INFORMATION ITEM

Overview of Southern California Water Supply Reliability and Reduced Reliance Projects; and Innovations in Water-use Efficiency and Reuse

Summary: Today's two panels are intended to highlight for Councilmembers the activities and investments that have been, and are being, made throughout Southern California to provide a more reliable water supply and reduce reliance on water imported from outside the region and the relationship of these activities with the Council's Delta Plan.

Background

The Delta Stewardship Council was created through the 2009 Delta Reform Act in part to further the State's coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem, done in a way that protects and enhances the unique values of the Delta (Water Code section 85054).

The Delta Reform Act also made it State policy to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. "Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts," (Water Code section 85021).

Information about the Topic

Chapter 3 of the Delta Plan addresses a more reliable water supply for California, noting that regions located outside the Delta must work to increase water efficiency and develop sustainable local and regional sources of water to reduce their reliance on the Delta. Reliance on Delta water varies throughout California, with some suppliers having greater access to alternative supplies, or a greater ability to implement water efficiency and water supply projects; while others may have a narrower range of options.

The Delta Plan states that, "The key is that every supplier is doing its part and is taking appropriate action to contribute to the achievement of the coequal goals, including the State's policy of reduced reliance and associated mandate to improve regional self-reliance," (Delta Plan, Chapter 3, page 84).

The Delta Plan starts with four core water strategies that must be implemented throughout the state to achieve the coequal goal of providing a more reliable water supply for California. These are:

1. Increase water conservation and expand local and regional supplies
2. Improve groundwater management

3. Improve conveyance and expand storage
4. Improve water management information

These core strategies form the basis of the Delta Plan's two policies and 19 recommendations addressing water supply reliability. The Delta Plan's regulatory policy WR P1 calls for reducing reliance on the Delta and improving regional self-reliance. Many of the Plan's other policies and recommendations address related issues, such as implementing water efficiency and water management planning laws, complying with reasonable and beneficial use principles, and improving groundwater management.

Today's meeting will focus mostly on the first strategy, although the Council will also hear from the Orange County Water District about innovations in groundwater management and from Moulton Niguel Water District about ways that improved information flow is helping the district and its customers to manage water use.

Where Southern California water comes from

For today's discussion, we'll consider Southern California to be synonymous with the service area of the Metropolitan Water District of Southern California (MWD). This area includes some 19 million residents stretching across six counties from Ventura south to the border with Mexico. While this encompasses almost all of the urban areas south of the Tehachapi Mountains, six other agencies in Southern California also contract for vastly smaller amounts of water from the State Water Project.

Slightly more than half of the water used in the MWD service area comes from local sources, managed by individual cities and water districts and sub-regional entities. Groundwater basins underlie much of the region, replenished by snowmelt from the San Gabriel Mountains and runoff into the Los Angeles, San Gabriel and Santa Ana rivers, and other streams.

At the turn of the 20th century, as the region's population began to exceed the amount of water these rivers, streams and related groundwater basins could provide, Los Angeles looked to import water from other sources. These include the Owens Valley on the eastern side of the Sierra Mountains (Los Angeles Aqueduct completed in 1913), the Colorado River (MWD's Colorado River Aqueduct completed in 1939) and, Feather River water transferred through the Delta by the State Water Project (water first delivered to Southern California in 1973).

In more recent years, environmental regulations, drought, and court rulings have curtailed the amount of water that can be imported into Southern California annually from the State Water Project and Los Angeles Aqueduct.

The search for imported water was not a uniquely Southern California venture. After the 1906 earthquake and concerns about exceeding local surface and groundwater

supplies, San Francisco dammed the Tuolumne River in the northwestern part of Yosemite National Park to create Hetch Hetchy Reservoir and an aqueduct system to convey that water to San Francisco and other parts of the Peninsula. In 1924, the East Bay Municipal Utility District acquired rights to the Mokelumne River, eventually building Pardee Reservoir and the Mokelumne Aqueduct, which today carries water across the Delta to the East Bay. Both rivers are tributaries to the Delta.

Planning for future Southern California water needs

Historically, Southern California water managers balanced supplies with demand first by totaling the amount of local water available and then meeting excess demand through imported water. Over the last 20 years, however, the decreasing reliability of imports led water managers to look for new ways to meet excess demand by turning to new – and more expensive - local resources.

In the early 1990s, MWD convened meetings with its member agencies and others throughout Southern California to rethink the region's approach to water management. The inaugural Integrated Regional Plan in 1996 set in motion the diversification of water resources so that today, although Southern California has grown by 5 million people over the past generation, the 2015 IRP shows the amount of <u>imported</u> water has not increased.

Panelists at today's meeting will discuss some of the ways they have diversified the portfolio of water resources, including water conservation and local resource development such as recycling wastewater, removing nitrates and other contaminants from previously unused groundwater, and by desalting brackish groundwater and seawater.

The relationship between reduced reliance, WR P1, and covered actions

Delta Plan regulatory policy WR P1 states that water shall not be exported from, transferred through, or used in the Delta if all of the following apply (see 23 CCR Section 5003 (b)):

1) One or more water suppliers that would receive water as a result of the export, transfer or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c) of 23 CCR Section 5003;
2) That failure has significantly caused the need for the export, transfer or use; and
3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.

The Delta Plan further recommends including an expanded water supply reliability element in each water supplier's statutorily required urban or agricultural water management plan to:

> *"…detail how water suppliers are reducing reliance on the Delta and improving regional self-reliance consistent with Water Code section 85201 through investments in local and regional programs and projects, and should document the expected outcome for a measurable reduction in reliance on the Delta and improvement in regional self-reliance."*

Today's discussion

Councilmembers will hear from two panels discussing short- and long-term planning, current and future water supply projects, and innovative water management approaches. Both panels will be moderated by Deven Upadhyay, assistant general manager and chief operating officer of MWD.

Overview of Southern California Water Supply Reliability and Reduced Reliance Projects

Mr. Upadhyay will provide an overview of Southern California's water supply reliability and efforts to reduce reliance on the Delta. MWD was a pioneer in large-scale regional planning, developing its first Integrated Regional Plan in the mid-1990s. Mr. Upadhyay will highlight the diversity of local projects throughout the region (conjunctive use and groundwater treatment, recycled wastewater, brackish water and ocean desalination) many of which benefited from participation in MWD's local projects funding program.

Panelists:

Rafael Villegas, Program Director for Hyperion Reuse and Water Resiliency Program
Enrique Zaldivar, Director and General Manager, City of Los Angeles Sanitation

> Earlier this year, Mayor Eric Garcetti pledged that Los Angeles will recycle 100 percent of its wastewater by 2035 as part of an effort to reduce the city's dependence on imported water. Panelists will discuss the mayor's Sustainable City pLAn and how the largest treatment plant west of the Mississippi River – Hyperion – currently receives 81 percent of Los Angeles' total waste water and plans for more than $2 billion in investment to increase water recycling from its current 27 percent.

Mark Pestrella, Director, Los Angeles County Department of Public Works

> In November 2018, nearly 70 percent of Los Angeles County voters approved Measure W, which provides for increased storm water and urban runoff capture and reduce urban pollution. In addition, Mr. Pestrella will highlight the water portion of the new Los Angeles County Sustainability Plan.

Jeff Pasek, Watershed Manager, City of San Diego Public Utilities Department
Kyle Swanson, Operations Director, East County Advanced Water Purification Project

Panelists will highlight Pure Water San Diego, the City of San Diego's phased, multi-year program that is designed to provide one-third of San Diego's water supply locally by 2035. The East County Project is a collaborative partnership between the Padre Dam Municipal Water District, Helix Water District, County of San Diego and the City of El Cajon.

Innovations in Water-use Efficiency and Re-use

Mr. Upadhyay will provide an overview of Southern California's investments in water-use efficiency and support for technological innovations and data integration.

Panelists:

Sylvie Lee, Manager of Planning & Environmental Compliance, Inland Empire Utilities Agency

Ms. Lee will highlight the Chino Basin Program, which will produce 15,000 acre-feet of advanced purified water that will be stored in the Chino Basin in eastern Los Angeles County. In partnership with a State Water Project Contractor, this water would be exchanged in blocks of up to 50,000 acre-feet per year towards ecosystem benefits north of the Delta for 25 years.

Joone Lopez, General Manager, Moulton Niguel Water District

As former general manager at Calaveras County Water District, Ms. Lopez engaged with the Council during the development of the Delta Plan. Now at Moulton Niguel Water District, she will discuss approaches by Northern and Southern California and highlight efforts at the District to use online infrastructure to provide customers with real-time water consumption data and visualization tools. That technological upgrade is helping the District and its customers detect leaks, conserve water, and save money.

Joe Berg, Director of Water Use Efficiency, Municipal Water District of Orange County

Studies estimate that up to 10 percent of urban water supply is lost through leaking infrastructure. Former head of the California Urban Water Conservation Council, Mr. Berg will discuss his District's innovative regional supply-side efficiency program to encourage its member agencies to reduce costly water loss, employ industry best practices, and prepare for changing regulatory requirements. The Water Loss Management Program provides technical assistance with water audit compilation and validation, raw data analysis, component analysis of real and apparent loss, and proactive leak detection.

Dan Ferons, General Manager, San Juan Watershed Project

Mr. Ferons will discuss a multi-phase project that will enhance water reliability by capturing local storm water runoff as well as directing recycled water into temporary storage and using it to recharge an underground aquifer. When completed, the San Juan Watershed Project will be able to provide about 5.6 billion gallons of additional local reliable water.

Questions the Council may wish to consider

1. How are the representatives from the various projects working towards "reduced reliance on the Delta"? What additional opportunities are there (e.g., projects, funding, legislation) to further reduce reliance? How can the Council support these efforts?
2. How are the panelists engaging with the community and various stakeholder groups to ensure diverse perspectives are represented in decision-making?
3. How has the drought in the Colorado Basin affected the way Southern California relies on the Delta for water?
4. What financial and/or regulatory constraints exist for water reuse projects?

Fiscal Information

Not applicable.

List of Attachments

No attachments.

Contact

Keith Coolidge
Executive Manager, External Affairs
Phone: (916) 445-4503