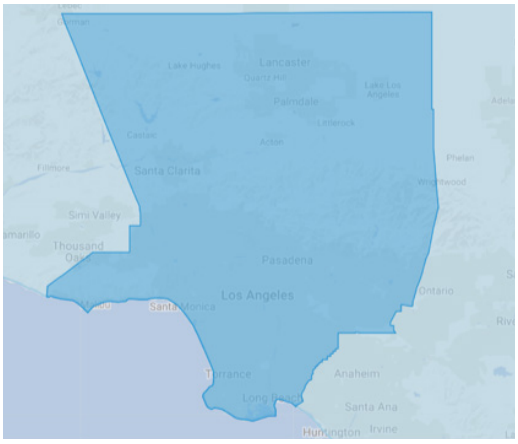
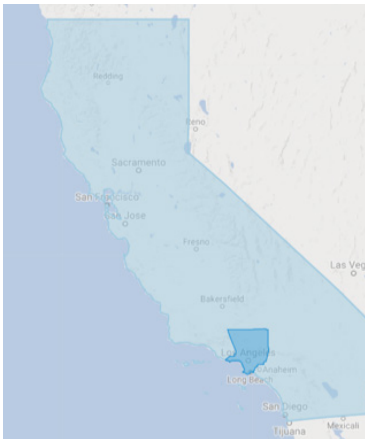
Equitable Integration of Water and Land Use

LOS ANGELES REGION





DEFINING THE REGION

For the purpose of this project, the Los Angeles Region is defined as the roughly 4,000 square mile geographic boundary of **Los Angeles County**. There are 88 incorporated cities in LA County, but 65% of the county is unincorporated.

Demographics

Over **10 million people** live in Los Angeles County, 4 million of which are in the city of Los Angeles. The region, which is already densely developed, is expected to grow by an additional 1 million people by 2035. Communities across LA County must coordinate planning efforts to ensure they can accommodate anticipated growth without overstraining the region's natural resources.

WATER MANAGEMENT

The LA region's water history is one of scarce natural supply and audacious human ingenuity. As communities struggled to provide adequate water for both urban and agricultural needs a complicated and fragmented governance system emerged. Today the region faces both water supply reliability, affordability, and water quality challenges that differ from one community to the next.

Watersheds

The region comprises six major watersheds: the Los Angeles River, the San Gabriel River, Dominguez Channel/Los Angeles Harbor, South Santa Monica Bay, North Santa Monica Bay, and Santa Clara river. Few sections of free-flowing river remain in the region, as most waterways were channelized and lined with concrete to address local flood risk. Yet efforts are underway to "daylight" sections of rivers and streams throughout the region, restoring ecosystem benefits of the watersheds. One of the largest and well-known daylighting efforts has been in the works on the LA River for more than 30 years.

Integrated Regional Water Management

The Los Angeles region is part of the Greater

Los Angeles County IRWM Region, a voluntary collaborative planning group which focuses on water resource management and creates a platform for future funding. The group published its Integrated Regional Water Management Plan in 2014. The watershed planning areas of Los Angeles County include North Santa Monica Bay, Upper Los Angeles River, Upper San Gabriel River, Lower San Gabriel/Lower Los Angeles River, and South Bay.

Water Supply

The arid Los Angeles region has little natural waters supply – with rivers that seasonally run dry and average rainfall below 20 inches a year. The region imports the majority of its water supply from the State Water Project and the Colorado River Aqueduct. Local sources account for approximately 1/3 of the supply and include groundwater, local surface water, and reclaimed water. Yet a major proportion of what is considered local water is actually delivered via the LA Aqueduct, conveying water from the Owens River over 200 miles away.

Water Providers

Nearly 100 public and private entities supply drinking water to LA region residents. These include cities, special districts, Investor Owned Utilities, Municipal Water Districts, and Mutual Water Companies. Some of these water providers – including the City of LA, the City of Compton, West Basin Municipal Water District, are "member agencies" to Metropolitan Water District of Southern California, the largest water wholesaler in the state. This complex, decentralized water governance system inhibits integrated planning and increases uncertainty about future water supply reliability.

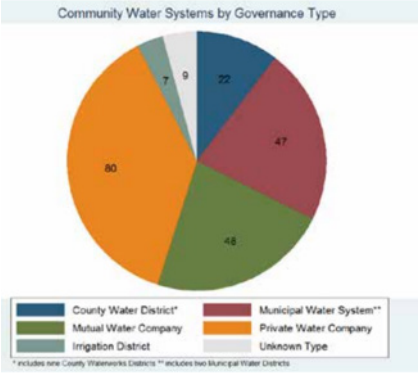


Image from UCLA Luskin Atlas and Policy Guide

Groundwater

The Los Angeles region has over 200 community water systems, roughly one third of which are 100% reliant on local groundwater. Local groundwater is contaminated with trihalomethanes, arsenic, nitrate, perchlorate, and coliform. The 2014 Sustainable Groundwater Management Act (SGMA) requires all groundwater basins identified as high or medium priority to form new Groundwater Sustainability Agencies (GSAs) and develop Groundwater Sustainability Plans (GSPs) by 2020 or 2024, and achieve sustainability by 2040 or 2042, respectively. The LA region overlies 4 medium and 4 high priority basins. Six new GSAs formed to manage the region's groundwater – adding additional layers of governance to the region's already complex water management system. It is yet unclear whether GSAs will be responsible for addressing groundwater quality issues.

Water Affordability

Water rates vary widely across the Los Angeles region, due in part to the cost of importing water, and in part resulting from the region's highly decentralized governance system. Local water agencies must invest in infrastructure maintenance and upgrades to secure their water supply, but these costs are passed on the customer.

As the region grows and competition for available water supply rises, communities must work together to ensure safe, clean,

affordable and reliable water for all residents. The distribution of future rate increases is expected to be unequitable, furthering the water affordability crisis throughout the county.

LAND USE PLANNING

Most of the Los Angeles region's population is centered near the coast or around the City of Los Angeles. The region must carefully plan how to accommodate anticipated population growth without overextending its natural resources and physical infrastructure, or overburdening its already vulnerable communities.

Landscape Features

The Los Angeles region is perhaps most well-known for Hollywood, Beverly Hills, and its extensive highway system (and traffic). Yet geographically the region is characterized by stark contrast between its glittering cities and expansive natural lands. The region boasts 75 miles of coastline, 1,875 square miles of mountains, and 129 square miles of islands. This includes the Angeles National Forest, San Gabriel Mountains, and one dozen lakes.

Flooding

California's largest city was developed on a coastal floodplain. The region has suffered catastrophic floods in the past, and is highly vulnerable to future flooding from both sea level rise and high rain events. Those at greatest risk are the roughly 14,000 people in the region currently living as much as 6 feet below sea level. Careful, integrated stormwater management and land use planning can help alleviate some of this risk.

Development Patterns

Los Angeles developed to accommodate automobiles and sprawling suburbs. Sprawl development is highly resource intensive, and contributes to increased traffic congestion as employees commute longer distances to work. California's housing shortage is especially acute in the Los Angeles region, where cost of living is one of the highest in our nation. Competition for housing drives costs up, leading to inequitable access to housing especially among low-income communities.

Densely developed urban regions like Los Angeles have greater areas of impervious surface – paved or structural areas where water cannot soak into the soil and percolate down into the groundwater aquifer. This could impact the resilience of local water supply, but the region has the benefit of its less densely developed natural lands. The LA region can ensure its resilience by protecting existing undeveloped areas for recharge, focusing future development in already urbanized areas, replacing impervious surfaces with permeable paving options where possible, and using green infrastructure to capture and treat stormwater.

Transportation

Los Angeles is rated as having the worst traffic in America, and the region has very limited public transit infrastructure. Yet the region is also home to advanced transportation technology companies. Electric vehicles and self-driving cars may help address air quality issues associated with regional traffic, but will do little to ease traffic congestion. The region is indeed making significant investments in multi-benefit projects that include clean public transportation, such as the 2016 Measure M ½ cent sales tax. Investments such as these are critical to the region's long-term sustainability.

Roadways serve a dual purpose as flood management infrastructure and stormwater conveyance. They also contribute significantly to surface water pollution. Integrated solutions such as green infrastructure to capture and treat stormwater can maximize a region's transportation investments.

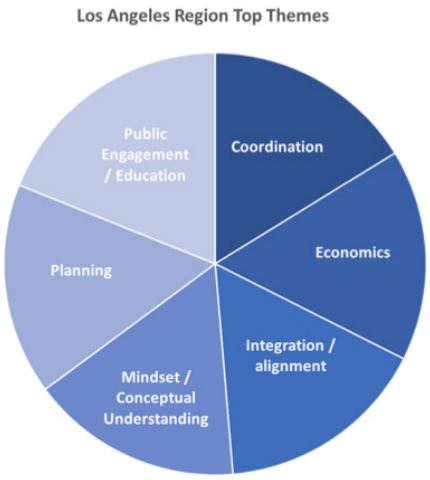
EQUITY

Access to affordable housing is the most prominent equity challenge in the Los Angeles region. The region has not met the state's requirements for affordable housing. High demand and limited availability of housing – especially multi-family unites – results in steep competition and rising costs for both renters and homeowners. Adjusted incomes are not keeping up with increasing housing prices, and the region's poverty rate is increasing. Residents facing disadvantages – especially low wage earners – are priced out of the local housing market. Displacement and homelessness are major threats to individuals and families within the Los Angeles region. Displaced individuals must then face higher costs for transportation and temporary housing.

Access to safe, reliable, affordable drinking water and wastewater infrastructure is another equity issue in the Los Angeles region. Contaminated drinking water and outdated infrastructure disproportionately impact low-income residents in the region's noncoastal communities. These community-members are paying high prices for inadequate quality water. Additionally, the ability to pay for water service varies widely across the region. A water rate that is affordable for a family near the median income level is unbearable for a family living at or near the poverty line.

INTEGRATION

The unique geography and demographics of the Los Angeles region highlight the importance and value of water-land use integration to ensure the region can adequately bear the impacts of a changing climate. Only by closely aligning future development plans – for housing, transportation, and open space – with accurate water demand forecasting and investments in water supply reliability – will the region be able to meet the needs of its community members without overburdening those individuals already facing the greatest disadvantages. Improving equitable distribution of water and land use benefits requires regional collaboration between both water management and land use planning agencies.



Expert Perspectives

Water and land use experts from the Los Angeles Region elevated 6 themes for improving integration, the greatest of which was Public Engagement and Education. Although the LA Region is a leader in integrated planning, exemplified by the City's One Water LA plan, the Mayor's Office Sustainable City Plan and Los Angeles Regional Collaborative's A Greater LA Climate Action Framework, there is a gap between the planning process and its portrayal to the community.

CASE STUDY East Los Angeles Sustainable Median Stormwater Capture Los Angeles Department of Public Works

The East Los Angeles Sustainable Median Stormwater Capture Project is located in the unincorporated area of East Los Angeles. This project will capture and treat approximately 232 acre-feet (AF) of stormwater in an average rainfall year from a 3,000-acre tributary area. The water will be captured, then infiltrated to remove pollutants such as metals and various bacteria from reaching the Los Angeles River. Updates to the medians will include drought tolerant landscaping, and other amenities such as jogging paths and benches – providing benefit to the nearby residential community. A portion of the funding comes from the State's Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1), and the project partners are Los Angeles County Supervisor Hilda Solis, California the Natural Resource Agency – Urban Greening Grant Program, the State Water Resources Control Board – Proposition 1 Stormwater Implementation Grant Program, and the Los Angeles County Flood Control District. As part of meeting the Proposition 1 requirements, the Proposed Project would include educational signage at the project site. Construction is expected to begin in Fall 2018 and last for approximately 12 months.

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This multi-benefit project will improve water quality, increase water supply and enhance recreation and the community. Infiltration wells and low impact development, such as bioswales, will divert and infiltrate stormwater runoff to help improve the water quality of our rivers, channels, and ocean. Wells will also divert stormwater runoff into underground aquifers, replenishing our local groundwater supply. Over 300 trees will be planted and drought tolerant landscaping will enhance the community space and reduce the effects of greenhouse gases. Furthermore, passive recreation and educational signage will enhance the community space and increase public awareness on sustainable development.

Multi-benefit projects can help to identify project partners as projects with multiple benefits can help to leverage funding. There are opportunities for collaboration and partnering between the County of Los Angeles and other cities within the watershed area.

CASE STUDY Connecting Cities to Nature
Ballona Wetlands, City of Culver City

Numerous studies of the hydrology of wetlands have shown that they are a central focus of groundwater recharge. The Ballona Wetlands sit on land owned by the State of California, just south of Marina del Rey. They were once a 2,000-acre area overflowing with fish and waterfowl. Almost 100 years ago, Ballona Creek was transformed into a nine-mile concrete flood protection channel, which blocked the flow of saltwater, and reduced the amount of freshwater in the wetlands. Today, the topography is mostly cement, leaving only a very small percentage of wetlands in this watershed. Cemented streets have lead to increased runoff and pollutant infiltration, which ultimately makes its way to the Ballona Creek, and eventually to the Pacific Ocean.

Today, more than 95% of Southern California's wetlands have been lost due to human development – the largest loss of any region in the nation. Wetlands are important for many reasons - they are a rest stop for birds, shelter for young fish, a water filtration system, a source of groundwater recharge, air purifier, and great source of local pride and beauty.

After the State acquired the land, they released a study that explored a range of potential infrastructure improvement projects, new structures and more access and activities for the public. Partnership were formed in order to investigate the feasibility of features such as bike trails, community centers, outdoor classroom and walking paths.

Stakeholders have witnessed progress being made since then, such as the Milton Street Park project (a $3MM linear park) adjacent the bike trail, which has added aesthetic appeal and a much needed rest stop for users of Ballona Creek trail. Significant bike path improvements in recent years include native landscaping, artist-designed gates, benches, drinking fountains, murals and other projects by public agencies and local non-profit organizations. Other opportunities include the integration of an educational component to the creek, i.e., using the creek as an outdoor classroom. This is the sort of necessary measures which must be pursued, in order to ensure that the younger generation better understands and appreciates what the creek has to offer to their neighborhood, but even more importantly to the region at large.

Challenges

- **Fragmented governance** and **lack of representation** impact already overburdened communities. LA County contains over 200 small water agencies, there is no continuity in governance or management between neighborhoods. Seventy percent residents in the City of LA rent their homes. Local water agency boards are elected by and are therefore accountable to the property owners, not necessarily residents.
- **Housing and water affordability** are critical issues in the LA region. Local developers are challenged to design projects that meet subsidy and funding program requirements to maintain economic feasibility. Demand for single-family homes encourages further sprawl development and drives up costs. Water projects in lower income neighborhoods often do not pass feasibility analysis, so water agencies are forced to pass infrastructure costs onto residents via metering. Yet many of the region's lowest income communities already have some of the region's highest water bills.
- **Lack of coordination and alignment** at the local level inhibits integrated planning and management. Little coordination exists between local land use planning agencies (i.e., development and permitting departments) and local water supply agencies. Coordinating development entitlements with water service agreements would improve integration.
- **Public awareness** of water and land use issues in the LA Region is significantly lacking. **Additional community engagement and education** beyond water rates and public safety is necessary to enhance political will for integration.

Strategies & Opportunities

- In November, LA County voters will decide on a new property tax to fund stormwater capture, treatment, and infiltration. **Passing the stormwater fee will catalyze integrated multi-benefit projects** and provide a steady revenue stream for necessary operations and maintenance.
- The LA Region possesses tremendous **political power**, as well as institutions with deep technical expertise and capacity. The region's leaders have an opportunity to **catalyze cross-region and inter-disciplinary partnerships to advance integration**. Implementing the human right to water and addressing affordability are the two most pressing issues requiring significant political power.
- Cities in the LA region have an opportunity to **ensure equitable, water-smart development through stronger incentives and constraints** within their general plans and zoning codes. Similar to Measure JJJ, cities can provide generous financial and/or process incentives for: priority redevelopment and infill areas, affordability, aggressive permeability and on-site stormwater capture and reuse, highly water efficient buildings, and other positive features.

RECOMMENDATIONS

$ Advocate for state-level legislation to implement the human right to water: ensuring all Californians have access to clean, safe, reliable and affordable drinking water and sanitation services. This includes supporting potential legislation similar to the following bills:

- SB 623 or SB 844 & 845 that would establish a safe drinking water fund

- SB 778 which incentivizes water agency consolidation
- AB 1668 which establishes indoor and outdoor water use efficiency standards
- SB 1000 which requires all General Plans to include an Environmental Justice element
- Strengthening "show me the water" requirements (SB 221 & 610) to ensure more explicit alignment between development plans and urban water management plans

$$ Provide venues for local leaders in both the water & land use sectors to interact with one another. Participants should include department heads from city and county planning, public works, community and economic development, stormwater, and local and regional water supply and wastewater utilities. Effective models include the Sonoran Institute "Growing Water Smart" program and the Local Government Commission's Alliance of Regional Collaboratives for Climate Adaptation (ARCCA).

$$$ Invest in grassroots organizing for self-advocacy; to provide opportunities for the lowest income, most vulnerable communities to have real voice in planning processes. This will require deep engagement to educate the community about the value of integrating water management and land use planning, while also teaching them political engagement and self-advocacy skills. Community Water Center and Self Help Enterprises provide successful models for building local capacity to ensure equity in decision-making.