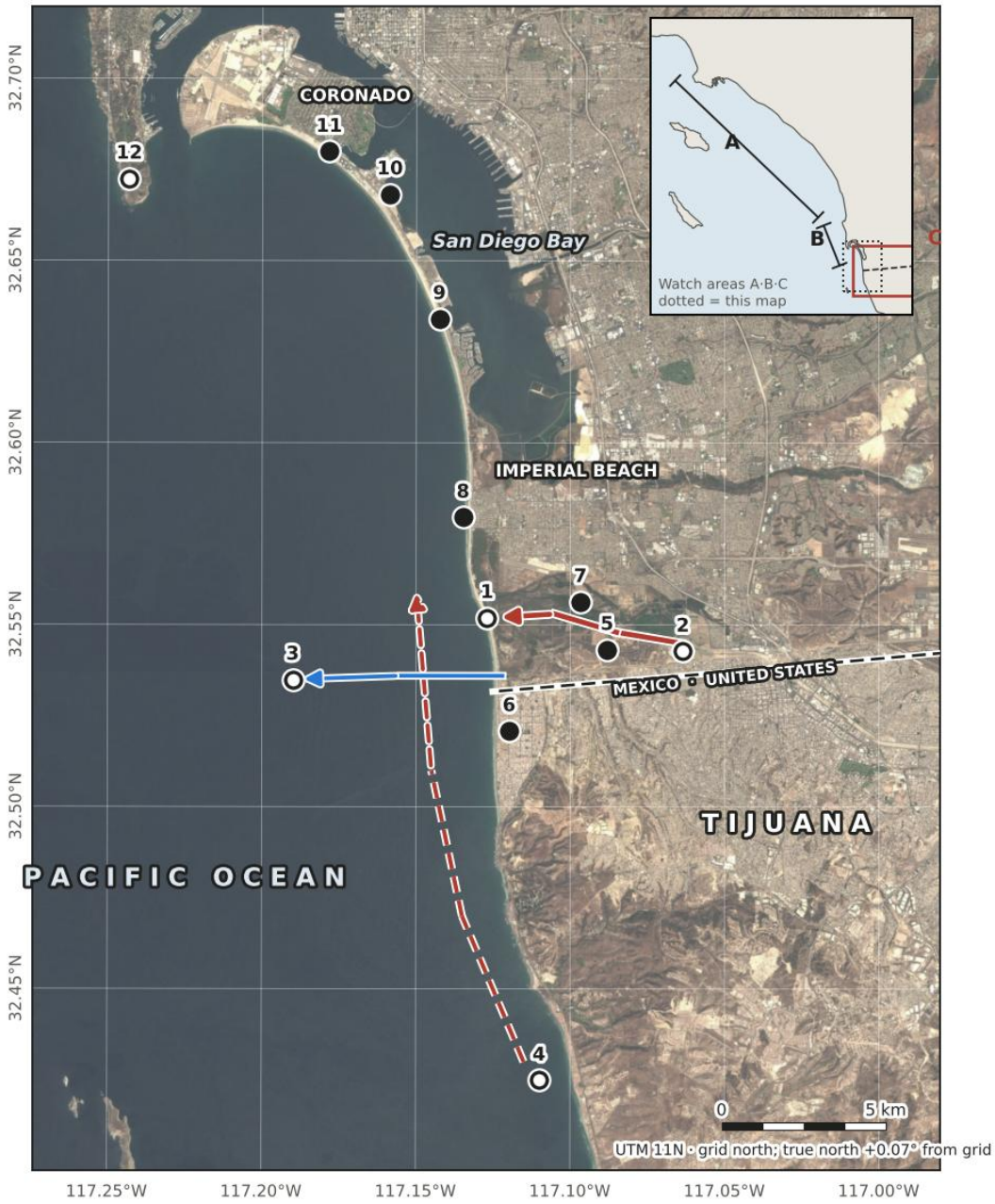
Where the water comes from

DRAFT 1 · for refinement

One shoreline, many inputs: the river, the canyons, the plants and the outfalls, from Coronado to Punta Bandera



1 Tijuana River mouth and estuary [position approx.]
2 South Bay International Wastewater Treatment Plant (U.S.) [position approx.]
3 South Bay Ocean Outfall, offshore end (~3.5 mi out) [position approx.]
4 San Antonio de los Buenos plant / Punta Bandera discharge (MX) [position…
5 Smuggler's Gulch (canyon flows)
6 Playas de Tijuana
7 Border Field State Park
8 Imperial Beach Pier
9 Silver Strand State Beach (on the shore at the park's latitude)
10 Naval Amphibious Base Coronado (SEAL training)
11 Hotel del Coronado
12 Point Loma Wastewater Treatment Plant; 1992 outfall break ~3,000 ft offshore…

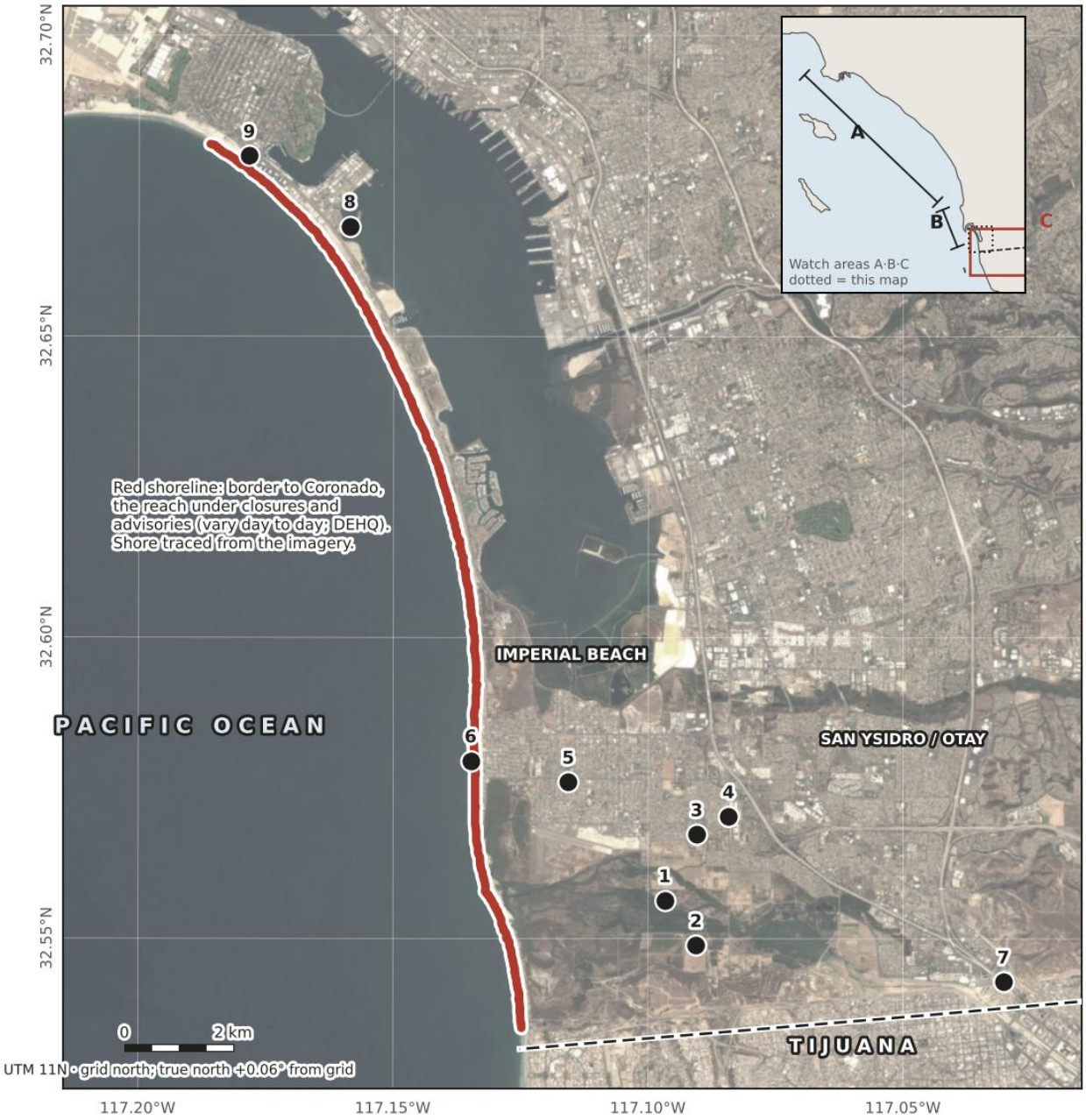
Red solid: the river carries sewage-laden flow to the estuary and surf.
Red dashed: SAB discharge at Punta Bandera is the dominant year-round source of U.S. beach closures (Scripps model for NADB, 2020); route schematic.
Blue: treated effluent leaves through the South Bay Ocean Outfall.
SBIWTP: 25 MGD (1997) → 35 MGD (Aug 2025); 50 MGD design scheduled.
SAB rebuilt at 800 L/s vs a 1,200 L/s late-1980s design (ZETA, Aug 2025).
10 of Tijuana's 16 treatment plants failing (CESPT, Sep 2025).

Imagery: Sentinel-2 cloudless 2016 by EOX IT Services GmbH (contains modified Copernicus Sentinel data 2016), CC BY 4.0; predates the Gaylord (2025). Border: Natural Earth 10m (public domain). Positions: OpenStreetMap contributors via Nominatim (ODbL) unless marked approx. Projection UTM 11N (EPSG:32611). PA-S1 / TDD, draft 1, 20 Oct 2026. Flow arrows are schematic, not modelled paths.

What the air and water carry

DRAFT 1 · for refinement

An invisible exposure you can smell: the shoreline closures, the hydrogen-sulfide readings and the neighbourhoods beside them



1 Border Field State Park
2 Tijuana River Valley Regional Park (CDC CASPER survey area, Oct 2024)
3 Berry Elementary, Nestor (school named in UT/CHJ attendance review)
4 Nestor (neighbourhood)
5 Imperial Beach Civic Center
6 Imperial Beach Pier
7 San Ysidro Port of Entry
8 Naval Amphibious Base Coronado (SEAL training beaches)
9 Hotel del Coronado

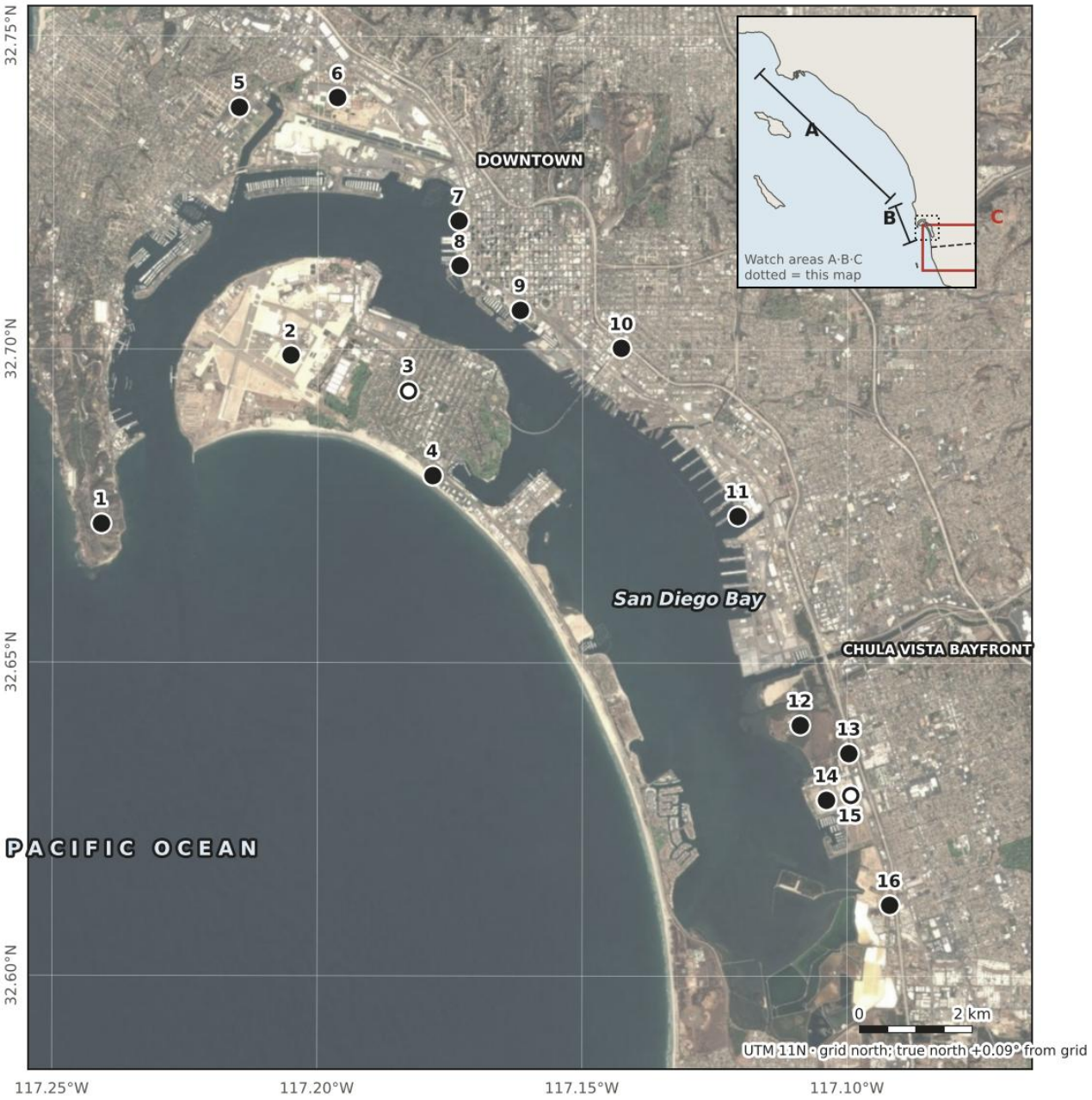
1,002 straight days closed at Imperial Beach as of 5 Sep 2024 (SFGate via Governing).
H2S about 500 ppb near Imperial Beach schools, 19 Mar 2026: over 15× the 30 ppb state standard; 199 air purifiers bought (CalMatters).
CDC CASPER, Oct 2024: 189 households; 95% smelled sewage (CDC).
SEAL candidates: 1,168 GI illnesses 2019–23 (DoD IG, via press).
Exposure is not risk: no health outcome is mapped here.
Places, not persons: zones and public sites only.

Imagery: Sentinel-2 cloudless 2016 by EOX IT Services GmbH (contains modified Copernicus Sentinel data 2016), CC BY 4.0; predates the Gaylord (2025). Border: Natural Earth 10m (public domain). Positions: OpenStreetMap contributors via Nominatim (ODbL) unless marked approx. Projection UTM 11N (EPSG:32611). PA-S1 / TDD, draft 1, 20 Oct 2026. Monitor locations not shown (to source from SDAPCD, W063).

The bay, from its mouth to the bayfront

DRAFT 1 · for refinement

A century of defence, flight, fish and industry around one bay, and the South Bay waterfront now being cleaned and rebuilt



1 Cabrillo National Monument (bay mouth)
2 NAS North Island: Curtiss 1911, NAS 1917, Lindbergh 1927
3 Spanish Bight, filled in WWII (former channel) [position approx.]
4 Hotel del Coronado (1888; NHL 1977)
5 Liberty Station (former Naval Training Center)
6 Marine Corps Recruit Depot
7 Star of India (1863), Maritime Museum
8 Tuna Harbor (tuna-fleet waterfront)
9 San Diego Convention Center (2.6M sq ft)
10 Chicano Park, Barrio Logan
11 Naval Base San Diego
12 Sweetwater Marsh (refuge; sediment cleanup)
13 Rohr North Campus, 850 Lagoon Dr (CAO R9-2021-0042)
14 Gaylord Pacific Resort (opened May 2025)
15 Rohr South Campus, 'foot of H Street' (CAO R9-2014-0019) [position approx.]
16 Former South Bay Power Plant, 990 Bay Blvd (1960–2010)

Rohr (aerospace, 1941–2002): TCE, Cr(VI), lead, cadmium, PCBs.
North Campus groundwater TCE up to 300,000 µg/L (1993) vs 5 µg/L MCL;
in-situ barriers of iron, vegetable oil and a Dehalococcoides culture (2020);
order estimate $18.7–26.8M (CAO R9-2021-0042).
South Campus order (2014) lists future 'hotel guests' as receptors.
Overlay of order boundaries on the Gaylord parcels: wall W060.
Tuna: ~95% of U.S. canning in the 1940s; last cannery left 1984.

Imagery: Sentinel-2 cloudless 2016 by EOX IT Services GmbH (contains modified Copernicus Sentinel data 2016), CC BY 4.0; predates the Gaylord (2025). Border: Natural Earth 10m (public domain). Positions: OpenStreetMap contributors via Nominatim (ODbL) unless marked approx. Projection UTM 11N (EPSG:32611). PA-S1 / TDD, draft 1, 20 Oct 2026. Historical features (Spanish Bight) are marked at approximate former positions.

The line you can see

DRAFT 1 · for refinement

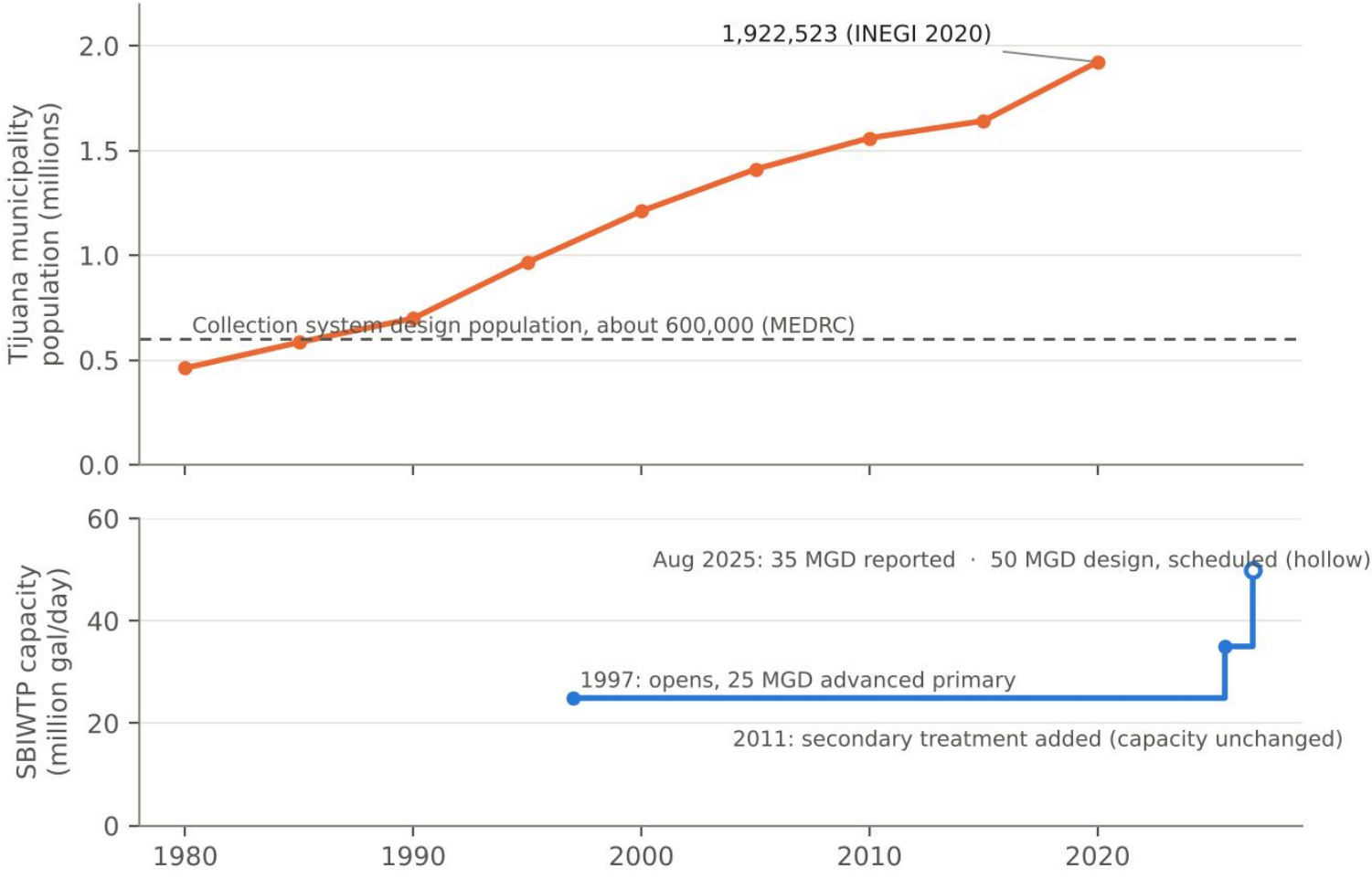
From the Pacific to Tecate: dense city to the south of the boundary, open and managed land to the north, then mountains



Imagery: Sentinel-2 cloudless 2016 by EOX IT Services GmbH (contains modified Copernicus Sentinel data 2016), CC BY 4.0; predates the Gaylord (2025). Border: Natural Earth 10m (public domain). Positions: OpenStreetMap contributors via Nominatim (ODbL) unless marked approx. Projection UTM 11N (EPSG:32611). PA-S1 / TDD, draft 1, 20 Oct 2026. Imagery resampled to 30 m for this strip.

Growth outran the pipes

Tijuana's population against what its system was built for, and the U.S. plant that takes part of the flow



Sources: INEGI census via Wikipedia/SCITEL (municipality, R); design population and collapse history: MEDRC Issue 24 (R); SBIWTP: GAO-08-595R (C), USIBWC via press (R). Hollow marker = design value on a schedule, not yet reported as achieved. Draft 1.

Training in it

Naval Special Warfare candidates, Coronado (DoD Inspector General, DODIG-2025-067)

75%

of days, Feb–Sep 2024, water off NAB Coronado was unsafe

5%

of water training in that period was relocated

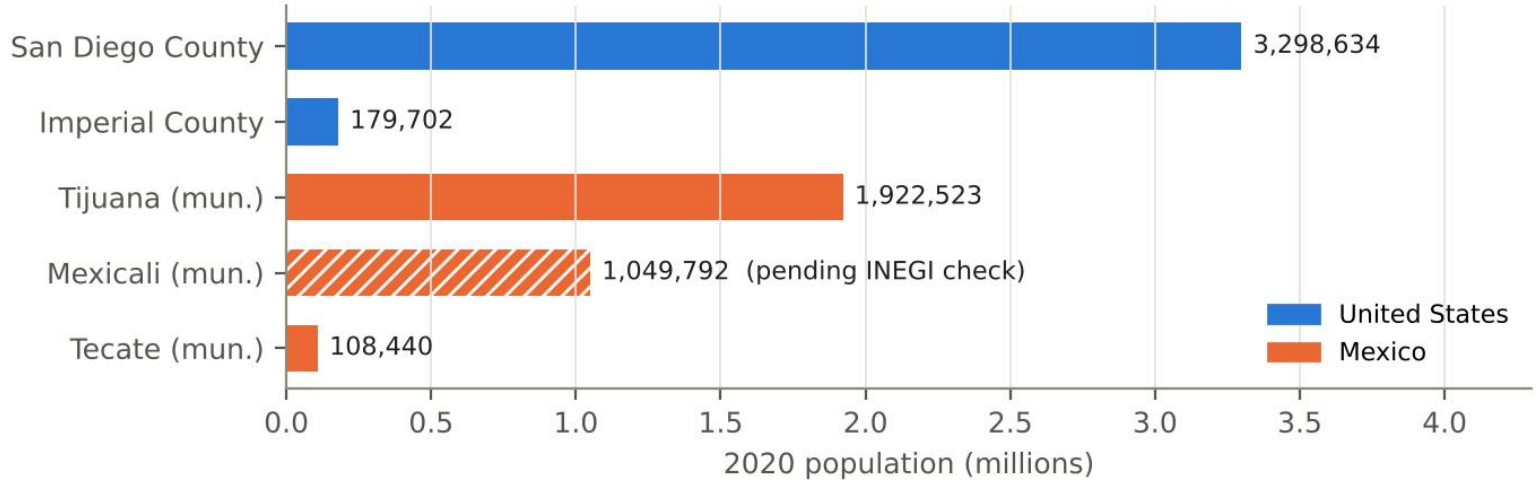
1,168

acute GI illnesses among candidates, Jan 2019–May 2023 (39% within 7 days of exposure)

Each figure has its own denominator (days, trainings, cases), so they are shown as separate tiles, not bars on one scale. Source: DODIG-2025-067 as reported by Coronado Times and Military.com, Feb 2025 (R; primary PDF pending, W057). Draft 1.

One region, split by a line

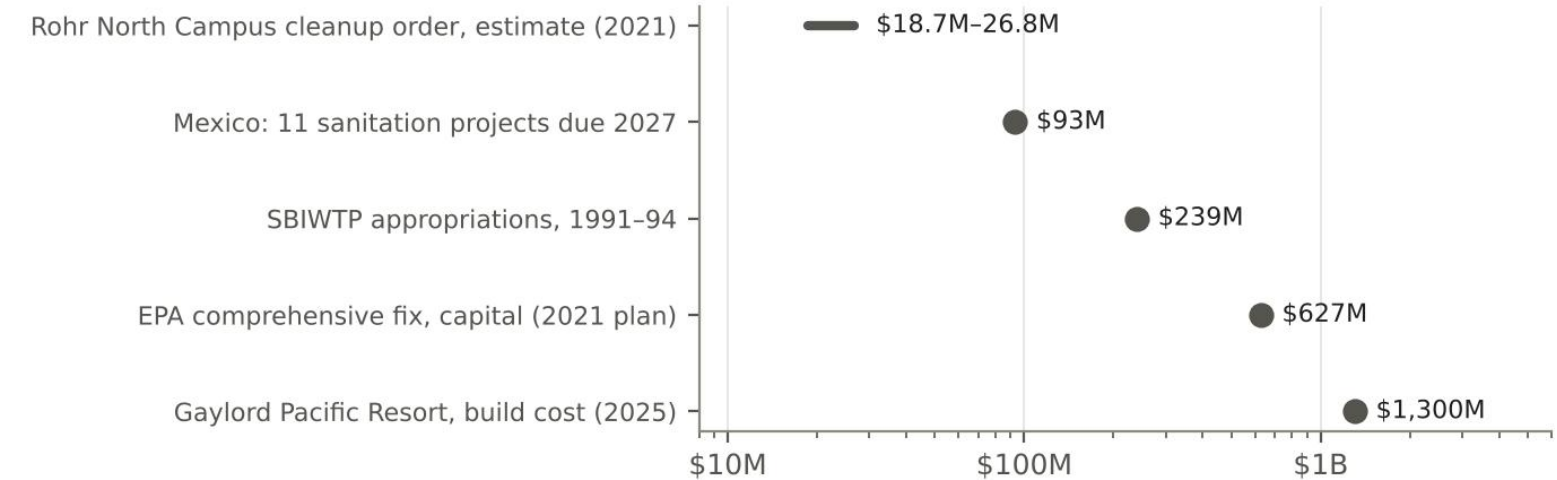
Confirmed parts: 5.51 million; with Mexicali about 6.6 million



Sources: U.S. Census 2020 (San Diego County figure, R pending table read; Imperial County, C); INEGI Censo 2020 (Tijuana, Tecate, C). Mexicali hatched: search figure, unconfirmed (W056). Rosarito pending. Draft 1.

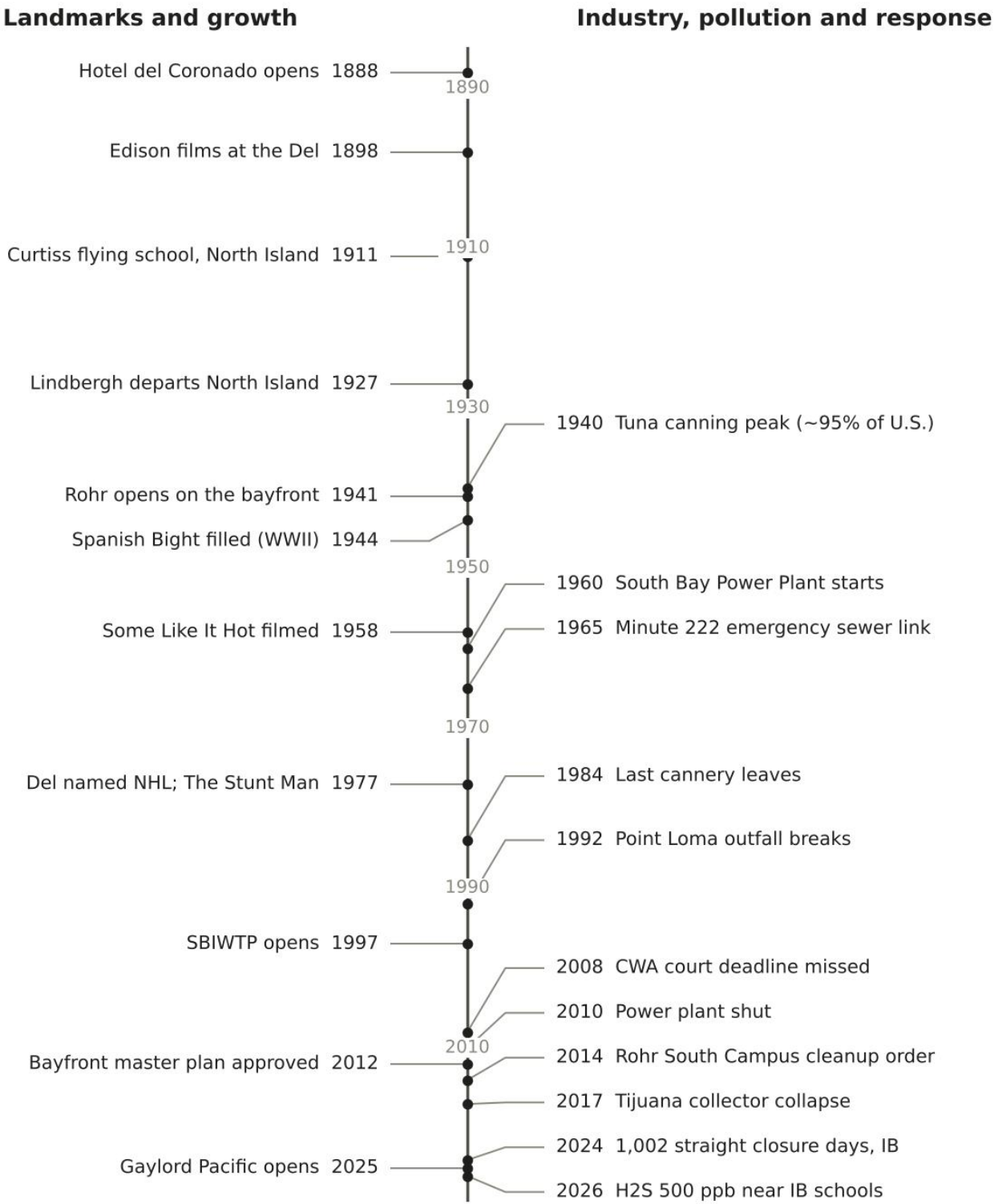
Orders of magnitude

Nominal dollars from different years: read for scale, never add them up



Sources: Water Board CAO R9-2021-0042 (C); ZETA Tijuana Aug 2025 (R); GAO-08-595R (C); EPA 2021 via recon r5 (R); Port/press (R). Log scale: each gridline is ten times the last. Draft 1.

Two timelines, one place



Dates from recon r3–r7 (SDHC, Navy CNRSW, Water Board orders, GAO, MEDRC, DEHQ via press). Leaders run from the year on the axis to its label. Minute 222 date pending IBWC check (W059). Draft 1.