



Division of Drinking Water - Permitting and Other Regulatory Activities

Los Angeles Regional Board Groundwater Workshop
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Division of Drinking Water
State Water Resources Control Board

Division of Drinking Water

Northern California Field Operations Branch

- North Coastal Section
- Northern California Section

Southern California Field Operations Branch

- Central California Section
- Southern California Section
- South Coast Section

Program Management Branch

- Technical Operations Section
- Quality Assurance Section
- Environmental Laboratory Accreditation Section



ROLE OF DIVISION OF DRINKING WATER

- Enforcement of the Safe Drinking Water Act
- Ensure compliance with state and federal water quality standards
- Inspect drinking water systems for compliance with standards
- Develop and implement regulations (state and federal)
- Issue water system permits to operate drinking water supply sources and treatment facilities
- Oversee County LPAs with delegated small water system programs (30 of 58 Counties)
 - 160 State regulated large water systems and 160 County LPA regulated small water systems in LA County

CA Public Water Systems

Type of System	Approximate #
COMMUNITY	3,000
Large (>3,300 people)	700
Small (>15 connections, <3,300 people)	2,300
NON-COMMUNITY	4,500
Non-transient	1,500
Transient	3,000
TOTAL	7,500

Type of System	Population	% of CA population
Large Water System >1000 connections	37 million	98%
Small Water System <1000 connections	400,000	1%

Water Quality Monitoring Requirements

Constituent(s)	Source or System?	Type of System
Bacteriological	System	All
Primary Standards – Inorganic	Source	All (with exceptions)
Primary Standards – Organic	Source	Comm. & non-transient
Secondary Standards	Source	Community
Unregulated Chemicals	Source	Comm. & non-transient
Disinfection Byproducts	System	Community
Radioactivity	Source	Community
Lead and Copper	System	Comm. & non-transient
Surface Water Treatment	Source & System	All (with surface water)
Treated Water	System	All (if treatment req'd)

Most Frequently Detected Groundwater Contaminants in LA County

CHEMICAL	Number of Sources Exceeding MCL*
TRICHLOROETHYLENE	145
TETRACHLOROETHYLENE	117
NITRATE (AS NO3)	98
NITRATE (AS N)	86
PERCHLORATE	84
1,2,3-TRICHLOROPROPANE	83
CARBON TETRACHLORIDE	61
ARSENIC	56
1,1-DICHLOROETHYLENE	34

For unregulated chemicals, most frequently detected chemicals include 1,4 Dioxane (136), Cr6 (62), NDMA (18), Boron (16), PFOS, and PFOA

*Total number of drinking water sources in LA County = 2189

Responsibilities of Public Water Systems

- Provide a reliable and adequate supply of potable water
- Obtain a Water Supply Permit and comply with all conditions
- Use only approved drinking water sources
- Comply with design standards
- Employ State certified water treatment and distribution system operators at the appropriate grade
- Water quality monitoring and reporting
- Comply with water quality standards
- Provide treatment as necessary to comply with requirements.

Water Supply Permits

- Permits required for new water systems and any time a change is made to the water system, such as adding sources or treatment
- Water system submits a permit application and supporting technical documents
 - Source water assessment to identify potentially contaminating activities (past and present) within capture zone
 - CEQA documentation
 - Plans and specifications
 - Start up test plan
 - Operations, maintenance and monitoring plan
- DDW issues or denies permit and establishes enforceable operating conditions

Drinking Water Treatment Technologies

- Best available technologies (BATs) identified in regulation used unless special permission given
- Specific BATs for microbiological contaminants, inorganics, organics, and radionuclides
- Example BATs
 - Nitrate – IX, RO
 - Perchlorate – IX, Biological reactor
 - Most VOCs – GAC or Aeration
- Treatment techniques and performance criteria identified for surface waters
- DDW-Technical Operations Section review/acceptance of new technologies based on pilot studies – site specific approval needed

97-005 POLICY

- Provides guidance to permit an extremely impaired source for potable use
- Criteria for defining an extremely impaired source based on number of chemicals present and their concentration and knowledge of contaminant plumes
- Has been implemented since 1997
- Currently being revised and policy handbook planned

State of California

Department of Health Services

Memorandum

Date: November 5, 1997

To: Drinking Water Program
Regional and District Engineers

From: Division of Drinking Water and
Environmental Management

Subject: Policy Memo 97-005 Policy Guidance for Direct Domestic Use of Extremely Impaired Sources

A. General Philosophy

The primary goal of the Drinking Water Program (DWP) is to assure that all Californians are, to the extent possible, provided a reliable supply of safe drinking water. In furtherance of this goal, the DWP continues to subscribe to the basic principle that only the best quality sources of water reasonably available to a water utility should be used for drinking. When feasible choices are available, the sources presenting the least risk to public health should be utilized. Furthermore, these sources should be protected against contamination. Whenever possible, lower quality source waters should be used for nonconsumptive uses, such as irrigation, recreation, or industrial uses, which pose lower health risk.

The use of contaminated water as a drinking water source always poses a greater health risk and hazard to the public than the use of an uncontaminated source because of the chance that the necessary treatment may fail.

The use of an extremely impaired source should not be approved unless the additional health risk, relative to the use of other available drinking water sources, are known, minimized, and considered acceptable.

Water utilities (including wholesalers) should be encouraged to minimize the concentration of man-made toxic substances, naturally occurring contaminants, and pathogenic microorganisms in drinking water supplies, maximum contaminant levels (MCLs) notwithstanding.

Extremely impaired sources that contain or are likely to contain high concentrations of contaminants, multiple contaminants, or unknown contaminants (such as groundwater subject to contamination from a hazardous waste disposal site) should not be considered for direct human consumption where alternatives are available.

Where reasonable alternatives are available, high quality drinking water should not be allowed to be degraded by the planned addition of contaminants. In other words, the MCLs should not be used to condone contamination up to those levels where the addition of those contaminants can be reasonably avoided.

BENEFITS OF USING AN EXTREMELY IMPAIRED SOURCE

- Additional, better quality sources are unavailable
- Treatment helps clean up contamination and protect other nearby sources
- Can reliably produce safe drinking water with proper treatment
- Project is approved on a case-by-case basis
- **Much more stringent than typical permitting process**
- **Requires coordination with other agencies having oversight – EPA, DTSC, Regional Boards**

Examples of Extremely Impaired Source Projects

- Extremely impaired sources have been permitted and successfully operated at 18 locations including systems in Glendale, Burbank, Baldwin Park, Pasadena, Santa Monica, Rialto, and Riverside
- 10 pending projects



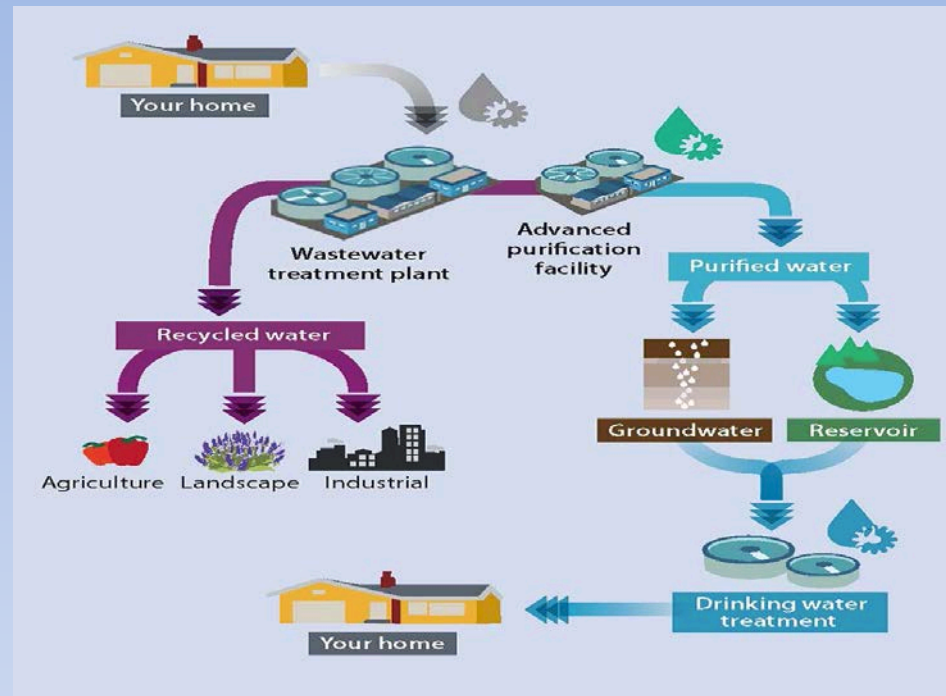
Key Differences in “Standard” vs. Extremely Impaired Source Permitting

- Extremely impaired sources require more extensive source water characterization and ongoing monitoring including monitoring at upgradient early warning monitoring wells
- Extremely impaired sources typically require treatment to lower levels to minimize cumulative health risk
- Public hearing and public acceptance required prior to permit issuance for extremely impaired sources
- Standard permit typically for treatment of single chemical and upgradient monitoring not required

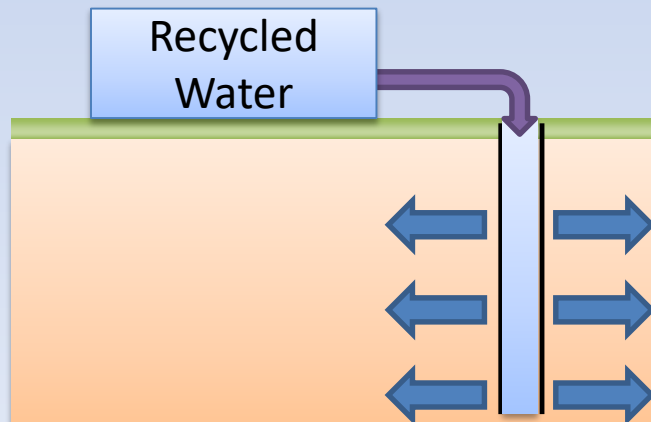
Potable Reuse in CA

– Indirect Potable Reuse (IPR)=
the planned use of recycled water for:

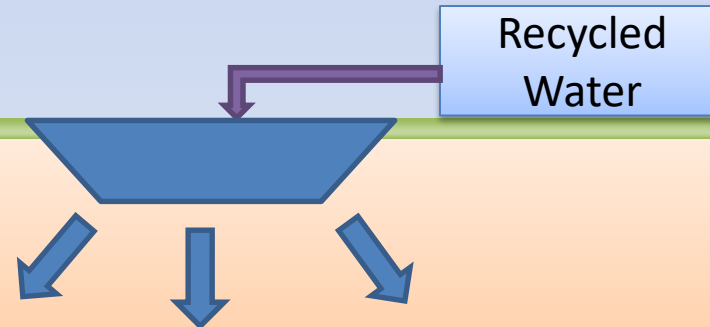
- Groundwater Replenishment Reuse Projects (GRRPs)
- Surface Water Augmentation (SWA)



Subsurface Application GRRP



Surface Application GRRP



Permitted Indirect Potable Reuse (IPR) Projects in LA County

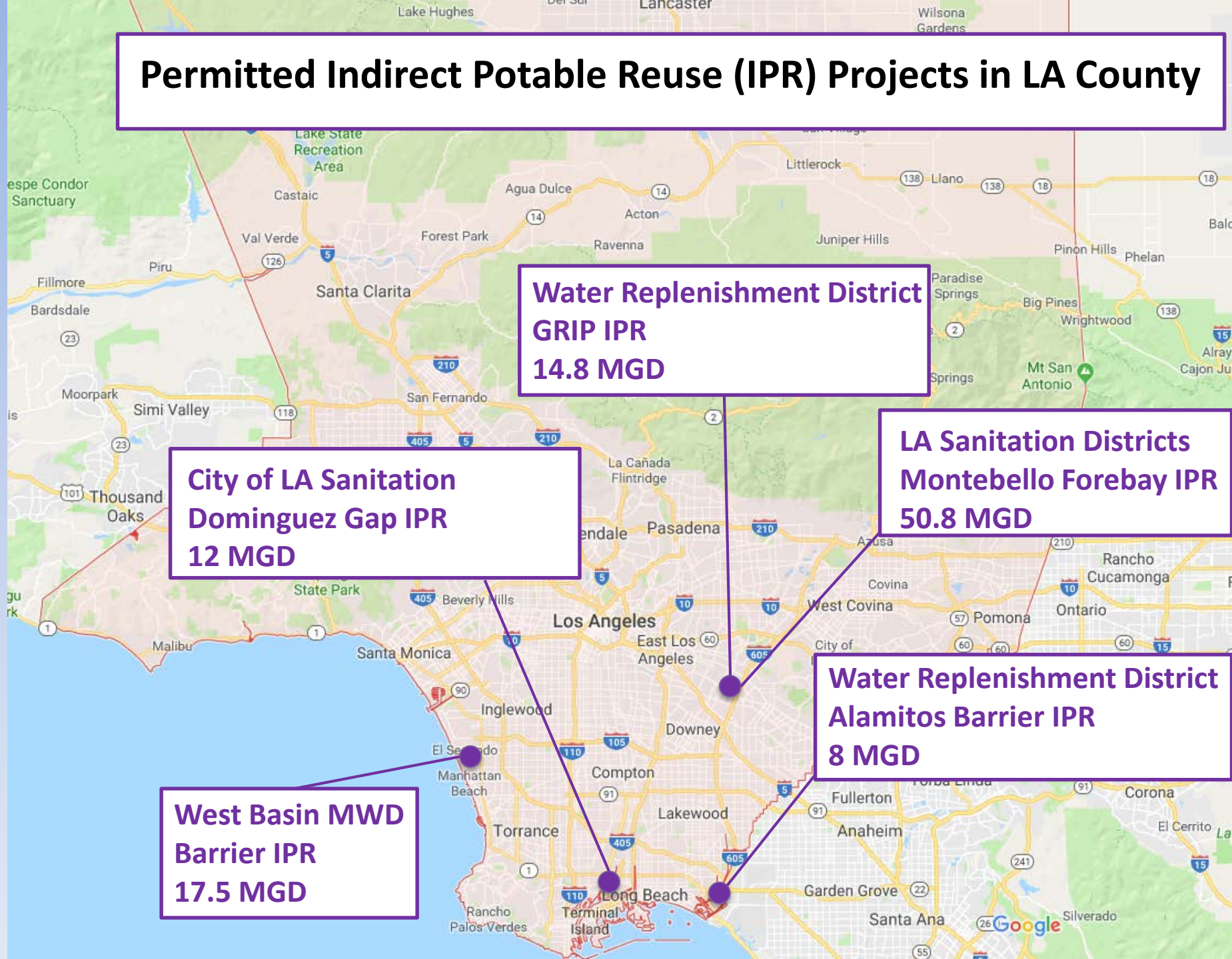
**Water Replenishment District
GRIP IPR
14.8 MGD**

**City of LA Sanitation
Dominguez Gap IPR
12 MGD**

**LA Sanitation Districts
Montebello Forebay IPR
50.8 MGD**

**Water Replenishment District
Alamitos Barrier IPR
8 MGD**

**West Basin MWD
Barrier IPR
17.5 MGD**



Select Proposed IPR Projects in LA and Ventura Counties

Project	Agency	Estimated Capacity (MGD)
LA Groundwater Replenishment	LADWP-LASAN	3.1
Sustainable Water Infrastructure	City of Santa Monica	1.5
Groundwater Recharge Enhancement and Treatment	City of Oxnard	6.25
Regional Recycled Water Program	MWD-LACSD	150
Pure Water	Las Virgenes-Triunfo	6

DDW- Los Angeles Regional Board Collaboration

- Share info on DDW pending permits and LARB clean up sites to ensure activities are complimentary
- Share information on emerging chemicals of concern
- Ensure DDW permits for new sources or treatment don't interfere with remedial action (active or planned)
- Help each other prioritize workload – destruction of inactive wells, source investigation in proximity to drinking water source
- Assist other agencies identify and implement funding projects

Other DDW Activities – Hot Topics

- Lead in Schools and Daycare Centers
- 1,2,3 TCP
- PFASs
- Consolidation of small water systems
- Climate change
- technical, managerial and **F**inancial Capacity
- Sativa Water District
- Direct Potable Reuse