash Pollution Threatens Water Quality[27, 28, 29]

Trash pollution in our waterways is more than just an eyesore; it poses significant risks to water quality and public health. Plastics, a major component of trash found in rivers, creeks, and streams, create unique challenges due to their durability and ability to support microbial life. Once in the water, plastics provide stable surfaces for microbial communities, forming what scientists call "plastispheres," which are biofilms that can harbor potentially harmful microorganisms, including foodborne pathogens like salmonella, as well as viruses such as norovirus and adenovirus.[30] Alarmingly, research has shown that some bacteria can even survive wastewater treatment processes when shielded within these plastispheres.[31]

The plastispheres create a protective environment that prevents removal of some bacteria and allows them to persist in our environment. The presence of pathogens on plastic pollution amplifies risks to human health and ecosystems, and this pathway underscores the importance of addressing trash pollution at its source to prevent plastics and associated pathogens from cycling back into our environment and communities.

Under the Clean Water Act, Trash Total Maximum Daily Loads (TMDLs) set a zero-trash limit for waterways in L.A. County.[31] Despite this, the 2024 River Report Card reveals that trash pollution remains widespread in these waterways, with research underscoring the water quality threats posed by plastic pollution. To combat this issue, we need comprehensive and proactive trash management. This includes reducing plastic production, improving litter control through street sweeping and catch basin maintenance, and conducting more frequent in-stream cleanups. By addressing these systemic challenges, we can move closer to the goal of trash-free waterways and healthier ecosystems.

San Gabriel River Watershed

27 Plastics: Water Quality Monitoring Council
28 Delacuvellerie, A., et al. 2022
29 Witsø, I., et al. 2024

Appendices

Dig deeper into the River Report Card by accessing our Appendices.

Acknowledgments

We would like to thank current and former Heal the Bay staff who have contributed to this project and report, including Tracy Quinn, Dr. Katherine Pease, Dr. Alison Xunyi Wu, Dr. Tania Pineda Enríquez, Naomi Meurice, Annelisa Moe, Matthew King, Jillian Marshall, Cameron Weeks, and Gabriele Morgan. Heal the Bay staff responsible for conducting monitoring included: Dr. Tania Pineda Enriquez, Naomi Meurice, Annelisa Moe, Blaire Edwards, Thais Arata, Alejandra Miranda, Amy Flores, Eliana Garcia, Lyanne Fernandez, David Martinez, Sanam Viliani, Kate Medrano, Emily Uy, Vina Rose Matias, Zaria Alam, Vicente Villaseñor and Danny Herrera.

We would like to thank Dr. Varenka Lorenzi, Dr. Christine Whitcraft, and other California State University Long Beach staff who provided us with the opportunity to expand our program to the Lower L.A. River. We would like to thank Manuel Robles and Dr. Rachael Harper Delupio for their continued partnership with Los Angeles Trade Technical College.

We appreciate the advice and resources from Erick Burres and the Clean Water Team. We thank California State Parks and Santa Monica Mountains National Recreation Area for access to water sampling locations.

2024 Annual River Report Card

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