



## **METADATA:**

### **Interactive Maps of Coastal Minimum Mandatory Penalty Violations in California**

This document details the methodology utilized by California Coastkeeper Alliance to create the interactive maps of Minimum Mandatory Penalty (MMP) violations records in California's six coastal Regional Water Boards ("MMP violations maps").<sup>1</sup>

#### **Data Source:**

- The violation records in the MMP violations maps reflect all MMP violations reported in the California Integrated Water Quality System Project (CIWQS) between 1/1/2000 and 3/15/2010, with updates occurring monthly as the CIWQS database is updated.
  - CCKA downloaded MMP Violation records through CIWQS<sup>2</sup>.
- Maps reflect violations in California's nine Regional Water Boards:<sup>3</sup> Region 1: North Coast, Region 2: San Francisco Bay, Region 3: Central Coast, Region 4: Los Angeles, Region 5: Central Valley, Region 6: Lahontan, Region 7: Colorado River Basin, Region 8: Santa Ana, and Region 9: San Diego.

#### **Creation of Maps:**

- CCKA compiled latitude and longitude coordinates for all violating facilities reported in the MMP Violation records.
  - State Water Board (SWRCB) staff provided coordinates for the majority of violating facilities. CCKA worked with SWRCB staff to assemble a list of addresses for those remaining facilities for which SWRCB could not provide coordinates.
    - Using these remaining facilities' addresses, CCKA calculated missing coordinates using Geographic Information Systems (GIS) mapping software to convert addresses into latitude and longitude coordinates using geocoding.<sup>4</sup>
- Latitude and longitude coordinates for all violating facilities were converted into a series of KML files; KML is Google's proprietary file type for geographic data.<sup>5</sup>
- Using Google Earth and Google Maps, the KML files were used to create the eight MMP maps seen on CCKA's website, one for each coastal Water Board region (with the

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<sup>1</sup> See CCKA's interactive MMP maps at: <http://www.cacoastkeeper.org/programs/mapping-initiative/mmp/>.

<sup>2</sup> Access the California Integrated Water Quality System Project (CIWQS) Minimum Mandatory Penalty Report at <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportMMPServlet?command=getmmpreportmenus>.

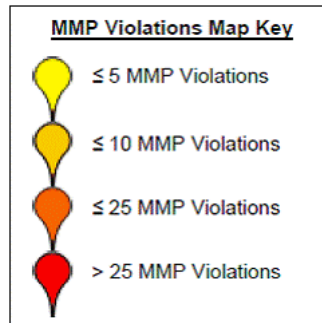
<sup>3</sup> [http://www.waterboards.ca.gov/waterboards\\_map.shtml](http://www.waterboards.ca.gov/waterboards_map.shtml).

<sup>4</sup> ArcGIS Editor 9.3 by ESRI used for geocoding.

<sup>5</sup> ArcGIS Editor 9.3 was used for this process.

exception of Los Angeles, for which there are three maps due to the high spatial concentration of MMP violations in the region).

- NOTE: all of the MMP maps can be viewed on a larger scale by clicking beneath the map display where it reads “View Region \_\_ MMP Violations Map in a larger map”.
- Markers on all of the MMP maps are color-coded using a scale that categorizes mapped facilities as to the frequency with which they have merited MMPs since January 2000 (scale seen below). The color scale ranks facilities on a scale from yellow to red; facilities with the least number of MMP violations are yellow, and those with the most number of violations are red.



- Name, waste type, and number of MMP violations for each facility are featured in pop-ups that appear when a user clicks on mapped facilities.
  - NOTE: Facilities that have not received any violations since January 1, 2007 are specially marked in their pop-ups (explained below in “Vetting of Data”).
- The MMP maps will be continually updated on a monthly basis as new MMP violations are reported in the CIWQS database.

### **Vetting of Data:**

- Each of CCKA’s MMP maps was sent to the appropriate member California Waterkeeper(s) for review and groundtruthing. At least one Waterkeeper covered each region. This vetting process was undertaken to ensure that coordinates for facilities were properly located, and that the information reported in facility pop-ups was correct.
- Given the length of time that the MMP database covers (1/1/2000 – 3/15/2010), potential operational improvements at facilities with violation records were accounted for by identifying which facilities have not received MMP violations since January 1, 2007. These facilities are marked with a note in their pop-ups as follows:
  - NOTE: This facility has not had any MMP violations since 1/1/2007.