

ASSOCIATION OF NATIONAL ESTUARY PROGRAMS



San Francisco Estuary Project • 510.622.2325 • www.abag.ca.gov/bayarea/sfep/sfep.html • March 2001

SAN FRANCISCO ESTUARY

The San Francisco Estuary encompasses roughly 1,600 square miles, including 700 miles of rivers and sloughs and 1,100 miles of levees. The estuary drains about 40 percent of California's landscape (over 60,000 square miles) and 47 percent of the state's total runoff. Historically, herds of elk and antelope roamed the hillsides around the estuary, and hordes of salmon and thousands of seals and sea otter frequented its waters. According to eyewitness reports, flocks of birds were sometimes so thick they blacked the sky.

FACTS ABOUT THE ESTUARY

- The typical California family of five uses an acre-foot of water in and around the home each year.
- The estuary supports a more limited but substantial community of aquatic flora and fauna.
- Over 120 fish species live in the San Francisco Estuary.
- As many as half the birds that migrate between the Arctic and the Baja Peninsula winter here. The region hosts between 600,000 and 800,000 waterbirds on an annual basis.
- A few hundred harbor seals still frequent the shores.
- River otters can be seen in Delta waterways and sea lions at San Francisco's Pier 39.
- The area hosts 18 species of fish and wildlife on the government's rare, threatened or endangered list, including the brown pelican, the salt marsh harvest mouse, the California freshwater shrimp, and the delta smelt.

HEALTH OF THE ESTUARY

- Approximately 500,000 acres of tidal wetlands and thousands of acres of shoreline and stream habitat have been lost or converted by human activity.
- Pollution, dam construction, overfishing and other stresses have diminished the estuary's recreational and commercial fisheries. Only a few species remain stable enough for commercial catch.
- California continues to debate how to protect the quality of and the various beneficial uses of the estuary's water. Currently, agriculture receives 80 percent of the water, and cities and industries 20 percent.
- Native species of estuarine organisms are increasingly losing ground to introduced exotic species, many of which arrive via the hulls and ballast water of seagoing ships.

ACCOMPLISHMENTS OF THE ESTUARY PROGRAM

- Distributed over 250,000 publications and information packets.
- Established a Joint Aquatic Resource Permit Application to assist local governments and others with the wetlands permitting process.
- Over 500 developers, site-superintendents, municipal inspectors, planners and consultants have participated in "Construction Site Planning and Management for Water Quality Protection" workshops.
- Worked cooperatively to produce educational brochures and posters for the shipping and port industries, decision-makers, and the public on ballast water exchange and invasive species issues.
- Educated and worked with over ten local schools (Grades 3–12) on monitoring and restoration projects through field sessions and workshops.

Cioppino

4 garlic cloves, minced
1/4 cup olive oil
1 medium onion, finely chopped
1/2 teaspoon dried hot red pepper flakes
1 green bell pepper, chopped
1 tbl red-wine vinegar
1 tsp dried oregano, crumbled
1 bay leaf
1 28.32 oz can whole tomatoes, including juice, puréed coarse
1 tbl tomato paste
2 lbs live hard-shelled crabs
12 small hard-shelled clams, scrubbed well
1/2 lb medium shrimp, shelled, leaving tails and first joint intact
1/2 lb sea scallops
1 lb scrod or other white fish fillet, cut into 1-inch pieces
2 tbl minced fresh parsley leaves

In a heavy kettle (at least 5 quarts) cook garlic in oil over moderate heat, stirring, until pale golden. Add onion and cook, stirring, until softened. Add pepper flakes and bell pepper and cook, stirring, until softened. Add vinegar and boil until evaporated. Add wine, oregano, and bay leaf and simmer 5 minutes. Stir in tomato purée and tomato paste and bring to a boil.

Add crabs and clams and simmer, covered, 15 to 20 minutes, checking often and transferring clams as they open with tongs to a bowl (discard unopened ones). Transfer crabs with tongs to a cutting board and remove top shells, adding any crab liquid to soup. Halve or quarter crabs (depending on size) and reserve, with any additional liquid, in a bowl.

Add shrimp, scallops, and fish to soup and simmer, covered, for 5 minutes, or until seafood is just cooked through. Gently stir in crabs, their liquid, the clams and sprinkle with parsley.

Serves six.