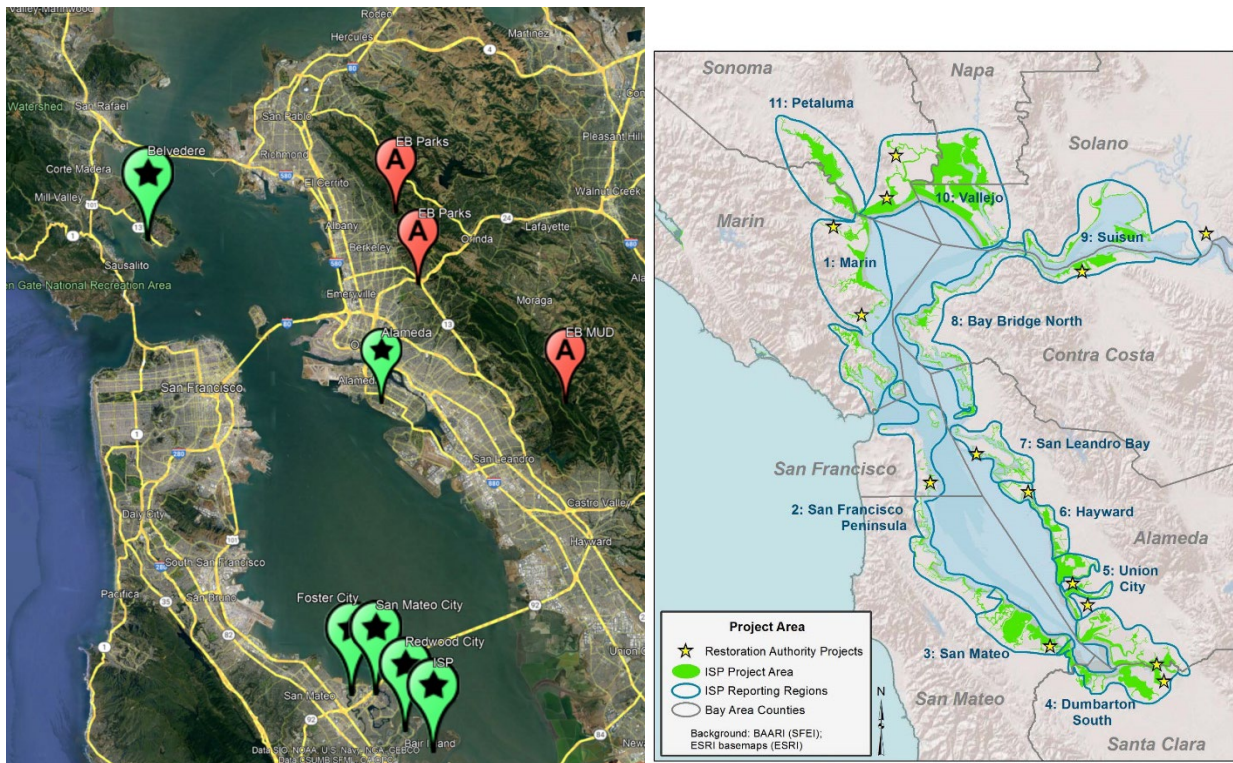


City of Oakland NPDES permit coverage to apply algaecides, FAQ:

1. What other agencies or municipalities in the Bay Area have permits to apply pesticides to tidally connected waters like Lake Merritt in the SF Bay?
2. What types of algaecides do they use and are there risks to fish or other wildlife?
3. What is the process to get a permit?
4. If you get a permit, what are the conditions?

### Answer #1

The green pins on the map below (left) are some of the Cities with active permits that apply algaecides and herbicides on an annual or monthly basis, typically June to September ([Alameda](#), [San Mateo](#), [Redwood City](#), [Foster City](#), [Tiburon](#)). The red pins are agencies who currently apply or could apply algaecides in the event of an algae bloom ([EBRPD](#), [EBMUD](#)). The map on the right shows the stars for areas currently being treated with pesticides within the SF Bay by the [Invasive Spartina Project](#).



### Answer # 2

All of the above listed cities and agencies have hydrogen peroxide ( $H_2O_2$ ) based algaecides listed on their permits for use to control algae.  $H_2O_2$  is used to selectively treat harmful algae blooms HABS). Several brands of  $H_2O_2$  are [NSF approved](#) for use in drinking water and are [OMRI organic certified](#).  $H_2O_2$  is a fast-acting oxidizing agent that breaks down into water  $H_2O$  and oxygen  $O_2$  within 2 or 3 hours of an application. Its mild effect is well documented to selectively kills more fragile blue-green algae (cyanobacteria) species, typically leaving beneficial green algae unharmed. Research has shown it is also effective against dinoflagellates (red-tide)<sup>i ii iii</sup>. It does not kill aquatic plants, fish or other animals when applied at the label rates. Toxicology testing shows that impacts to fingerling rainbow trout is only

observed at 3 times the maximum label dosage, a rate that would not be feasible to apply in a real-world setting.

### **Answer # 3**

Obtaining coverage under WATER QUALITY ORDER NO. 2013-0002-DWQ GENERAL PERMIT NO. CAG990005. STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR RESIDUAL AQUATIC PESTICIDE DISCHARGES TO WATERS OF THE UNITED STATES FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS.

The process involves

1. Submitting a Notice of Intent to file. This is a 2-page form to provide the State Water Board with:
  - a. name and location of the site to be treated
  - b. a list of proposed products to be used at the site
  - c. the contact information of the City's designated personnel and billing information
2. Submitting an Aquatic Pesticide Application Plan
  - a. A document outlining the procedures that will be made and the water quality monitoring that will be performed if and when an application occurs.
3. Pay the annual fee.
4. Waiting for the 30 day public comment period to end.

### **Answer 5**

Once the permit is granted after the 30-day public comment period ends, the City will can apply the products listed on their NOI at their discretion. Annually, before march 1<sup>st</sup>, the City will be required to submit a short summary report listing the applications that occurred in the previous year and any corresponding water quality monitoring data. The waterboards requires water quality monitoring before, during, and after an application of a pesticide, but no water samples will need to be collected or analyzed for the application of hydrogen peroxide-based algaecides. Because the City already has an extensive network of monitoring stations in the lake, no additional scope of work will be required to meet this condition.

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<sup>i</sup> <https://www.mdpi.com/2076-2607/11/1/83>

<sup>ii</sup> <https://pubmed.ncbi.nlm.nih.gov/36470610/>

<sup>iii</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474721/>