

THE SEA RANCH, CALIFORNIA

PROBLEM

Just a two-hour drive from San Francisco, The Sea Ranch community extends 10 miles along the northern California coastline. Built in the 1960s and 1970s, many of the homes relied on individual wastewater systems. Half of the homes were built in areas susceptible to high groundwater, with coastal meadows and terrace soils causing wastewater system malfunctions. Aging infrastructure, challenging conditions, and poor system maintenance in the upscale resort community posed a threat to local and coastal waterways. As a result, a moratorium was placed on future development in the community.

SOLUTION

Sonoma County, the California Water Resources Control Board, and The Sea Ranch community reached an agreement to improve performance and track compliance of new and existing wastewater systems by forming a wastewater management zone. The moratorium was lifted after the solutions were implemented.

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OVERVIEW

The residents of The Sea Ranch are served by a combination of clustered and individual wastewater systems. Of the 2,300 platted lots, approximately 1,500 have homes with

individual systems and about 600 are on two large clustered systems. Treated effluent from the clustered systems is used to irrigate golf courses and other areas. In 1987, Sonoma County authorized The Sea Ranch Association Onsite Wastewater Disposal Zone (the Zone) to operate the individual and clustered system management program. The program consists of:

- **Operating permit requirements and performance standards**
- **Routine inspection requirements**
- **Maintenance contract requirements**
- **Establishment of an enforcement authority**
- **Maintenance of inventory and recordkeeping**
- **Surface and groundwater quality monitoring**

PERFORMANCE-BASED PERMITS

The Zone inspects conventional and advanced systems to ensure compliance with permits and performance standards. The Zone conducts inspections of conventional septic systems every three years. Inspections of advanced designs—including mounds, sand filters, and pressure distribution dispersal units—are conducted annually and include monitoring for nitrates, ammonia, and fecal/total coliform. The Zone sends system owners an inspection notice one month before the inspection date.

Homeowners are responsible for obtaining permits from the Zone and installing and repairing systems as required under county regulations. Inspectors from the Zone conduct regular system inspections using an online template tailored for this use. The Zone issues a renewable operating permit for advanced systems and holds the system owner accountable for proper operation and performance. If the system is operating properly and does not require preventive maintenance or repairs, the Zone issues a renewable, three-year operating permit. If the system functions but is not operating optimally, the Zone issues a one-year operating permit and monitors the system performance. Performance indicators



Photo: Sea Ranch Water Company.

include standard hydraulic parameters (no backups, no sewage surfacing), as well as wet and dry weather groundwater and surface water monitoring in the vicinity of some drainfields. Monitoring parameters include biochemical oxygen demand, bacteria, some metals, and total suspended solids. If the system has structural integrity problems or leachfield malfunctions, the owner must obtain a sewage disposal repair permit from the Zone. If the owner does not repair the system in a timely manner, the county can attach a notice to the land records or revoke the building's certificate of occupancy. Moreover, the Zone is authorized to revoke an operating permit at any time for noncompliance. In these cases,

the Zone can compel the repair or replacement of a wastewater system under county rules. The Zone also operates the potable water supply system and can suspend water service if its requirements are not met.

FUNDING SOURCES

The annual budget of the wastewater management program is \$250,000 as approved by the Sonoma County Board of Supervisors. The budget is funded through an annual, per-system fee of \$180.

RESULTS

Surface and groundwater monitoring results have found no evidence of groundwater pollution associated with the hundreds of individual systems and two clustered wastewater systems in The Sea Ranch community. System malfunctions, such as the sewage surfacing and groundwater contamination that spurred the creation of the program no longer pose a significant threat due to routine operation, maintenance, and management procedures.

References and Resources

Hantzsche, N., Moore, R.A., and Smiell, J. No date. Data Management System for Onsite Wastewater Inspection Program at The Sea Ranch, California. National Onsite Demonstration Program, West Virginia University, Morgantown, WV.

The Sea Ranch Association. 2004. Onsite Wastewater Disposal Zone Homeowner's Guide. www.tsra.org/Zone.htm. The Sea Ranch Association, Sea Ranch, CA.

Population data—derived from Census Bureau, The Sea Ranch, 2010. <http://www.census.gov/> and http://www.census.gov/geo/www/gazetteer/files/Gaz_places_national.txt