

EnviroStor is the DTSC's online data-management system for permitted hazardous waste facilities. This system stores information on site investigations, cleanups, permitting, and corrective actions under DTSC oversight.

GeoTracker is the State Board's online data-management system for compliance data from contamination sites with confirmed or potential impacts to groundwater. This includes locations where there have been unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. GeoTracker stores information on cleanup sites, leaky underground storage tank (LUST) sites, and land disposal sites. For more information about GeoTracker, see:  
[http://www.swrcb.ca.gov/ust/electronic\\_submission/about.shtml](http://www.swrcb.ca.gov/ust/electronic_submission/about.shtml) or  
[http://www.waterboards.ca.gov/water\\_issues/programs/gama/docs/geotracker\\_factsheet.pdf](http://www.waterboards.ca.gov/water_issues/programs/gama/docs/geotracker_factsheet.pdf).

In 2014, Watermaster staff reviewed the GeoTracker and EnviroStor databases to identify all sites in the Chino Basin that may have potential impacts to groundwater quality. A total of 775 sites were identified in the Chino Basin and categorized by site status (open or closed case) and the contaminated media (groundwater, soil, air, or non-identified). Of the 775 sites, there are 20 open sites and 24 closed sites with confirmed or potential impacts to groundwater quality that have available groundwater-quality data and have not been previously tracked by Watermaster. Data from these 44 sites will be compiled, reviewed, and uploaded to Watermaster's database in 2015 and then routinely updated as part of the Chino Basin Data Collection Program. Any groundwater-quality contamination and associated plumes will be characterized in future State of the Basin Reports. The GeoTracker and EnviroStor databases will be routinely reviewed to track the status and data availability of all previously identified sites, and to identify any new sites with potential or confirmed groundwater contamination.

**GeoTracker and EnviroStor Sites**

**Site Status (Symbol)**

- Open Site
- Closed Site

**Contaminated Media (Color)**

- Groundwater (potential or confirmed)
- No Media Established, but Potential Impacts to Groundwater Quality

**VOC Plumes Delineated in 2014**

- Labeled in Purple by Name

**Other Plumes**

- Labeled in Blue by Name and Dominant Contaminants

\* Plumes that are too small to be delineated at this map extent, or are not delineated, are labeled with a line indicating the general location of the point-source site

**OBMP Management Zones**

**Streams & Flood Control Channels**

**Flood Control & Conservation Basins**

**Geology**

- Quaternary Alluvium
- Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

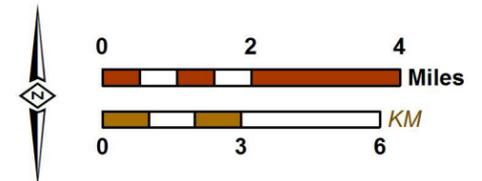
**Faults**

- Location Certain
- Location Concealed
- Location Approximate
- Location Uncertain
- Approximate Location of Groundwater Barrier



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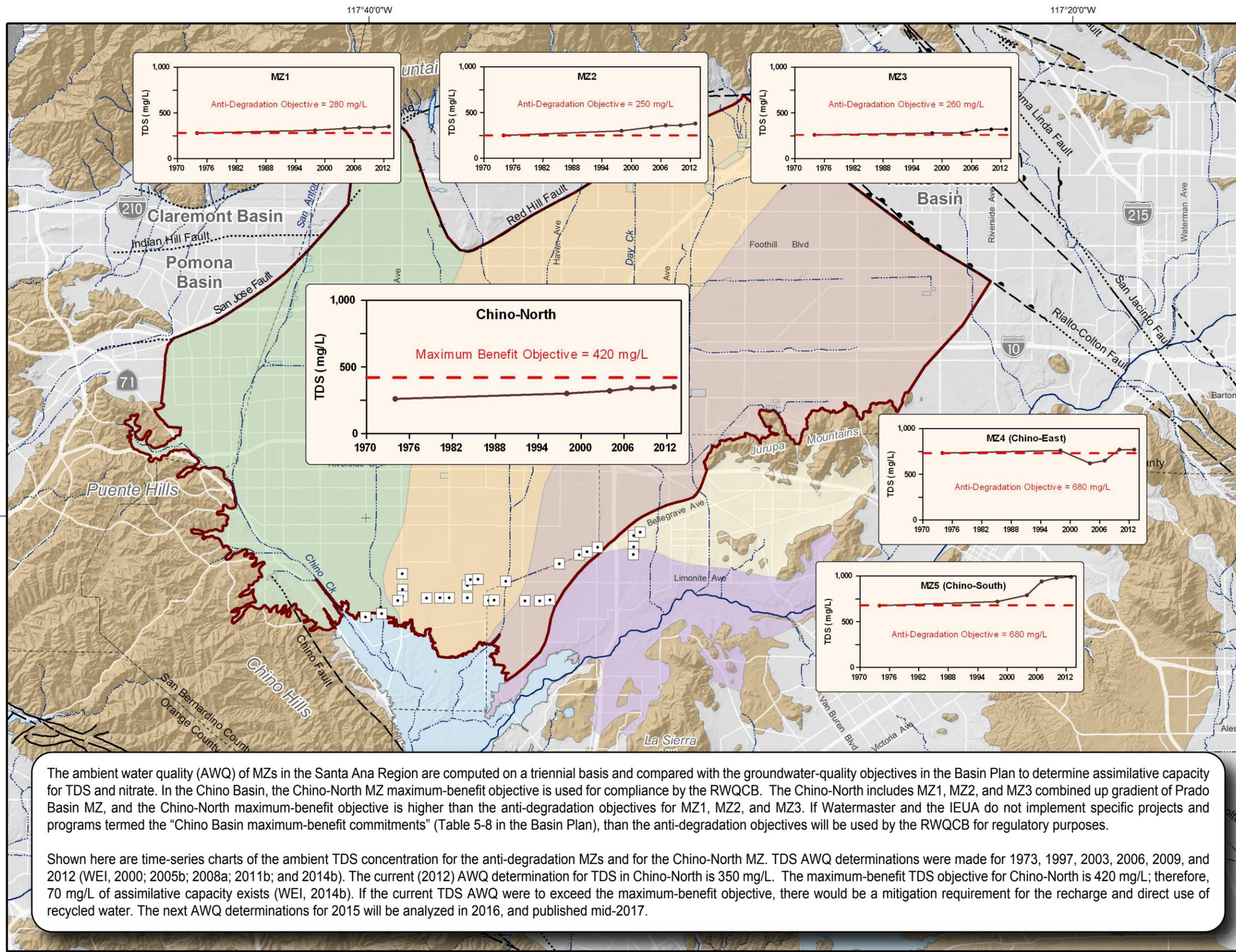
Author: VMW  
 Date: 6/26/2015  
 Document Name: Exhibit\_46\_GeoTracker\_Enviro



**2014 State of the Basin**  
 Groundwater Quality

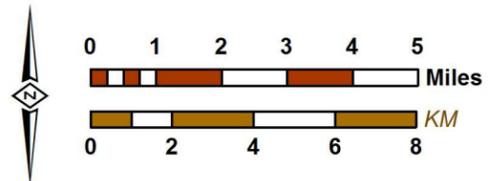


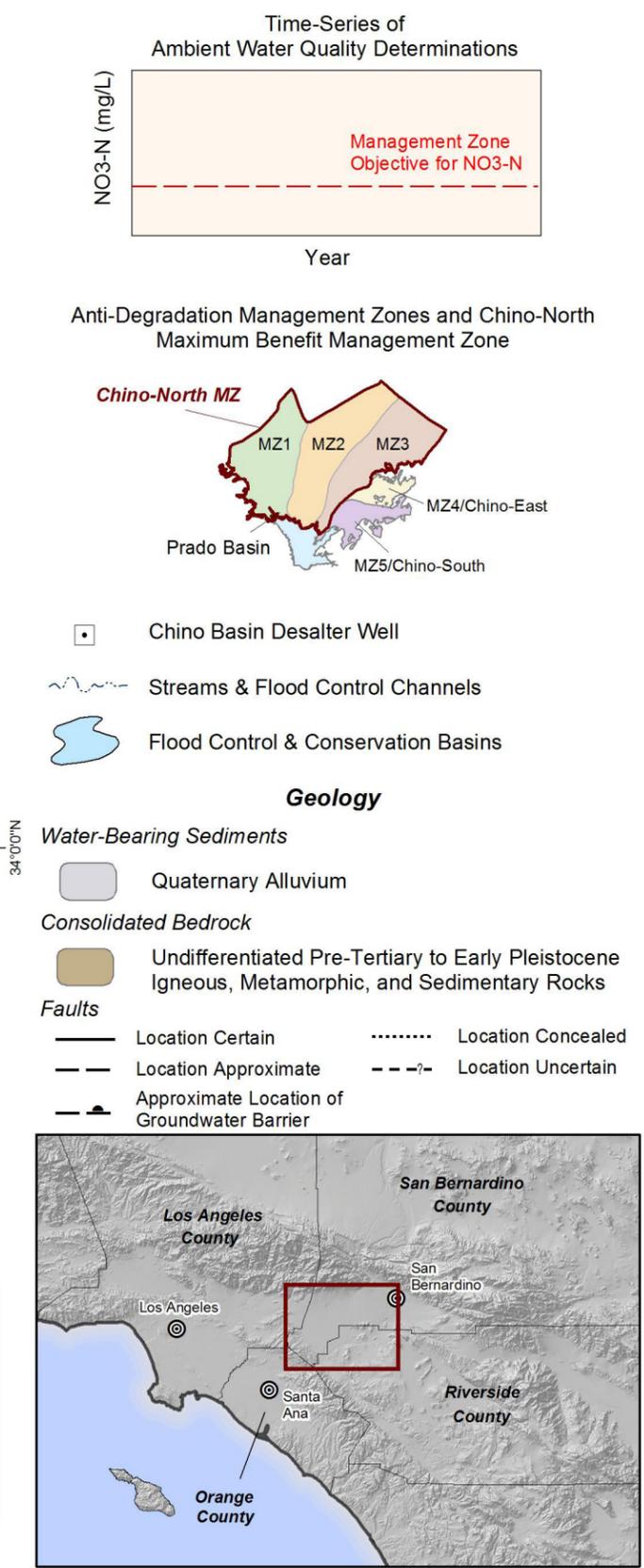
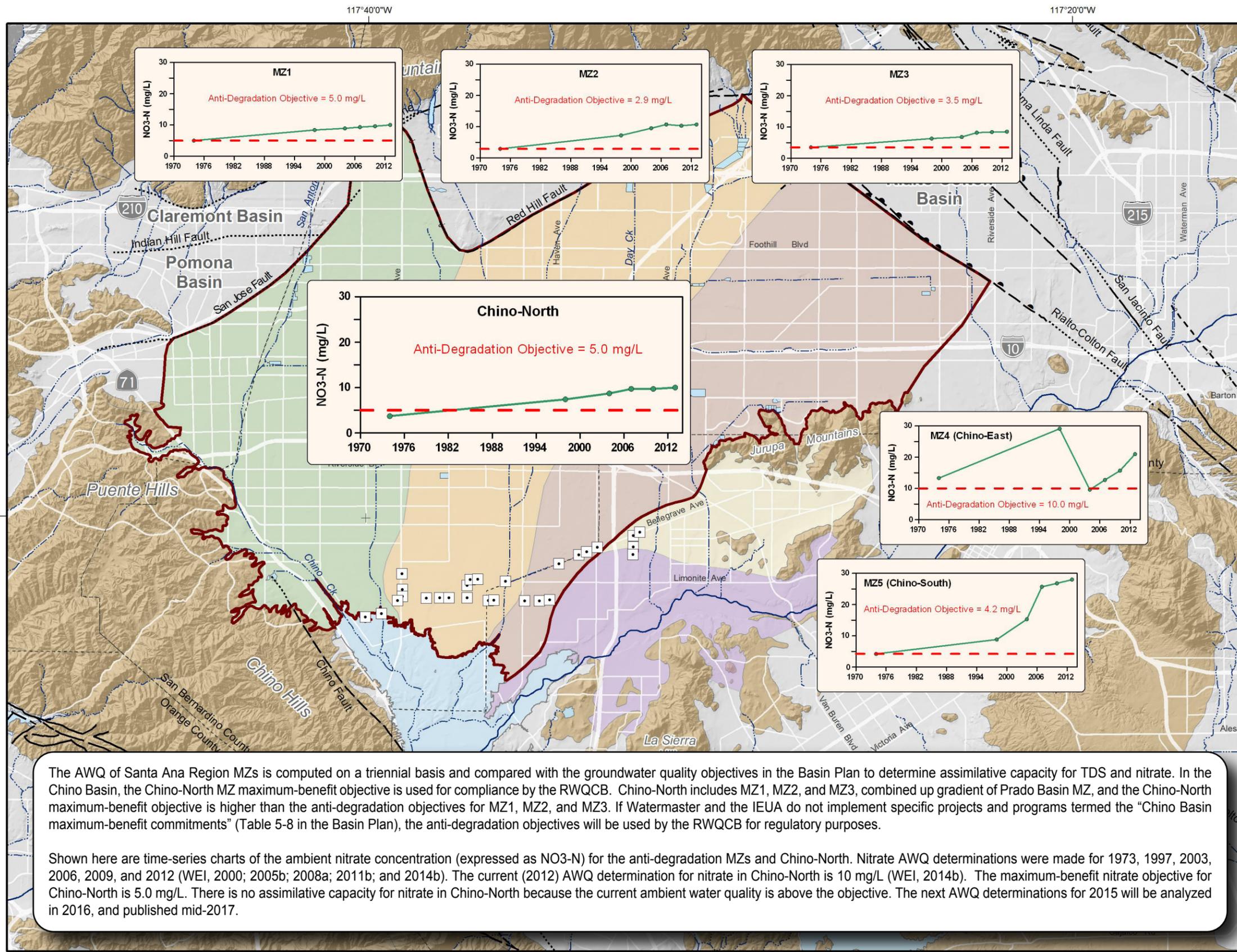
**GeoTracker and EnviroStor Sites in the Chino Basin**  
 Site Status and Contaminated Media

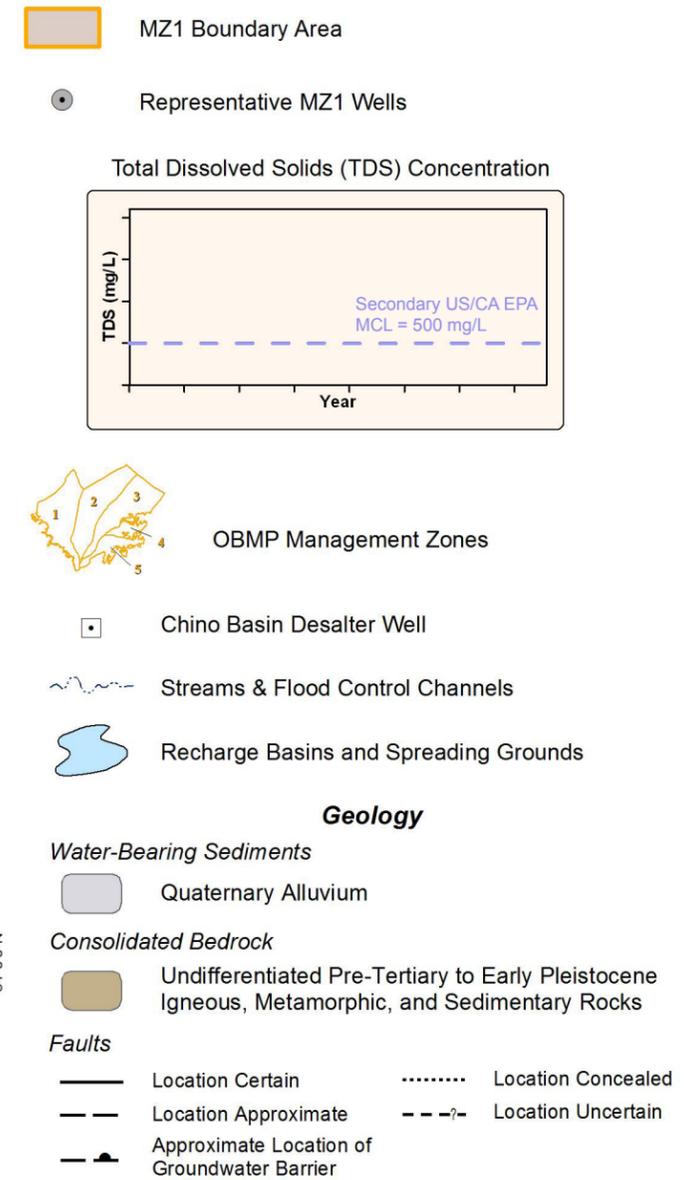
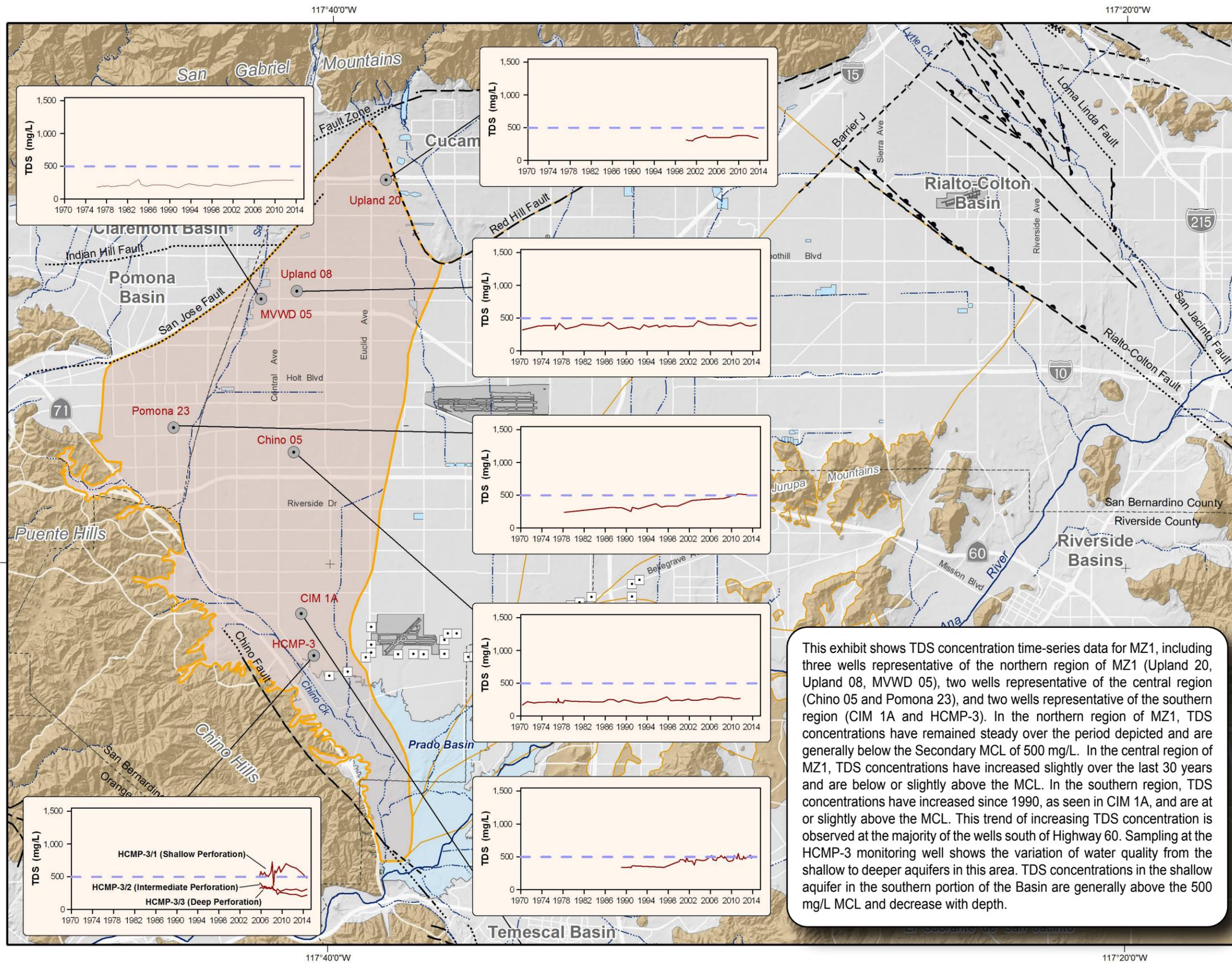


The ambient water quality (AWQ) of MZs in the Santa Ana Region are computed on a triennial basis and compared with the groundwater-quality objectives in the Basin Plan to determine assimilative capacity for TDS and nitrate. In the Chino Basin, the Chino-North MZ maximum-benefit objective is used for compliance by the RWQCB. The Chino-North includes MZ1, MZ2, and MZ3 combined up gradient of Prado Basin MZ, and the Chino-North maximum-benefit objective is higher than the anti-degradation objectives for MZ1, MZ2, and MZ3. If Watermaster and the IEUA do not implement specific projects and programs termed the "Chino Basin maximum-benefit commitments" (Table 5-8 in the Basin Plan), then the anti-degradation objectives will be used by the RWQCB for regulatory purposes.

Shown here are time-series charts of the ambient TDS concentration for the anti-degradation MZs and for the Chino-North MZ. TDS AWQ determinations were made for 1973, 1997, 2003, 2006, 2009, and 2012 (WEI, 2000; 2005b; 2008a; 2011b; and 2014b). The current (2012) AWQ determination for TDS in Chino-North is 350 mg/L. The maximum-benefit TDS objective for Chino-North is 420 mg/L; therefore, 70 mg/L of assimilative capacity exists (WEI, 2014b). If the current TDS AWQ were to exceed the maximum-benefit objective, there would be a mitigation requirement for the recharge and direct use of recycled water. The next AWQ determinations for 2015 will be analyzed in 2016, and published mid-2017.





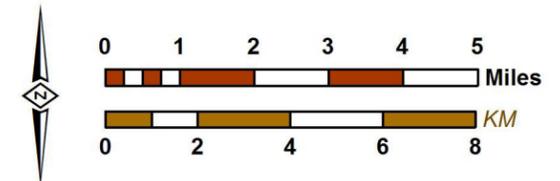


This exhibit shows TDS concentration time-series data for MZ1, including three wells representative of the northern region of MZ1 (Upland 20, Upland 08, MVWD 05), two wells representative of the central region (Chino 05 and Pomona 23), and two wells representative of the southern region (CIM 1A and HCMP-3). In the northern region of MZ1, TDS concentrations have remained steady over the period depicted and are generally below the Secondary MCL of 500 mg/L. In the central region of MZ1, TDS concentrations have increased slightly over the last 30 years and are below or slightly above the MCL. In the southern region, TDS concentrations have increased since 1990, as seen in CIM 1A, and are at or slightly above the MCL. This trend of increasing TDS concentration is observed at the majority of the wells south of Highway 60. Sampling at the HCMP-3 monitoring well shows the variation of water quality from the shallow to deeper aquifers in this area. TDS concentrations in the shallow aquifer in the southern portion of the Basin are generally above the 500 mg/L MCL and decrease with depth.



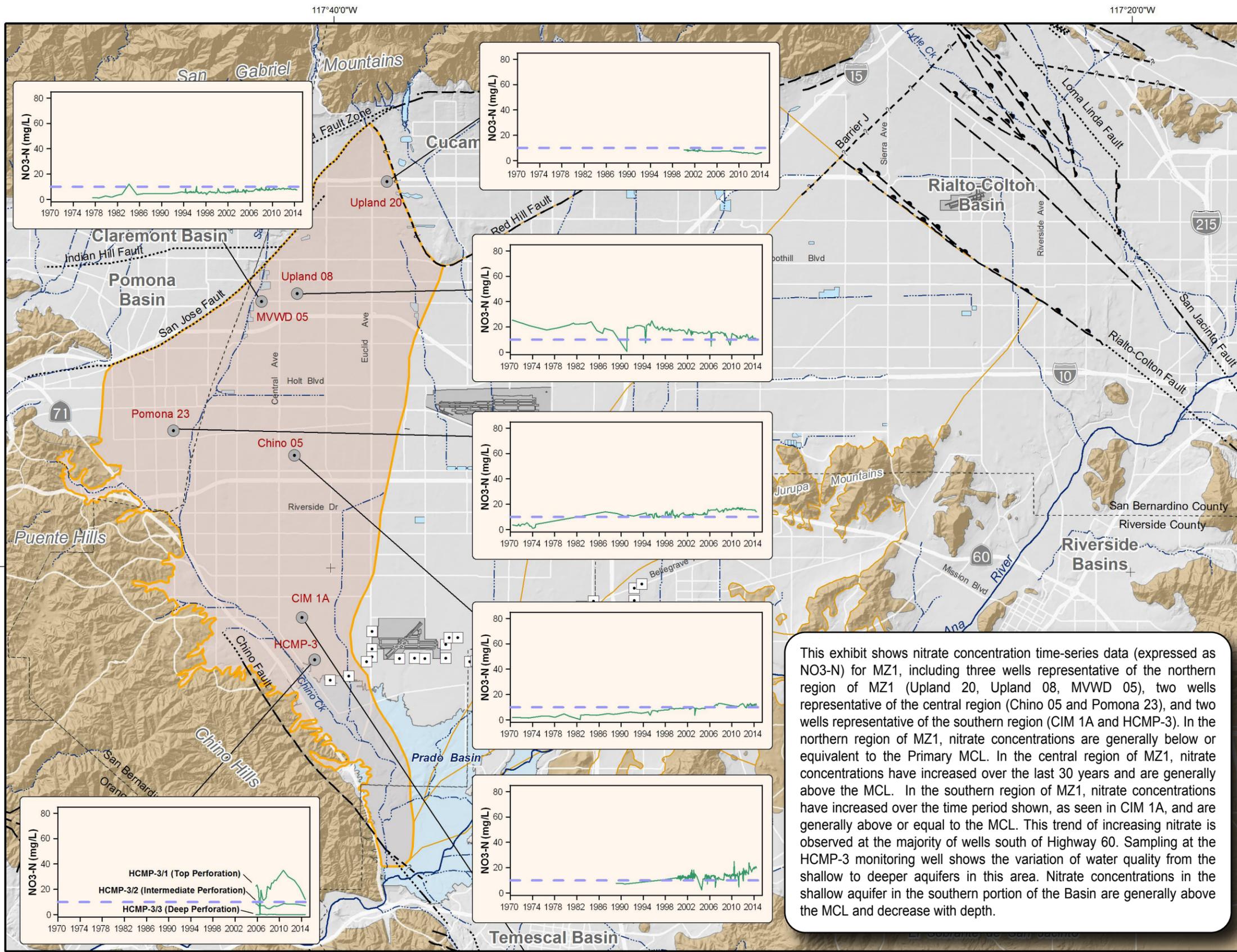
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 Date: 6/23/2015  
 Document Name: Exhibit\_49\_MZ1\_TDS



**2014 State of the Basin**  
 Groundwater Quality

**Chino Basin Management Zone 1**  
 Trends in Total Dissolved Solids Concentrations



**MZ1 Boundary Area**

**Representative MZ1 Wells**

**Nitrate as Nitrogen (NO<sub>3</sub>-N) Concentration**

Primary US/CA EPA MCL = 10 mg/L

**OBMP Management Zones**

**Chino Basin Desalter Well**

**Streams & Flood Control Channels**

**Recharge Basins and Spreading Grounds**

**Geology**

**Water-Bearing Sediments**

Quaternary Alluvium

**Consolidated Bedrock**

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

**Faults**

Location Certain      Location Concealed

Location Approximate      Location Uncertain

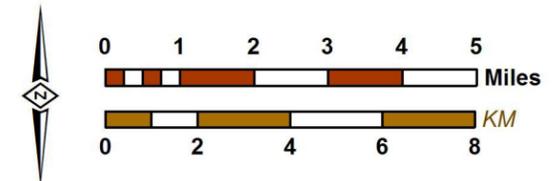
Approximate Location of Groundwater Barrier

This exhibit shows nitrate concentration time-series data (expressed as NO<sub>3</sub>-N) for MZ1, including three wells representative of the northern region of MZ1 (Upland 20, Upland 08, MVWD 05), two wells representative of the central region (Chino 05 and Pomona 23), and two wells representative of the southern region (CIM 1A and HCMP-3). In the northern region of MZ1, nitrate concentrations are generally below or equivalent to the Primary MCL. In the central region of MZ1, nitrate concentrations have increased over the last 30 years and are generally above the MCL. In the southern region of MZ1, nitrate concentrations have increased over the time period shown, as seen in CIM 1A, and are generally above or equal to the MCL. This trend of increasing nitrate is observed at the majority of wells south of Highway 60. Sampling at the HCMP-3 monitoring well shows the variation of water quality from the shallow to deeper aquifers in this area. Nitrate concentrations in the shallow aquifer in the southern portion of the Basin are generally above the MCL and decrease with depth.

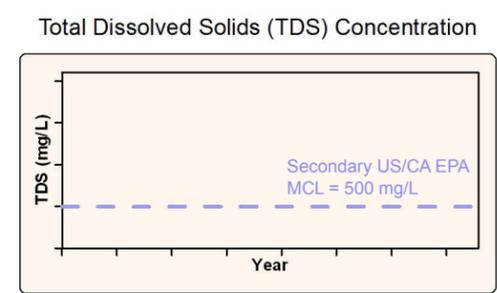
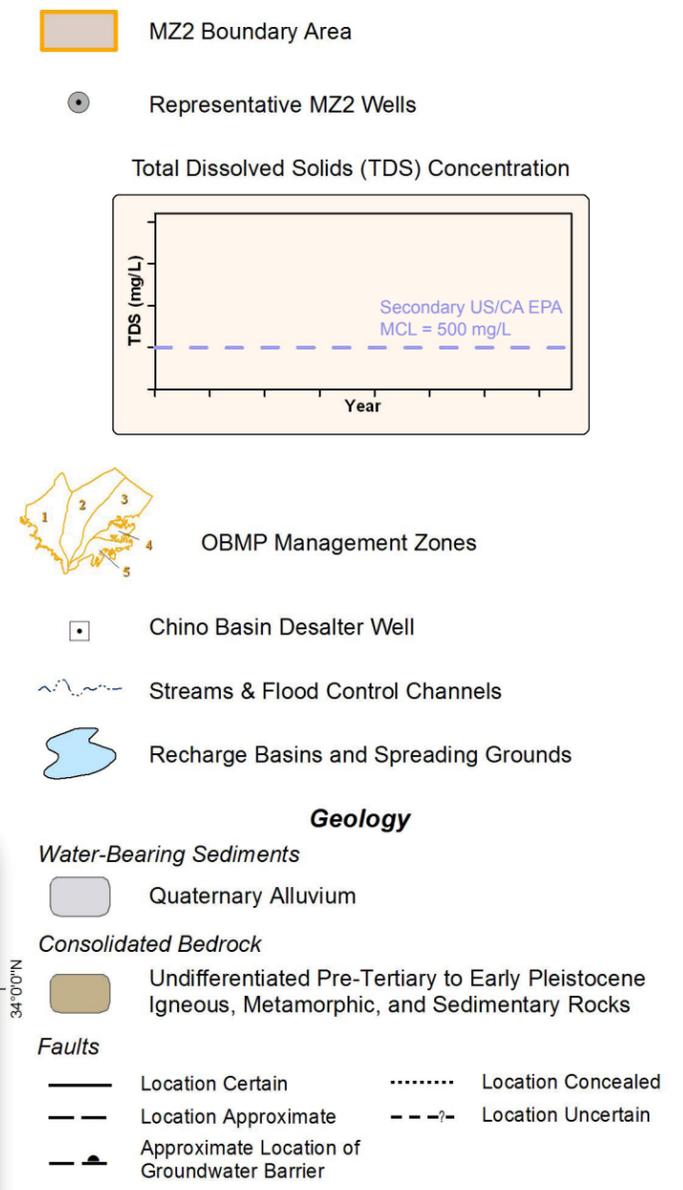
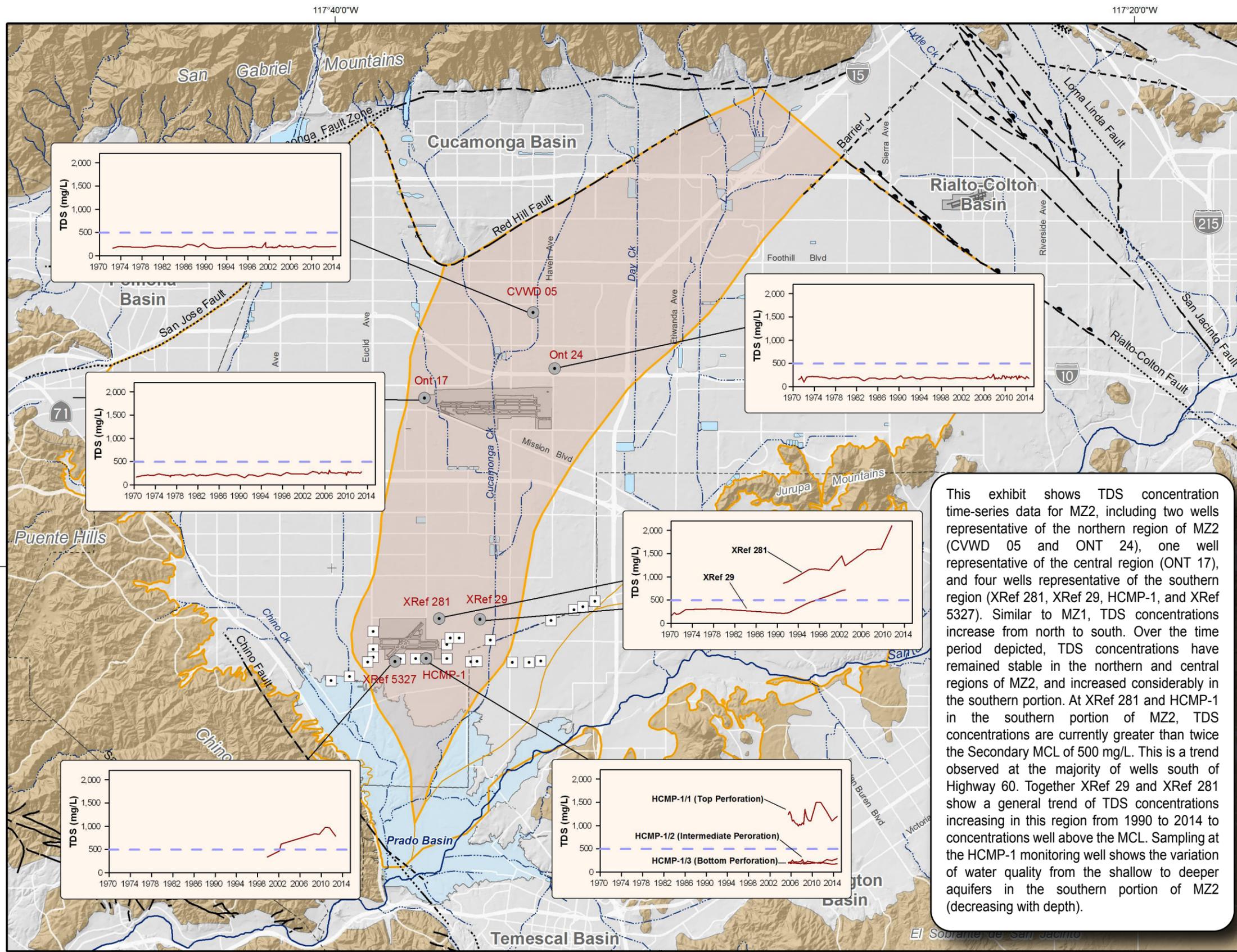


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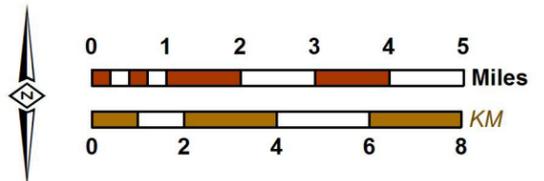
Author: JMS  
 Date: 6/23/2015  
 Document Name: Exhibit\_50\_MZ1\_NO3

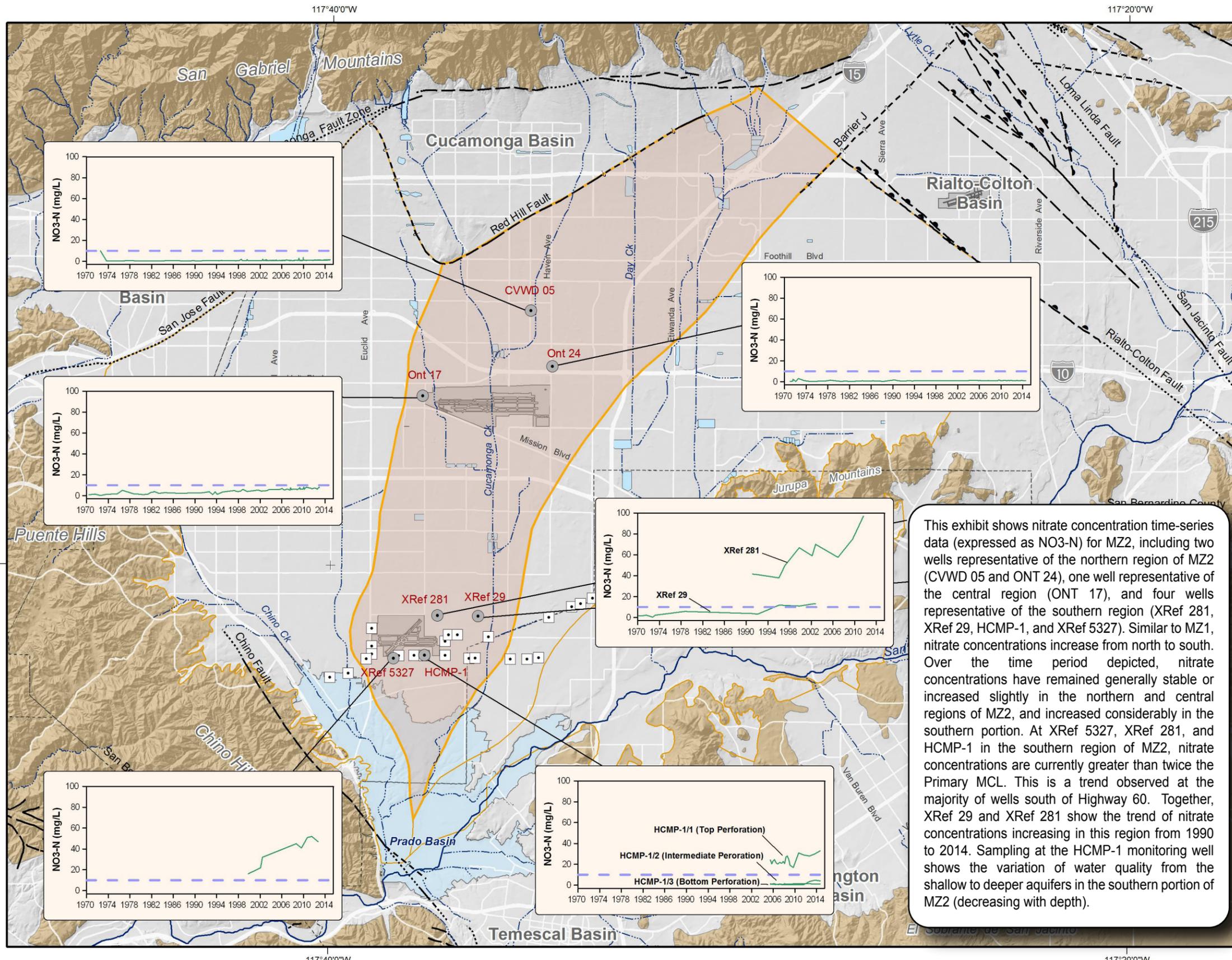


**2014 State of the Basin**  
 Groundwater Quality

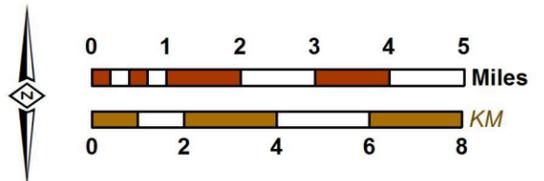
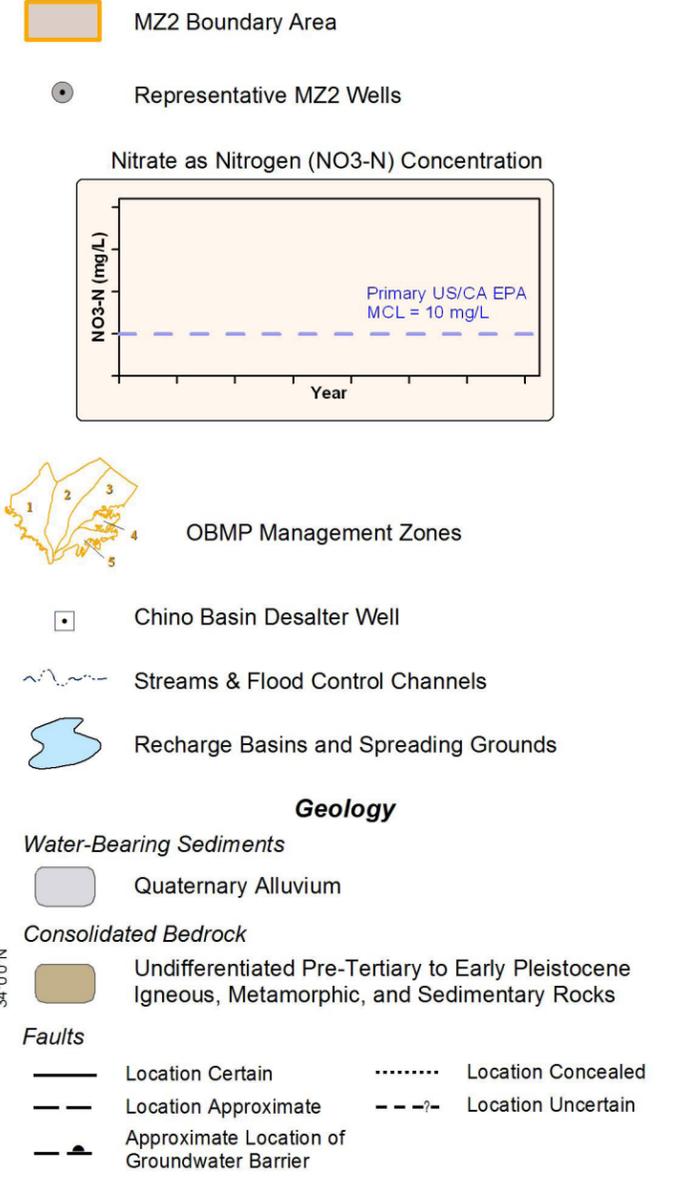


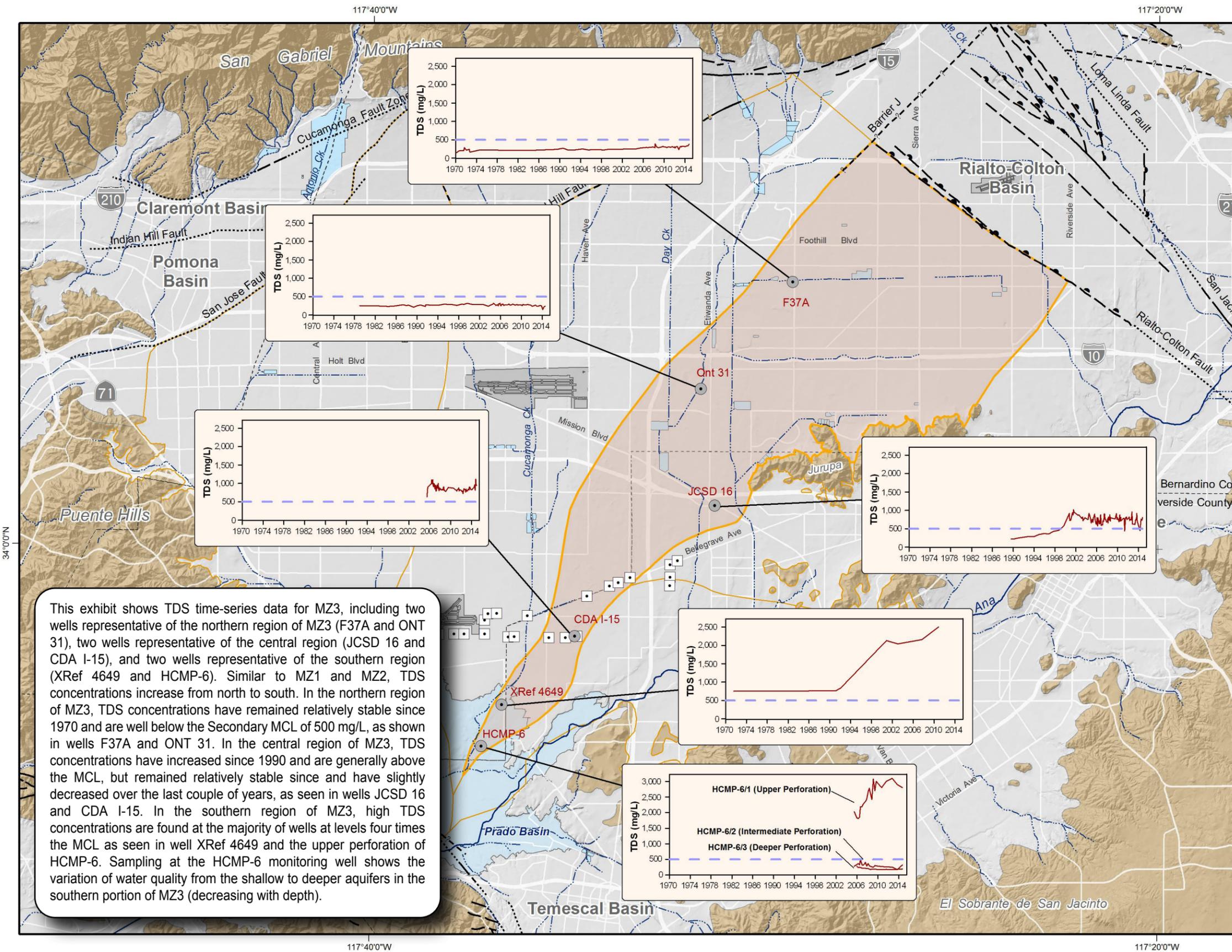
This exhibit shows TDS concentration time-series data for MZ2, including two wells representative of the northern region of MZ2 (CVWD 05 and ONT 24), one well representative of the central region (ONT 17), and four wells representative of the southern region (XRef 281, XRef 29, HCMP-1, and XRef 5327). Similar to MZ1, TDS concentrations increase from north to south. Over the time period depicted, TDS concentrations have remained stable in the northern and central regions of MZ2, and increased considerably in the southern portion. At XRef 281 and HCMP-1 in the southern portion of MZ2, TDS concentrations are currently greater than twice the Secondary MCL of 500 mg/L. This is a trend observed at the majority of wells south of Highway 60. Together XRef 29 and XRef 281 show a general trend of TDS concentrations increasing in this region from 1990 to 2014 to concentrations well above the MCL. Sampling at the HCMP-1 monitoring well shows the variation of water quality from the shallow to deeper aquifers in the southern portion of MZ2 (decreasing with depth).





This exhibit shows nitrate concentration time-series data (expressed as NO<sub>3</sub>-N) for MZ2, including two wells representative of the northern region of MZ2 (CVWD 05 and ONT 24), one well representative of the central region (ONT 17), and four wells representative of the southern region (XRef 281, XRef 29, HCMP-1, and XRef 5327). Similar to MZ1, nitrate concentrations increase from north to south. Over the time period depicted, nitrate concentrations have remained generally stable or increased slightly in the northern and central regions of MZ2, and increased considerably in the southern portion. At XRef 5327, XRef 281, and HCMP-1 in the southern region of MZ2, nitrate concentrations are currently greater than twice the Primary MCL. This is a trend observed at the majority of wells south of Highway 60. Together, XRef 29 and XRef 281 show the trend of nitrate concentrations increasing in this region from 1990 to 2014. Sampling at the HCMP-1 monitoring well shows the variation of water quality from the shallow to deeper aquifers in the southern portion of MZ2 (decreasing with depth).





This exhibit shows TDS time-series data for MZ3, including two wells representative of the northern region of MZ3 (F37A and ONT 31), two wells representative of the central region (JCSD 16 and CDA I-15), and two wells representative of the southern region (XRef 4649 and HCMP-6). Similar to MZ1 and MZ2, TDS concentrations increase from north to south. In the northern region of MZ3, TDS concentrations have remained relatively stable since 1970 and are well below the Secondary MCL of 500 mg/L, as shown in wells F37A and ONT 31. In the central region of MZ3, TDS concentrations have increased since 1990 and are generally above the MCL, but remained relatively stable since and have slightly decreased over the last couple of years, as seen in wells JCSD 16 and CDA I-15. In the southern region of MZ3, high TDS concentrations are found at the majority of wells at levels four times the MCL as seen in well XRef 4649 and the upper perforation of HCMP-6. Sampling at the HCMP-6 monitoring well shows the variation of water quality from the shallow to deeper aquifers in the southern portion of MZ3 (decreasing with depth).

**MZ3 Boundary Area**

**Representative MZ3 Wells**

**Total Dissolved Solids (TDS) Concentrations**

**OBMP Management Zones**

**Chino Basin Desalter Well**

**Streams & Flood Control Channels**

**Recharge Basins and Spreading Grounds**

**Geology**

**Water-Bearing Sediments**

- Quaternary Alluvium

**Consolidated Bedrock**

- Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

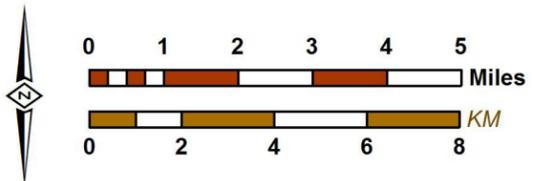
**Faults**

- Location Certain
- Location Approximate
- Approximate Location of Groundwater Barrier
- Location Concealed
- Location Uncertain



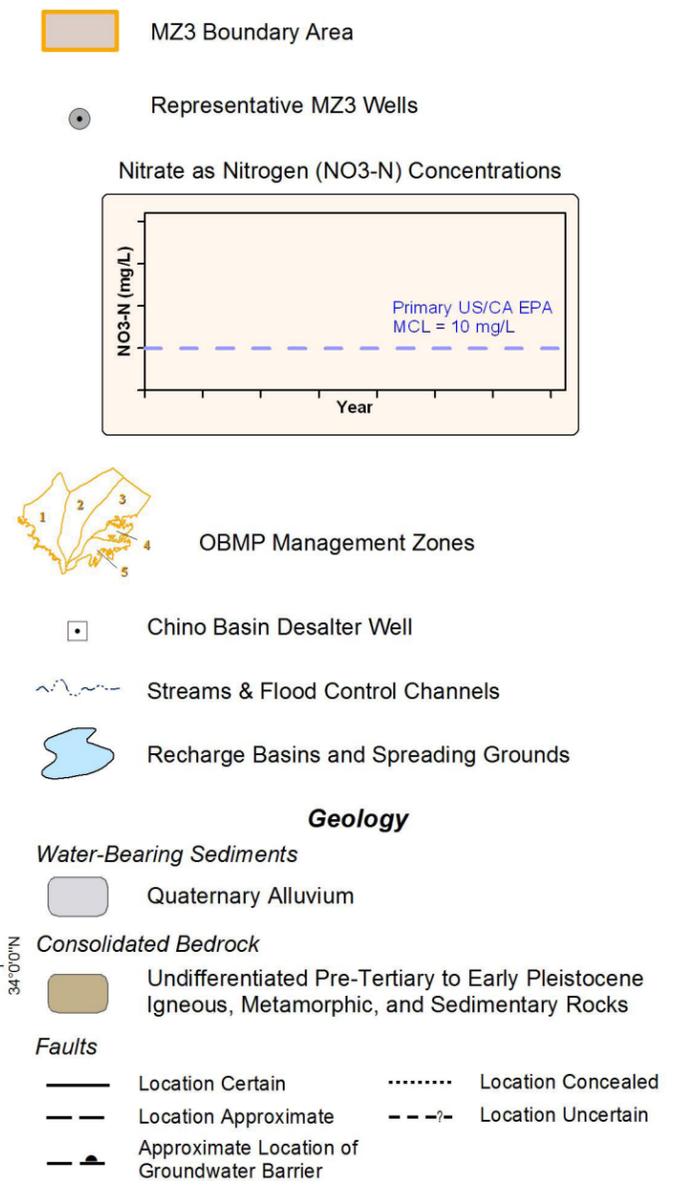
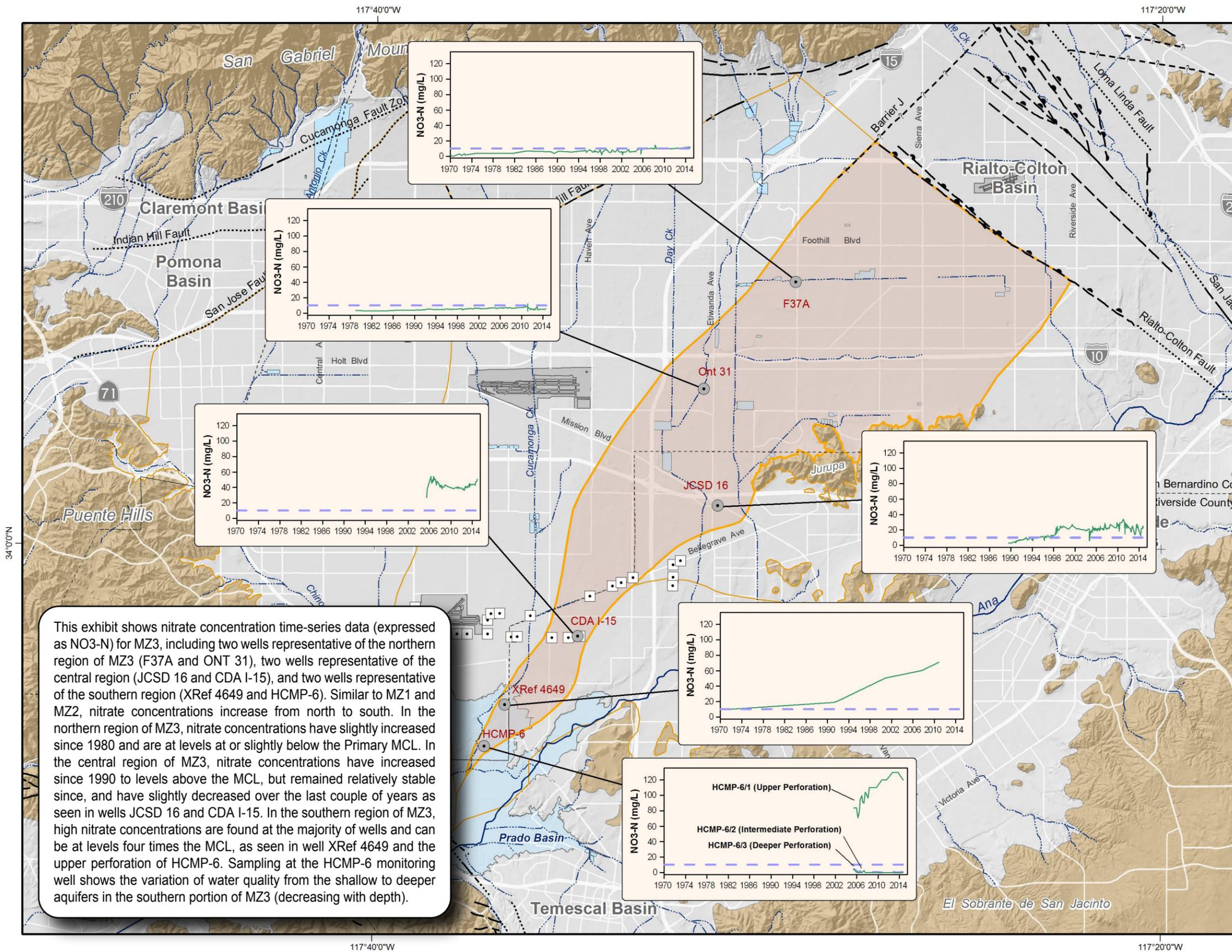
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Author: JMS  
 Date: 6/23/2015  
 Document Name: Exhibit\_53\_MZ3\_TDS

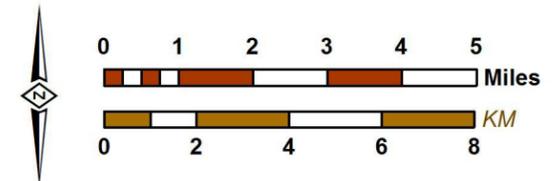
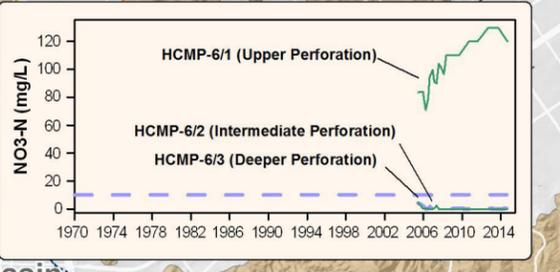
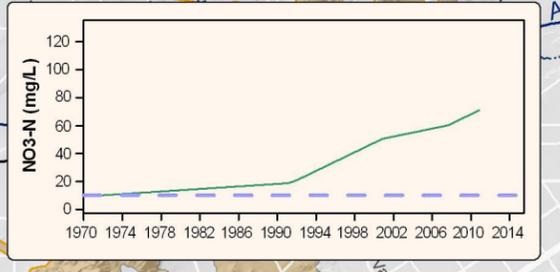
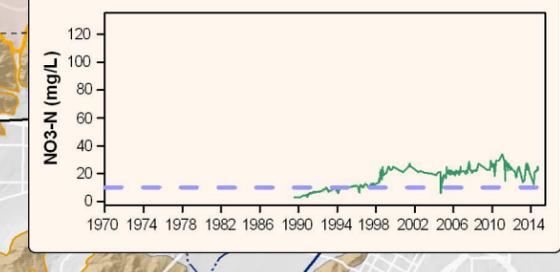
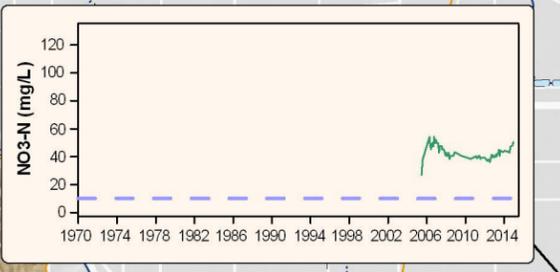
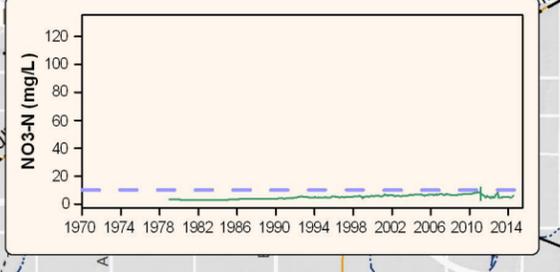
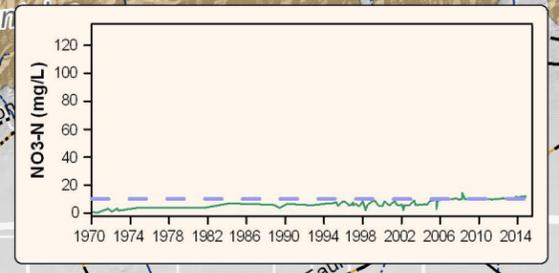


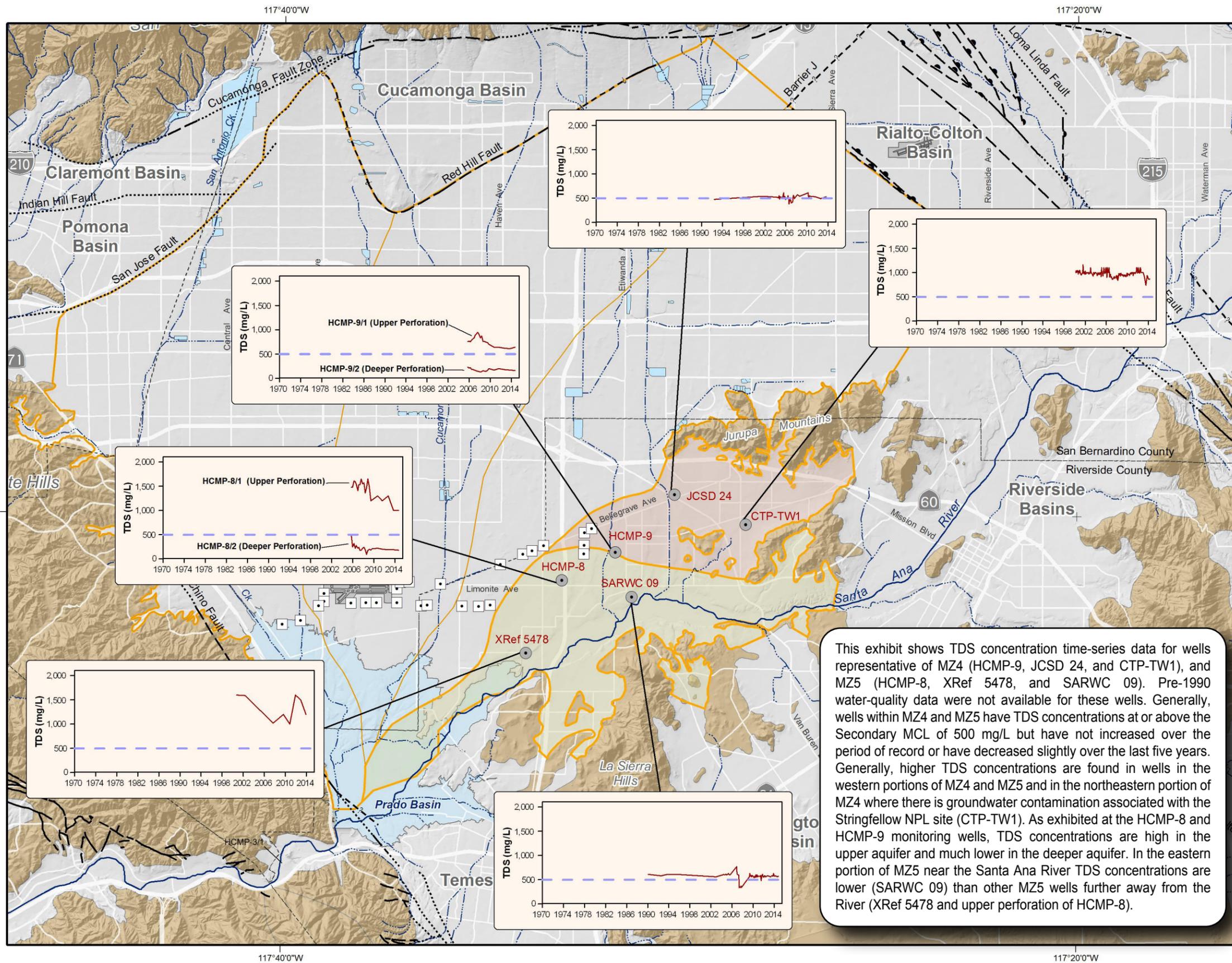
**2014 State of the Basin**  
 Groundwater Quality

**Chino Basin Management Zone 3**  
 Trends in Total Dissolved Solids Concentrations



This exhibit shows nitrate concentration time-series data (expressed as NO<sub>3</sub>-N) for MZ3, including two wells representative of the northern region of MZ3 (F37A and ONT 31), two wells representative of the central region (JCSD 16 and CDA I-15), and two wells representative of the southern region (XRef 4649 and HCMP-6). Similar to MZ1 and MZ2, nitrate concentrations increase from north to south. In the northern region of MZ3, nitrate concentrations have slightly increased since 1980 and are at levels at or slightly below the Primary MCL. In the central region of MZ3, nitrate concentrations have increased since 1990 to levels above the MCL, but remained relatively stable since, and have slightly decreased over the last couple of years as seen in wells JCSD 16 and CDA I-15. In the southern region of MZ3, high nitrate concentrations are found at the majority of wells and can be at levels four times the MCL, as seen in well XRef 4649 and the upper perforation of HCMP-6. Sampling at the HCMP-6 monitoring well shows the variation of water quality from the shallow to deeper aquifers in the southern portion of MZ3 (decreasing with depth).





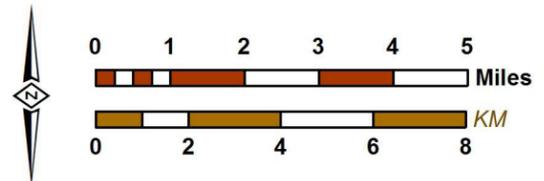
- MZ4 Boundary Area
  - MZ5 Boundary Area
  - Representative MZ4 and MZ5 Wells
- Total Dissolved Solids (TDS) Concentrations**
- 
- OBMP Management Zones
  - Chino Basin Desalter Well
  - Streams & Flood Control Channels
  - Recharge Basins and Spreading Grounds
- Geology**
- Water-Bearing Sediments
  - Quaternary Alluvium
  - Consolidated Bedrock
  - Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks
- Faults**
- Location Certain
  - Location Concealed
  - Location Approximate
  - Location Uncertain
  - Approximate Location of Groundwater Barrier

This exhibit shows TDS concentration time-series data for wells representative of MZ4 (HCMP-9, JCS D 24, and CTP-TW1), and MZ5 (HCMP-8, XRef 5478, and SARWC 09). Pre-1990 water-quality data were not available for these wells. Generally, wells within MZ4 and MZ5 have TDS concentrations at or above the Secondary MCL of 500 mg/L but have not increased over the period of record or have decreased slightly over the last five years. Generally, higher TDS concentrations are found in wells in the western portions of MZ4 and MZ5 and in the northeastern portion of MZ4 where there is groundwater contamination associated with the Stringfellow NPL site (CTP-TW1). As exhibited at the HCMP-8 and HCMP-9 monitoring wells, TDS concentrations are high in the upper aquifer and much lower in the deeper aquifer. In the eastern portion of MZ5 near the Santa Ana River TDS concentrations are lower (SARWC 09) than other MZ5 wells further away from the River (XRef 5478 and upper perforation of HCMP-8).

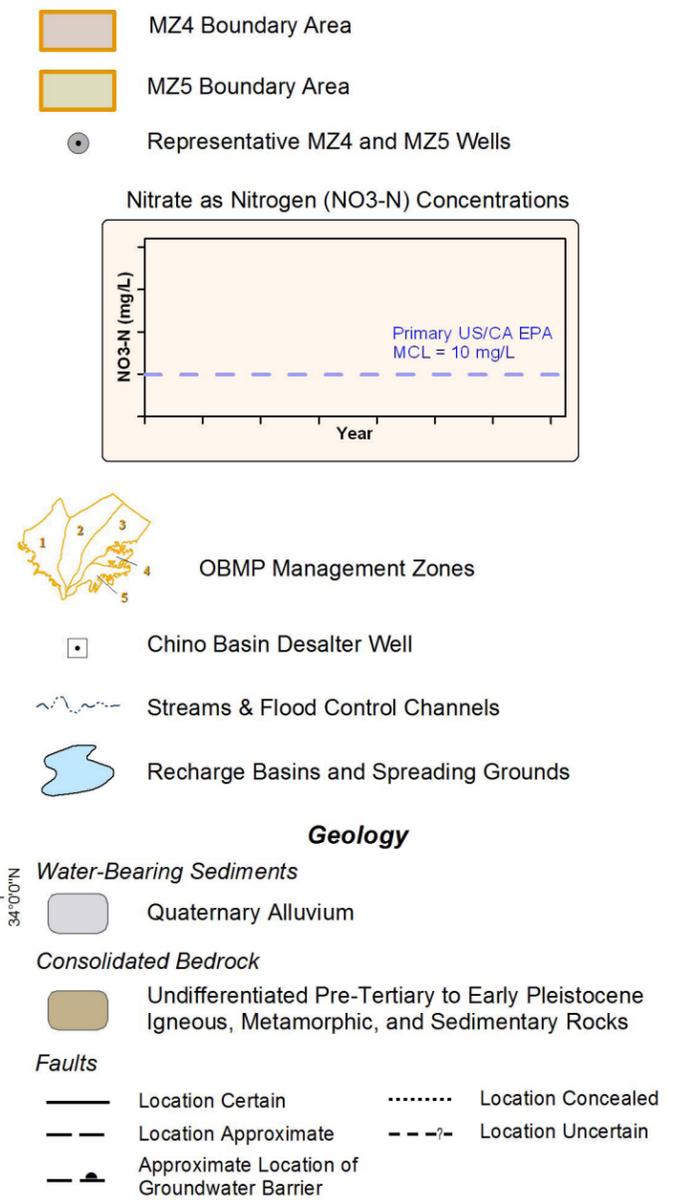
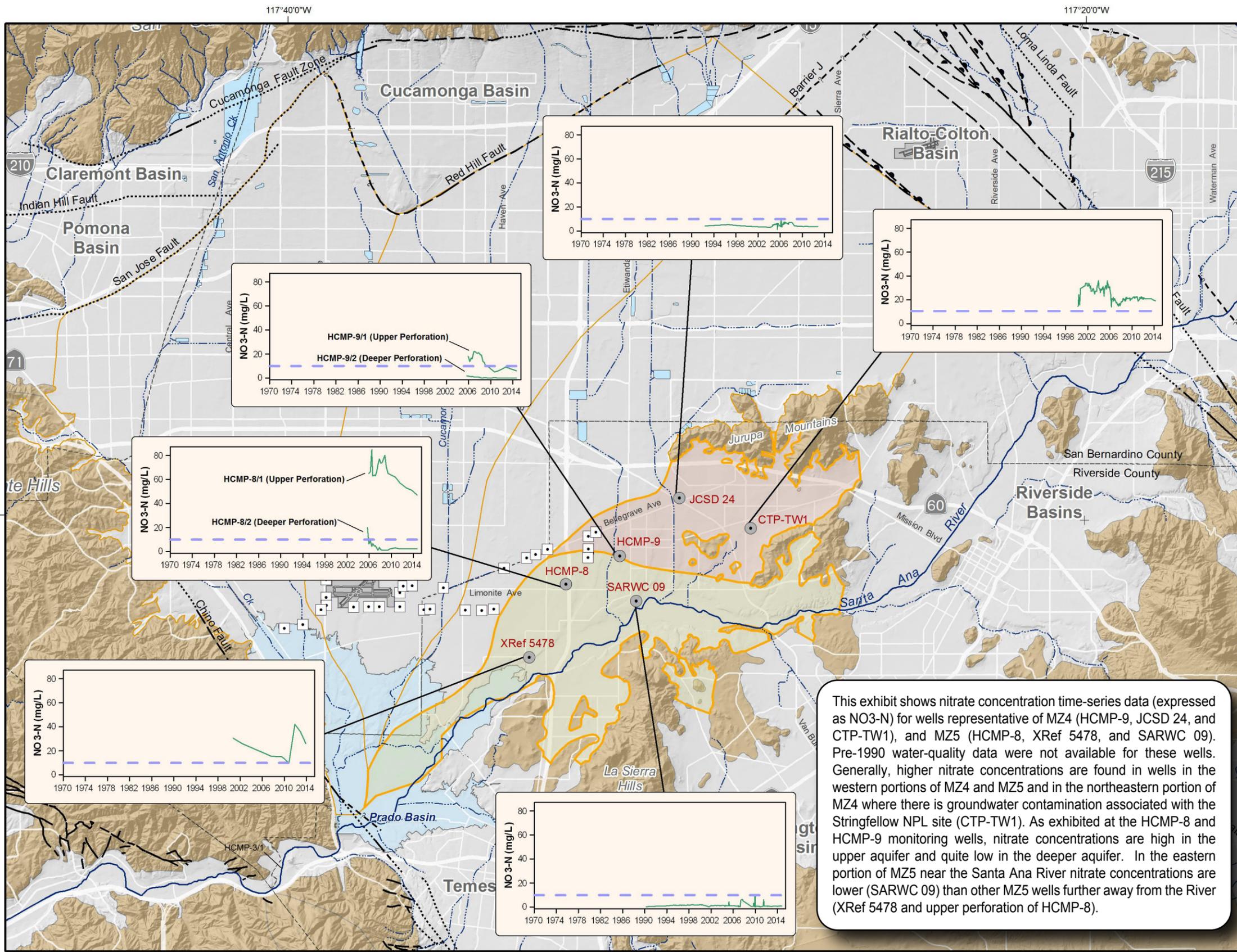


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 Document Name: Exhibit\_55\_MZ4\_5\_TDS



**2014 State of the Basin**  
 Groundwater Quality



This exhibit shows nitrate concentration time-series data (expressed as NO<sub>3</sub>-N) for wells representative of MZ4 (HCMP-9, JCSD 24, and CTP-TW1), and MZ5 (HCMP-8, XRef 5478, and SARWC 09). Pre-1990 water-quality data were not available for these wells. Generally, higher nitrate concentrations are found in wells in the western portions of MZ4 and MZ5 and in the northeastern portion of MZ4 where there is groundwater contamination associated with the Stringfellow NPL site (CTP-TW1). As exhibited at the HCMP-8 and HCMP-9 monitoring wells, nitrate concentrations are high in the upper aquifer and quite low in the deeper aquifer. In the eastern portion of MZ5 near the Santa Ana River nitrate concentrations are lower (SARWC 09) than other MZ5 wells further away from the River (XRef 5478 and upper perforation of HCMP-8).

