

VISION 2000

Maritime Development Program



PORT OF OAKLAND

Vision for the Future

GROWTH IN PACIFIC TRADE is creating a need for improved capacity and efficiency in American ports. The Port of Oakland is expanding and improving its marine and rail terminals through the reuse of a former naval base. However, to fully utilize these new facilities the Port must deepen its shipping channel to accommodate modern container vessels. Recognizing the need for rapid progress on the deepening project, the Port of Oakland and Army Corps of Engineers formed a unique partnership through which the Port funded the necessary studies and worked with the Corps to complete them.

The Oakland project incorporates state and federal policies for beneficial reuse of dredged material. Sand and mud dredged from the channel will restore bay habitats for constructing maritime and public park projects. This multipurpose approach allows the federal dollar to perform double duty producing economic and environmental benefits.

Port revenues, generated by its maritime businesses, along with private funds from transportation companies constitute the



largest portion of the funding for the marine and rail terminal developments. In August 1999, Congress passed the Water Resources Development Act (WRDA), authorizing the Army Corps of Engineers to construct the Oakland 50-foot channel deepening project. The Port will serve as the local cost-sharing sponsor. Each federal dollar expended in the deepening of the Oakland Harbor will be matched with significant local and private investment.

The first projects of the Vision 2000 Program are underway. The Hanjin Shipping Container Terminal (Berths 55-56), the Joint Intermodal Rail Terminal and a system of new and improved roads will be completed by the summer of 2001. The channel deepening project is slated to begin construction in 2001. An additional marine terminal and the Middle Harbor Shoreline Park are being built and will open in 2002.

The Port of Oakland has a vision for the future where the American economy prospers from the reuse of military lands and channel deepening for efficient trade, where the public benefits from a new shoreline park, and where the environment benefits from major habitat creation.





A New Century of Opportunities



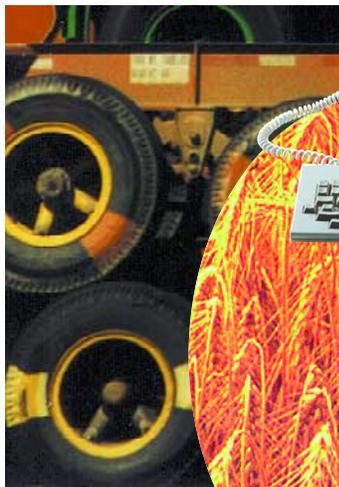
THE PORT OF OAKLAND is the fourth largest container port in America. In 2000, the Port of Oakland generated over \$1.4 billion in business revenue and supported over 15,000 jobs. Located in the San Francisco Bay area, the Port serves the growing economy of California as well as the central, eastern and southern regions of the U.S. The Port of Oakland is primarily an export port, benefiting our national balance of trade.

As Pacific trade has grown over the past 20 years, limited capacity at west coast ports has affected American commerce. The Port of Oakland's Vision 2000 project is transforming a closed military base — the Naval Fleet

Operations and Supply Center Oakland (FISCO) — into new marine terminals and an intermodal rail terminal. With Congressional support, the Army Corps of Engineers and the Port will deepen the Oakland shipping channel to -50 feet to serve the new, larger fleet of container ships. These improvements will

increase both efficiency and capacity at the Port of Oakland to fulfill American business needs into the new century.

The Vision 2000 project also features major environmental and public amenities. The Port and the Corps intend to reuse the material dredged from the channel to create shallow bay fisheries habitat and tidal wetlands in San Francisco Bay. The public will enjoy beaches, walking trails and magnificent views from a shoreline park built on the redeveloped naval land.



Many American products are exported through the Port of Oakland. Consumer items are imported by container ships and transported by train.





Meeting the Challenge

IN THE HIGHLY competitive shipping and transportation industries, time is truly money. Efficient movement of goods is the prime goal and must be achieved at every point in the system. This intermodal system includes ship, shore, and rail facilities.

The shipping channels in the Oakland harbor are the front door to Pacific rim trade. Container ships have consistently increased in size and draft, requiring 50-foot water depths. Within several years, these deep draft vessels will comprise over 75% of container capacity in the fleet. Each large vessel carries more units of cargo at a lower cost per unit, producing economies of scale. Shipping companies have formed alliances to trade and share space on the large vessels; the ships can travel fully loaded and operate at peak efficiency.

The marine terminal, the next step in the cargo chain, is where high-speed cranes unload the ship, stack the inbound containers and reload the ships with outbound containers. Large forklifts move the containers onto railcars or trucks bound for inland destinations. Terminal yards have only so much storage space. Increasing the capacity of marine terminals reduces loading delays and allows the container ship to operate at peak performance.

The final link in the intermodal system is the railroad. Railroads transport 60% of all containers nationwide. Rail lines located close to terminal yards, but not constraining storage capacity, allow for the greatest cost effectiveness. Containers can be double stacked on rail lines for the most efficient form of cargo transport. The recently merged railroads are increasing the size and clearance of tunnels along their main lines allowing double stacked trains access to the Port of Oakland.





THE AMERICAN ECONOMY benefits by having another major Pacific port operating at greater capacity. During 1997, limitations in port capacity became evident when the Union Pacific Railroad experienced system-wide problems limiting railroad service and backing up cargo in terminal yards. Soon container

ships were waiting up to 10 days to be unloaded as containers filled limited terminal storage capacity. American automobile manufacturers in Kentucky and Tennessee felt the pinch as parts failed to arrive on time, slowing their assembly lines. Clearly, America benefits from the Port of Oakland providing additional capacity for Pacific cargo handling.

Many products from across America are exported through the Port of Oakland:

- Prime cuts of beef from western states such as Nevada, Montana and the midwest;
- Choice fruits and vegetables from California;
- Poultry from Arkansas;
- Raw lumber from western forests and the southeastern U.S.;
- Agricultural commodities including cereals and grains from the east and midwest, and animal feed from Nevada and western areas;
- Raw cotton from the south.





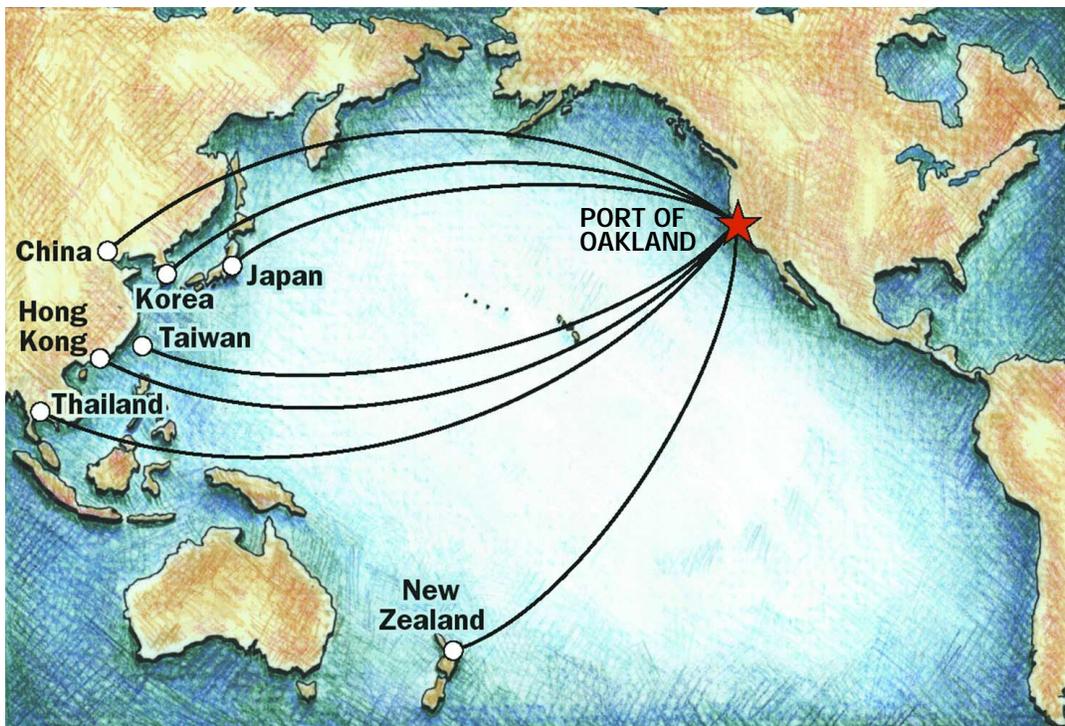
Benefiting the American Economy

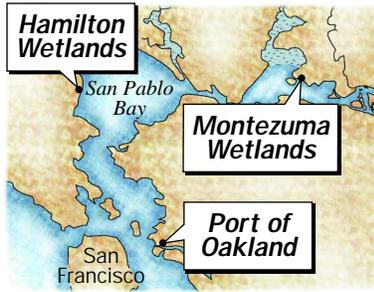


OVER THE LAST TWENTY YEARS, cargo moving through west coast ports has grown at a double-digit annual rate. In 1980, west coast container trade made up only 18.8% of all U.S. trade and had a cargo value of \$61 billion. In 1999, cargo moving through west coast ports accounted for over 50% of all U.S. trade and had a cargo value of \$285 billion. Many analysts believe that growth in Pacific trade will continue at 5 to 8% per year, and will triple in volume by the year 2020.

With the shallow depths of Oakland channels, competing ports in southern California and Seattle took up much of this expansion. However, the ability for these other ports to continue to expand is limited. The Port of Oakland, through its current opportunity to reuse military lands, can accommodate an increased amount of future Pacific trade.

The Port of Oakland's primary trading partners are Japan, China, Taiwan, Korea, Hong Kong, Thailand and New Zealand.

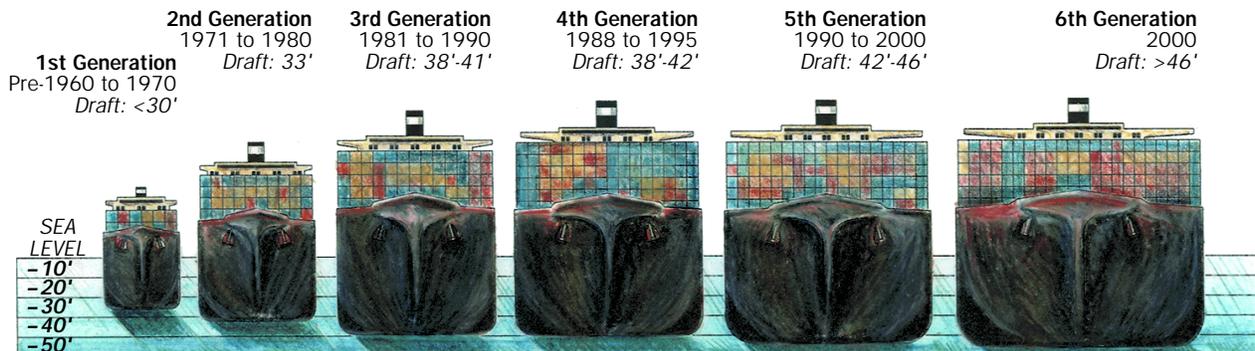




The Port's dredged material may also be used for wetland enhancement at the closed Hamilton Army Airfield in Marin County and the Montezuma Wetlands in Solano County when these sites are available and permitted.



Port of Oakland's Vision 2000 and Harbor Deepening Projects are creating a highly efficient intermodal center for future increases in Pacific trade.



Container ships have consistently increased in size and draft. The Port of Oakland channel deepening will create needed 50-foot water depths.

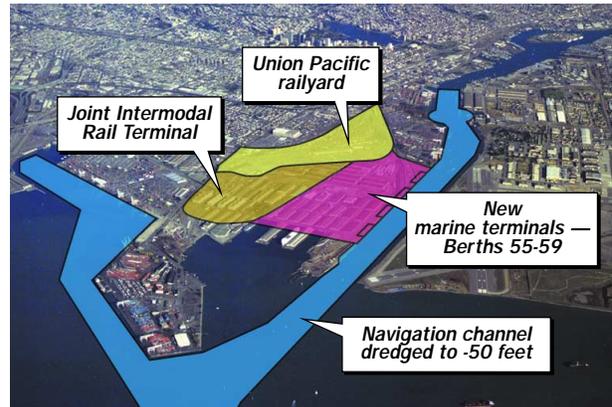


Developing for the New Millennium

THE VISION 2000 PROGRAM is creating the infrastructure necessary for the Port of Oakland to meet regional and national cargo transport needs into the new millennium. With the transfer of 530 acres of a former military base completed, the Port of Oakland is now undergoing its largest expansion since the 1970's.

A central feature of the Vision 2000 project is an increase in facilities and storage needed for efficient cargo movement. The new Berths 55-59 will provide 6000 feet of berthing area where five ships may be loaded or unloaded and includes 270 acres of new marine terminals and container yards. The alignment and size of the new marine and rail terminals provide the storage necessary for efficient throughput of containers from ship to rail or truck and on to their destinations. New and redesigned roadways optimize truck traffic moving between terminal yards and adjacent freeways.

Adjacent to the new marine terminals, the 150-acre Joint Intermodal Rail Terminal provides direct mainline access for the Union Pacific and Burlington Northern-Santa Fe Railroads. The rail terminal has eight permanent tracks and adequate container storage space for efficient cargo loading for multiple trains per day.



The Vision 2000 development will more than double the size of the Port of Oakland.

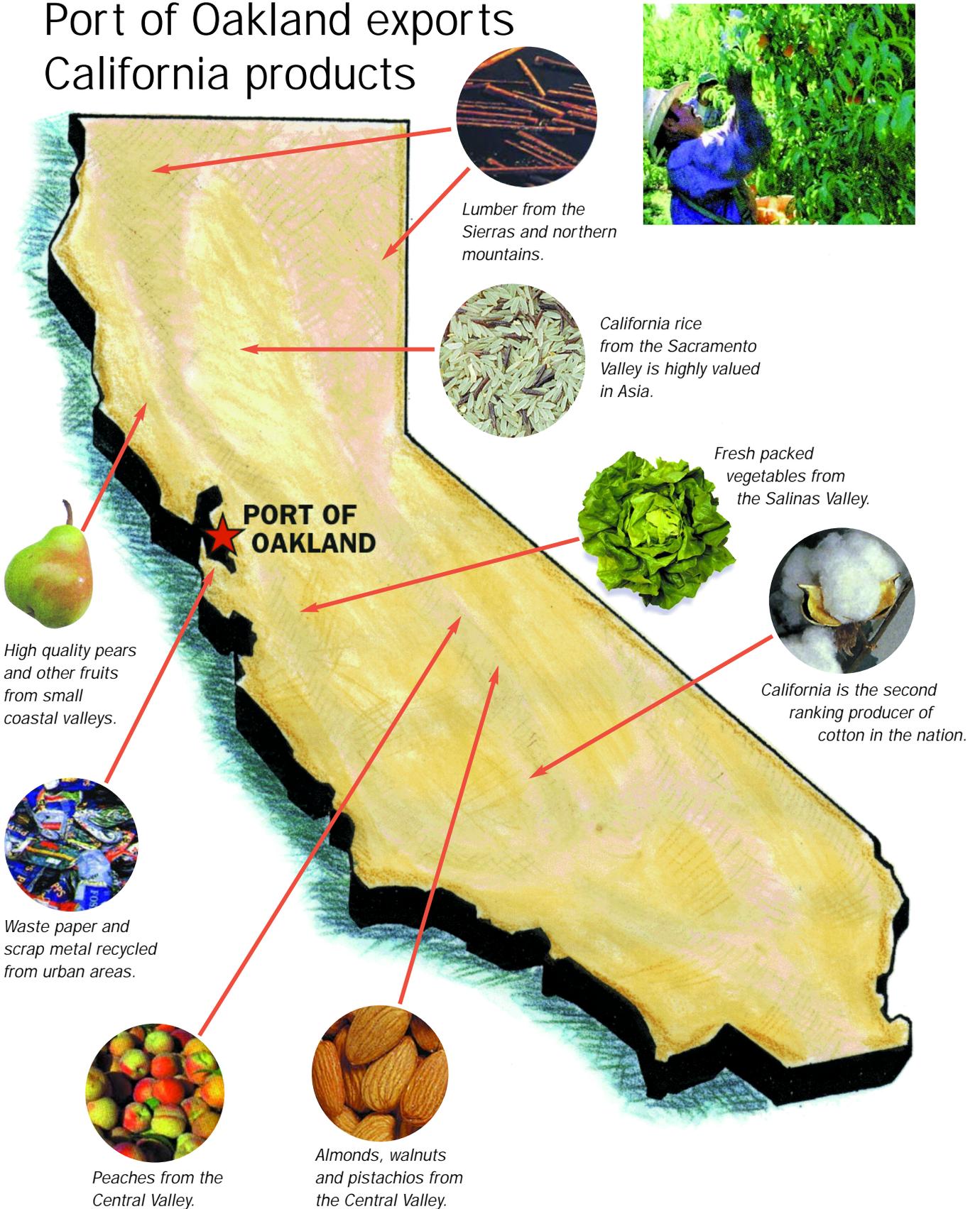


With the new marine terminals, a rail terminal and a deeper ship channel, the Port of Oakland is doubling in size and will meet anticipated demand for cargo transport services well into the new century.



The largest container cranes in the world enter San Francisco Bay, bound for the new Hanjin Container Terminal at the Port of Oakland.

Port of Oakland exports California products





Benefiting the California Economy



THE PORT OF OAKLAND serves an essential role for the agricultural and manufacturing sectors of the California economy. California is America's leading agricultural state with over \$12 billion in annual farm production. Many California products — fruits, nuts, vegetables, rice and raw cotton are exported thorough the Port of Oakland along with cereals, beef, animal feed, chemicals, saw logs, recycled paper and scrap metal.



Economic benefits of the Port of Oakland Vision 2000 and Channel Deepening Projects

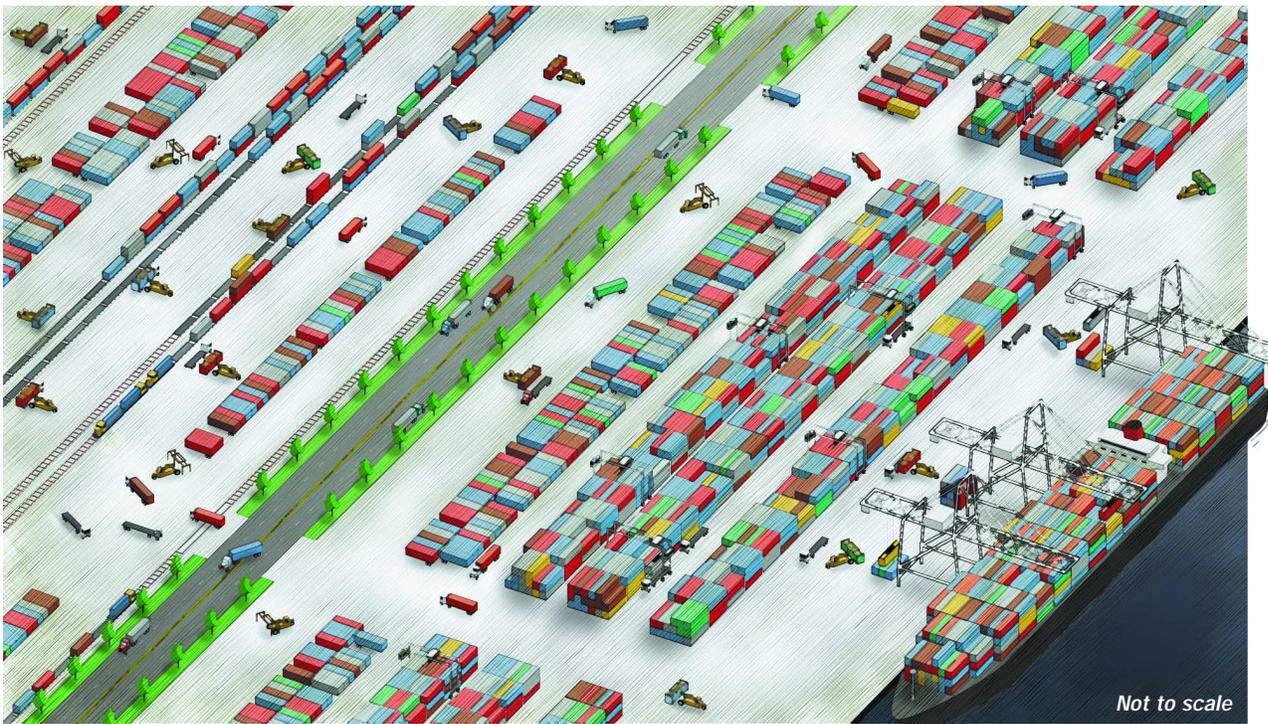
YEAR	1995	2000	2003	2010
DIRECT JOBS	8,800	9,600	11,700	14,100
INDIRECT JOBS	5,300	5,700	6,900	8,200
TOTAL DIRECT AND INDIRECT JOBS	14,100	15,300	18,600	22,300
Gain over 1995	—	1,200	4,500	8,200
STATE, COUNTY AND LOCAL TAXES (millions)	\$89	\$96	\$117	\$140
Gain over 1995	—	\$7	\$28	\$51
TOTAL PERSONAL INCOME (millions)	\$702	\$753	\$900	\$1,057
Gain over 1995	—	\$51	\$198	\$355
TOTAL BUSINESS REVENUE (millions)	\$1,269	\$1,465	\$2,110	\$2,787
Gain over 1995	—	\$196	\$841	\$1,518
CONTAINERS	848,800	1,265,400	1,438,600	1,915,300



Four shipments of auto parts arrive at the Port of Oakland each week to supply the New United Motors Manufacturing Plant, or NUMMI in Fremont. NUMMI produces 356,000 cars per year and employees 4,700 people.



The Joint Intermodal Rail Terminal will give port customers access to several railroads and increase choice and competition in cargo transport. From Oakland, direct train routes are available through Arizona to the Midwest and South, or directly east through Salt Lake City to the Midwest and Northeast.



Large gantry cranes pick containers off the ship and place them onto truck chassis which are pulled by hostlers. Hostlers move the containers within the marine terminal yard. Typically containers are stored in terminal yards prior to placement on a train or truck. A special forklift, called a piggy-packer, double stacks containers onto long haul trains. Top-picks, or other specialized forklifts, load containers onto trucks for delivery to their destinations.



Working with the Community

THE PORT OF OAKLAND'S primary mission is efficient cargo transport, but the Port is also a member of a large and diverse community. As part of the Vision 2000 development, the Port completed a public outreach and involvement program to assure that the expansion program provides benefits to the local community.

Container ships, tugboats, forklifts, trains and large trucks, the working parts of intermodal transport, are largely fueled by gasoline and diesel. Their operations create exhaust and emissions. In the greater San Francisco Bay area, cars and trucks are the largest source of air pollutants and the Port's expansion will produce a variety of pollutants.

The local community expressed concerns over the potential increase in trucks and emissions from the project. In response, the Port recognized the problems its operations presented to local residents, settled a pending lawsuit, and forged a partnership with the local community. The Port established a "good neighbor policy" and developed a broad and comprehensive air quality mitigation program that addresses community concerns and far exceeds regulatory requirements.

The Port will spend \$9 million to:

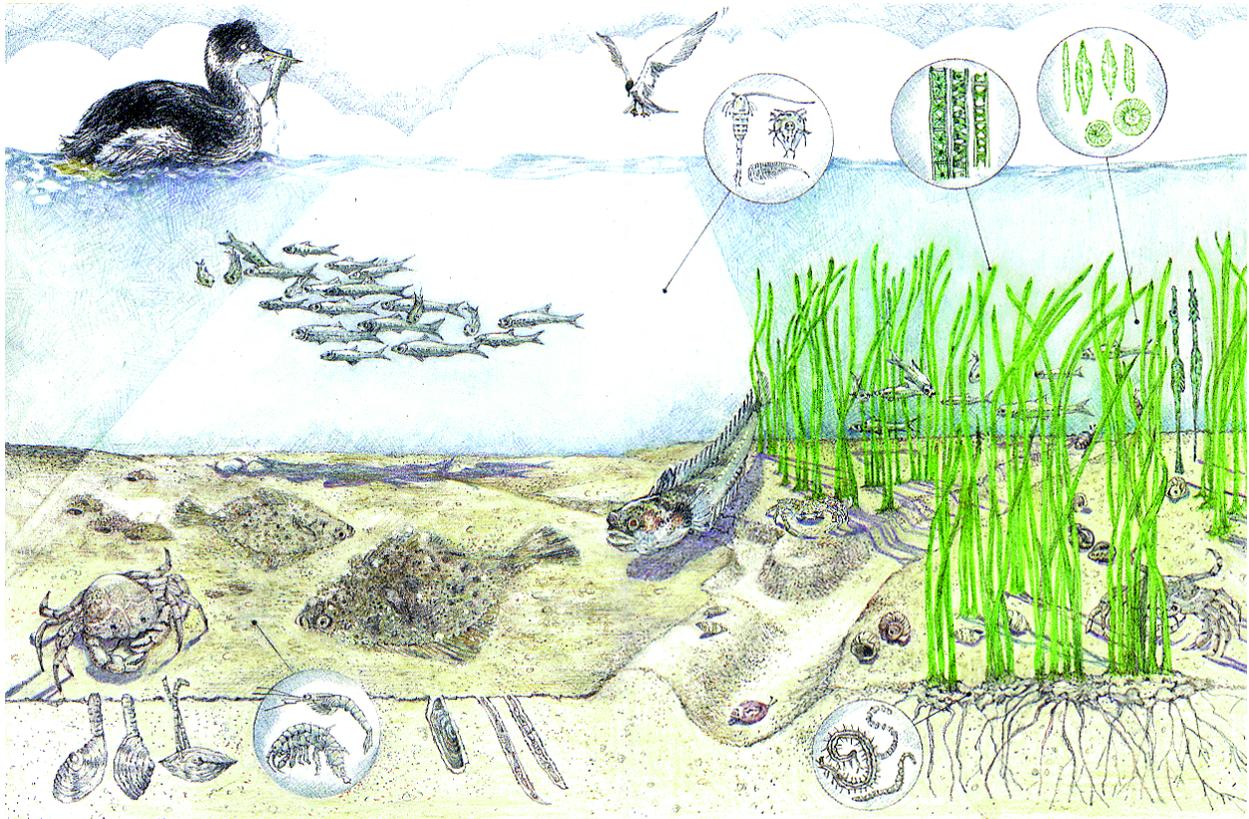
- Retrofit local transit buses, cargo handling equipment in all the terminal yards, and locally operated and owned trucks with cleaner-running engines to lower emissions;



THE SAN FRANCISCO CHRONICLE/SUSANNA FROHMAN

- Retrofit a tugboat with a cleaner engine as a demonstration project;
- Evaluate retrofitting two factories in West Oakland to produce fewer local emissions;
- Reduce pollutants from construction of the project by using measures such as electrical rather than diesel-powered dredges.

The Port is working with the community in implementing the engine retrofit program and striving to create jobs for local residents.



Shallow water habitat is rich with microscopic plant and animal life, clams, worms, crabs and a diverse assemblage of fish species. Eelgrass shelters juvenile fish and other animals.

THE SHALLOWS created in Middle Harbor will be a calm, clear water area and will be planted with eelgrass, a marine plant with long, green leaves. Eelgrass is a productive and diverse habitat supporting many species. The sturdy roots of eelgrass shelter a community of worms, crabs, shrimp and snails. The tangle of leaves stills currents creating a refuge for small fish, shrimp and microscopic life. Other animals graze the algae attached to the eelgrass further increasing the richness of the habitat.



Starry flounder, like the California halibut and English sole, use the shallow water as a nursery.



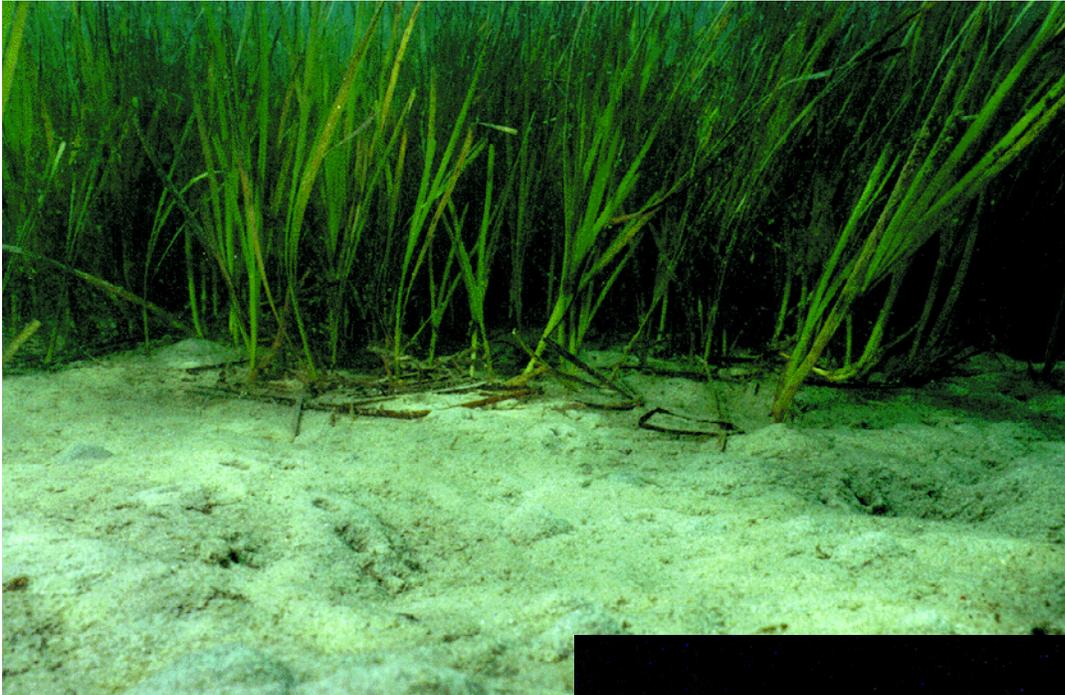
Dungeness crab inhabit bay shallows when young.

Microscopic animal life makes up the base of the food web.





Benefiting the Environment

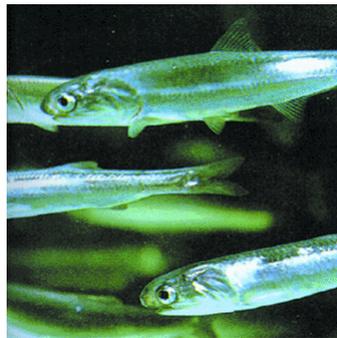


Eelgrass and shallow water habitat.

The bay pipefish blends like a vertical stripe into eelgrass.



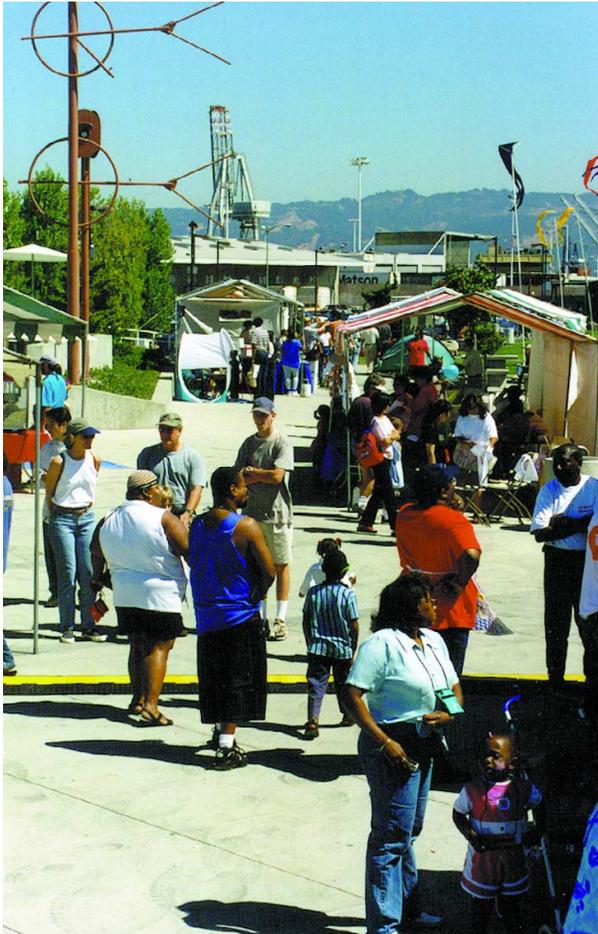
MIDDLE HARBOR will become an ecological reserve of shallow bay and shoreline habitats. Commercial species, such as Dungeness crab, flatfish, anchovy, herring, and perch, live and feed in these shallow areas often using them as nurseries for their young. A smorgasbord of worms, clams, small shrimp and other creatures burrow, wriggle, crawl and swim on the bay bottom — tasty morsels to young fish. These small creatures feed on a stew of algae and bits of plants in the water and sediment. Algae grow in great quantities in the sunlit shallows providing the base for this web of life.



Small fish inhabit the productive bay shallows.

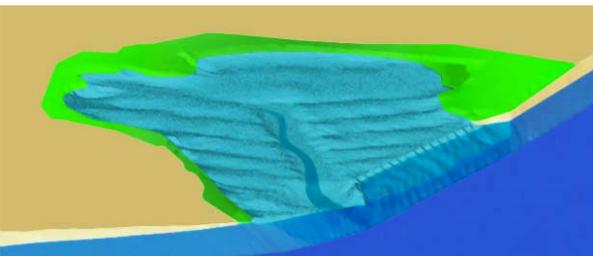
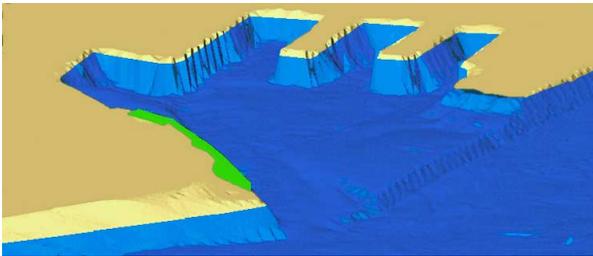


The endangered California least tern nests nearby and feeds its young small fish.



The Port invited the Oakland community to help design another feature of the Vision 2000 program — Middle Harbor Shoreline Park. Middle Harbor, once a naval ship basin, has been the focus of a community advisory committee made up of interested citizens, business and church leaders, educators and others. The committee played a pivotal role in the master plan for the 30-acre shoreline park. Another committee of agencies, community representatives and scientists assisted in the design of the habitat restoration for the 190-acre water area of the harbor and the integration of the park with the habitat.

For over a year, the community met with the Port at a series of design meetings. A large outdoor community fair attracted over 2000 participants who expressed their desires and priorities for the design of the new park. The community's focus was on giving children an educational center and a new sandy beach. Fishing piers, picnic and recreational areas and walkways to enjoy the incredible view were also high priorities.



The 190-acre Middle Harbor, dredged continuously since the 1940s, once held Navy ships supplying military operations. Up to 40 feet deep at low tide, the bottom is dark and far less productive than the well-lit shallows more typical of the bay. The Port envisions enhancing the old harbor by using the clean sand dredged from their channel to create a shallow undulating bottom, 4-6 ft. below low tide. Without this project, natural filling of the Middle Harbor is estimated to take 175 to 700 years.



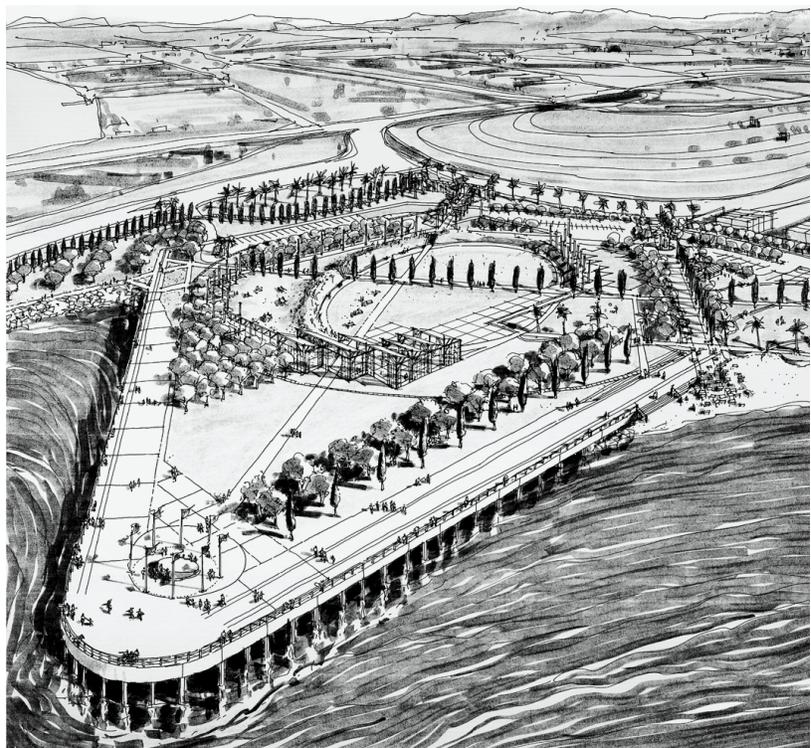
Benefiting the Public



SINCE WORLD WAR II, military use has restricted public access to the shoreline of the Middle Harbor. As part of the Vision 2000 project, the public will regain access to this area and a new 30-acre shoreline park.

The park will have a mixture of new facilities — an educational center, shoreline walkways, fishing

piers, picnic areas, a sandy beach and the preservation of historic features. Once the terminus of the first transcontinental railroad, the Oakland Harbor has a rich and varied tradition that park exhibits will highlight. Ecological and science education and all types of outdoor recreation will be available to the public in the new park.



Point Arnold will provide active recreation and educational facilities.



The Middle Harbor Shoreline Park will consist of several different areas:

The five-acre **Port View Park Connection** will enhance public use adjacent to the existing Port View Park and create fishing areas, picnicking, and historic displays.

Point Arnold, a 16-acre area, will focus on active recreation, family activities, picnicking and education. An educational center, or campus, will provide science programs for elementary to high school groups as well as the general public. The newly restored habitats in Middle Harbor, particularly the demonstration salt marsh and tidal flats, will offer a hands-on educational experience for children from Oakland and the region.

The Promenade will connect the Point Arnold area, busy with activities and facilities, to the natural and peaceful park area at the Mole. The Promenade will also allow access to a recreational beach, historic features and displays and the demonstration salt marsh.

The Mole is a scenic 10-acre peninsula separating the Port's navigation channel and the Middle Harbor. This area will offer fishing, walkways and an observation tower to take in the expansive bay views and watch birds in the shoreline marsh and newly restored habitat area.